

(FORM BOOK)
VOLUME VI -
1935-1938

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and LEAD MIXING OIL Fine Appearance!

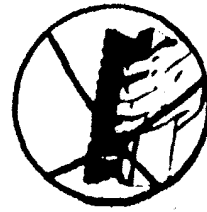


Levels off without excessive brushing and cross-brushing.

No shine... no flashing... no matter how porous the surface.



Supple. If you want, but it isn't necessary.



Whether used inside or outside this combination of white-lead's DURABILITY and Lead Mixing Oil's SEALING results in a paint that gives lasting beauty and fine appearance to the surface.

Gives you a paint with ALL advantages Economy!



Lead Mixing Oil and white-lead make a paint that has all the durability and protection value of pure "lead and oil."

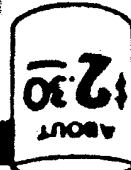
The fact that this paint is used OUTSIDE to waterproof and preserve porous surfaces will give you an idea of how it withstands peeling washings on interior surfaces. Fat spots, pencil marks, finger smudges, grease and dirt stains of all kinds wash off of this paint. And the paint stays ON. Withstands mechanical abrasion too. Grind your heel against the Lead Mixing Oil and white-lead job that is thoroughly dry. You can wash off the spot. The surface will not be damaged.



easy brushing and self-leveling



low cost per gallon



It has a low cost per square foot applied.



Lead Mixing Oil gives a white-lead QUALITY and white-lead APPEARANCE at a lower price per gallon. It gives at least a gallon more paint per "hundred."



high strength per gallon

General Recommendations for Interior Plaster

While plaster is a traditional material for interior walls, it is not the only material available. In fact, there are many other materials that can be used for interior walls, such as concrete, brick, and stone. However, if you are considering plaster, there are several things you should know. First, plaster is a very durable material that can last for many years. Second, plaster is a very versatile material that can be used in a variety of ways. Third, plaster is a very easy material to work with. Fourth, plaster is a very affordable material. Finally, plaster is a very attractive material.

Stucco and Concrete

Stucco and concrete are two of the most popular materials for exterior walls. Stucco is a mixture of cement, sand, and water that is applied to a wall in three coats. Concrete is a mixture of cement, sand, and gravel that is poured into a form. Both materials are very durable and can last for many years. However, there are some things you should know about stucco and concrete. First, stucco is a very brittle material that can crack easily. Second, concrete is a very heavy material that can settle over time. Third, both materials are very expensive. Finally, both materials are very difficult to work with.

FORMULAS

There are many formulas for plaster, stucco, and concrete. The following are some of the most common formulas. For plaster, the ratio of cement to sand to water is 1:3:1. For stucco, the ratio of cement to sand to gravel is 1:3:3. For concrete, the ratio of cement to sand to gravel is 1:2:3. These are just general guidelines, and you should always consult a professional for specific advice.

Gives you a paint with ALL advantages

DURABILITY

Economy!

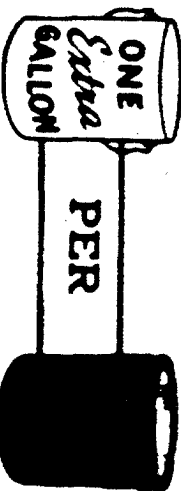
Lead Mixing Oil and white-lead make a paint that has all the durability and protection value of pure "lead and oil."



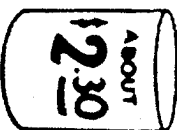
The fact that this paint is used OUTSIDE to waterproof and preserve porous surfaces will

give you an idea of how it withstands repeated washings on interior surfaces. Ink spots, pencil marks, finger smudges, grease and dirt stains of all kinds wash off of this paint. And the paint stays ON. Withstands mechanical abrasion too. Grind your heel against the Lead Mixing Oil and white-lead job that is thoroughly dry. You can wash off the spot. The surface will not be damaged.

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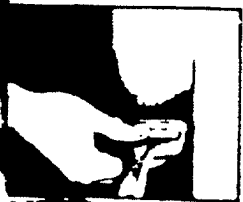
It has a low cost per square foot applied.



low cost per gallon

easy brushing and self-leveling

high spread per gallon.



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THE HANDBOOK ON PAINTING



NATIONAL LEAD COMPANY

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Introduction

PAINTING is an art and there are many things about the art of painting which require study, observation and constant practice. It always pays, therefore, to hire an experienced painter if one is available. The superior knowledge of the man who "knows how" is worth whatever extra money it may cost to hire him. Do not, however, allow yourself to be deprived of the advantages of made-to-order paint simply because a painter who knows how to mix white-lead into paint is not within easy reach, as is the case sometimes in the smaller towns.

The Handbook on Painting gives all necessary mixing and painting directions. In fact, it is a veritable storehouse of practical paint knowledge, equally valuable as a guide to the uninitiated and as a reference work for the architect, engineer, building manager, painter and other experienced users of paint.

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Attention is called particularly to the directions for doing small jobs given on page 93. By the method suggested, white-lead can be mixed into paint in a jiffy and you are assured of the same durable lead-and-oil paint for the small jobs that is used for the big ones.

CHAPTER I

Some Paint Facts

Before taking up the actual mixing and the use of paint, it may be well to consider briefly the why and wherefore of paint. Whether it is an outside job or an interior job the kind of paint used is as important as the way it is used.

One thing is certain—when it comes to paint it always pays to use the best. After all, what you are seeking in a paint job is *paint life*. If the paint does not stand up properly you are being cheated. That is why it is never good business to put on a "cheap" paint. Not only does it fail to preserve its appearance for a satisfactory period, but it involves extensive surface preparation before repainting is done.

What is the Best Paint? The experience of the skilled painter has shown him that this question has but one answer—white-lead. Constant use has proved to him beyond the question of doubt that for economy, durability and long-lasting appearance there is no paint equal to pure white-lead.

The reputable painter cannot afford to guess when it comes to paint. His livelihood, his business future, his reputation as a craftsman all depend on knowing what paint will back up his every claim. Does it not speak for itself when this type of painter, the country over, recommends and uses white-lead?

White-lead Paint. White-lead, as you probably know, is sold in paste form—concentrated paint. Before this paste white-lead can be applied to a surface, there must be added linseed oil, turpentine and drier or, to make flat paint,

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just Lead Mixing Oil. It is important to understand that pure white-lead paint contains no other ingredients than those made from the oil colors that are needed to produce tints. Of course, if white is wanted, the paint is simply left uncolored.

This "made to order" characteristic of white-lead is important. For instance, paint for yellow pine should be mixed a little differently than that for cedar; humid climates require less oil in the final coat of paint; the undercoat should be so mixed that it will provide proper "bite" for the top coat, and so on. All of these things add to the life of a paint job and with white-lead these variations can be easily, quickly and accurately made. In brief, white-lead really makes a custom-made paint specially designed to fit the conditions of a house.

In addition, white-lead can be tinted to a wide range of colors, just the tint or shade desired. No need to compromise on something approximately what you have in mind. Finally, and very important, is the fact that you can be sure of what's in the paint—the quality of every ingredient—the composition of every brushful.

Elastic Paint Necessary. The paint on a house should be designed to give a tough, highly weather-resistant coating and should retain its good appearance over a long period. The paint film, furthermore, should remain elastic. This also is important. Wood contracts and expands due to atmospheric changes. A paint film that is hard and unyielding, or that becomes so, cannot follow this obvious shrinking and stretching of the material to which it is applied. Consequently it pulls apart. In the film appear cracks that extend clear through to the wood beneath. Moisture entering these cracks gets under the paint;

causes it to scale from the surface leaving bare spots that grow larger as time goes on. The inevitable result is an expensive preparation job before any repainting is done.

A white-lead film is never subject to this defect. It remains elastic; conforms to the "give and take" of the surface beneath. Consequently it does not crack and scale and when repainting time comes around there is no old, ugly paint to be burned and scraped off—a job which sometimes costs almost as much as the actual repainting. And now, this removed paint must be replaced with an extra coat—three coats instead of the usual two for repainting.

White-lead paint wears by slow and gradual chalking. This advantageous quality permits the white-lead film to remain unbroken, smooth and even, providing excellent protection for the surface during the entire long life of the paint. And, a further consideration, this type of surface is ideal for repainting. A preliminary downing off is all that a properly white-lead surface needs when repainting time comes.

Heavy Paste and Soft Paste White-lead. Dutch Boy and Carter white-lead are sold in two forms, heavy paste and soft paste. Both are pure white-lead. Both sell for the same price. Heavy paste white-lead has been used for many years. Soft paste is of more recent development.

The terms "heavy" and "soft" refer to the consistency of the white-lead. In fact, soft paste white-lead is simply heavy paste to which has been added a small amount of turpentine, thoroughly ground in at the factory with special mills. This produces a white-lead which can be thinned to paint more quickly and more easily than heavy paste. The resulting paint is exactly the same in either case so it is simply a matter

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of personal preference which form of white-lead shall be used.

Formulas covering both oil paints and heavy paste are given in this handbook. In mixing paint according to these formulas, be sure to follow them applying to the kind of paste you are using.

The Dutch Boy and Carter brands of white-lead, used by skilled painters everywhere, are of the highest grade—strictly pure, finely ground, constant in spreading and hiding properties. It will pay you to use either one of these brands when you are ready to paint.

Dutch Boy or Carter white-lead may be obtained in the following tin and package quantities: one-pound tins, 25 lb and 100 lb pound pails, 1 and 5 pound tins. The oil paint containers are plainly marked "Rich Paint".

Linseed Oil. Only linseed oil of the best quality should be used in white-lead paint. Linseed oil becomes a very important part of the paint film as it binds the white-lead particles together. If it fails prematurely, the paint film fails also.

We manufacture, under the Dutch Boy name and trademark, three types of linseed oil—raw, boiled and standstill types. All are pure linseed oil—nothing else—but they differ somewhat in their characteristics as explained below. All three kinds are put up in sealed containers—one-gallon cans and five-gallon drums. The seal, placed on the spot at the factory, is your guarantee that you are getting Dutch Boy linseed oil, the best that can be made.

Raw Linseed Oil. Raw linseed oil is obtained by crushing and pressing flaxseed. The oil is

aged for a certain length of time to allow the "fumes" or impurities to settle out, after which it is packaged for sale. Of course, raw linseed oil is a natural product and, just as quality tobacco and finest coffee come from selected crops, so also the best raw linseed oil is obtained by selecting the best seed from the flaxseed crop. The best assurance of getting this type of oil is to purchase from a reliable source.

Boiled Linseed Oil. Boiled linseed oil is made from raw oil by dissolving certain drying compounds into raw oil with the aid of heat. This heat treatment accounts for the term "boiled". Boiled oil is somewhat thicker than raw oil and since it has been partially oxidized in its manufacture has a quicker drying action than raw oil when used in paint. Consequently, little, if any, drier should be added to the paint when boiled oil is used in the vehicle.

Still in manufacture is an important factor in the production of high quality boiled linseed oil. Not only must the best raw oil be used, but the right kinds and amounts of drier added and the whole mixture carefully heated for the proper period of time. It will pay the purchaser to insist on genuine boiled oil of a reliable brand.

Standstill Type Linseed Oil. This is pure linseed oil that has been specially treated to produce a boiled oil. This type of oil has long been used in the preparation of the best enamels and when mixed with white-lead will give improved gloss and better leveling qualities to the paint. It is also a help in correcting some of the difficulties caused by adverse weather and surface conditions. Because standstill type linseed oil is more viscous than raw linseed oil, more turpentine must be used with it in mixing finish coat paint.

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Drier. Although the amount of drier used in white-lead paint is small, its effect is powerful and therefore it is very important to use nothing but a high-grade liquid drier.

Because of the great importance of drier, Dutch Boy liquid drier was developed for use in white-lead paint. This product is the result of a careful study of the drying requirements of paint. It is an unusually strong drier of the best known composition—properly balanced to bring about efficient drying of the paint—always uniform in strength and quality. Dutch Boy liquid drier can be purchased wherever white-lead is sold. Comes in half-pint, pint, quart and gallon cans.

Turpentine. Turpentine is added to paint to reduce its consistency, making it easier to brush, without changing the relative proportions of pigment and linseed oil. A short time after application, the turpentine has completely evaporated from the paint film, leaving the correct proportion of oil and white-lead. It makes possible the spreading of a fairly flat, hard body coat and in the finishing coat its use, in the right amount, makes it possible to reduce the quantity of linseed oil, resulting in a harder, better wearing paint. Turpentine also assists the penetration of the paint, particularly in the priming coat on business woods.

Colors in Oil. White-lead, mixed according to the paint formulas in this book, makes white paint. However, it is a simple matter to tint this paint to any desired shade by adding what are known as colors in oil. This is discussed in detail in Chapter VI, Colored Paints, beginning on page 50.

Dutch Boy colors in oil, noted for their ease of use and high quality, can be obtained almost everywhere white-lead is sold. There are thirty-

eight different colors in the Dutch Boy line. They come in convenient packages—gallons, quarts, half-pints and most colors are also available in tubes.

Wall Primer. For the first coat on interior plaster, Dutch Boy wall primer is the best possible recommendation. Not only does it effectively stop the surface moisture and seal the fine cracks, but it hides the surface as well, providing an ideal foundation for the succeeding coats. It does all these things because it is an actual paint—not simply a sealing liquid—and made with a carefully prepared varnish type vehicle.

Dutch Boy wall primer—the "water and paint coat combined"—is sold in half-gallon and gallon cans, as well as five-gallon drums.

Lead Mixing Oil. Dutch Boy Lead Mixing Oil is designed especially for use with Dutch Boy or Carter white-lead. It produces a paint that seals, protects and beautifies all porous surfaces whether they be plaster, concrete, brick or stucco—interior or exterior.

Interior paint made with white-lead and Lead Mixing Oil may be used for all coats on new plaster or wallboard. In the priming coat, it effectively seals the surface, and in the final coat, it produces the soft, glasslike finish commonly known as a "flat effect". Its mild, smooth surface is not only beautiful but also sanitary and enduring as well. The hard tough film withstands frequent washing.

Dutch Boy Lead Mixing Oil with white-lead also makes a superior undercoat for enamel and an ideal ground for graining, etc. Some of its other uses are in scumming and bronzing.

Exterior paint made with white-lead and Lead Mixing Oil is ideal for concrete and stucco. Such surfaces need a waterproofing paint to prevent

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dampness, cracks and surface staining. The sealing properties of Lead Mixing Oil result in a paint which successfully keeps out dampness and moisture. In the final coat, it produces a hard, durable surface which wears down slowly by gradual chalking leaving a perfect repaint surface. Lead Mixing Oil also makes a fine vehicle for red paint for brick.

Dutch Boy Lead Mixing Oil can be purchased where you buy your white-lead. It comes in one gallon cans and five gallon drums.

Red-lead. Red-lead occupies practically the same position in the field of metal painting that white-lead occupies in the field of house painting. It is the standard paint for the protection and preservation of iron, steel and other metal surfaces. Red-lead paint is insoluble in water, is not affected by ordinary atmospheric gases, which slightly in the surface it covers and is a true rust preventive.

Under the Dutch Boy trademark, you can obtain red-lead in paste form, mixed with pure linseed oil; or in liquid form, ready for the brush. The former is known as Dutch Boy red-lead and is sold by the pound in 12½, 25 and 50 lb. pails and in one lb. tins.

The liquid red-lead is known as Dutch Boy Quick-Drying Red-lead Primer. It is a corrosion and economical paint for use on metal surfaces about the house, such as tin roofs, gutters, iron tanks, fire escapes, railings, etc. Not only does it give the long life and efficient protection of all pure red-lead paints but it gives the added convenience of quick drying. In from four to six hours after application, it can be recoated either with another coat of red-lead or with the finishing paint.

Quick-Drying Red-lead Primer comes only in

natural red-lead color although it can be easily tinted to darker shades by adding the proper colors in oil. It is sold in quart and one-gallon cans, five-gallon tins and twenty-gallon drums.

Red-lead of our manufacture may also be obtained in dry form, in 12½, 25 and 50 lb. and pails, in one lb. steel tins and in 25 and 50 lb. cans.

The Use of Quality Materials. The materials described in this chapter—white-lead, linseed oil, drier, turpentine, colors in oil, wall primer, Lead Mixing Oil and red-lead—constitute most of the ingredients which are necessary for painting work—whether interior or exterior—on any type of surface. With the addition of high-grade enamel and varnish, they might well form the entire material stock in any well-run paint shop.

Paint made from these materials, when properly mixed and applied, will last long and have a good appearance—as well as a low cost per year of service.

As pointed out previously in this chapter, when it comes to paint, it always pays to use the best. Any compromise with quality usually means a corresponding decrease in the life of the paint job. Beware of the "just as good" theory. Not only does it lead to bad painting practice, but it is false economy as well.

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CHAPTER II

Exterior Wood Painting

The formulas on the opposite page are suggested as a guide for mixing white-lead paint for the painting of exterior wood surfaces. The discussion which follows will be useful in adjusting these formulas to meet the particular condition of the surface which is to be painted. See Chapter VI for directions on tinning white-lead paint. Formulas for making a one gallon batch of white-lead paint are given on page 96.

Adjustment of Formulas. The formulas on the opposite page have been carefully worked out to represent our best judgment as to usual painting practice for average conditions. In most locations and on most types of surfaces they will give excellent results. However, it is recognized that the best average formulas do not meet all conditions and it is one of the chief advantages of white-lead that paint made from it can be readily adjusted for best results. Experience is the best guide to this adjustment but a few general facts may be helpful.

The first coat of paint on a surface that has never been painted or from which all previous paint has been removed is known as the priming coat. It is the foundation for all succeeding coats of paint and therefore its proper formulation and proper application are particularly important.

A wood surface, as revealed through a microscope, is made up of countless small openings. In order to anchor paint properly to such a surface, the priming coat must enter these openings and lay itself on the surface by filling the open-

PAINTING NEW OUTSIDE WOOD
Formula No. 1—Priming Coat

Materials	Soft Paste	Heavy Paste
Dutch Boy white lead or Carter white lead	100 lbs.	100 lbs.
Dutch Boy linseed oil	1 gal.	4 gals.
Pure turpentine	1½ gals.	2 gals.
Dutch Boy liquid drier	11 pints	11 pints
Liability of paint	9 gals.	
Coverage: 100 sq. ft. per gal.	5,000 sq. ft.	

Formula No. 2—Second Coat

Materials	Soft Paste	Heavy Paste
Dutch Boy white lead or Carter white lead	100 lbs.	100 lbs.
Dutch Boy linseed oil	1½ gals.	1½ gals.
Pure turpentine	1½ gals.	1½ gals.
Dutch Boy liquid drier	11 pints	11 pints
Liability of paint	9 gals.	
Coverage: 100 sq. ft. per gal.	4,200 sq. ft.	

Formula No. 3—Finish Coat

Materials	Soft Paste	Heavy Paste
Dutch Boy white-lead or Carter white-lead	100 lbs.	100 lbs.
Dutch Boy linseed oil	3 gals.	3 gals.
Pure turpentine	1½ gals.	1½ gals.
Dutch Boy liquid drier	11 pints	11 pints
Liability of paint	6½ gals.	
Coverage: 100 sq. ft. per gal.	4,375 sq. ft.	

REPAINTING OUTSIDE WOOD

Formula No. 4—First Coat

Materials	Soft Paste	Heavy Paste
Dutch Boy white-lead or Carter white lead	100 lbs.	100 lbs.
Dutch Boy linseed oil	2 gals.	2 gals.
Pure turpentine	1½ gals.	2 gals.
Dutch Boy liquid drier	11 pints	11 pints
Liability of paint	7 gals.	
Coverage: 100 sq. ft. per gal.	4,300 sq. ft.	

Formula No. 5—Finish Coat

Same as Formula No. 4 above.
 * When linseed oil is used, reduce drier to 16 pints.
 * If the oil is standard type, add 1 quart of turpentine to the formula.

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wood cells. It must therefore contain enough linseed oil to satisfy the porosity and enough turpentine to bring about proper penetration.

Formula No. 1 is made up on this basis but woods such as cedar, redwood and white pine are more absorbent than yellow pine or Douglas fir, so the painter should adjust the linseed oil and turpentine to take care of these differences. For example, the latter types of wood require less linseed oil to satisfy porosity and more turpentine to penetrate the rather patchy surface.

The first coat of paint on repoint work (Formula No. 4) must also satisfy a certain amount of surface porosity although not so much as the first coat on new surfaces. In this case it is usually the dried-out old paint that soaks up the first oil. It will be noticed that there is more linseed oil and turpentine in the first coat on repoint work (Formula No. 4) than there is in the second coat on new work (Formula No. 1) to which, in function, it more or less conforms.

For very dry and absorbent old surfaces, however, some painters add more varnish to their first coat. An appreciable quantity of spar varnish is necessary—from one quarter to one third of the total vehicle by volume. Other painters follow the practice of applying a point of heavy consistency. They find that three gallons or less of total vehicle to a "hundred" of white-lead make a heavy enough point to seal absorbent surfaces properly.

The body coat (Formula No. 2) is formulated to produce a fairly hard, even-flat surface when dry. It has been found by experience that this is the best type of surface to provide a good foundation for the third and final coat. More linseed oil may be added at the discretion of the painter if it is felt that the priming coat has not entirely done away with the absorption. Care must be

taken, however, to keep the body coat harder and less elastic than the final coat.

The final coat (Formula No. 3 and 5) contains enough linseed oil to give a satisfactory gloss without at the same time producing a soft film that collects dirt. For normal conditions not more than three gallons of oil to a "hundred" of white-lead are recommended. This proportion of oil should not be increased unless it is noticed that the body coat is exceedingly dry and hard. Putting too much linseed oil into the final coat may also cause premature chalking, particularly on southern exposures. It is a decided mistake to load up the final coat with linseed oil to make a high gloss. True, the immediate effect will be a somewhat higher gloss but it usually dries very quickly or collects so much dust and dirt that the surface is raised. It is far safer to keep the linseed oil to a maximum of three gallons to a "hundred". In many cases it can be reduced to two and a half gallons with benefit to the life and appearance of the paint film. Such a point may be harder to brush but the extra effort is well repaid, by the increased durability.

An adjustment of the formula for the finish coat is also necessary where Dutch Boy standard type linseed oil is used since this oil is more viscous than raw linseed oil. To improve the brushing qualities, an extra quart of turpentine should be added to the amount called for in Formula 3. This practice should be followed particularly in early spring and fall painting. If the weather is extremely cold, two extra quarts of turpentine may be used.

Mixing Paint from White-lead. It takes but a few minutes to make paint from soft paste white-lead. After stirring in whatever free oil may be on top of the lead when a bag is

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opened, all you do is pour the quantity of lead needed into a clean mixing tub and then mix in thoroughly the linseed oil, turpentine and drier called for by the formula. (See Page 17.)

Paint is made from heavy paste white-lead in exactly the same way as when using soft paste except that it must first be "broken up". This is done by stirring in the linseed oil a little

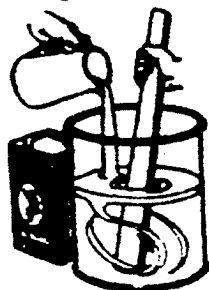


Figure 1

at a time until a workable or fairly soft paste is obtained. For the stirring, use a strong, smooth paddle and work up the lead from the bottom of the mixing tub or pail as illustrated in Figure 1, above.

Straining the Paint. After the paint is completely mixed, strain it through cheesecloth folded double or a fine wire screen. This will remove lumps and any foreign material that may have gotten into the paint, as well as improve the paint's brushing qualities.

A good way to strain the paint is to pour it

1, 2, 3—and it's paint!



(1) Give the soft paste a few quick stirs to mix in whatever free oil is on top of lead



(2) Turn the soft paste into a mixing tub or pail



(3) Then to paint by stirring in linseed oil, turpentine and drier

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from the mixing tub or pail into the paint pan over which the strainer has been suspended. Clean, twenty-five pound white-lead pails make good paint pans, holding about three quarts of paint.

The Use of Drier. Drier should be added to all paint thinned with raw linseed oil as well as thinned oil of the standard type. Under poor drying conditions, such as cool, damp or humid weather, the amount of drier should be increased, not to exceed twice the amount called for in the formulae. The addition of a small amount of drier is advisable even when linseed oil is used.

Preparation of the Surface. The surface to be painted should be smoothed down before the new paint is applied. If the old paint was white-lead and flaked off only a light sanding and dusting off will be necessary.

Show Many Coats. To insure satisfactory results, three coats should be applied on a surface that has not previously been painted—in this, penetrating priming coat, a semi-gloss body coat and a gloss, enamel finishing coat. (See Formulae Nos. 1, 2 and 3.)

Two coats are sufficient for previously painted surfaces where the old finish is in reasonably good condition. (See Formulae Nos. 4 and 5.)

The use of two coats on new work or of one coat on repair work is not recommended. In most cases, the dry, porous surface will not be sealed with sufficient oil if the one coat is omitted. This may lead to such defects as spotting, fading and excessive chalking. (See page 19.) If an attempt is made to satisfy the surface by using more oil than the formulae call for, short-lived, poor drying, tacky paint coats will result.

Helpful Hints in Mixing and Applying Paint

If the old surface shows paint defects such as are illustrated in Chapter XI, special preparation is sometimes necessary. This special preparation is discussed for each defect in Chapter XI.

Mix Plenty of Paint. Be sure to mix plenty of paint, both for body and trim. It is better to have more left than to run short, especially if you are using a colored paint. There will be no waste, for the left-overs are useful for painting cellar stairs, roof valleys or gutters and various odd jobs where the color of the paint makes no material difference. The body and trim color left-overs may be used for such work and a little lampblack added to the batch to produce a neutral shade.

Mix Paint the Day Before Application. It is well to mix the paint 24 hours before being used but do not put in the drier or all the turpentine until just before application. Paint should not be allowed to stand for long periods unless it is kept in fully sealed, air-tight containers; otherwise it will become lumpy.

Timing. Enter Chapter VI, starting on page 15, is devoted to the subject of coloring paint. It will repay you to read this carefully before going ahead with the job.

Timing Priming Coat. If the surface to be painted is dark in color or badly weather-beaten, the addition of a small amount of lampblack to the priming coat paint will result in a more even and better appearing job.

Minimum Temperature for Exterior Painting. Do no outside house-painting in extremely cold, frosty or damp weather. Painting may be done

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in winter if care is taken to choose periods when the temperature is favorable (not lower than 50° F.) and surfaces are dry.

Moisture. Priming should be done in dry weather on dry surfaces. Moisture under paint is almost sure to cause trouble. (See Figure 2, page 10.)

Application. Use plenty of "flow brush". Brush the paint well into the pores of the wood and do not flow it on. It is doubly important to brush the priming coat in closely. (See Figure 2, page 10.)

Thickness of Coat. Two coats of paint, properly mixed and well brushed out, are always better than one thick, heavy coat. (See Figure 7, page 10.)

Knots. Knots and sapwood in new wood should be checked, after the priming coat is dry, with pure shellac varnish, brushed out very thin. (See Figure 5, page 10.) When the lumber is extremely knotty, use oil and more turpentine may be used than the formula calls for, so as to seal all on the knots before later coats are drawn and checked. (See Figure 1, page 10.)

Nail Holes. For putty, use only pure white-lead (rather soft paste or heavy paste) thickened to putty consistency with dry whiting. With this putty fill all nail-holes, cracks, knot-holes, dents and other defects in the surface. These places should be filled tightly after the priming coat is dry. Putty containing petroleum and similar dust often causes an otherwise good painting job by showing yellow through subsequent coats.

Time Between Coats. Allow plenty of time between coats for the paint to dry. Outside work should be allowed to dry not less than three days (a week is still better). Be sure the previous coat is hard as well as dry, so painting over a

soft surface is likely to cause checking or alligressing. (See Figure 1, page 10.)

Keeping Pigment Soft. Covered portions of a keg of white-lead (or red-lead) may be kept soft and free from skin by pouring water over the surface to the depth of an inch or more, and keeping the lid on the keg. First of all, however, the lead should be scraped down from the sides of the keg. When the material is to be used frequently it may be more convenient to cut a disk of paper to fit inside the keg and lay it on the lead.

How Much Paint? For those who do not want to trouble themselves with detailed measurements of a building and wish merely to know approximately the number of gallons of white-lead paint needed for the job, the following method of estimating will do:

Measure the distance around the building in feet and multiply by height in feet to the eaves or cornice. If there are gables, multiply their widest part in feet by half their height. Add these figures and divide the result by 100, which is about the number of square feet that one gallon of white-lead paint will properly cover. This gives you the number of gallons of paint needed for the body of the building for one coat. Multiply the number of gallons by the number of coats to be put on and you have the amount of paint necessary for the job.

For the trim, figure on using a gallon of paint for each 100 feet of usual-width trim.

Square Feet to a Gallon. In figuring the number of square feet a gallon of white-lead paint will cover, a great deal depends on the surface to be painted; that is, the kind of wood, how dry it is, degree of roughness, etc. Some woods are more porous than others and absorb more paint. Much depends, too, on the way the

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point is brushed out. Some painters brush the point out more and then cover more surface.

The priming coat, mixed according to instructions given on page 15, will cover, on the average, from one to two square feet in the gallon, one coat. Second and third coats on new work and first and second coats on old work will cover, on the average, 650 to 750 square feet in the gallon, each coat.

Painting Porch and Other Floors. The same precautions must be taken in preparing to paint a floor as in the preparation of any other surface. If the old paint is rough and sticky or thick and gummy, the floor should be cleaned down to the wood by planing, burning and scraping or by the use of a Rapid paint remover. If a remover containing lye or other strong alkali is used, the surface must be brushed afterward with a coat of strong vinegar to neutralize all remaining traces of alkali and then thoroughly washed with water. Make sure that every part of the floor is clean and solid. After mopping and cleaning the floor is ready for painting.

Painting Wood Floors. If the floor is of white pine, poplar, hemlock, or other soft wood, use the following formula for the first coat:

Formula No. 6—Priming Coat

Ingredients	Soft Pine	Heavy Pine
Dutch Boy white-lead or Carter white-lead	100 lbs.	100 lbs.
Dutch Boy linseed oil	2 gal.	2 gal.
Pure turpentine	2 1/2 gal.	2 1/2 gal.
Dutch Boy Rapid drier	1 1/2 pint	1 1/2 pint
Colours of paint	55 gal.	
Coverage (100 sq. ft. per gal.)	1,100 sq. ft.	

When mixed all to good colour drier to 1/2 pint. If the floor is of hard wood—oak, maple, ash, etc.—use the same as for soft pine but increase to 1 1/2 gal.

The priming coat is the most important. A first-class foundation makes repainting easy.

In applying, use a brush well filled with paint and brush out well. One cause of sticky first paint is leaving the paint on so thick that it does not dry thoroughly underneath, and then brushing too much with the other coats.

After the priming coat is dry, all joints, cracks, nail-holes and other defects should be filled with a good white-lead putty. The putty should be truly pressed into the joint or hole and smoothed over with a putty knife. When the putty is entirely dry, sandpaper.

Ready and Finishing Coats. For the body or second coat on the building or third coat on new floors, whether the wood is soft or hard, use the two formulas below. These same formulas should be followed in repainting wood floors with two coats.

Formula No. 7—Second Coat (Wood Floors)

Ingredients	Soft Pine	Heavy Pine
Dutch Boy white-lead or Carter white-lead	100 lbs.	100 lbs.
Dutch Boy linseed oil	2 gal.	2 gal.
Pure turpentine	2 1/2 gal.	2 1/2 gal.
Dutch Boy Rapid drier	1 1/2 pint	1 1/2 pint
Colours of paint	55 gal.	
Coverage (100 sq. ft. per gal.)	1,100 sq. ft.	

Formula No. 8—Third Coat (Wood Floors)

Ingredients	Soft Pine	Heavy Pine
Dutch Boy white-lead or Carter white-lead	100 lbs.	100 lbs.
Dutch Boy linseed oil	2 gal.	2 gal.
Pure turpentine	2 1/2 gal.	2 1/2 gal.
Dutch Boy Rapid drier	1 1/2 pint	1 1/2 pint
Colours of paint	55 gal.	
Coverage (100 sq. ft. per gal.)	1,100 sq. ft.	

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For porch floors a varnish should be used that will withstand outside exposure.

Two things to keep in mind throughout the work are: first, vigorous brushing to spread out each coat to the utmost; second, allowing each coat at least four days to dry.

Underside of Porch Floor. Porch floors require protection against moisture from the damp open beneath the porch. This space is frequently left without sufficient ventilation. If the wall is damp the porch floor cannot help absorbing a great deal of moisture, which is almost certain to cause blistering and peeling of paint. To prevent trouble of this sort give the underside of the floor, also the sills and groove edges of the boards, a coat of paint colored as follows:

Formula No. 9

(Underside Porch Floor)

Materials	Soft Paint	Heavy Paint
Dutch Boy white-lead or Carter white-lead	100 lb.	100 lb.
Dutch Boy linseed oil	3 gal.	3 gal.
Pure turpentine	1 quart	1 quart
Dutch Boy liquid drier	1 pint	1 pint

Gallons of paint 6 1/2 gal.

Coverage (600 sq. ft. per gal.) 1:30 sq. ft.

Painting Wood Shingles on Side of House.

For priming coat use Formula No. 1, page 13.

For the second coat use:

Formula No. 10—Second Coat

(Wood Shingles on Siding)

Materials	Soft Paint	Heavy Paint
Dutch Boy white-lead or Carter white-lead	100 lb.	100 lb.
Dutch Boy linseed oil	2 gal.	2 gal.
Pure turpentine	1/2 gal.	1 gal.
Dutch Boy liquid drier	1 pint	1 pint

Gallons of paint 6 gal.

Coverage (600 sq. ft. per gal.) 1:40 sq. ft.

When boiled oil is used, reduce drier to 1/2 pint.

For the third coat use Formula No. 5, page 13. The formula will give a gloss finish. For a flat finish use Formula No. 11, page 23.

Staining Wood Shingles and Rough Siding. A small amount of tanning material, sufficient to stain the shingles or siding to the desired color, should be added to a mixture of one part turpentine and two parts Dutch Boy boiled linseed oil.

In order to obtain the desired color it is necessary only to add the proper color in oil to the above mixture. The color formulas which follow give the amounts of Dutch Boy colors in oil required for each gallon of the oil mixture to produce some of the more common colors. There are but a few of the many colors obtainable.

Gray

12 1/2 pounds Dutch Boy white-lead
much of Dutch Boy lampblack

Deep Red Brown

1 pt. Dutch Boy indian red

Bright Red

1 pt. Dutch Boy venetian red

Permanent Green

1/2 pt. Dutch Boy chromium oxide

Fairly Permanent Green

1 1/2 pts. Dutch Boy medium chrome green

Golden Brown

1/4 pt. Dutch Boy raw italian sienna

1/4 pt. Dutch Boy burnt turkey umber

Iron Brown

1 pt. Dutch Boy raw turkey umber

Deep Brown

1 pt. Dutch Boy burnt turkey umber

Note: While creosote oil sometimes is used for staining shingles and rough siding, it is not needed to produce a good, penetrating stain and

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is very likely to cause trouble if the surface is painted in the future. Concrete stains beneath a coat of paint are apt to "bleed" through and cause discoloration and spoil an otherwise good job.

When a previously painted surface is to be painted, and the nature of the stain is not known, some white-lead paint should be applied to a portion of the surface as a test. If, after a few days, bleeding does not occur on this section, it is reasonable to assume that the entire surface may be painted without danger of discoloration. If discoloration does occur on the test portion, the danger should be either re-stained or painted a very dark color that will make subsequent discoloration inconspicuous.

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If you wish color scheme suggestions for the exterior of a house, please give us the information requested on page 112 so that we can most satisfactorily help you.

CHAPTER III

Stucco, Concrete, Brick and Stone Painting

The painting of these surfaces is frequently necessary either for decoration, for protection, or both. Whichever result is desired, the durability and fine appearance of white-lead paint make it ideal for painting surfaces of this type. White-lead, properly mixed according to the directions that follow, produces a paint that effectively seals the porous surface and gives the solid-appearing finish so much desired on work of this character.

Preparing the Surface. Stucco, concrete work and the mortar in brick or stone work should be allowed to stand and dry at least six months before paint is applied. If painted within that time, it may be aged artificially by washing with a solution made by dissolving two pounds of zinc sulphate in one gallon of water or with ordinary carbonic acid water.

New brick should not be primed until dry. At least two or three days of dry weather should precede painting.

On old brick work, if any mortar has become loose and washed out, repoint all such damaged places with mortar or Portland cement before applying any paint. After pointing, cover the small defects in the surface with putty.

No painting should be done when the temperature is below 50° Fahrenheit.

Estimating Quantity of Paint. It can readily be appreciated that surfaces of the type discussed in this chapter vary greatly in degree of roughness and absorbency. For this reason it is im-

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possible to give a coverage figure that will be absolutely accurate in every case, but it will be found that one square foot per gallon for the priming coat, one square foot for the second coat and two square feet for the finishing coat are conservative averages.

THE DUTCH BOY SYSTEM FOR PAINTING STUCCO, CONCRETE, BRICK AND STONE - FLAT FINISH

Formula No. 11 - Priming Coat

Materials	Soft Paste	Heavy Paste
Dutch Boy white-lead	100 lbs.	100 lbs.
or Carter white-lead	24 to 2 gals.	24 to 2 gals.
Dutch Boy Lead Mixing Oil	24 to 2 gals.	24 to 2 gals.
Colours of paint	7 to 8 gals.	
Coverage (600 sq. ft. per gal.)		

Formula No. 12 - Second Coat

Materials	Soft Paste	Heavy Paste
Dutch Boy white-lead	100 lbs.	100 lbs.
or Carter white-lead	24 to 2 gals.	24 to 2 gals.
Dutch Boy Lead Mixing Oil	24 to 2 gals.	24 to 2 gals.
Colours of paint	6 to 7 gals.	
Coverage (600 sq. ft. per gal.)		

Formula No. 13 - Third Coat

Same as Formula No. 12 above
(Coverage—600 sq. ft. per gal.)

It is strongly recommended that surfaces which have not been previously painted with oil paint receive three coats. If two coat work is attempted, however, mix the first coat on the basis of 1 gallon of Lead Mixing Oil to ten pounds of white-lead. The regular finish coat, mixed according to Formula No. 14 should be used.

† The minimum quantity of Lead Mixing Oil should be used when the present amount of lead is mixed.

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Alternate Formula. If Dutch Boy Lead Mixing Oil is not available, the following formulae are recommended:

Formula No. 14 - Priming Coat

Materials	Soft Paste	Heavy Paste
Dutch Boy white-lead	100 lbs.	100 lbs.
or Carter white-lead	2 gals.	2 gals.
Dutch Boy Lead Mixing Oil	2 gals.	2 gals.
Pure turpentine	1 1/2 gals.	1 1/2 gals.
Colours of paint	1 1/2 gals.	1 1/2 gals.
Coverage (600 sq. ft. per gal.)		

Formula No. 15 - Second Coat

Materials	Soft Paste	Heavy Paste
Dutch Boy white-lead	100 lbs.	100 lbs.
or Carter white-lead	2 gals.	2 gals.
Pure turpentine	1 1/2 gals.	1 1/2 gals.
Dutch Boy Lead Mixing Oil	2 gals.	2 gals.
Colours of paint	6 1/2 gals.	6 1/2 gals.
Coverage (600 sq. ft. per gal.)		

Formula No. 16 - Third Coat, Flat Finish

Materials	Soft Paste	Heavy Paste
Dutch Boy white-lead	100 lbs.	100 lbs.
or Carter white-lead	1 1/2 gals.	1 1/2 gals.
Pure turpentine	1 1/2 gals.	1 1/2 gals.
Pure varnish	1/2 gal.	1/2 gal.
Dutch Boy Lead Mixing Oil	1/2 gal.	1/2 gal.
Colours of paint	1 1/2 gals.	1 1/2 gals.
Coverage (600 sq. ft. per gal.)		

Gloss Finish. If a gloss finish is desired, apply priming coat mixed according to Formula No. 11 followed by a second coat mixed according to Formula No. 12 or apply the alternate formula. If pure turpentine is not available, use pure varnish instead and add 1 1/2 pure turpentine. If white-lead oil is used, reduce drive to 1/2 pint.

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Priming and second coats, No. 12 and No. 13, with a paint mixed as follows:

Formula No. 12—Third Coat, Glass Finish (Stucco, Concrete, Brick, Stone)

Materials	Sub Prime	Heavy Prime
Dutch Bay white-lead	100 lbs.	100 lbs.
or Cover white-lead	1 gal.	1 gal.
Dutch Bay flaked oil	1 gal.	1 gal.
or Pure turpentine	1 qt.	1 qt.
Dutch Bay liquid drier	1 pt.	1 pt.

Colors of paint 60 gals.
Coverage (100 sq. ft. per gal.) 2,750 sq. ft.

Stucco-Glass Finish. An excellent semi-glass finish on brick, stucco, concrete and stone can be secured by modifying Formula No. 12. Use 2 gallons less Lead Mixing Oil and add 1 gallon of spar varnish. The alternate Formula No. 13 can also be modified by using 1/2 gallon less turpentine and adding 1/2 gallon more spar varnish.

Brick Red Finish. A good brick red finish can be prepared by reducing 1 gallon of Dutch Bay varnish red with a quart of Dutch Bay Lead Mixing Oil or 1 quart of turpentine.

A lighter brick red can be made by reducing 1 gallon of Dutch Bay varnish red and 1 quart Dutch Bay touch color with a quart of Dutch Bay Lead Mixing Oil or 1 1/4 quarts turpentine.

Bay varnish red with Dutch Bay Lead Mixing Oil does not produce as satisfactory a paint as does pure varnish red. If the dry finish is used, however, the vehicle should consist of 1 part raw flaked oil, a part Lead Mixing Oil and 1/2 part turpentine.

Repainting Exterior Stucco, Concrete, Brick and Stone. Old work that has been previously painted with properly designed oil paint needs no special preparation or priming. Simply dry-brush the surface and apply two coats of paint.

When better oil is used, when drier is 1/2 gal.

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mixed according to the second and finish coat formulas given on page 28.

If the old paint is blistering, cracking and scaling, it should be wire brushed before repainting. Where the trouble is confined to a small area, simply wire brush the affected part, apply the regular priming coat on the bare spot, and when this is dry and hard, repaint the entire surface as described above.

If a water paint has been previously employed, the surface should be wire brushed before oil paint is applied.

Painting Concrete Floors. The foregoing priming coat—Formula No. 12 (or Formula No. 13)—may be used in priming concrete floors. If Formula No. 13 is used, substitute four varnish for the spar varnish listed.

After the priming coat is dry all cracks and other defects in the floor should be filled with a good putty. The putty should be firmly pressed into the cracks and smoothed over with a putty knife.

The second coat paint should be mixed according to Formula No. 12, page 28, or, if Lead Mixing Oil is not available, according to the following formula:

Formula No. 13—Second Coat (Concrete Floors)

Materials	Sub Prime	Heavy Prime
Dutch Bay white-lead or Cover white-lead	100 lbs.	100 lbs.
Dutch Bay flaked oil	1 gal.	1 gal.
Pure turpentine	2 1/4 gals.	2 1/4 gals.
Dutch Bay liquid drier	1 pt.	1 pt.

Colors of paint 60 gals.
Coverage (100 sq. ft. per gal.) 2,000 sq. ft.

A high grade floor enamel may be used as the

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finish coat. Either of the second coats suggested above may be used also as the third coat, if the first is to be finished with a coat of wax or high grade fine varnish.

Two things to keep in mind throughout the work are: first, vigorous brushing to spread out each coat to the utmost; second, allowing each coat at least four days to dry. One cause of sickness on floors is flowing the paint on so thick that it does not dry thoroughly underneath, and then hurrying too much with the other coats.

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CHAPTER IV Interior Wood Finishing

The same general principles that apply to the painting of exterior wood may be laid down for the painting of interior wood. The paint is applied in the same way and the same number of coats are used. But the formulas for mixing differ due to the fact that paint on interior wood is not exposed to the sun and rain and the finish may be an enamel gloss, a dead flat, or any intermediate finish.

Before mixing the paint, refer to mixing directions on page 14. While these are for outside paint, they apply equally as well to interior paint except that the thinners are different. Also see "Helpful Hints in Mixing and Applying Paint" on page 14.

Preparing the Surface. New woodwork should be sandpapered smooth where necessary and dusted clean before priming.

Old painted or varnished woodwork that is in good condition, clean and free from dust, needs no special preparation.

Old painted or varnished woodwork that shows bad cracking, chalking or scaling, should be stripped by means of a good paint and varnish remover, and then cleaned with kerosene or turpentine. It should then be treated as new wood.

Woodwork that is grooved, or coated with wax should be scrubbed clean with turpentine or kerosene before priming.

Number of Coats. Three coats are recommended for inside wood which has never before been painted or from which all previous paint has been removed—a priming coat, a second or body coat, and a third or finishing coat. If the wood has been painted before, two coats are

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Special Finishing Directions. While the driver-
from that rubber plate more or less perfectly
of furniture and other hard woods. For
hard wood that is not to be painted, first sand-
at treatment may be by sandpapering, buffing,
striking and rubbing. The previous very
unusually according to the kind of wood.
Open-grained hard woods such as oak, birch,
ash or walnut, should be treated first with a
good water paint filler. Close-grained hard woods
like maple or cherry, require no filler. Yellow
pine, owing to the fact it is likely to contain
small holes, has a thin coat of shellac to prevent
the pores from absorbing later coats.
Good water paint fillers may be purchased
ready to apply. Or an excellent one may be
made by mixing the finest white, or zinc, with
and best Japan drier, so as to form a medium
paste. Rub into the pores or a fairly close texture
- the impurities only, allowing the filler to stand
for a time. In some cases it is possible to add
the color to oil, with which the wood is to be
finished, directly to the filler. This is good pre-
treatment, directly to the grain of the wood with a
fine, sandy brush that will work the paste well
into the pores. One coat makes a fair job, but
two coats make a better one, filling up the
pores which the first coat did not fill.
After the filler has dried for about an hour,
rub lightly across the grain of the wood with
fine sandpaper or rags to remove surplus filler
left on the surface.
The purpose in using filler is to fill the pores
of open-grained wood, and to prevent absorption
by the excessive absorption of varnish or other
finishing used for the finish.

Ground Colors
Cherry 1 qt. Dutch Boy vermilion red
1 qt. Dutch Boy French ochre
Mahogany 1 qt. Dutch Boy vermilion red
1 qt. Dutch Boy French ochre
Light Oak 1 qt. Dutch Boy French ochre
Dark Oak 1 qt. Dutch Boy French ochre
Old Maple 1 qt. Dutch Boy French ochre
1 qt. Dutch Boy C. P. orange
Brown staining with the pale, then clear
Lead Mixing Oil or turpentine and drier.
Ground Colors
For staining colors follow the formulas given
under "Staining." The colors in oil should be
thinned to working consistency with
1 part Dutch Boy raw linseed oil
1 part Dutch Boy French ochre
This paste should be applied over the dry
ground and, while still wet, should be dragged
across with graining. When dry, the work may
be finished by staining or varnishing. See "Special
Finishing Directions" on the following pages.

Oil Finish. Oiling, no doubt, is the most durable finish for a floor, though it requires frequent going over. One effect of oil is to darken considerably the natural color of the wood. For a floor oil use three parts of pure boiled (linseed) oil to one part of turpentine. When boiled oil cannot be obtained take four parts raw oil, one part turpentine and one part drier. Stir frequently while using; apply with a strong, stiff brush; rub well into the wood. Clean off all surplus oil not taken up by the wood. An oiled floor should be wiped frequently with an oiled cloth. Oily rags are liable to take fire spontaneously and should be burned after using.

Shellac Finish. This treatment gives a fairly lasting finish if the floor is not to have very rough usage. Three or four coats of shellac, thinned down with good quality denatured alcohol, are recommended for either soft or hard wood floors. Sandpaper very lightly between coats. Waxing over the final coat will add greatly to the durability of the finish.

Varnishing Floors. When a floor is to be varnished it is poor policy to try to save money on the varnish. Use only the highest grade floor varnish. Assuming that the wood has been suitably prepared as suggested above, and then sandpapered smooth, two or three coats of varnish should be applied, allowing ample time between coats for drying. If the floor is this it wears away too soon. The gloss of varnished floors can be reduced and the durability of the finish increased either by painting with putty, sand and crude oil or by waxing.

Wax Finish. Get from any paint store a floor wax of good quality either liquid or paste and spread the wax on the floor in a thin coat. If the wax is too hard to spread, it may be reduced

readily by mixing with turpentine. A good method of application, where paste wax is used, is to place a small quantity of wax between two or three thicknesses of cheesecloth, forming a sort of bag. The wax will work through the meshes of the cloth as it passes over the floor, thus insuring a thin, even coat. Allow 15 minutes for drying, then rub to a polish with a clean, soft cloth, a weighted brush, or similar device. In an hour or two a second coat of wax should be applied the same as the first. To keep such a floor in prime condition requires frequent brushing or rubbing with a soft cloth, and a thin coat of wax about once a month. Waxing gives a beautiful finish, scratches on it are easily repaired and it much less of all treatments to darken the wood or hide the grain. Waxed floors are smooth and likely to be slippery. Aside from this objection and the constant care they require wax is recommended as the best method of all floor finishes.

Refinishing Old Floors. The proper time to take care of a floor is when the first bare spot appears. Then all that is necessary is to scrub thoroughly, put a new coat on such places as show wear and, when dry, go over the entire floor.

To bring a badly worn floor back to its original state of perfection requires considerable work and ingenuity. Remove the old finish and then scrape the wood with a carpenter's steel floor scraper. This scraping and subsequent sandpapering brings the wood back to its original condition. It can then be finished as a new floor. This is a somewhat expensive proceeding, however, and many people prefer to do the work in the following way:

1. Apply a good liquid paint and varnish remover. Cheap soda solutions damage the wood. Cover ten or twelve boards at a time, the remover

width of the room. When finish has returned, remove most of the film with a broadknife, finishing up with coarse steel wool dipped in turpentine.

After the old finish has been removed, the surface should be washed thoroughly with a good soap powder solution and then rinsed clean. If bleaching is required, however, a hot saturated oxalic acid solution (so much acid as the quantity of boiling water will dissolve) should be applied over the entire floor. If there are some spots that do not bleach out after ten minutes, apply more of the hot solution to these places until the entire floor is uniform in color. Then, remove excess acid with warm water and sponge and allow to dry.

Sometimes, when there are only a few dark, worn places in the floor, it is only necessary to apply the bleaching solution to these spots, cleaning the rest of the floor in the usual manner.

5. Sandpaper with No. 14 grade, rubbing with the grain of the wood. Wipe up the loose dust carefully and then refinish in the manner desired. (See pages 41 to 45.) It will not be necessary, of course, to use filler.

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If you wish color scheme suggestions for the interior of a house or other building, please give us the information requested on page 112.

CHAPTER V

Interior Wall Painting

The points to consider in the treatment of interior wall surfaces are beauty, cleanliness and economy. Beauty involves color and style of finish. Cleanliness depends upon washability. Economy has to do with cost and years of wear. These three results are best secured by the use of pure white-lead paint.

Mixing the Paint. To mix white-lead paint for interior work, follow the mixing directions given on page 11 in the chapter on exterior wood painting. The only difference is that interior painting calls for Lead Mixing (M) or turpentine in most formulas instead of linseed oil.

Number of Coats. Three coats are recommended for interior plaster which has never before been painted—a priming coat, a second or body coat, and a third or finishing coat.

If a repair job on unpainted plaster is desired, use Dutch Boy wall primer for the first coat, followed by any of the finishing coat formulas on the following pages. To make two coats look better, tint the first coat to nearly the same color as the second coat.

Two coats cannot be expected to hide as well as three but to give as fine a finish. In fact, it is not considered the best practice to use only two coats on new work. Experience has shown that three coats are necessary for entirely satisfactory results. It is best therefore to plan early always by using three coats.

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**Formula No. 29—Third Coat,
Semi Gloss Finish
(Interior Plaster)**

Ingredients	Soft Plaster	Heavy Plaster
Dutch Boy white-lead or Carter white-lead	100 lbs.	100 lbs.
Pure turpentine	$\frac{1}{2}$ gal.	1 gal.
Flint varnish	$1\frac{1}{2}$ gals.	$1\frac{1}{2}$ gals.
Dutch Boy liquid drier	$\frac{1}{2}$ gal.	$\frac{1}{2}$ gal.
Costs of paint		\$1.50
Coverage (200 sq. ft. per gal.)	4,000 sq. ft.	

Second Finish. When a prepared enamel is to be used as the finishing coat, the priming and second coats should be followed by rough runs of the flat finish formula to completely hide the surface and furnish a flat uniform ground. The touch of prepared enamel may then be applied.

Repainting Plaster. Plaster that has previously been painted with an oil paint, and is in good condition, need not be primed. The old paint serves as the priming coat.

Simply apply Formula No. 25 (or Formula No. 27) as a first coat, and when this has properly dried and hardened, finish with Formula No. 24 or No. 25 (or Formula No. 28 or 29).

Preparing the Surface. It is always advisable to allow plaster at least six months to dry and season thoroughly before attempting to paint it. Fresh plaster contains free alkali which has a tendency to keep paint from drying properly and to cause colors to bleach out.

A good many people do not care to let their walls go unprepared for six months. In such cases, painters sometimes artificially "age" the new plaster by treating the surface with a solution made by dissolving two pounds of zinc sulphate in one gallon of water. After this solu-

tion is applied, sufficient time is allowed for the plaster to dry before priming.

Before applying any paint, be sure that the plaster or old paint is clean and smooth. Go over the wall lightly with fine sandpaper or a wide putty knife to remove grit, loose plaster or paint, taking care not to scratch the surface.

Fill all cracks and holes with patching plaster. The proper filling of cracks is essential to a good appearing and permanent paint job on plaster. The plaster should be first cut out in the shape of an inverted V or triangle.



Figure 2

A—Wrong method of cutting "V". B—Correct method, the "V" being inverted so that its point is on the surface.



Figure 3

Now the run-out crack should be filled to obtain the best possible results. See method for applying filler.

The edges of the spread crack should be soaked with water to aid the patching plaster in forming a bond with the old wall. Fill the crack to within a quarter inch of the surface and allow

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the painting plaster is set partially before leveling up to the wall surface.

All loose dust and dirt should be removed before painting. If the surface is excessively dirty or covered with grease, it should be washed. This is especially true of kitchen, bathroom and laundry walls and ceilings.

Walls that have been calcimined should be washed with sponge and warm water before applying the painting coat.

Removing Wallpaper. To remove wallpaper, use a broad knife or similar tool after first saturating the paper with warm water. The plaster should then be washed to remove all traces of paste. If the surface uncovered is unpainted or in a poor condition, it should be treated according to the directions for painting new plaster walls.

Painting Over Wallpaper. It is frequently possible to paint successfully over wallpaper provided there is but one layer on the wall and that layer is fairly good condition. All sections of loose paper should be torn away and if there are any cracks underneath, they should be repaired with patching plaster and the seams rubbed with No. 6 sandpaper. Painting is then done as if on bare plaster.

Some wallpapers contain bleeding colors. When any light paint is applied over them the oil in the paint dissolves the color and discoloration results. This can be stopped usually by the application of two thin coats of shellac over the painting coat. If this difficulty is anticipated it would be well to use a little light paint on the dark colors and if bleeding results it would probably be easier to remove the paper than to apply the two coats of shellac.

If the paper is textured in a pleasing manner

it need not be removed but it should be remembered that textures cannot be hidden completely with paint and if the texture is displeasing, the paper should be removed.

Applying Flat Paint. The beauty of a wall painted with flat paint depends to a large degree on how the paint is applied, especially the final coat. Flat paint dries more quickly than gloss paint and joints or laps will show if the work is not done properly.

Start at one end of the wall at the top, painting a section or "stretch" about three feet wide and work down (not across) the wall. Special care should be taken to keep the edge of the freshly painted surface wet until the entire section of the wall being painted is completed. This is necessary in order to avoid lapping which occurs if the edge is allowed to set or dry.

When the bottom of the wall is reached, start another stretch about the same width, joining it to the first one and working down the wall as before. Repeat the process until the whole wall is painted, making care to work fast enough to keep one section from drying before another is joined to it.

With paint made from Dutch Boy or Carter white-lead and Dutch Boy Lead Mixing Oil you will have no difficulty in obtaining a good job, if you will take the care precaution of keeping the edges of the stretch wet.

Estimating Area. In estimating the number of square feet in a room to be painted it is the practice to consider the walls, ceiling and woodwork as separate units. It is necessary to do this as paint for plaster is mixed differently from that for wood, and the ceiling and side walls are not usually painted the same color.

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To find the area of wall surface to be painted, measure the distance around the room and multiply by the distance between the baseboard and the picture molding or ceiling. Subtract from this figure the area occupied by the doors and windows. Divide the result by 100, which is about the number of square feet of surface one gallon of paint will cover. The answer is the number of gallons of paint needed for one coat.

To find the area of the ceiling, multiply the width by the length. To this figure, add the area of the four strips of wall surface above the picture molding. Divide the total area then obtained by 100 which gives the number of gallons of paint needed for one coat.

If walls or ceiling are irregular in shape, divide into rectangles, figuring separately the area of each rectangle. The sum of the areas given the total amount of surface to be painted and dividing by 100 gives the number of gallons of paint needed for one coat on smooth plaster.

If the surface is very porous (as on some composition wall board) or has a rough finish, a spreading rate of less than 100 should be used in estimating the number of gallons of paint needed.

Stippling. A stippled effect is produced simply by striking the wet surface, before the paint has set, with a special type of brush known as a wall stippling brush. The ends of the bristles pick up the paint and re-distribute it, resulting in a uniform pebbly surface that eliminates heavy brush marks or small surface blemishes. Since a point coat to be stippled can be applied with less attention to even brushing, this method adds practically nothing to the labor required for the job.

Painting Fabric Coverings. To overcome defects in plaster walls or to anticipate others which it is feared may develop, plaster walls are

sometimes covered with media or a specially prepared fabric of some kind which is then painted. No difficulties are encountered in painting such fabric coverings. The painting is done in the regular way just as if plaster were being painted, and the finished job is practically indistinguishable from ordinary painted plaster. If the fabric has been previously treated with a size, no priming coat is necessary.

Painting Wall Board. Composition wall board, which is used on many interiors to take the place of plaster, may be painted with ordinary paints. Such surfaces may be treated like plaster walls and the painting should be done in accordance with the recommendations given for painting plaster. See page 46.

Washing Painted Walls. White-lead remains insoluble in water so walls painted with it can be successfully washed. In fact, walls painted with white-lead and Lead Mining Oil withstand frequent washings without apparent change or injury. In washing the following procedure will be found effective.

A workable portion of the wall should be sprayed with a good white soap solution, the work progressing from the baseboard toward the ceiling. This section should then be rinsed with clear water and the adjoining section cleaned at the same moment. The white soap solution should effectively remove ordinary dirt and dirt which accumulates on most walls.

When the walls have become badly soiled, it is sometimes necessary to use a stronger solution than white soap. Some of the washing powders, which do not contain an excessive amount of alkaline material, prove very effective in such cases. Many cleaning powders contain abrasives

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material and their repeated use will naturally wear down the paint film regardless of how hard it may be. A little experimenting will enable one to determine just how strong a soap solution is necessary to produce the desired cleaning action without injuring the paint film by either chemical or mechanical action.

CHAPTER VI Colored Paints

The materials used for tinting white-lead paint are known as colors in oil. These are concentrated color pigments, some of which are natural earths and others chemical compounds. Both types are put through several manufacturing processes and thoroughly mixed with oil to a paste that can be easily incorporated into the white-lead paint thus producing the desired color. They also may be used straight as oil colors when properly thinned.

What to Look for in Oil Colors. High quality tinting materials should possess several desirable properties. First, they should be true in tone. The tone must be clean and pure, with no off casts of gray, blue or brown. This will facilitate the matching of color chips and insure good, clean, lively tints.

Second, they should be high in tinting strength. This means that only a minimum quantity of color will be needed to produce a given tint, thus insuring economy.

Third, the tinting pigments should be extremely fine. Fineness of grind (a result of proper milling) produces the desired smooth, even texture in the finished job.

The final consideration is dispersion ability. The small amount of turpentine that is ground into Dutch Boy oil paint colors hastens the tinting action and breaks the tendency to form small lumps of concentrated color which may occur otherwise.

Dutch Boy Colors in Oil. The Dutch Boy color in oil line contains all of the colors necessary for the proper production of any tinted or colored paint job. Over seventy-five years of color

making experience, backed by careful laboratory control, is the painter's guarantee of getting the best colors in oil that can be made.

Coloring the Paint. It is best practice to mix the colors in oil into the paint before you add all of the liquid vehicle. However, Dutch Boy and Japan colors in oil are so finely ground that they can be easily incorporated with the paint even after it has been thinned to brushing consistency.

It is always advisable, when following a color formula or matching a particular color, to add and thoroughly mix in small quantities of color at a time. Otherwise it is very easy to put in too much color leaving no alternative but to add more white paint to reduce the color strength.

Coloring Enamel. It is general practice when tinting an enamel paint to thoroughly incorporate the required colors in oil with a small quantity of the enamel paint, producing a very deep color of the desired tone. This mixture is then stirred gradually into the balance of the enamel until the proper color is reached.

Where deep colors are required for tinting enamels, colors in oil should not be used. Superfine or watch colors, which are ground in Japan, are more suitable for this work.

Color Formulas. On the following pages we are giving formulas to some of the more popular colors. Those from No. 25 to No. 45 are of the lighter type and consequently are more suitable for interior use. All are based on the use of Dutch Boy colors in oil. The quantities recommended are based on the use of one pound of white-lead and should be adjusted accordingly if a smaller or greater amount of white-lead is to be colored.

The unmarked colors are permanent for all

practical purposes. These colors marked with a double asterisk will fade rather quickly, especially when exposed to strong sunlight. Those with a single asterisk are fairly permanent. Of course, all colors fade to some extent, but as everyone knows from experience, there are certain ones that resist fading for a long period and others that go quite rapidly, as well as all degrees in between.

Exterior Colors

Rust Brown—No. 6

1/2 gal. burnt umber

1 qt. burnt umber

***Green Yellow—No. 7**

1/4 pt. C. P. iron ochre yellow

***Slate Green—No. 8**

1 pt. C. P. chromium oxide green

Iron Green—No. 9

1 qt. C. P. chromium oxide green

Red—No. 10

1/2 gal. raw sienna

Red—No. 11

1 qt. raw sienna

Old Ivory—No. 12

1/2 pt. raw sienna

Warm Dead—No. 13

1/4 pt. burnt umber

Light Charcoal—No. 14

1 qt. burnt umber

Chamois Brown—No. 15

1/2 gal. burnt umber

Dark Dead—No. 16

1 qt. raw umber

***Pale Ivory—No. 17**

1/4 pt. C. P. medium chrome yellow

***Cream—No. 18**

1/4 pt. C. P. medium chrome yellow

Colonial Yellow—No. 39
 1 pt. C. P. medium chrome yellow
 Light Gray—No. 40
 1/2 pt. lampblack
 Smoke Gray—No. 41
 1/2 pt. lampblack
 Ochreous Blue—No. 42
 1/2 gal. C. P. prussian blue
 1 pt. lampblack
 Deep Gray—No. 43
 1/2 pt. lampblack
 1 pt. French ochre
 Quaker Gray—No. 44
 1/2 pt. lampblack
 1/2 pt. C. P. light chrome green
 Interior Colors
 Nile Green—No. 45
 1/2 pt. C. P. light chrome green
 Jaspé Green—No. 46
 1/2 pt. C. P. medium chrome green
 Opaline Green—No. 47
 1/2 pt. C. P. dark chrome green
 Garage Green—No. 48
 1 pt. C. P. dark chrome green
 Dove Gray—No. 49
 1/2 pt. raw umber
 Moss Mix—No. 50
 1/2 pt. burnt umber
 Cobalt Sand—No. 51
 1/2 pt. burnt umber
 Sandy Beige—No. 52
 1/2 pt. burnt umber
 Buff—No. 53
 1/2 pt. raw umber
 Ivory—No. 54
 1/2 pt. C. P. medium chrome yellow

Sulphur Yellow—No. 55
 1/2 pt. C. P. lemon chrome yellow
 Rusty Red—No. 56
 1/2 pt. C. P. medium chrome yellow
 Sunset Tan—No. 57
 1/2 gal. French ochre
 Peach—No. 58
 1/2 pt. C. P. orange chrome yellow
 Opale Pink—No. 59
 1/2 pt. ballstone red
 Orchid—No. 60
 1/2 pt. orchid stater
 Sky Gray—No. 61
 1/2 pt. cobalt blue
 Starlight—No. 62
 1/2 pt. cobalt blue
 Clear Gray—No. 63
 1/2 pt. lampblack

Dark Colors. The following formulas are for producing dark colors which are necessary and for small trim areas, such as eads, blinds, window frames and the like. These colors contain no white lead but before applying, they should be rubbed to polishing consistency with flannel oil, turpentine and dried in the proportions shown.

These formulas are for the finishing coat only. The regular procedure for exterior painting or repainting should be followed in the case of the color coats. A satisfactory ground for these dark colors may be produced by mixing the equivalent of a medium shade of the finishing color.

India Red—No. 7

1/2 gal. vermilion red
 1/2 gal. Indian red
 1 qt. Dutch Red mixed off
 1/2 pt. raw turpentine
 1/2 pt. Dutch Red liquid drier
 Yield—1/4 gal.

****Basic Green—No. 2**

- 1 gal. C. P. dark chrome green
- 3 qts. Dutch Boy linseed oil*
- 1 pt. pure turpentine
- 1/2 pt. Dutch Boy liquid drier

Yield—1 1/2 gals.

Red Brown—No. 3

- 1/2 gal. Indian red
- 3 qts. raw linseed
- 3 qts. Dutch Boy linseed oil*
- 1 pt. pure turpentine
- 1/2 pt. Dutch Boy liquid drier

Yield—4 1/4 gals.

Chromium Oxide—No. 4

- 1 gal. C. P. chromium oxide green
- 3 qts. Dutch Boy linseed oil*
- 1 pt. pure turpentine
- 1/2 pt. Dutch Boy liquid drier

Yield—1 1/2 gals.

Chocolate Brown—No. 5

- 1 gal. burnt umber
- 1 qt. Indian red
- 3 qts. Dutch Boy linseed oil*
- 1 pt. pure turpentine
- 1/2 pt. Dutch Boy liquid drier

Yield—4 1/2 gals.

Whenever these dark colors are to be used in the finishing coat on stucco, brick, concrete or stone, Lead Mixing Oil is preferred in the vehicle. In the above formulas, one 1/2 quart of Dutch Boy Lead Mixing Oil instead of linseed oil and omit the turpentine and drier.

* If boiled oil is used, add only half the amount of drier specified.

** See page 56.

CHAPTER VII

Decorative Wall Finishes

When decorative treatments other than plain paint effects are desired, one or more of the treatments described in detail on the following pages may be used. All of these treatments are produced over a fine painted ground. All are fairly simple to do and require no special equipment. Suitable coverl paper, masking tape and the proper wall and stipping brushes are the only tools necessary.

Stippling. The puffy texture that results from stippling is one of the most useful methods a painter can employ to provide a uniform surface and lend additional interest to the finishing coat of paint on walls and ceilings. Directions for producing this effect are given on page 52.

Crumpled Wall Finish. To produce this finish, select two harmonious colors differing enough in tone to offer a pleasing contrast.

The ground coat (Formula No. 5) is tinted to the desired color, applied, and allowed to dry. Then the finishing coat is brushed on, a workable section at a time, and "rolled" as described below while still wet. Prepare the finishing coat according to the third coat flat brush formula on page 44, and tint it to match the second color selected.

The "rolling" is done with a double sheet of newspaper or other absorbent paper crumpled tightly into an elongated wad seven to eight inches in length. Newly printed newspapers should not be used because the printing ink may come off the paper and spoil the appearance of the wall.

Starting at the top left hand corner of the freshly painted surface and rolling diagonally

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downward, turn the roll of crumpled paper over and over with the fingers, pressing it firmly against the wall to keep it from slipping. (See Figure 4.)

Continue the rolling to the bottom of the wall and repeat for the next strip, permitting the end of the roll of paper to just overlap the edge of

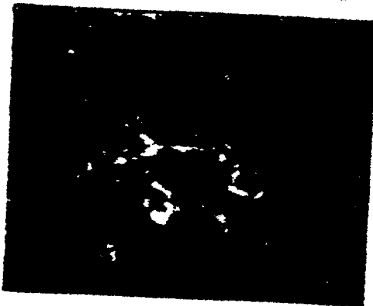


Figure 4

the previous strip. Care should be taken to apply no larger section of the finishing coat than can be conveniently rolled before it sets up.

New rolls should be substituted when the paper becomes so saturated with paste as to leave no sufficient impression. Experiment with this finish will show that the size of the figure is determined by the closeness with which the paper selected for use is crumpled. Paper crumpled loosely will produce a more or less widely spaced

effect, while closely crumpled paper will produce an exceptionally uniform treatment.

After a wall has been treated it should be examined. All blank or missed spaces should be pasted with the crumpled paper, and all lines marked up and retailed while they are still wet.

The principal problem involved in a treatment of this type lies in the selection of the two colors to be used. Such colors as ivory for a ground and medium blue for a finishing coat combine nicely, as do medium pink and pale smoky gray.

If considerable difference exists between the colors selected for use, an effect may be expected that is sharper and more clearly defined than in the case of two colors which are more or less similar. Just as a dark finish may be employed over a light ground, in the reverse way a light finish may be employed over a dark ground.

It must, however, be kept in mind that in only about one-third of the ground coat shows through, the finishing coat is the one which determines the dominant color of the decorative effect.

In new work the second coat should be mixed to the desired ground color, while the third coat should be colored in a sufficiently different manner to show a proper degree of contrast when removed by rubbing in the manner previously described. On repair work, however, the side wall color already in place, if in good condition and free of grease and dirt, may be employed as the ground, and in such an instance the single finishing coat to be applied over it should be tinted with proper reference to the ground so that the desired degree of difference will be apparent.

Where a three-tone finish is desired, another coat of first paint, tinted to a third color, should

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be applied over the two-tone effect and then rolled as previously described.

The crumpled roll finish should not be attempted on rough-finished surfaces, since the high points of the plaster will prevent the paper from reaching the point in the depressed portions, thus leaving an indistinct pattern.

Sponge Mottle Finish. In the sponge mottle finish the colors chosen for the ground and mottling coats should differ sufficiently to show the desired degree of contrast in the finished effect.

A flat ground, properly tinted, should first be applied and allowed to dry. Prepare this ground according to the third coat flat finish formula on page 44, use this formula also for the mottling coat.

Now cut a coarse fibre sponge in half in order to make a flat surface, soaking one of the halves in water to soften the fibres and then wringing it out carefully.

To do the mottling, lightly press the flat side of the sponge into some of the mottling coat paint, previously spread on a board, and then stamp the wall with it here and there. (See Fig. 5.) Go over the entire surface in this way, making no attempt to follow a set pattern. Much of the charm of the sponge mottle finish is lost if the sponge markings are placed in straight lines and at fixed intervals.

More than one mottling color may, of course, be employed. Use a separate sponge for each color.

A beautiful and changeable effect may be secured by using a semi-gloss finish (see page 47) over a flat ground coat. By tinting both the ground and the mottling coats in the same color



Figure 5

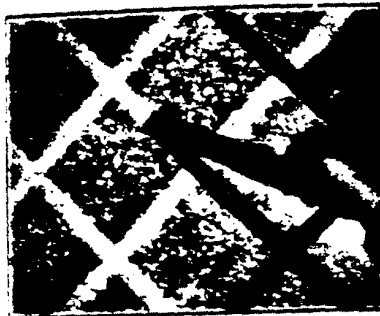


Figure 6

an effect of shimmer may be obtained due to changes in the angle of reflected light.

Diamond Effect. This is a simple modification of the sponge mottle effect. It may be used as a panel treatment or as an all-over sidewall treatment. The sidewalls are first painted in the regular manner. When the last coat has dried thoroughly, apply one-inch masking tape in a diamond-shaped pattern. A sponge mottle finish is then applied (see directions for Sponge Mottle Finish, page 84) and the masking tape removed. This treatment is suitable for almost any type of room. (See Figure 6.)

Masking tape is invaluable for establishing an even clean-cut line where more than one color is employed. Other uses for which this tape may be found helpful are in panel work, in striping, in producing an even line where a sidewall is divided into horizontal bands and in establishing a dash line.

Stencil Finish. When a decorative note of color is required in wall or ceiling panels or simply to mark spots here and there in the panels, the stencil offers a ready means of supplying it. It is also invaluable as a quick method of marking a frieze, a panel border where moldings are missing or a border effect at the top of a dash or wainscoting.

Although a stencil can be applied with ease, there are two points which should not be overlooked in connection with its application. First, care should be taken to avoid the use of too thin a paint as a stencil color. The paint should be of paste consistency, thinned slightly with Dutch Boy Lead Mixing Oil. The resulting mixture should be applied with a brush carrying very little paint. Second, care should be taken actually to compare the stencil color directly against the ground over which it is to be applied,

even those colors in the immediate vicinity of the stencil will intensify and seem to change in tone as determined.

Bubble Effect. This effect is produced by first applying a light colored ground and where this is thoroughly dry the bubble effect is produced by stepping through circular openings which have been cut in a stencil board. These circles should be of unequal size. The stencil is applied by stepping around the outer edge of the circular opening and gradually blending the paint from the outer edge toward the center. This type of treatment is not only appropriate for use in bedrooms but may be used successfully in the dining room, night clubs, breakfast rooms, etc. (See Figure 7.)



Figure 7

Mask Stencil Treatment. A new adaptation of the stencil is the Mask Treatment which enables one to obtain any width border desired to accent

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cutting a new pattern. It varies from the stencil treatment in that only one side of the design is cut in the stencil board while the other side is open. Figure 3 shows a very simple mask design.



Figure 3

sign. After the width of the border design is decided upon, the stencil paper is held against the wall or fastened with masking tape and the space above the mask is then filled in with the desired color. If a more elaborate effect is desired, a second color may be used to outline the edge of the design. This effect is particularly appropriate for use in halls but is adaptable to nearly every type of room.

Striping. Where a simple method of treatment is required to lend a decorative air to an interior which has been painted in a plain one-tone color, striping may be used with good re-

sult. Striping is simply a narrow banding line or lines of some harmonizing color or colors of greater strength than applied on the side wall. For general use this line may be anywhere from one-half to two inches in width, outlining all window frames, door frames, and running parallel with any other interior trim.

The striping line should be applied about to the side wall a few inches out from the wood trim, the distance depending largely on the width of the stripe, which is, in turn, determined by the size of the room. The usual distance from the baseboard is about one to three inches for a three-quarter inch stripe.

Striping is also employed where imitation stone effects are required as a method of marking their outline.

Paneled Effects with Point. Large interior surfaces are sometimes found that would appear far more interesting if paneled than if left in large unbroken areas.

Striping or stenciling with point to produce panels offers a simple solution of the problem. In laying off the side wall in panels, considerable discretion should be exercised in order that the panels may be interesting in shape. When panels have been outlined and the decorative panel treatment carried out, a solid striping line of color or a stencil border should be applied to frame properly each panel. The border or stile for the average room should be about six or eight inches in width.

Modernistic Effect. This is produced over an old side wall on which a flat paint has been applied, or over a new wall after a flat paint ground has been established. In addition to the paint and paint brush, the only tool required is a guide, cut from regular stencil paper. This guide

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may be cut out in the form of a triangle, square or semi-circle, and while one edge is held between the thumb and fingers of the left hand, the other edge is pressed against the surface. After the brush has been dipped in the paint and is worked fairly dry, the edge of the card is pressed against the wall in stroke with the bristles of a brush, as in the case of stippling, and this



Figure 9

stippled effect is carried from the edge of the card on to the sidewall, fading out at a distance from two to four inches from the edge of the guide. The guide is then removed, placed at an angle, and the same stippling process continued until the wall is covered with a uniform group of intersecting pencil lines. (See Figure 9.)

Polychrome Finish. The polychrome or multi-colored finish is interesting for use where space

of color are required to approximate certain moldings composed of individual units such as the egg and dart, bead, floral motifs, etc., that may be present in the interior. It is, as a general rule, most satisfactory for use as an added touch of decoration where a plain one-tone treatment has been employed on side wall and ceiling.

This finish is best obtained by applying to the various units composing the molding several different colors which have been extended less time by the addition of white-lead. These tints should be quite light and nearly equal in value. Tinting parts of the molding in certain of these light colors offers a particularly effective treatment for large rooms, since it lends a colorful touch to an interior that might otherwise appear cold and uninteresting.

Should the effect appear too bright it can be toned down, when the paint is dry, by the application of a thin glaze coat as described on page 71 under "Amalgam Finish".

Printed Stipple. This effect is obtained over a smooth surface after a ground coat has been properly applied and is dry. The only tools needed to carry out this wall finish consist of a sheet of paper suitable for cutting into a frieze or stencil, a four-inch wall brush, a wall stippler and a few yards of masking tape.

A suitable design should then be sought. An outline of trees is illustrated in Figure 10. When chosen, it should be traced upon the paper. Distinct views or easily illustrated figures will be found to be the best subjects. The length of the stencil is determined by the amount of variety the decorator desires in his subject; its depth by the size of the room to be decorated. It is important that the design should run off the two edges of the sheet on the same level so that when

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the stencil is removed and the design repeated, there will be no gaps or obvious joints. The design is then cut out. The lower part of the design is the portion which is attached to the wall to produce the finish design shown in Figure 30.



Figure 30

The ground coat will be determined by the design that is selected. For example, pale blue for a sky line; for a desert, light buff. The walls are prepared in the regular manner as directed in Chapter V, page 65. The ground coat is applied, based on a regular finishing coat formula. When the paint is dry, the finish is attached to the wall at the proper distance below the ceiling line, using masking tape to hold it securely in place. The distance from the ceiling line is determined by the size and character of the design and is

same extent by the size of the room. Twelve to eighteen inches is a normal distance. The same paint used for the ground coat is lightened, by adding white paint, for use on the area above the finish. After the paint has been applied over a workable surface, it should be blended by stippling. When one stretch is completed, the masking tape is removed and the process repeated. When the entire wall has been coated and stenciled, free hand alterations may be made in the surface by inserting birds, altering the height or shape of trees, etc., in order to increase the interest and provide an effective variation in the pattern. There is practically no limit to the subjects which can be treated with the finish stencils; namely, a desert scene, a mountain scene, or sky line design of buildings.

Glossed or Antique Finish. This method of finishing the plain one-coat wall, or elaborate moldings, is most effective and gives a rich depth of tone. It is also indispensable where the colors used need to be softened.

The effect is obtained by first preparing a thin semi-transparent glaze as follows:

- 3 lbs. Dutch Boy white-lead
- 1 gal. Dutch Boy Lead Mixing Oil
- 1 qt. pure turpentine

To this should be added sufficient tinting material to produce the depth of tone required. Apply this glaze over the dry finishing coat and then, while the glaze is still wet, wipe lightly over it with a ball of clean cheesecloth. This operation will remove a certain amount of the glaze, permitting enough to remain on the surface to give an antique effect.

Paint Blend. If the old surface on which the

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Figure 11



Figure 12

finish is to be applied in good condition for repainting, a coat of paint based on Formula No. 21, page 56, should be prepared. This is divided into three batches, a main batch which is mixed to the desired ground coat color and two smaller batches tinted to colors that will harmonize with the ground. The ground coat paint is applied over a workable portion of the surface, and while it is still wet, individual brushes are used to apply the other colors in well-assorted groups here and there over the wet ground as shown in Figure 11. Before the paint has set up, these irregular spots should be smoothly blended by stippling into the wet ground as shown in Figure 12.

The principal advantage of this finish is the fact that the painting and the blending can be accomplished at the one time instead of having to wait until the ground coat is dry before doing the blending.

Department of Technical Paint Service and Distribution. If you have some special decorative problem of a technical nature that is not covered in this book, address your inquiry to us and our Department of Technical Paint Service and Distribution will give it prompt attention.

Individual color schemes will be prepared for the interior or exterior of any house or building if the information requested on page 112 is submitted. Blue prints or photographs are of great assistance in planning schemes for the more elaborate problems, and all material of this kind will be returned.

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CHAPTER VIII Metal Painting

In all kinds of work, under every conceivable condition, red-lead has stood up better than any other paint material for painting metal surfaces. Nearly all the railroads use it for the protection of cars, bridges and other structures. It is used on vessels in the United States Navy. It protects gas holders for public service corporations, oil tanks for the big oil companies and the steel in drydock skeletons. Large users of paint are aware of the value of red-lead in paint form as a rust preventive and have learned to rely upon it to keep down maintenance costs.

Nearly every house has eave-troughs, valleys, gutters, down-spouts and flashings in the roof drainage system that should receive red-lead protection. Farm machinery, metal roofs, pipes, water tanks, troughs, fences and many other small and less spectacular things can be made to last long and look well by the timely use of red-lead.

In fact, every piece of tin, iron and steel about the premises should be red-lead if it is to last. Rust is a danger signal that calls for prompt treatment.

Miscellaneous. The red-lead user may either mix up his own paint, using dry or paste red-lead, or he may prefer Dutch Boy Quick-Drying Red-lead Paint, especially adapted to the average job of metal painting around the house. This is a pure red-lead paint and contains no other pigment but red-lead. It is to be used as it comes in the container, hence no special mixing directions are required. Of course, the instructions in this chapter as to surface preparation and number of coats apply no matter what type of red-lead paint is used. The formulas given are for the use of Dutch Boy paste red-lead.

Painting Exterior Metal

Formula No. 20—Priming Coat

Miscellaneous	Amounts
Dutch Boy paste red-lead	100 lbs.
Dutch Boy linseed oil*	1 1/2 gals.
Pure turpentine	1 1/2 pints
Dutch Boy liquid drier	1 1/2 pints

Colours of paint 1 gal.
Coverage (200 sq. ft. per gal.) 1,000 sq. ft.

Formula No. 21—Second Coat (Light Brown)

Miscellaneous	Amounts
Dutch Boy paste red-lead	100 lbs.
Dutch Boy linseed oil*	1 1/2 gals.
Dutch Boy lampblack	1 1/2 pints
Pure turpentine	1 1/2 pints
Dutch Boy liquid drier	1 1/2 pints

Colours of paint 1 1/2 gals.
Coverage (200 sq. ft. per gal.) 1,100 sq. ft.

The lampblack is added to the red-lead for the second coat to change the color of the paint to a light brown. This enables the painter to see readily if any places have not been covered properly. Moreover, a slightly shaded second coat facilitates the inspection of the final coat in the same way.

Formula No. 22—Third Coat (Black)

Miscellaneous	Amounts
Dutch Boy paste red-lead	100 lbs.
Dutch Boy lampblack	2 1/2 gals.
Dutch Boy process clay	1 1/2 gals.
Dutch Boy raw linseed oil	1 1/2 gals.
Pure turpentine	1 1/2 pints
Dutch Boy liquid drier	1 1/2 pints

Colours of paint 2 1/2 gals.
Coverage (200 sq. ft. per gal.) 1,100 sq. ft.

* If greater heated linseed oil is available, mix it with the Dutch Boy linseed oil, use the third coat as the fourth coat of red-lead and the drier.

Requining Exterior Metal. Dutch Boy Quick-Drying Red-lead Primer or a paint based on Formula No. 30 should be used also for painting metal which has previously been painted. If the original paint is substandard, then only two coats are required and the finish coat of the desired color should be mixed in accordance with the previous formula.

Light Finishing Coat. If a light-colored finishing coat is desired, it will be necessary to use white-lead paint. This may be mixed to any of the colors given in Chapter VI using the following white-lead formula:

**Formula No. 33—Finishing Coat
(For Light Colors)**

Materials	Dark Colors	Heavy Colors
Dutch Boy white-lead		
or Carbon white-lead	100 lb.	100 lb.
Dutch Boy linseed oil	3 gal.	3 gal.
Pure turpentine	1 qt.	1 qt.
Dutch Boy lampblack	1 pt.	1 pt.
Colloids of paint	6 1/2 gal.	
Coverage (600 sq. ft. per gal.)	4,375 sq. ft.	

It is not possible, however, to cover the red-lead color with one coat of an extremely light-colored paint. Two coats will be needed except for colors as dark as black or the dark gray given in Chapter VI. If one of the lighter colors is desired, the second coat of red-lead may be omitted and a properly mixed white-lead coat substituted, followed by the finishing coat as above.

Painting Water Tank Interiors. A water tank, like a boiler pipe on a house, is one of those things which runs more often from the inside out than from the outside in. The reason is that its interior is seldom kept so well protected against corrosion as the exterior.

The interior of an industrial water storage

tank should receive at least three coats of paint. These coats should be mixed as follows:

Formula No. 34—Priming Coat

Materials	Amounts
Dutch Boy paste red-lead	100 lb.
Dry powdered litharge	5 lb.
Dutch Boy linseed heated oil	1 1/2 gal.
Pure turpentine	1/2 gal.
Colloids of paint	6 1/2 gal.
Coverage (600 sq. ft. per gal.)	2,700 sq. ft.

Formula No. 35—Second Coat

Materials	Amounts
Dutch Boy paste red-lead	100 lb.
Dry powdered litharge	5 lb.
Dutch Boy linseed heated oil	1 1/2 gal.
Pure turpentine	1/2 gal.
Dutch Boy lampblack	1/2 pt.
Colloids of paint	6 1/2 gal.
Coverage (600 sq. ft. per gal.)	2,775 sq. ft.

Formula No. 36—Third Coat

Materials	Amounts
Dutch Boy paste red-lead	100 lb.
Dry powdered litharge	5 lb.
Dutch Boy linseed heated oil	1 1/2 gal.
Pure turpentine	1/2 gal.
Dutch Boy lampblack (optional)	1 pt.
Colloids of paint	6 1/2 gal.
Coverage (600 sq. ft. per gal.)	2,625 sq. ft.

The dry litharge called for in each formula should be made into a paste with turpentine. In the case of Formulae No. 34 and 35 the three quarts will be more than sufficient for this purpose. In Formula No. 36, however, it will be necessary to use some of the heated oil for mixing with the dry litharge. In each case the litharge is mixed with thinner and added to the paint just prior to application.

II

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Area Red-Lead Paint Will Cover. In estimating the quantity of red-lead paint needed for a job, it is safe to allow two square feet to the gallon, one coat. The area which any painter may be expected to cover is approximately at best in the spreading capacity of a paint is greatly influenced by such variable factors as temperature, consistency of the paint, the "finish given" by the brush and the condition of the surface being painted. For example, badly pitted and rough metal will take more paint than a perfectly smooth surface. With Dutch Boy red-lead, however, the square foot per gallon is a conservative figure and under all except the most unfavorable conditions it may be expected to cover more than this.

oil to make a workable paste; then add the coloring material and finally the remainder of the oil. When drier is used, put it in after the coloring material and before adding the final oil. (See white-lead mixing directions on page 75 which are similar.) For best results paint made from dry red-lead should be allowed to stand overnight before it is used. It takes time for the oil to thoroughly wet the dry pigment particles.

Applying the Paint. Steel and iron should never be painted during wet weather nor when covered with dew or frost. Early morning painting during the late summer months is not recommended as a usual thing. It is always better to wait until the sun has had time to dry everything out. It is best possible to attempt painting in freezing weather.

Red-lead paint can best be applied with a round or oval brush. Be sure to use plenty of paint, covering the surface well and not attempting to make a gallon of paint go too far. Pay particular attention to bolts, rivet heads, edges and corners, as they are more subject to destructive influences than perfectly flat surfaces.

The priming coat is the most important. Extra care and precaution should be taken during its application.

Allow plenty of time between coats for the previous coat to dry thoroughly. A week is not too long, especially for the priming coat.

Painting Galvanized Iron. No paint can be recommended to stand up satisfactorily on galvanized iron at all times because the coating left by the galvanizing process has a tendency to rapid paint. Sometimes the paint takes hold properly right away; other times considerable difficulty is encountered in making the paint adhere.

It has been the experience of practical painters that paint made of pure red-lead and linseed oil gives good results most consistently. The best results are obtained by allowing the galvanized iron to remain exposed to the weather at least six months before painting it.

Apply three coats of paint mixed in accordance with the formulae for painting uncorroded metal, page 77.

Do not merely spread the priming coat upon the metal and expect it and succeeding coats to stick at all hazards. Brush the paint out well and use enough pressure to force it into every microscopic irregularity in the surface. Many an otherwise good job of painting on galvanized iron has gone wrong simply because the paint was not brushed on "close", in the painter's say.

Painting Metal Ceilings, Trim and Sash. Painting metal ceilings with red-lead or white-lead paint will practically eliminate the most common trouble experienced with interior structural work of this type, the formation of rust spots.

When the ceiling is to be finished in white or a very light tint, it is recommended that all the coats, including the priming coat, be of white-lead.

For priming, use the following:

Formula No. 27—Priming Coat			
Ingredients	Soft Paste	Heavy Paste	
Dutch Boy white-lead	100 lbs.	100 lbs.	
or Carter white-lead			
Dutch Boy linseed oil	1 gal.	2 gals.	
Pure turpentine	1/2 gal.	1 gal.	
Dutch Boy liquid drier	1 pint	1 pint	

Quantity of paint
Coverage 1000 sq. ft. per gal. 1,000 sq. ft.

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For the second coat use Formula No. 24 (page 85). The finish coat can be flat (Formula No. 24) or semi-gloss, as desired.

Painting Radiators. Pipes and radiators never before painted should first be cleaned thoroughly with wire brushes to remove all traces of rust, dirt and grease. Then apply a priming coat of Beach Bay Quick-Drying Red-lead Primer or a red-lead paint based on Formula No. 30.

In the case of pipes and radiators that have been painted before and that show some defects such as blanching or peeling, the old finish should be removed and the foregoing priming coat applied. If the old finish shows no defects, the foregoing coat may be omitted.

In the painting of pipes and radiators the decorative surroundings of the room should be considered. The finish may be in abundance or sparse, or in some light-colored paint which will harmonize with the color scheme of the room. The enamel powder, if there are used, should be chosen to suitable painting consistency with Beach Bay Lead Mixing Oil.

If a light-colored flat paint is desired, apply a second coat, mixed to approximately the color desired in the finishing coat, based on Formula No. 24. Then follow with the finishing coat based on the desired color and mixed according to Formula No. 24 or, if a semi-gloss finish is desired according to Formula No. 24. When a full gloss is desired a good prepared enamel should be employed for the finishing coat.

Always there should be provided a space between coats so that each may dry and harden thoroughly before the next is applied. If it is possible to prevent the coats to pass gradually through the pipes between coats, the drying may be hastened in this way. However, the coats

should not be turned on full. If the pipes are subjected to sudden heating, the coating will undoubtedly be affected.

It should also be kept in mind that nearly all light coats show a tendency to darken slightly due to heat. This should be taken into consideration when the color is selected.

Booklet on Metal Painting. If you are concerned with the painting of large metal structures—buildings, bridges, tanks, etc.—write us for a copy of "Structural Metal Painting". This booklet is devoted entirely to metal painting and treats the subject fully from all angles.

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CHAPTER IX Painting Small Boats

Under this classification, so far as painting practice is concerned, we may include everything from a canoe to a sizable yacht. The pride with which the average boat owner keeps his craft bright and shining—no matter what its size or shape—is traditional. Paint, of course, is the natural medium for this decorative urge just as it is for protective purposes. We have therefore devoted this chapter to directions and proper formulas for painting the various types of craft coming under the head of small boats.

It should not be assumed from this that white-lead and red-lead as well as other Dutch Boy products are used for nothing larger than yachts. On the contrary, the same products used for painting small boats have long been used for protecting and decorating the biggest liners and steamships. The painting of ships of this size, however, is more or less a specialized field and it is felt that a detailed discussion would be out of place in this handbook. In general, it may be said that the same procedure and the same formulas recommended in this chapter for smaller boats also apply to larger craft. Of course, the decoration of the interior of any boat or ship is no different from the decoration of other interior surfaces. This subject is quite completely handled in Chapters IV, V and VII.

Preparing the Surface. If the surface is of new wood, dose it off carefully and cover all knots and sappy streaks with orange shellac. The shellac can be made by thinning dry orange gum shellac with good quality denatured alcohol, proportioned on the basis of three pounds of shellac to one gallon of alcohol, or the liquid shellac may be purchased as "3" pound cut pure orange

shellac". Brush the shellac on then. If it is put on too thick the paint will alligator, leaving the knots bare.

Painting the Hull. Prime the new wood with a thin coat of paint mixed as follows:

Formula No. 33—Priming Coat

(Boat Exterior)

Materials	Soft Paints	Heavy Paints
Dutch Boy white-lead or Carver white-lead	100 lbs.	100 lbs.
Dutch Boy linseed oil	4 gals.	4 gals.
Pure turpentine	1 1/2 gals.	2 gals.
Dutch Boy liquid drier	11 pints	11 pints
Cubans of paint	9 gals.	
Coverage (200 sq. ft. per gal.)	5,000 sq. ft.	

After the priming coat has dried thoroughly, fill all cracks, nail-holes, dents and other defects in the surface carefully with putty. It should consist of Dutch Boy or Carver white-lead, crushed with dry whiting, stiffened to putty consistency with dry whiting. An even harder putty is made with Dutch Boy red-lead instead of white-lead.

Use sandpaper to smooth down the rough places. Then apply a second coat of paint, mixed as follows:

Formula No. 34—Second Coat

(Boat Exterior)

Materials	Soft Paints	Heavy Paints
Dutch Boy white-lead or Carver white-lead	100 lbs.	100 lbs.
Dutch Boy red linseed oil	1 1/2 gals.	1 1/2 gals.
Pure turpentine	1 gal.	1 1/2 gals.
Dutch Boy liquid drier	1 pint	1 pint
Cubans of paint	1 1/2 gals.	
Coverage (200 sq. ft. per gal.)	1,330 sq. ft.	

Repeat the second coat as many times as desired. Many boatmen put on five or six coats brushed out very thin. Without question this is "when better off is used, reduce drier to 1/2 pint.

the last practice, as a number of thin coats produces much better results than the same amount of paint put on in thick coats.

Finish with a coat of paint mixed as follows:

Formula No. 40—Final Finishing Coat

(Best Exterior)

Ingredients	Soft Paste	Heavy Paste
Dutch Boy white-lead	100 lbs.	100 lbs.
or Carter white-lead	2 gals.	2 gals.
Dutch Boy Lead Mixing Oil	3 gals.	3 gals.
Colours of paint	6 gals.	
Coverage (100 sq. ft. per gal.)	4,200 sq. ft.	

(or)

Formula No. 41—Final Finishing Coat

(Best Exterior)

Ingredients	Soft Paste	Heavy Paste
Dutch Boy white-lead	100 lbs.	100 lbs.
or Carter white-lead	2 gals.	2 gals.
Pure turpentine	2 gals.	2 gals.
Spar varnish	2 gals.	2 gals.
Colours of paint	6 gals.	
Coverage (100 sq. ft. per gal.)	4,200 sq. ft.	

The preceding formulas give a "flat" or glossy finishing coat paint, which wears much better under water than a glossy paint rich in oil.

An excellent flat paint for use on the outside and finish coats can be mixed on the basis of 3 gallons of Dutch Boy Lead Mixing Oil with one pound of oak or heavy paste white-lead.

Painting Deck, Spar and Outside of Cabin. Use the same formulas for the priming and second coats on the deck, spar and outside of the cabin as for painting the hull. Then apply the following finishing coat except on decks. Use Formula No. 2, page 27 for decks, employing a good outside spar varnish in place of the floor varnish. Be sure to allow plenty of time between

coats for the preceding coat to become dry, at least forty-eight hours.

Formula No. 42—Glass Finishing Coat

(Best Exterior)

Ingredients	Soft Paste	Heavy Paste
Dutch Boy white-lead	100 lbs.	100 lbs.
or Carter white-lead	2 gals.	2 gals.
Dutch Boy red-lead oil	2 gals.	2 gals.
Pure turpentine	1 quart	1 quart
Dutch Boy lead drier	1 pint	1 pint
Colours of paint	6 1/2 gals.	
Coverage (100 sq. ft. per gal.)	4,175 sq. ft.	

Inside woodwork and walls should be treated according to instructions given in Chapters IV, V and VII.

Painting Metal Surfaces. Iron and steel hulls, bulk, masts or other suitable metal surfaces of a vessel should be protected with two coats of Dutch Boy red-lead. The painter may use either Quick-Drying Red-Lead Primer for this purpose or if he wishes to mix his own paint, Dutch Boy paste red-lead. In either case, the metal must be cleaned of all rust and loose dirt and otherwise prepared to receive paint (see page 31).

If it is desired to mix up the paint, using Dutch Boy paste red-lead, the following formula should be used:

Formula No. 43

(Metal Work on Boats)

Ingredients	Amounts
Dutch Boy paste red-lead	100 lbs.
Dutch Boy lead oil	2 1/2 gals.
Pure turpentine	1 1/2 pints
Dutch Boy lead drier	1 1/2 pints
Colours of paint	3 gals.
Coverage (100 sq. ft. per gal.)	3,200 sq. ft.

* If Dutch Boy lead oil is available, use powdered lead and red-lead ore oil, omitting the drier.

On ornamental parts, finish with white-lead mixed in oil. (Refer to page 78, paragraph headed "Light Finishing Coat".) Below the waterline, finish with anti-fouling, if desired.

Repainting. In repainting, use the same formulae given for painting new work, except that the priming or first coat may be omitted. Old coats should be smoothed down well and the surface dry before new coats are applied.

Remember that paint will not adhere properly to a boat's bottom that is covered with dirt, water plants, marine animals, etc. Clean off all such accumulations by scraping or scrubbing.

Stop up all leaks before applying any paint. Cracks and seams can be filled up with caulking compound worked in paste white-lead, nail-balls with bits of pine, and very small leaks with white-lead putty.

Paint applied over an uneven surface is bound to present a bad appearance. Where the old paint is rough, sandpaper it down smooth and stop up all bare spots before applying the first coat.

Raw Bottom. Do not attempt to paint immediately after taking the boat from the water. Let it dry thoroughly. Then apply two coats of paint, inside and outside, mixed according to the following formulae:

Formula No. 44

(Raw Bottom—Exterior and Interior)

Ingredients	Soft Paste	Heavy Paste
Black Bay white-lead	25 lbs.	25 lbs.
or Carter white-lead		
Pure turpentine	3 1/4 pints	4 pints
Thin varnish	1 pint	1 1/2 pints
Black Bay liquid drier	1 pint	1 pint
Colours of paint	1 1/2 gal.	1 1/2 gal.
Coverage (100 sq. ft. per gal.)	225 sq. ft.	225 sq. ft.

If a colored paint is wanted, tint the last coat. The addition of a very little lampblack or drop-black will produce a gray. A little chrome blue will make a light blue. (For other colors, see Chapter VI, using only one-quarter of the quantity of ingredients called for, as Formula No. 44 is based on 25 pounds of white-lead instead of 100 pounds.)

The finish produced by two coats of paint mixed according to Formula No. 44 will be "flat" or lustrous. If a semi-gloss finish is desired, use Formula No. 44 modified by the use of an additional pint of spar varnish.

Canvas Canoes. When the paint is so badly cracked and broken that the canvas shows through in places, it is best to remove the old coat entirely by means of a paint remover and start anew. After the old paint is off, sandpaper the surface and apply a coat of paint composed of:

Formula No. 45 (Canoes)

Ingredients	Soft Paste	Heavy Paste
Black Bay white-lead	4 lbs.	4 lbs.
or Carter white-lead		
Pure turpentine	1 1/4 pints	1 pint
Thin varnish	1/2 pint	1/2 pint
Black Bay liquid drier	1 pint	1 pint
Colours of paint	1/2 gal.	1/2 gal.
Coverage (100 sq. ft. per gal.)	175 sq. ft.	175 sq. ft.

This is desired. (See Chapter X, page 91, "Small Boat Jobs".)

The above formula should make enough paint for the first coat on one canoe. Put the paint on for the first coat on one canoe by care-think and work it well into the canvas by careful brushing. When dry, sandpaper the surface

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and then apply two coats of japan color thinned with spar varnish and just enough turpentine to make the paint brush out smooth. One pint of japan color and one pint of varnish should be sufficient to do the work.

If the old paint on a canoe is in good condition, the white-lead paint need not be applied. Simply sandpaper the old coat down smooth and apply the two coats of japan color and varnish.

To refinish the inside of a canoe, sandpaper the old varnish thoroughly and put on one coat of good spar varnish. One pint of varnish should be sufficient.

Plugging. To mend a hole in a canoe, insert a piece of canvas beneath the torn part, putting the patch on with a little white-lead and rubbing varnish, and attaching it to the ribs of the canoe with brass or copper tacks. Very small holes can be fixed by plugging them with white-lead stiffened slightly with whiting.

CHAPTER X

Small Paint Jobs

Simplified Mixing Directions. There are many jobs of painting for which only a comparatively small amount of paint is needed. For jobs of this kind, mix your paint according to the following simplified directions.

Gloss Paint. Paint which gives a gloss finish is used for practically all exterior painting.

To make a gloss paint, mix either soft paste or heavy paste white-lead with an equal volume of linseed oil, stirring the oil in a little at a time in the case of the heavy paste. Then add, if heavy paste is used, $\frac{1}{4}$ pint each of turpentine and drier for every gallon of paint. If soft paste is used, omit the turpentine and merely add $\frac{1}{2}$ pint of drier to each gallon.

These directions give a fairly heavy paint such as is generally used for a gloss finishing coat. If for any reason a thinner paint is wanted, add more linseed oil and turpentine. For priming new, unpainted wood increase the quantity of paint by half with a mixture of linseed oil and turpentine, using one part oil and two parts turpentine.

Flat Paint. Where a dull or so-called "flat" finish is desired, as for interior decoration on other woodwork or plaster walls, a flattening liquid instead of linseed oil should be mixed with the white-lead. The best material for this purpose is Dutch Boy Lead Mixing Oil, but turpentine may be used if this cannot be obtained. Dutch Boy Lead Mixing Oil comes in one and five-gallon cans. It produces a flat finish which is remarkable for its beauty, washability and durability.

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To make flat paint, mix together equal parts (by volume) of soft or heavy paste white-lead and Dutch Boy Lead Mixing Oil (or two-thirds the volume of turpentine). Pour the liquid into the white-lead a little at a time, stirring thoroughly before adding each additional quantity. If turpentine is used, add one tablespoonful of drier for each pint of paint. If Dutch Boy Lead Mixing Oil is used, add no drier.

Flat paint, mixed as directed, may be used for undercoats as well as for the finishing coat on woodwork and for all coats on plaster except the priming coat. For the priming coat on unpainted plaster, it is better to use a special primer, such as Dutch Boy wall primer, which will seal all fine cracks and porous places in the surface.

Formulas for mixing a number of popular colors are listed below. These formulas give the amount of Dutch Boy color in oil required to tint one gallon of paint made with white-lead. A lesser or greater quantity of paint may be tinted to the desired color simply by decreasing or increasing proportionately the amount of color in oil called for by the formula.

Color	Amount per gal.
Red	1/2 oz.
Yellow	1/2 oz.
Blue	1/2 oz.
Light Blue	1/2 oz.
Light Green	1/2 oz.
Light Yellow	1/2 oz.
Light Gray	1/2 oz.
Light Brown	1/2 oz.
Light Purple	1/2 oz.
Light Pink	1/2 oz.
Light Orange	1/2 oz.
Light Green	1/2 oz.
Light Yellow	1/2 oz.
Light Gray	1/2 oz.
Light Brown	1/2 oz.
Light Purple	1/2 oz.
Light Pink	1/2 oz.
Light Orange	1/2 oz.

A little English Venetian red added to any of the foregoing colors except the greens will give a warmer tint. In the case of the greens, the warmer effects are secured by adding yellow. If a colder color is desired, add a little Chinese blue to the pink, green, drabs and grays and a little Chinese green with a touch of blue to the cream, yellow and buff. To soften or gray a color, add a little lampblack. To lighten a color, simply use less color in oil or more white-lead; to darken it, add more color in oil.

How Much Paint to Make. One pound of white-lead paste, thinned as directed under "Gloss Paint" and "Flat Paint", will make about one-half pint of paint or enough to cover about fifty square feet of surface, one coat. Other quantities will cover as follows:

Pounds of White-Lead	How Much Paint It Makes	Square Feet It Covers
1	1/2 pint	50
1 1/2	3/4 quart	75
2	1 1/2 gallons	100
3	2 1/2 gallons	150
4	3 1/2 gallons	200

For more specific information on surface preparation, which is usually necessary even on small jobs, refer to the chapter covering the type of material that is to be painted.

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Illustrated Quicksilver Wand:

[illegible]

TABLE 2—~~Unemployed Outside Work~~

[illegible]

1. The first of these is the fact that the Commission has not yet received any information from the Government regarding the progress of the investigation into the alleged involvement of the Government in the assassination of Dr. Martin Luther King Jr. in 1968.

Common Painting Defects Their Cause and Cure

Good paint doesn't fail prematurely unless it is improperly mixed, carelessly applied or asked to do the impossible. Pure white-lead paint, properly mixed and skillfully applied to a surface fit to receive it and exposed to ordinary atmospheric conditions, always does what it is advertised to do—last long, look well during its entire life and wear away gradually, leaving a perfect surface for reapplying.

Answering that the point you applied conformed to these requirements of proper mixing, brushing and exposure, yet developed certain localized decay, after the job had stood for some time, the charge is that some defect in the construction of the building was the cause of the failure.

It has been proved that if moisture is allowed to get behind the paint film because of some defect in the construction of a building, it will do the same kind of damage it causes if paint is applied directly over it. Everyone knows that surfaces should be dry where painted, but if the timber is allowed to become water-soaked from the inside after it is painted, a paint failure will be brought about.

Some of the causes of paint failure, and usually considered as such, are listed here:

Paint fitting of siding material over drip caps on windows and door openings.

Fast string of riding against castings of doors, windows and heavy hardware.

Insufficient or incorrect placing of metal flashing where porch or dormers fit into house.

Building a porch skirting down to the ground level with wood touching the moist ground.

Building all or part of house over unexcavated ground which becomes especially fruitful as a cause for trouble when insufficient or no ventilation is provided to carry off vapors rising from open ground.

To cure the paint troubles brought about by any of the above causes, it will be necessary to correct the defect in construction which leads to the paint failure. The paint which is cracking, peeling, scaling, etc., must be removed clear down to the bare wood, the wood allowed to dry out thoroughly and the building defect corrected. After this, the surface may be painted to any desired.

Another common cause of paint failure is painting too soon after siding and trim have been exposed to rain. Some painters make the mistake of figuring that a few hours of random weather are enough to thoroughly dry out lumber which has actually been saturated to the result of a heavy rain.

If it is certain that there exist no constructional defects like those outlined above, then any trouble that develops must be attributed either to wrong materials or improper painting practice. The remainder of this chapter is devoted to a description of some of the paint failures that crop up from time to time and what you can do to avoid or correct them.

Checking. (Figure 1) This defect takes the form of fine splits or ruptures in the paint which break the surface into innumerable small irregular areas but which are in the top coats only and do not extend through to the various undercoats. Slight checking is not a serious defect because the durability and the protective value of the

paint are not affected, nor does checking make repainting more difficult.

The cause of checking is usually too soft an undercoat. It can be avoided by allowing plenty of drying time between paint coats and by making sure that each undercoat is properly formulated to insure its being harder than the succeeding coat.

Alligatoring. (Figure 2) This defect is similar to checking in character although the ruptures in the paint film are much wider and the surface broken into larger irregular areas. Like checking, it affects the top coats only and does not extend through to the various undercoats.

Alligatoring, however, gives the surface an unsightly appearance. It seriously affects the durability of the paint and makes repainting difficult. The cause of alligatoring is always too soft an undercoat. This may be due either to the use of too much oil, to insufficient drying time between coats or to the use of impure oil or other vehicles which dry to a soft film.

To avoid alligatoring, make sure that the undercoats have plenty of time in which to dry and that they are properly formulated to insure their being harder than the succeeding coats.

Quite often, alligatoring on outside wood surfaces has been traced to the use of yellow ochre as a priming coat. While the use of this type of primer has been long discontinued, some old houses still retain their priming coat of this material and will show trouble. The only safe remedy in case of this kind is the complete removal of the paint, including the ochre, by means of torch and scraper, and then repainting with three coats of white-lead mixed in accordance with our regular formula.

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Cracking and Sealing. (Figure 1.) These two defects are closely related since sealing is a later stage of cracking. Cracking is a rupture of the paint film extending clear down to the wood. This allows moisture to enter behind the paint film which loosens the paint and sealing results. This defect is caused by the use of a paint which becomes hard and brittle as it ages and can no longer follow the movement of the wood surface underneath. White-lead paint remains elastic.

If cracking and sealing have occurred over the entire surface it is usually advisable to remove all of the old paint by means of torch and scraper before repainting. Otherwise, the old films will probably continue to scale, carrying the new paint with them. One regular formula should be followed for the repainting.



Figure 1—Cracking



Figure 2—Delamination

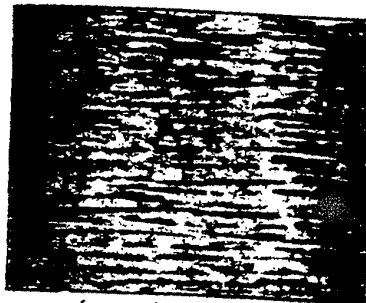


Figure 3—Cracking and Sealing



Figure 1—Blistering and Peeling

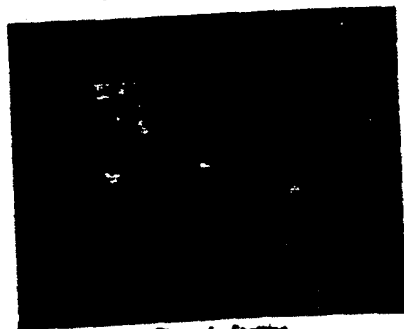


Figure 2—Spalling



Figure 3—Washing

NLI 001921

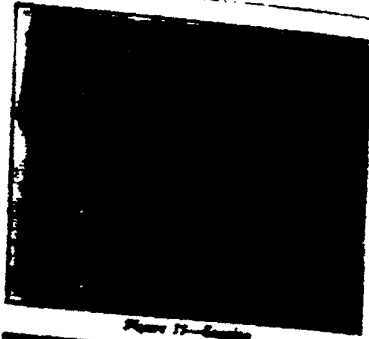


Figure 11—Cracking

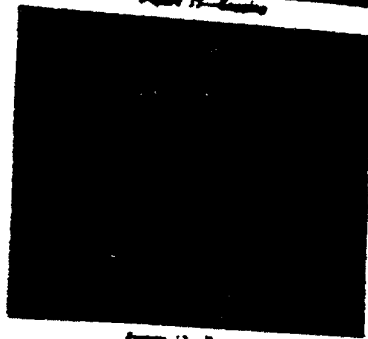


Figure 12—Blistering

Blistering and Peeling. (Figure 11.) The most common cause of blistering is moisture present in the material behind the paint film. Peeling quite naturally follows blistering, in most cases, since the paint which has blistered no longer grips the surface properly and a comparatively small amount of pressure is sufficient to force it completely from the surface.

In some cases, the heat of the sun is enough to increase the vapor pressure of the moisture in the material so that it will cause blistering. In interiors, it is usually the heat of a radiator or a fire, which causes the trouble. The more moisture-tight a paint is, the more apt it is to blister. Therefore a paint that permits some escape of the moisture behind it, and that grips the surface properly, is less likely to show this trouble.

The best way to avoid blistering is to make sure that the surface to be painted is thoroughly dry. In the case of porch columns which are painted on all sides, it is necessary to be particularly careful because if the moisture is in the column where it is painted, blistering is apt to occur even when pure white-lead paint, which possesses unusual tenacity, is used for the painting. Sometimes, porch columns are pierced, at the top and bottom, to allow ventilation within the column and thus dry out the moisture which may be present.

On repainting a blistered surface, it is necessary to scrape off all the defective paint, allow the wood to dry out thoroughly and repaint as on new work. The priming coat on such work should be permitted to dry for a considerable time and it will be found that this

If properly designed, will permit the wood to dry out further, and yet will tend to prevent the entrance of moisture from the outside. If leaks or faults in construction are responsible for the presence of moisture, these should of course be properly repaired before anything else is done.

Spinning. (Figure 1.) Spinning is characterized by loss of gloss, fading and early chalking in spots or small areas due to absorption of oil from the finishing coat by the porous surface underneath. It is very likely to occur on new work that is only given two coats or old work painted with one coat. Spinning usually shows up more prominently with dark tints and colors. This defect will not occur when sufficient coats of properly formulated paint are applied.

Winking. (Figure 6.) This condition occurs where a paint film contains pigments that are soluble in water or where soluble compounds are formed by chemical reactions after the paint has been applied. Winking may be noticed in the form of streaks near the lower edge of clapboards and in arched streaks on column footings and building foundations. The material that is dissolved out of the paint will collect in these places and when the water evaporates the streaks can be plainly seen.

White-lead never develops water soluble compounds and surfaces painted with properly mixed white-lead paint will never give this trouble.

Wrinkling. (Figure 7.) The principal cause of this defect is an excessively thick coat of paint, sometimes exaggerated by excessive drying. When paint is left in too thick a film it is impossible for it to dry uniformly and after the surface skin has formed the slower drying of the part underneath causes the surface to wrinkle.

There are sometimes contributing factors such as changes in temperature or excessive humidity during the drying period, but even under unfavorable drying conditions, wrinkling can be avoided if the coat being applied is brushed out to a thin even film. The use of some turpentine helps to retard the wrinkling of paint.

It is not customary to remove the old paint when wrinkling has occurred, although in some cases this is the easiest way of producing a crack-free repaint job. If the wrinkling has occurred only on limited portions, rub down the ridges with a fairly coarse sandpaper before repainting.

Bleeding over Knots. (Figure 2.) Bleeding of this type is caused by the oil in the paint dissolving out substances in the knot and can usually be prevented by coating knots with thin resin-free shellac after the priming coat of paint has been applied. One half the knot in the photo has been so treated.

Discoloration over Cedar or Redwood. (Figure 3.) This appearance of dark spots through or on the paint film is caused by dark colored water soluble substances in the wood which are brought to the surface by moisture and deposited there. This trouble is not in any way caused by the paint and the way to prevent it is to allow the lumber to weather thoroughly before it is painted.

Dirt Discoloration and Mildew. (Figure 10.) These two conditions are frequently confused with each other. The illustration will indicate the difference. Note the brown, fungus-like appearance of the mildew in the lower half of the picture.

Finishing coats that contain too much linseed oil are likely to dry soft and tacky, forming the

type of surface that catches and holds every particle of dust and dirt. On the other hand, a finishing coat made on the basis of our formula will produce a glossy but sufficiently hard film to resist excessive dirt collection. In addition, it will stand up better when exposed to weather.

Mildew is a dark colored fungus growth which tends to form under the combined conditions of moisture, warmth and shade. It also develops more readily on soft paint films than on harder ones. Where mildew exists, remove all the fungus possible before repainting and for the finishing coat use a paint mixed on the basis of 2 1/2 gallons of oil to the hundred of soft paste white-lead, increasing the turpentine to 3 pints. The addition of eight ounces of calomel (mercurous chloride) or preferably 4 oz. mercuric chloride (mercuric sublimant) to every hundred pounds of white-lead, for both coats, is an aid in retarding the growth of mildew. Mercuric chloride is a deadly poison and must be used with great care.

Early Loss of Gloss and Early Chalking. If pronounced sudden loss of gloss or chalking occurs shortly after painting, it is probably due to incorrect formulation of the paint or to the presence of moisture in some form (frost, fog, rain, etc.) during the drying time of the paint.

Discoloration from Copper Salts. Unprotected copper screens exposed to the weather are affected by moisture and gases present in the atmosphere. The formation of copper salts results. These salts are washed down over the surface of the paint film by rain. When the paint contains certain white pigments, the salts actually stain the film so that it is impossible to remove the discoloration. Pure white-lead paint is never stained by these salts and any unusual discoloration that is deposited on the surface of

a white lead film from this source does not become hard, but is washed away.

Running and Sagging. (Figures 11 and 12) Running and sagging are associated defects. Both are due, nearly always, to the application of too heavy a coat of paint. If the paint is high in oil content, the tendency is to apply it too freely, and consequently the paint will run or sag. A paint of correct formulation, brushed on a suitable surface in a workmanlike manner, never will show either of these defects. The preparation of a surface which has shown these defects is similar to the preparation of a surface that has shown wrinkling; that is, the rough portions of the surface are smoothed with sandpaper before the first repaint coat is applied.

Department of Technical Paint Service and Decoration

If you have some special problem of a technical nature that is not answered in this book address your inquiry to us and our Department of Technical Paint Service and Decoration will give it prompt attention.

If you have some special problem in decorating or color selection to solve, please cover in your inquiry the points that are listed below. This will aid our colorists in selecting suitable schemes of treatment for you; or, color problem which will be forwarded free of charge, together with samples of the colors recommended, and the formulas required to produce them.

The more information given regarding any problem, the more complete will be the answer concerning it. If blue prints or photographs of the exterior or interior in question are available, these should be forwarded.

Exterior

If you desire a color scheme for the exterior of a building, please give us the information requested below:

1. Type of building.
2. In what direction does it face?
3. Give approximate size of building including width, depth and number of stories.
4. Of what material are the outside walls constructed?
5. Are they painted, stained or natural and what is the present color?
6. Of what material is the roof composed?
7. Is it painted, stained or natural and what is the present color?

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8. Describe approximate amount of trim (large, normal or small).

9. Are there window blinds?

10. If there are any gables or porches, state number and location.

11. If there is any foliage near the building, is it plentiful or moderate?

12. What are the principal colors of neighboring buildings?

13. Have you any color preference?

Interior

If you desire color suggestions for the interior of a building, please give us the information requested below:

1. Name each room to be decorated—living room, dining room, bedroom, etc.—indicating exposure (north, south, east or west) in each instance.

2. Give rough floor plan of rooms in building. State dimensions including height of ceiling.

3. Are the walls and ceilings of rough or smooth plaster?

4. Are they papered, painted or calcimine?

5. What is the present color of the wood trim and will it be painted, stained or left natural?

6. Of what color and material is the floor and will it be painted, stained or left natural?

7. Describe color, size and location of fireplace, wainscot, beams, porch, columns or other architectural details.

8. Describe materials of which floor coverings and furniture are composed, stating dominant color of each.

9. Have you any color preference?

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NLI 001926

Houses, Public Buildings, etc. Our Decorative Service is not confined to dwellings, but is also available without cost or obligation, to owners or those in charge of hotels, apartment houses, office buildings and similar structures.

Special Hospital Service. The interior color treatment of hospitals is influenced by factors that are peculiar to the hospital field alone. Our Hospital Service Department has made a careful study of these factors and is equipped to prepare color and paint specifications for any type of hospital. Naturally, this service must be an individual one to properly fit conditions as they exist in any one institution and for this reason a complete description of the building, including floor plans with the functions of the various rooms clearly indicated, is necessary. This service is rendered without cost or obligation.

Painting Contract Form

For all ordinary jobs of exterior and interior painting the following contract between painter and property owner will fill requirements:

(Date)
We agree to paint the property located at
(Address)
and owned by (Name of owner)

.....
doing the work listed herein in accordance with the following specifications:

1. Paint is to be applied only when the surface is thoroughly dry.

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2. All surfaces shall be clean, smooth and free from dust, dirt, grease, mortar, loose paint, scale, etc.

3. All paint shall be evenly spread and thoroughly brushed out.

4. On new work, after priming, knots and sappey streaks shall be shellacked with one coat brushed out thin.

5. All exterior work shall be allowed to dry from two to four days before the next coat is applied and for interior work at least twenty-four hours for each coat.

6. All nail-holes, dents, cracks, joints or other defects in the surface shall be putted after the priming coat has been applied and is thoroughly dry.

7. Before any paint is applied, plaster surfaces, either new or old, must be made clean and smooth and all cracks and holes filled with patching plaster.

8. Walls that have been calcimined shall be washed until all calcimine is removed before applying any paint.

9. All new plaster, stucco or concrete shall be aged before painting by washing with a solution made by dissolving two pounds of zinc sulphate in one gallon of water.

10. All glass paint used shall be pure Dutch Boy or Carter - white-lead, mixed in proper proportions with Dutch Boy linseed oil, pure turpentine and Dutch Boy liquid drier. Flat paint shall be pure Dutch Boy or Carter white-lead, mixed in proper proportion with Dutch Boy Lead-Killing Oil.

11. All material and tools to be furnished by the painting contractor.

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NLI 001927

(Here list and specify in detail all work to be done.)

Price for all work specified above \$.....

Terms of payment:

After first cost is applied \$.....

On completion of job \$.....

(Signed)
(Signature of Contracting Firm)

Accepted
(Signature of Owner of Property)

Products of
National Lead Company

Acetate of Lead
White-Broken, Crystals, Granular, Powdered
Brown-Broken
Acid Concentrating Plants (Simmons-Mammet
Vacuum Process)
Chamber Acid
Sulphuric Acid
Sulphuric Acid
Acid Separating Plants (Simmons-Mammet
Vacuum Process)
Sulphuric Acid
Alloys, Die Casting
Alloys
Lead
Tin
Zinc
Alloys, Sheet Metal Casting
Ammonium
Lead Shot
Lead Shotgun Shells
Metric Cartridges
Antimonial Lead
Babbitt Metal
Bar Tin
Bismuth Sulphate
Bismuth Lead
Bismuth
Basic Lead Chromate
Basic Lead Sulphate
Bismuth
White

NL I 001928

Battery Grid Metal

Battery Straps

Bearings

Armature

Brown Backed, Rabbit Lead

Die-Cast

Frury Metal (Ulan Brand)

Journal

Leads

Flanged

Hardlead

Lead

Blackford Patented Base

Bryanna Metal

Burning Lead

Calking Lead

Cases, Lead

Smooth Face, Rustic, Antique

Reinforced as well as plain

Carbide

Cartridges (U. S. Brand)

Cashe Trimming Metal

Casings, Ornamental or Pipe Fitting

Castor Oil

Chemical Apparatus, Special Lead Lined

Cinch Anchors (See Expansion Bolts)

Cinch Weights

Cups, Plug, Hardlead

Cups

Lead Lined or Lead Covered Copper or Steel

Chairs

Dry and in Oil

In Japan

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Expansion Bolts

Cinch Anchors

Cinch Lead Screw Anchors

Cinch Cylinders

Ferrules, Combination

Fittings

Hardlead Flanged

Lead or Tin Lined, Flanged or Screwed

Lead Lined Soil Pipe

Flats, White

Flashed, Ground

Flashed, Metal

Frury Metal

Gaskets, Lead

Hammer Metal

Hammers

Rabbit

Lead

Hardening Lead

Hypocanthion, Lead

White and Black

Impression Lead, Hoyt's

Lead, Pulverized

Lead Mixing Oil

Lined Oil

Raw, Balled, Double Balled, Varnish, Stand-

all Type, etc.

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NLI 001929

[illegible]

- Shut Wagon, Load
- Screens, Brass Mesh
- Shut Bending Metal, Heavy Handload
- Shut Load
- Aspirational, Chemical, Crystallized
(or Resistant)
- Shut Tin
- Shut, Load
- Collected, Drop, Air Rider
- Shut Shells (U. S. Brand)
- Solder
- Acid Care
- Shut (All Sizes)
- Cable
- Cutting Bar
- Drop
- Frangible Bar and Wire
- Light
- Solder Bar
- Pig
- Pyrothermal
- Refractory Bar
- Rolling or Taps
- Bars (any)
- Segment (One Wire)
- Shut
- Shut
- Tamper Bar
- Triangle Bar
- Wire

NL I 001930

Spelter
 Sulfur Trench, Non-Slip
 Stamping Metal
 Tacks, Homogeneous Lead or Tin Lined
 Tank Connections, Lead Lined and Covered
 Tape, Lead
 Tin Bars
 Tin Wire
 Tin Plates
 Tinners A (Tinplate Oxide)
 Tinners B
 Tinners C
 Tinners (Lead Tinners)
 Tins, Lead
 Tinsley Wheels
 Tubes
 Tin Lined and Tin Covered Brum, Copper
 and Steel
 Telling
 Black Tin, Composition, Lead, Hoyt Hardhead
 Type Metals
 Autoplate
 Electroware
 Intertyp
 Linotype
 Minutype
 Stenotype
 Typograph
 Values
 Hoyt Hardhead
 Lead and Tin Lined Acid
 Wall Primer
 Washers, Lead

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Wedge Lead
 White-Lead
 Couch and Car
 Dry
 Grinders' Special
 In Oil
 Regular Grind (or Heavy Paste)
 Soft Paste (Ground with Turpentine for
 Ease in Mixing)
 Pulp
 Wire
 Iron, Lead Coated
 Lead
 Lead-Copper
 Wood, Lead

123

NLI 001931



DUTCH BOY ALL-PURPOSE SOFT PASTE

The new soft paste can be used for inside flat as well as outside gloss.

DUTCH BOY COLORS IN OIL

High tinting strength, true color tone, quick dispersion. These colors need no thinning before being added to paint.



DUTCH BOY LINSEED OIL

Guaranteed pure, well-settled linseed oil with a minimum of fumes. Raw, boiled or standoil type. Sealed packages.

DUTCH BOY LEAD MIXING OIL

Mixes, with white-lead, a flat paint that seals, protects and beautifies all porous surfaces—interior or exterior.



124

DUTCH BOY WALL PRIMER

A special primer for use as first coat in painting plaster with white-lead. Hides as it seals as it spreads.



DUTCH BOY QUICK-DRYING RED-LEAD PRIMER

A natural color, quick-drying, pure red-lead paint in ready to use form. Economical, durable.

DUTCH BOY RED-LEAD

Pure, highly oxidized red-lead in paste form. Unexcelled for painting metal.



DUTCH BOY LIQUID DRIER

A properly balanced, metallic-type drier, made from highest quality ingredients. Insures safe, efficient drying.

125

NLI 001932

Look For The Dutch Boy Trademark

THIS famous little character, our Dutch Boy Painter trademark, is put on our products as a means of identification and as a protection to the buyer against substitution. He stands for purity of paint materials and signifies certain satisfaction.



You will find the Dutch Boy Painter on all packages of Dutch Boy white-lead, both soft paste and heavy paste, Dutch Boy linseed oil, Dutch Boy Lead Mixing Oil, Dutch Boy wall primer, Dutch Boy red-lead, both paste and liquid, and on other products of our manufacture.

Look for the Dutch Boy trademark—it assures you of a product made to fit the needs of the job in hand.

The Handbook on Painting MEMORANDA

NLI 001933

The Handbook on Painting
MEMORANDA

The Handbook on Painting
MEMORANDA

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NL I001935

The Handbook on Painting
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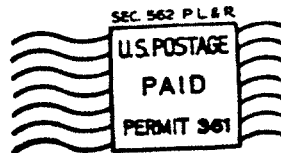
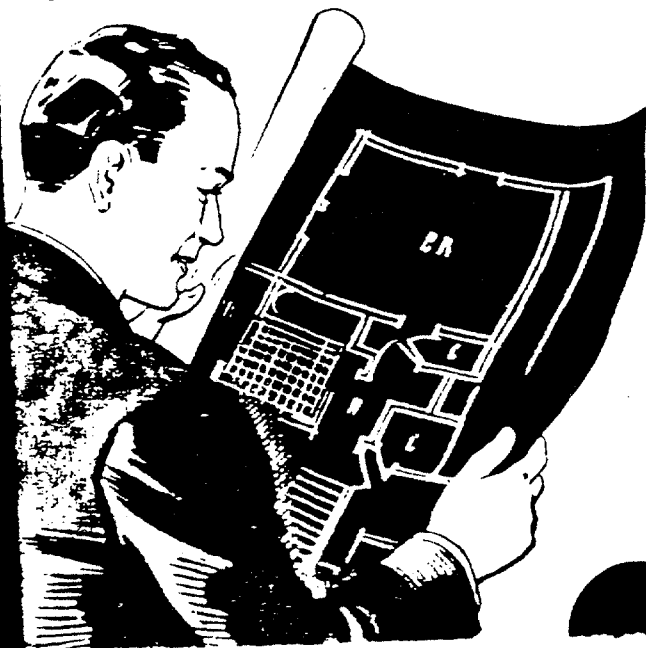
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NLI 001940

Beides, which the Dutch Boy line in-
cludes, is the Dutch Boy line in-
clude Oil, Colors-15-Oil, Drier,
Lead, and Lead Primer.

roll it up mister
-it's



N L I 001941



**...AND
DUTCH BOY HELPED
MAKE THE SALE**

In two ways, a Dutch Boy paint job helps you sell your houses. First, it finishes off so that their exceptionally fine appearance attracts buyers. Second, by standing without cracking and scaling, it helps build a reputation as a seller of quality houses.



Paint with

DUTCH BOY

NL I 001943

... AND NOW LET QU

The way Dutch Boy protects your reputation by standing up without cracking and scaling is reason enough for using it. But there's another strong inducement. Just because Dutch Boy is universally recognized as *the* quality paint does not mean that it is high-priced. On the contrary, it is actually low in price. In most localities today, the cost will figure out

CHART SHOWING AVERAGE COST PER GALLON of DUTCH BOY WHITE-LEAD PAINT

(Prices given are based on a three-coat job on outside wood and include the cost of turpentine and drier used.)

Linseed Oil Cost per Gallon	WHITE-LEAD COST PER 100 POUNDS															
	\$9.00	\$9.25	\$9.50	\$9.75	\$10.00	\$10.25	\$10.50	\$10.75	\$11.00	\$11.25	\$11.50	\$11.75	\$12.00	\$12.25	\$12.50	
\$0.90	1.84	1.88	1.91	1.95	1.98	2.01	2.05	2.09	2.12	2.16	2.20	2.23	2.27	2.30	2.34	
1.00	1.88	1.92	1.95	1.99	2.02	2.06	2.09	2.13	2.16	2.20	2.24	2.27	2.31	2.34	2.38	
1.10	1.92	1.96	1.99	2.03	2.06	2.10	2.13	2.17	2.20	2.24	2.28	2.31	2.35	2.38	2.42	
1.20	1.96	2.00	2.03	2.07	2.10	2.14	2.17	2.21	2.24	2.28	2.32	2.35	2.39	2.42	2.46	
1.30	2.00	2.04	2.07	2.11	2.14	2.18	2.21	2.25	2.28	2.32	2.36	2.39	2.43	2.46	2.50	
1.40	2.04	2.08	2.11	2.15	2.18	2.22	2.25	2.29	2.32	2.36	2.40	2.43	2.47	2.50	2.54	
1.50	2.08	2.12	2.15	2.19	2.22	2.26	2.29	2.33	2.36	2.40	2.44	2.47	2.51	2.54	2.58	

Paint
with

DUTCH BOY

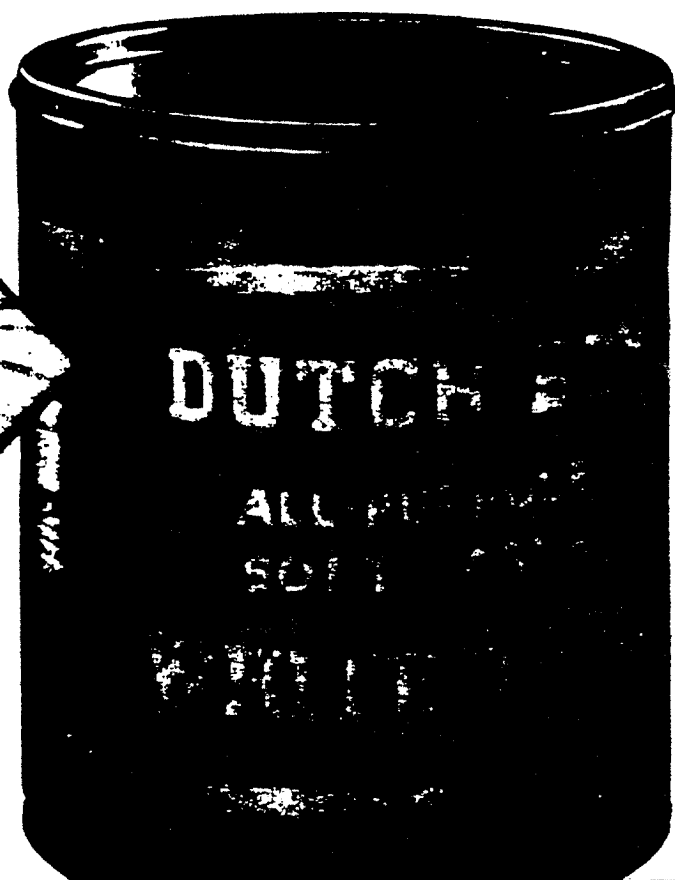
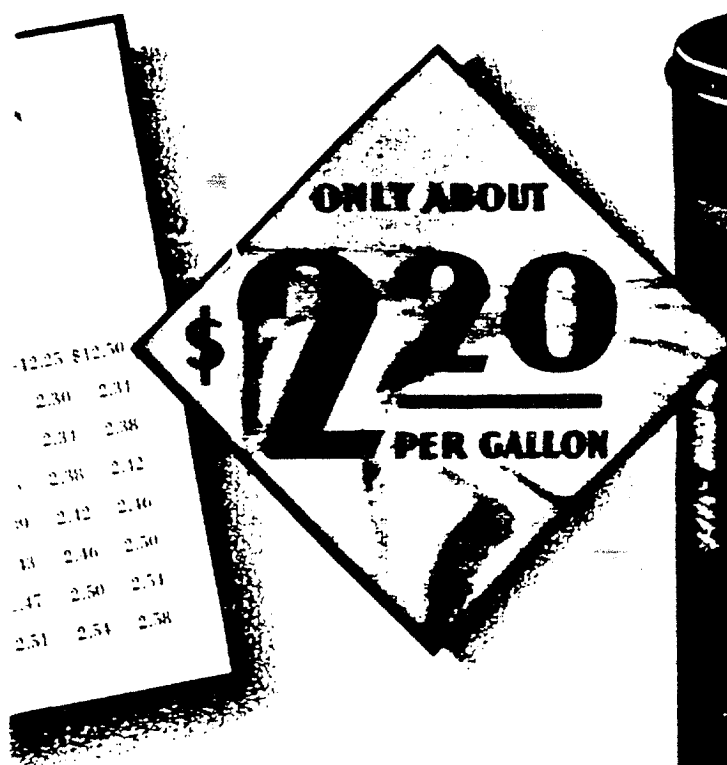
NL I 001946

QUALITY TALK PRICE

ending up to only about \$2.20 per gallon. (See chart below for your exact cost.)

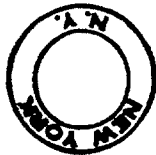
use Dutch Boy asks no premium for quality!

does not Remember, too, that the economy of Dutch Boy doesn't
s actually stop with the paint pot. This pure white-lead paint brushes
figure out easily, hides well and spreads far.



BOY WHITE-LEAD.

NLI 001947



A BUCKETFUL of REPUTATION

INTERIORS. too call for Dutch Boy

This Dutch Boy combination of White-Lead and Lead Milling Oil—gives a durable, washable flat paint that seals as well as decorates plaster and other interior surfaces. Recommended also for waterproofing and finishing exterior concrete, stucco and brick.

NATIONAL LEAD COMPANY

111 Broadway, New York • 116 Oak St., Buffalo
900 West 18th St., Chicago • 650 Franklin Ave., Cincinnati
820 West Superior Ave., Cleveland • Chestnut St., St. Louis
973 John St., San Francisco • 1211 N. W. Glisan St., Portland, Oregon • 2500 24th St., San Francisco • 932 Wilson St., Los Angeles
National-Lead & Oil Co., 300 Albany St., Boston
National Lead & Oil Co. of Pennsylvania, 316 Fourth Avenue, Pittsburgh • John T. Lewis & Bros. Co., Widener Building, Philadelphia.

001948

IL I



001943

NLI

**Can you
afford to
run the risk
of using paint
of uncertain
quality**

*Paint
with*

DUTCH BO

NLI 001950



Dutch B

... THE H

THAT

Being a builder, you
"sold" the high quality
You know that white-l
standard among paint
unequalled durability
... that it never lets
cracking and scaling.

Yet, with all its
carries a remarkably

EASY TO MIX

NLI⁰⁰¹⁹⁵²

Dutch Boy

THE HIGH-QUALITY PAINT THAT CAN TALK PRICE

builder, you don't have to be
the high quality of Dutch Boy.
that white-lead is the accepted
among paints . . . that it gives
ed durability and protection
never lets the user down by
and scaling.

With all its merit, Dutch Boy
remarkably low price tag. To-

day, in most localities, it actually costs
only about \$2.20 per gallon. (See chart
below.)

Yes, quality *can* talk price. And, what's
even more important, there's no paint
on the market that gives you more for
your money than Dutch Boy.

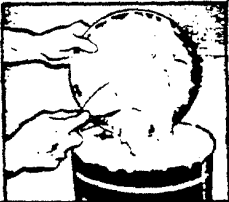
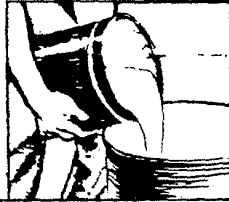
NLI 001953

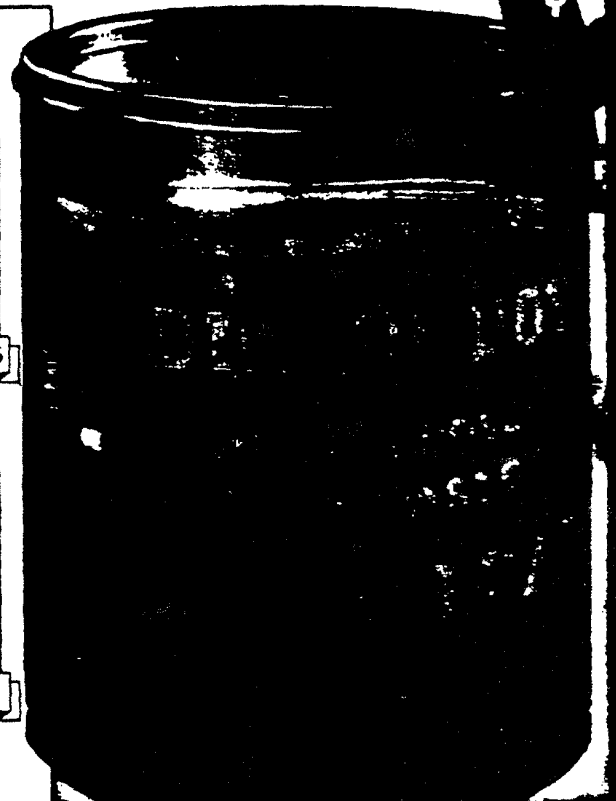
Not only can Dutch Boy talk price—and talk it convincingly—but it can also talk ease of mixing. By actual time check, as illustrated below, soft paste white-lead can be brought to brushing consistency at the rate of a gallon of paint a minute. All paints require some preparation. No paint can be made ready more quickly than Dutch Boy!

GALLON-A-MINUTE TIME TABLE

Illustrating how extremely simple it is to mix up paint from Dutch Boy soft paste white-lead. A 100-pound keg, making 6 1/2 gallons of finishing coat paint, can be reduced to brushing consistency in 6 minutes... at a mixing rate of a gallon of paint a minute.

Easy to Use

 25 SECONDS Removing head of keg and scraping "lead" off cover.	 3 MINUTES, 15 SECONDS Dumping "lead" and linseed oil into mixing tub; then rinsing out keg with oil.
 2 MINUTES, 20 SECONDS Adding drier and stirring the batch until smooth.	 6 MINUTES TOTAL Ready for the brush, at the rate of a gallon of paint per minute.



Paint with **DUTCH BOY**

NLI 001954

minute

con-

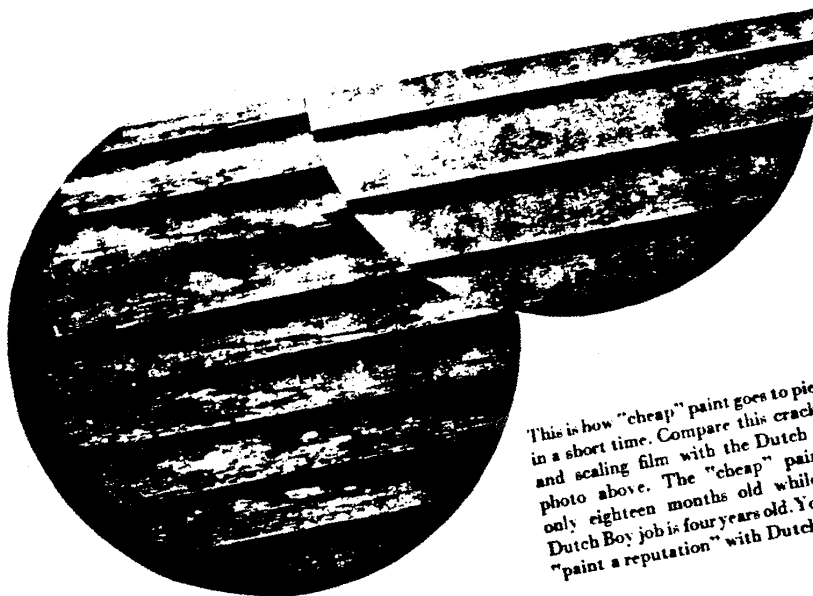
By

paste

stency

paints

ready



This is how "cheap" paint goes to pieces in a short time. Compare this cracking and scaling film with the Dutch Boy photo above. The "cheap" paint is only eighteen months old while the Dutch Boy job is four years old. You can "paint a reputation" with Dutch Boy!

ONLY ABOUT
\$ **2.20**
PER GALLON

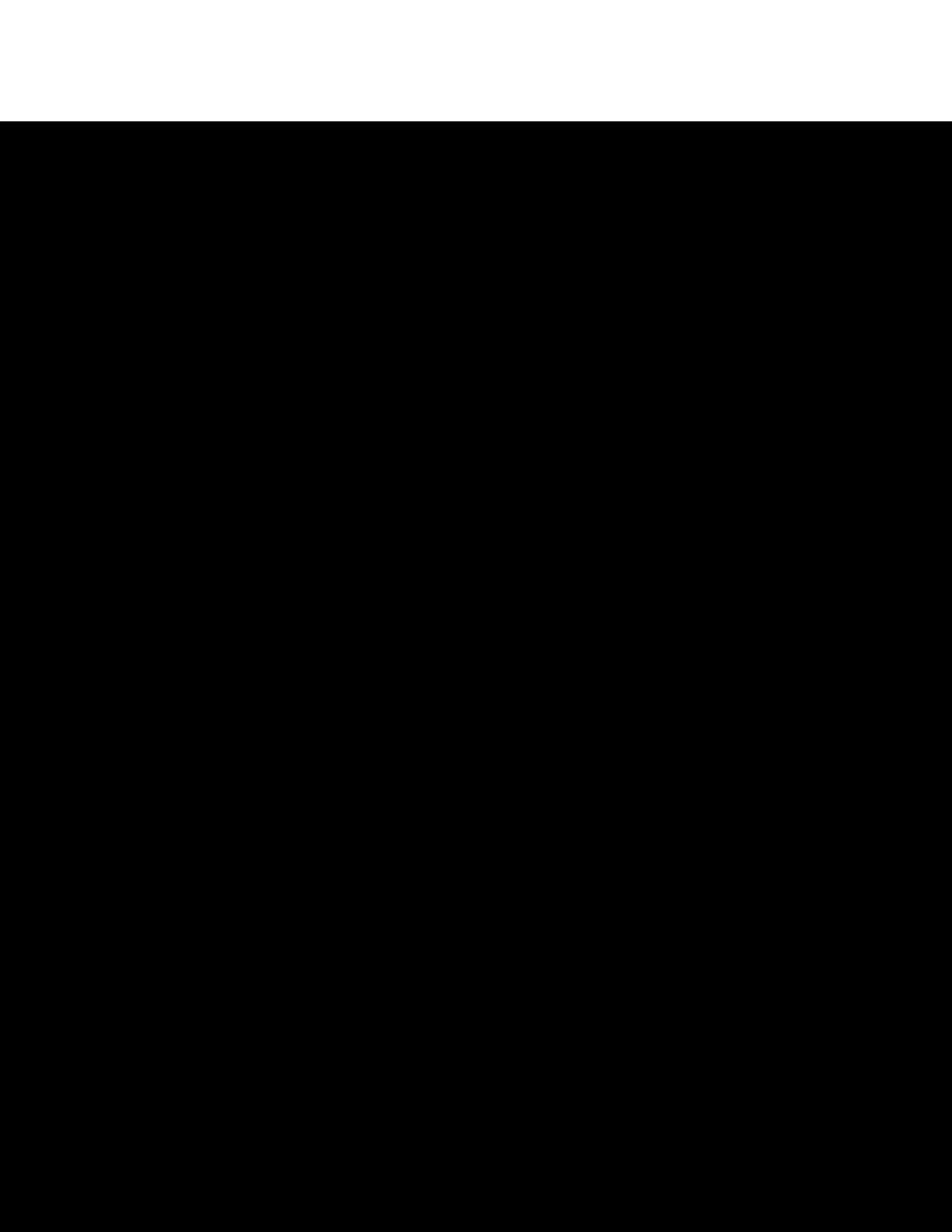
CHART SHOWING AVERAGE COST PER GALLON of DUTCH BOY WHITE-LEAD PAINT

(Prices given are based on a three-coat job on outside woodwork include the cost of turpentine and drier used.)

WHITE-LEAD COST PER 100 POUNDS															
	\$9.00	\$9.25	\$9.50	\$9.75	\$10.00	\$10.25	\$10.50	\$10.75	\$11.00	\$11.25	\$11.50	\$11.75	\$12.00	\$12.25	\$12.50
1.90	1.84	1.88	1.91	1.95	1.98	2.01	2.05	2.09	2.12	2.16	2.20	2.23	2.27	2.30	2.34
1.00	1.88	1.92	1.95	1.99	2.02	2.06	2.09	2.13	2.16	2.20	2.24	2.27	2.31	2.34	2.38
1.10	1.92	1.96	1.99	2.03	2.06	2.10	2.13	2.17	2.20	2.24	2.28	2.31	2.35	2.38	2.42
1.20	1.96	2.00	2.03	2.07	2.10	2.14	2.17	2.21	2.24	2.28	2.32	2.35	2.39	2.42	2.46
1.30	2.00	2.04	2.07	2.11	2.14	2.18	2.21	2.25	2.28	2.32	2.36	2.39	2.43	2.46	2.50
1.40	2.04	2.08	2.11	2.15	2.18	2.22	2.25	2.29	2.32	2.36	2.40	2.43	2.47	2.50	2.54
1.50	2.08	2.12	2.15	2.19	2.22	2.26	2.29	2.33	2.36	2.40	2.44	2.47	2.51	2.54	2.58

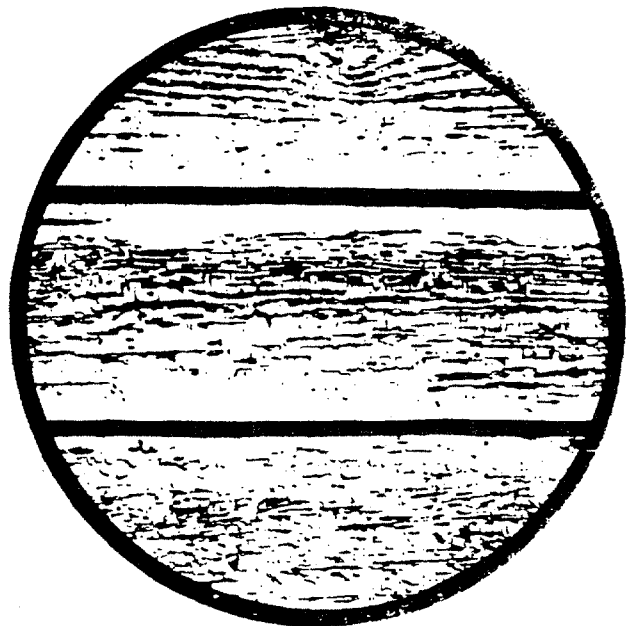
BOY WHITE-LEAD

NLI 001955



Whenever Paint scales —

At the right is a typical scaling paint job and below, the three costs of a "cheap" paint job . . . the original painting . . . the scraping off of the scaling paint . . . the extra coat or new priming coat to bring the surface back to the normal condition for repainting.



THE 1st COST THE 2nd COST THE 3rd COST



NLI 001957

*it's somebody's
money that
comes off*

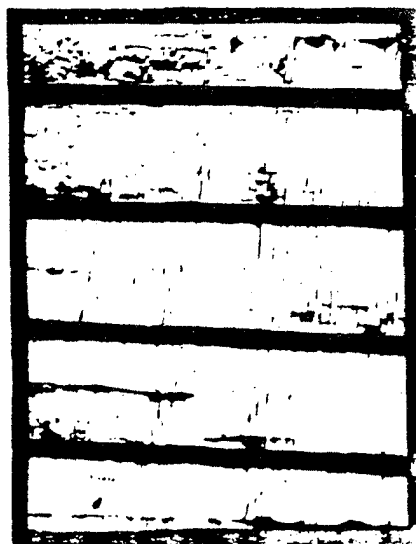
WHENEVER and wherever you see a painted surface like the one at the left you can know two things . . . somebody has paid *good* money for a *poor* paint job . . . and somebody is going to pay more good money before that surface can be properly painted again. Because paint that is scaling like this will keep on scaling even after new paint is put over it. There's only one remedy to stop the trouble . . . scraping off all the old paint right down to the bare surface . . . a pretty costly labor job. And then that bare surface must have an extra coat . . . a new priming coat . . . before the *real* repainting starts. So you see, somebody always pays and pays well for experimenting with "cheap" paint.

**Don't let that
"Somebody" be YOU**

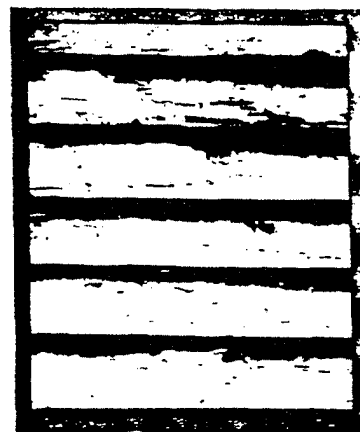
N L I 001958

"Cheap" Paint can't last long enough to make it Cheap!

If this sounds like exaggeration, compare these case histories . . . two "cheap" paint jobs . . . with those shown opposite . . . Dutch Boy jobs. A further comparison of costs, allowing one-third for materials, will show that the two "cheap" paint users still would have lost if they'd gotten their paint free.



Case Number 2



Case Number 1

ABOVE. After a year and a half this paint has left the surface almost totally unprotected. The owner paid \$110 for the original painting, and will now have to pay about \$60 for taking off the scaling paint, and approximately \$60 more for a new and extra priming coat . . . a total of at least \$230 or \$153 per year.

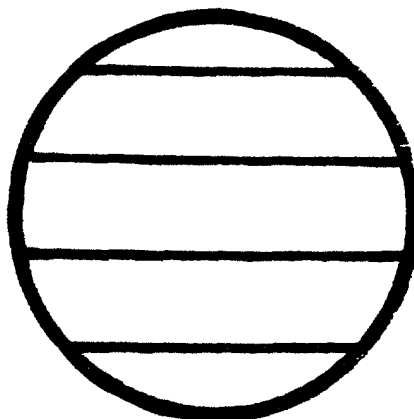
AT LEFT. Another 3-cost job! Only 9 months old . . . but its protective value is gone and so is the owner's money—\$150 for the first coat, \$75 for the second coat, another \$75 for the third coat. "Somebody" paid well for this job.

NLI 001959

48

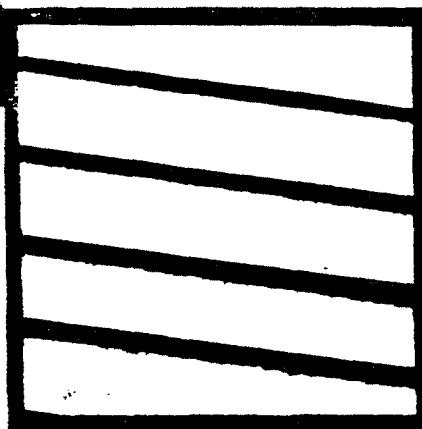
WHITE-LEAD PAINT *does* LAST

No one needs to take this statement on faith. If he hasn't had the experience himself there are thousands of users who can testify to its truth. Some of the paint-life stories are so unusual they almost come within the "believe it or not" class. But rule them out as exceptions, if you will. There still remains a tremendous background of average every-day experiences to endorse any statement that we might make about Dutch Boy white-lead paint being able to stand the gaff.



ABOVE. Same location as Case Number 2 opposite and same original cost ... but when the picture was taken this Dutch Boy job was already four years old. Note the smooth, unbroken protection. No second and third coat here even when repainting is necessary.

BELOW. Put this against Case Number 1 on the opposite page. Here's what you find: Original cost, \$120 ... years on the surface. 4 ... cost per year, \$30 instead of \$153. That's an example of Dutch Boy saving.



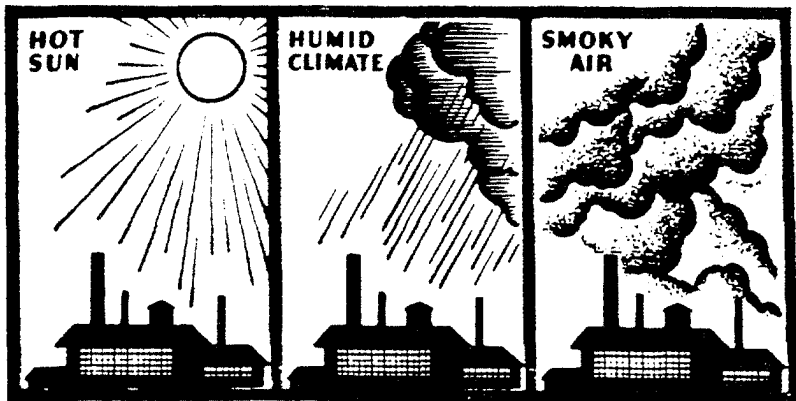
NLI 001960

Why WHITE-LEAD PAINT *lasts* *It's a custom-made paint*

White-lead . . . Dutch Boy white-lead . . . is sold in paste form—concentrated paint. Before the painter can put it on the surface he must mix the white-lead with various liquids such as oil and turpentine to reduce it to paint. This is the “made-to-order” characteristic of white-lead so important to every user of paint.

Mixed to fit the job

No matter what the conditions of the job, Dutch Boy can be easily formulated to fit those conditions. If it is a climate normally humid, it only means a slight reduction in the oil proportions. Or, if it is a

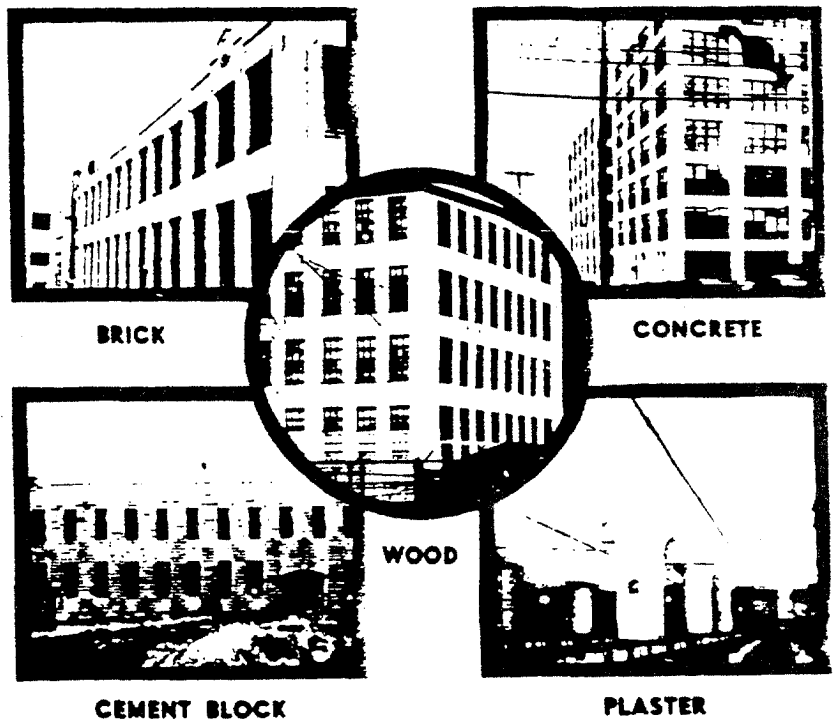


NL P01961

job that will be exposed to dirty air and grimy, smoky atmosphere, another simple adjustment in the formula gives a paint that dries with a harder surface and thus resists discoloration. Again, the surface may have gone long without painting and, therefore, is excessively dry and absorbent. The mixture can be adjusted to take care of this. And so on—no matter what the condition to be met.

Mixed to fit the surface

White-lead is long-wearing on all surfaces—even metal—though red-lead is to be preferred for the next-to-metal coat. Here again, "custom-made" is part of the story. Wood—and different varieties



NLI 001962

of wood need different formulation—brick, stucco, concrete, plaster—all of these surfaces can be completely protected with long-wearing, weather-resisting white-lead paint. All that is required is a suitable adjustment in formulation to allow for the great variations in surface density.

Mixed of known ingredients

Important to any careful buyer is the fact that every material that goes into Dutch Boy white-lead paint is known—both as to identity and as to quality. All paint, once it is mixed, looks much alike. But with the mixing done on the job the user can know definitely, without testing, just what goes into his paint. He can see to it that nothing is included that will impair the protective value of the paint or reduce the life of the paint job. This is one of the most important advantages of using Dutch Boy . . . just another guarantee of durable and economical paint jobs.

What about Cost?

NLI 001963

THE COST PER YEAR

White-lead paint's long life means low cost

How much you pay for a paint per gallon is not nearly so important as how much you pay per year. Years of wear is, after all, the factor which determines what your paint really costs. As a case in point, white-lead paint lasts so long that the per year cost of the entire paint job, including the cost of labor, too, is frequently no more than the cost of just the materials used in a "cheap" paint job.

No burning off or scraping



Another saving with Dutch Boy is the fact that it wears down evenly, leaving a perfect foundation for the new job. There is no need to burn off or scrape off the old paint.



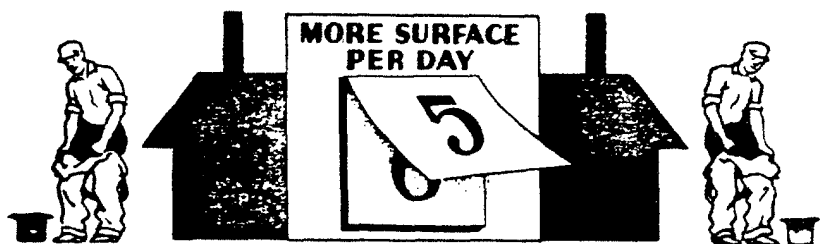
No new priming coat

When you have a paint job that has scaled, you must remove *all* the old paint . . . right down to the bare surface . . . if you want to be sure that the next job won't scale off, too. This means that instead of being able to use the old paint as a foundation, as is the case when repainting a Dutch Boy job, a new and *additional* coat of paint must be put on for this purpose.

N L I 001964

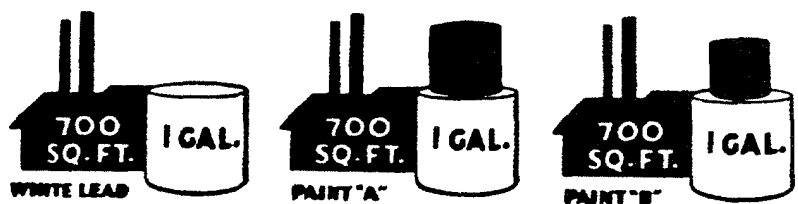
White-lead paint is easy to apply

Ask your own painter or any painter who has used white-lead and he will admit that no paint equals it for easy application. It's a characteristic of Dutch Boy that it goes on the surface with a minimum of effort. This means that a man can cover more surface in a day with white-lead paint . . . at a lower labor cost per square foot applied. Another saving for Dutch Boy!



White-lead paint spreads far

Not only does Dutch Boy spread easily but it spreads far per gallon . . . an average of 700 square feet for one coat on most surfaces. And that's a conservative average. Usually it does more than this, but surface for surface, gallon for gallon, Dutch Boy will always be up there in front. This means you use less paint per job.



N L I 001965

THE COST PER JOB

The cost per job is the immediate cost of a paint job—the amount you pay on the line. And there are three factors that influence this cost per job . . . getting the paint ready for the brush . . . getting the paint on the surface . . . and getting adequate surface coverage per gallon. Dutch Boy fears no comparison with any paint on any of these points. If you are not already using Dutch Boy white-lead, test it against the paint you are using for ease of mixing . . . for ease of application . . . for spread per gallon.

White-lead paint is easy to mix

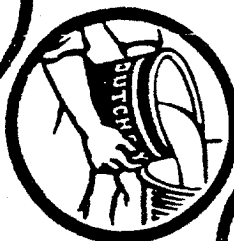
In spite of the fact that Dutch Boy is a made-to-order paint, you will find that the mixing is easy and the time required at least no more than is needed

OPENING



25 SECONDS

POURING



3 MINUTES
15 SECONDS

MIXING



2 MINUTES
20 SECONDS

TINTING



6 GALLONS—6 MINUTES

From keg to brush at the rate of a gallon of paint a minute for white! Tinted paint takes a few minutes longer.

NLI 001966

THE COST PER GALLON

And now . . . what does this paint that lasts so long, mixes so quickly, spreads so easily and goes so far cost per gallon? Is it sold at a premium?

Figure it yourself

Linseed Oil Cost per Gallon	WHITE-LEAD COST PER 100 POUNDS												
	\$9.50	\$9.75	\$10.00	\$10.25	\$10.50	\$10.75	\$11.00	\$11.25	\$11.50	\$11.75	\$12.00	\$12.25	\$12.50
\$.90	1.98	2.02	2.06	2.09	2.13	2.17	2.21	2.25	2.28	2.32	2.36	2.40	2.43
\$1.00	2.02	2.06	2.09	2.13	2.17	2.21	2.25	2.28	2.32	2.36	2.40	2.43	2.47
\$1.10	2.06	2.09	2.13	2.17	2.21	2.25	2.28	2.32	2.36	2.40	2.43	2.47	2.51
\$1.20	2.09	2.13	2.17	2.21	2.25	2.28	2.32	2.36	2.40	2.43	2.47	2.51	2.55
\$1.30	2.13	2.17	2.21	2.25	2.28	2.32	2.36	2.40	2.43	2.47	2.51	2.55	2.58
\$1.40	2.17	2.21	2.25	2.28	2.32	2.36	2.40	2.43	2.47	2.51	2.55	2.58	2.62
\$1.50	2.21	2.25	2.28	2.32	2.36	2.40	2.43	2.47	2.51	2.55	2.58	2.62	2.66

Here is a table based on two-coat repainting work for outside wood. Locate on the chart the price of white-lead and the price you pay for pure linseed oil. That gives you the average cost of this paint. For example, say it's \$11.50 lead and dollar oil. The result on the table is \$2.32 per gallon for all white-lead and linseed oil paint. For a three-coat job the cost per gallon is even less, and mixed for other surfaces like concrete, brick and plaster, white-lead paint is correspondingly low. That's why we say:

*White-lead paint
is a quality paint
that can talk
price*

NLI 001967

The Surface

WHITE-LEAD PAINT FOR WOOD

Wood structures that are left unpainted soon begin to deteriorate. The eventual result, of course, is complete replacement. In the face of this cost, painting is simply an insurance investment to prevent loss and like all insurance should be bought with an eye to the best and most complete protection for your money.



When it comes to this, Dutch Boy white-lead has many advantages that especially fit it for long life on wood surfaces. Wood, for example, is not all alike. There are hard, close-grained woods, as well as soft, porous species. There are non-resinous varieties and those filled with pitch. All these woods are used in building and there is no one mixture of paint that will fit all these conditions of surface with equal efficiency.

WOOD REQUIRES CUSTOM PAINT

Dutch Boy is custom-made and it becomes simply a matter of adjusting the formulation so that no matter what the wood may be the paint fits the surface. This makes for long life of the paint job.

Wood, too, has another well-known characteristic. It expands and contracts. All wood—even the hardest varieties—is filled with minute cells so that it absorbs and gives off moisture as atmospheric conditions dictate. This causes the wood to expand or contract and, as the tension is never equal throughout the section of wood, there is considerable variation in the surface changes. Even wood that is painted is subject to these same influences and paint, to withstand this back and forth action, must be elastic. Dutch Boy is just that. It conforms to the give and take of the surface beneath. Consequently, it does not crack and scale, and when repainting time comes around there is a smooth, even surface of old paint to act as foundation for the new.

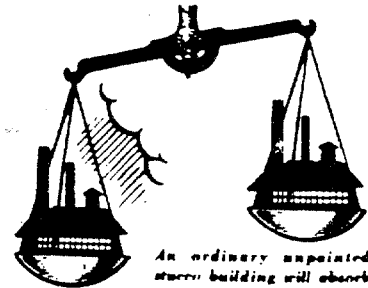
NLI 001968

WHITE-LEAD PAINT FOR CONCRETE AND STUCCO

Paint these surfaces? Yes, because unpainted they absorb moisture. True, there is no decay involved, but there is damage because eventually moisture cracks will develop. Also, imbedded metal may rust, and the accumulated rust will in turn cause the stucco or concrete to chip off. In addition, absorbed moisture is likely to result in damp interiors and unhealthy working conditions. There is also the matter of appearance. Unpainted concrete and stucco are notorious dirt collectors. Proper painting, however, not only initially improves the appearance but offers a surface more impervious to dirt.



The paint that is used should, therefore, be a paint that waterproofs as well as decorates. It should be a paint that penetrates the surface sufficiently for good anchorage and at the same time seals the surface with a solid film of protection. Such a paint will not only protect and beautify but it will last. Such a paint is Dutch Boy white-lead and Lead Mixing Oil.



An ordinary unpainted stucco building will absorb as much as 3,000 pounds of water in a rainy spell.

NLI 001969

In the first place, this paint has all the traditional durability of white-lead . . . resistance to storm and sun that has made white-lead the standard for paint wear. In addition, this paint has all the sealing and waterproofing qualities of Lead Mixing Oil—a special vehicle for white-lead to do just the things that must be done in painting any porous surface, outside or inside. The combination of the two is a paint that brushes easily, covers plenty of surface per gallon, seals completely and gives REAL economy in price per gallon as well as price per year.

WHITE-LEAD PAINT FOR BRICK

Brick is frequently painted—not for protection but for improved appearance. More and more, also, it is being painted to provide better natural light for interiors facing brick walls. The natural dark red brick color absorbs a great deal of the light thrown upon it, but painted white or a light color, this light is reflected into the windows opposite, increasing the natural illumination of that interior. Sometimes the increase is as high as 500 per cent. This means greater efficiency for workers and lowered consumption of current for artificial light.

Dutch Boy white-lead and Lead Mixing Oil is also the combination for painting brick surfaces for the same reasons that make it the best paint for any porous surface . . . durability . . . sealing . . . ease of application and low cost per gallon. In addition, it gives the type of film that resists soiling from atmospheric dust and dirt and, therefore, retains high reflection value for the maximum period without repainting.



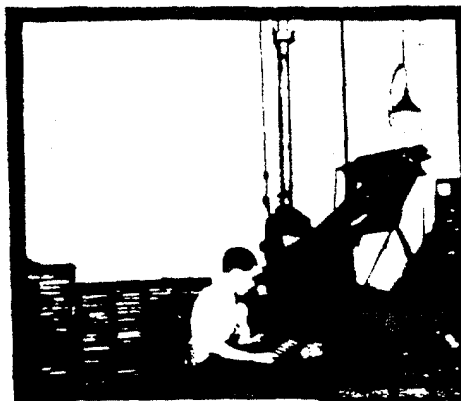
PAINTING FOR BETTER LIGHT

NLI 001970

WHITE-LEAD PAINT FOR PLASTER

Plaster surfaces are almost always painted, either for decoration, for cleanliness, or both. Plaster walls and ceilings should also be painted for greater light efficiency whether the light be natural or artificial. The two photographs below show what can be done to change the lighting of an interior with nothing more than a coat of paint. Instead of requiring a strong direct light that may partially blind the worker, proper painting distributes the light evenly so that the machine operator can work more comfortably and more efficiently.

If you have conditions like the former in your plant or factory it will pay you to examine the possibilities offered by painting with the proper color and the proper finish.



GOOD LIGHT

**BAD
DISTRIBUTION**



NLI 001971

Plaster is not always an easy surface to paint satisfactorily, however. There is frequently a condition of uneven absorption to contend with. This may be due to fine cracks, repaired spots, variations in the degree of troweling, and in the plaster mixture itself. But whatever the cause, unless the paint is properly formulated to take care of these conditions the result will be unsightly and unsatisfactory.

Dutch Boy white-lead and Lead Mixing Oil, however, makes it possible to overcome these possibilities of plaster painting troubles. The sealing qualities of Lead Mixing Oil combine with the solid hiding of white-lead to produce the type of finish you need to secure good light diffusion. It produces a "cleanable" surface, as well—one that can be scrubbed as frequently as necessary to keep it in efficient condition. The fact that white-lead and Lead Mixing Oil is used to protect exteriors is ample proof of its waterproof durability.

WE GAVE THIS PAINT "THE WORKS"



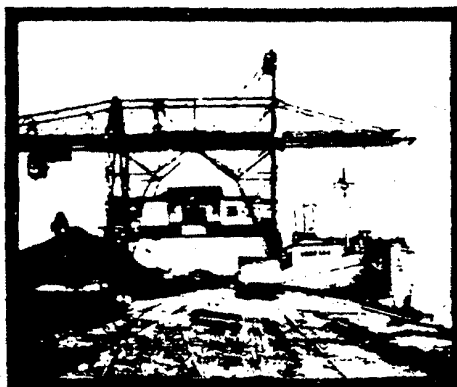
For a full week the Dutch Boy and Lead Mixing Oil painted panel at the left was down on the floor in front of a busy doorway . . . walked over by hundreds of shuffling feet. As if this wasn't enough, the same panel was then smeared up with everything that ordinarily soils walls . . . pencil marks, grease smudges, shoe blacking, mercurochrome and ink. Then this dirty, defaced, mistreated surface was washed with a sponge, washing powder and cold water. The middle and right panels show the result. You can expect the same "washableness" on every job done with Dutch Boy white-lead and Lead Mixing Oil paint.

NLI

001972

RED-LEAD FOR IRON AND STEEL

Exposed surfaces of iron and steel need continual paint protection. Frequently, a few hours in the weather is enough to start the rust on bare metal and once started rust never rests. How important it is, therefore, that iron and steel surfaces not only be painted, but kept painted. Otherwise rust spots develop into damage spots and in a few months may seriously endanger an expensive structure.



Red-lead has long been as prominent in the protection of metal as white-lead is in the preservation of wood and other surfaces. Pure red-lead paint has the faculty of sticking so tight to metal that it becomes almost a part of the surface it covers. Some of the most important structures in the world have had red-lead protection since the metal left the mill. Red-leaded ships sail the seven seas. Red-leaded cars roll along every important right of way. Red-leaded bridges span the world's rivers and bays. Red-leaded industrial buildings and equipment can be found in every part of the globe.

Dutch Boy red-lead is a product that not only reflects the well-deserved reputation of red-lead, but the prestige of the Dutch Boy name as well. It is available in paste form and, just like Dutch Boy white-lead, can be mixed to suit the job in hand.

In addition to the paste form, there is a wide selection of ready-to-use red-lead paints manufactured under the Dutch Boy trademark. In colors, these include light brown, dark brown and black, as well as the natural red-lead color. Also, paints of various weights per gallon to meet specific service conditions and a quick-drying red-lead for use wherever the allowable drying time is short.

N L I 001973

Every one of these paints is made from highly oxidized red-lead, which is red-lead that has been carried to such a fine point in its manufacture that the amount of unconverted material is less than 3%. Highly oxidized red-lead has a number of decided advantages for paint-making purposes: 1. When mixed with linseed oil, it will stay in suspension and thus make a more uniform paint. 2. It has better keeping qualities because the pigment is less reactive with linseed oil. 3. It gives greater ease of application as it does not become thick or rupy in the container. 4. Since there are a greater number of smaller and finer particles, the paint has a greater spreading capacity and produces a uniform film of greater density. 5. Such a paint film is more durable and more resistant to the destructive influences present in the atmosphere.

For these reasons, only highly oxidized red-lead is used to make red-lead paints bearing the Dutch Boy trademark. The purchaser is therefore assured of all the above advantages as well as a paint that meets the conditions of service to which his particular job is subject.



SURFACES LIKE THESE REQUIRE RED-LEAD PROTECTION

NL I 001974

STANDARDIZE ON *Dutch Boy*

To all of the other time-saving, labor-saving, money-saving qualities of Dutch Boy white-lead and the other Dutch Boy paint products can be added one more advantage—avoiding waste.

Standardize on these Dutch Boy products for all your painting work—outside or inside—for all surfaces—wood, concrete, stucco, brick, metal, plaster . . . and for all coats. Doing this, you cut out odds and ends of paint—half-used, half-dried buckets of “special” this and “special” that. Standardize on Dutch Boy and everything in your paint shop can be used up. No worry about having too little paint to do the job. It’s easy to mix more just like it. No worry about having too much paint for the job. It’s just white-lead paint or red-lead paint as the case may be and can safely be put right in with the next batch.

Standardizing on Dutch Boy cuts down your inventory, too. Just seven items—plus turpentine—give you everything you require for almost any painting job around a plant or factory, and you don’t need to put in a large stock of Dutch Boy unless you want. There is always a local dealer or distributor within easy call.

So standardize on Dutch Boy. Take advantage of the extra savings that Dutch Boy brings.

NLI 001975

The DUTCH BOY LINE of Paint Products

WHITE-LEAD—"Good paint's other name" is a statement we often make in referring to Dutch Boy white-lead. But it is more than just a slogan. Actually it expresses the experience of thousands of master painters who have applied Dutch Boy white-lead on many thousands of homes and industrial structures . . . who have watched Dutch Boy withstand years of weather exposure . . . who have seen Dutch Boy add life and wear to interiors.

If you have never used Dutch Boy white-lead—especially this time-saving, money-saving, labor-saving **ALL-PURPOSE SOFT PASTE**—begin now. It is the foundation of the Dutch Boy Line.

LINSEED OIL—All linseed oil bearing the Dutch Boy name and trademark is pure linseed oil—as pure as can be made anywhere . . . clear . . . carefully filtered . . . pressed from selected seed . . . well-settled—and particularly made for mixing with Dutch Boy white-lead to produce fine-appearing, long-wearing paint jobs.

Dutch Boy linseed oil is available as raw, boiled or standoil type. The latter is a pure linseed oil that has been specially treated to produce a bodied oil. Its use gives improved gloss and leveling qualities to white-lead paint. And all three of these Dutch Boy oils come only in **SEALED CONTAINERS** for your protection.

LIQUID DRIER—You can't be too careful about drier. Drier that acts too rapidly may cause skin-drying and wrinkling. If it works too slowly dirt and dust collect, discoloring the job. Safeguard your paint jobs with a dependable drier . . . Dutch Boy liquid drier . . . made especially for use with Dutch Boy white-lead. Its action is neither too fast nor too slow. It is an unusually strong drier of the best known composition—properly balanced to bring about efficient drying. The contents of every container are exactly the same, uniform in strength and uniform in results produced. It will not curdle or discolor the paint.

COLORS IN OIL—As a result of quality materials and skilled manufacture Dutch Boy colors in oil are always true in tone as well as high in tinting strength.

Dutch Boy colors do not have to be thinned before using. They come in soft paste consistency . . . just right for mixing directly into the paint. There is no lumping or streaking . . . no loss of tinting time.

Use these improved colors with Dutch Boy white-lead. They come in a wide range of colors, in airtight, friction top cans and in tubs.

WALL PRIMER—Dutch Boy wall primer is the ideal sealer and paint coat combined. In one coat it not only stops the suction of even the coarsest, most porous wall material but it also hides discolored spots and smudgy surfaces.

Dutch Boy Wall Primer works easily under the brush and sprays as much as a thousand square feet per gallon on smooth plaster and corresponds far on rough, uneven surfaces. Penetrates the surface sufficiently to give proper anchorage . . . makes a perfect foundation for later coats of white-lead flat. Requires no special thinners or special colors.

LEAD MIXING OIL—Dutch Boy Lead Mixing Oil is not just another "special oil." It is designed for a definite purpose—to provide in one package a vehicle that mixes perfectly with white-lead and that seals, protects and beautifies porous surfaces whether they be plaster, wall board, concrete, brick or masonry—interior or exterior.

Dutch Boy Lead Mixing Oil, used with white-lead, has excellent sealing qualities . . . covers well and levels out . . . gives a high spreading rate and produces a solid durable finish . . . with **REAL economy**.



NLI

001976

Metal Products for Industry

IN ADDITION to the paint products listed on the previous page, we manufacture various metal products that are widely used in industry. These are listed below in the hope that if you use any of these materials and are not already familiar with our advantages as a source of supply, you will get in touch with our nearest branch office and make known your requirements. Naturally, every product we make has behind it not only manufacturing experience and skill, but the reliability of our name and reputation.

Babbitt or Bearing Metals	Solder of all types
Lead Pipe or Tubing	Sheet Lead
Lead Traps and Bends	Sheet Tin
Lead Wool	Tempering Lead
Tin Pipe or Tubing	Type Metals
Expansion Bolts	Battery Metal
Tellurium Lead Sheet	Tellurium Lead Pipe

A list of National Lead Company branches is shown on the back cover. Inquiries regarding metal products only may be addressed also to the following:

Master Metals, Inc.	Cleveland
Gibson & Price	Cleveland
Georgia Lead Company	Atlanta
American Lead Corp.	Indianapolis
Morris P. Kirk & Son	Los Angeles

7-20-34

N L I

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NATIONAL LEAD COMPANY

NEW YORK	111 Broadway
BALTIMORE	214 Henrietta Street
BUFFALO	116 6th Street
CHICAGO	900 W. 18th Street
CINCINNATI	609 Freeman Avenue
CLEVELAND	820 W. Superior Avenue
LOS ANGELES	932 Wilton Street
PORTLAND (ORL.)	1211 N. W. Glisan St.
ST. LOUIS	722 Chestnut Street
SAN FRANCISCO	2200 9th Street
SEATTLE	973 John Street
BOSTON	National-Boston Lead Co., 800 Albany St.
PHILADELPHIA	J. T. Lewis & Bros. Co., Widener Bldg.
PITTSBURGH	National Lead & Oil Co. of Pa., 316 Fourth Ave.

NLI 001978

THE HOUSE WE LIVE IN

ITS PROTECTION
AND DECORATION

34.36

NLI 001979

"Cheap" Paint *can't last long enough to make it Cheap*

IF this sounds like an exaggeration, read the facts about the comparisons illustrated and described on this page. Just two case histories, but every neighborhood could produce similar records.

★ ★ ★

DUTCH BOY →

THE unretouched photograph at the right is of a Dutch Boy white-lead paint job FOUR years after application. The owner paid \$175 for the job which means that up to the time the photograph was taken his yearly paint cost was \$44. And the surface is still in condition to withstand the weather for a long time... a smooth, unbroken foundation for the next repainting, too. No costly preparation costs—burning and scraping—will be needed.

WHENEVER PAINT FAILS

IT'S SOMEBODY'S MONEY THAT SCALES OFF

★ ★ ★

← DUTCH BOY

HERE is another comparison, both jobs in the same town. Dutch Boy at the left has been 3 years. At an original price of \$172 it figures \$57 per year. The photo at the right, however, is at the end of only 1 1/2 years. \$160 for the job plus \$75 for burning and scraping off the old paint makes a total cost of \$235 or \$157 per year. The owner certainly found out how expensive "cheap" paint can be.



↑ CHEAP PAINT

THE photo above shows what happened to a cheap paint job in the same locality, 2 1/2 years. Original cost \$125. Now requires a \$75 burning and scraping job before repainting. That's a total cost of \$200 or \$80 per year—nearly twice that of the other owner. Besides this house will require an extra coat—a priming coat.

↓ CHEAP PAINT



NLI 001980

Painting
SPECIFICATIONS



COVERING THE USE OF

**DUTCH BOY
PRODUCTS**

NLI 001981

Painting
SPECIFICATIONS
covering the use of
DUTCH BOY
PRODUCTS



NATIONAL LEAD COMPANY



111 Broadway, New York • 116 Oak St., Buffalo • 900 West
18th St., Chicago • 659 Freeman Ave., Cincinnati • 1213 West
Third St., Cleveland • 722 Chestnut St., St. Louis • 975
John St., Seattle • 1211 N. W. Glisan St., Portland, Oregon •
2240-24th St., San Francisco • 932 Wilson St., Los Angeles •
National-Boston Lead Co., 800 Albany St., Boston • National
Lead & Oil Co. of Pennsylvania, 316 Fourth Ave., Pittsburgh •
John T. Lewis & Bros. Co., Widener Building, Philadelphia.

NL I

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Instructions

The specifications for painting and finishing contained in this booklet are divided into two parts: Section A and Section B.

Section A contains those clauses which specify the materials to be used and outlines the general manner in which the work shall be carried forward.

Section B contains the directions for surface preparation and application of the paint on the particular surfaces to be painted.

In preparing specifications for the painting contractor, it will be necessary to include only those paragraphs that cover the exact work to be done. For the user's convenience we have employed letters and numerals to designate the sections, their main divisions and the paragraphs of the latter.

If desired, detail of work to be done as outlined in Section B is the only part which need be written out in full. The details of materials and workmanship may then be covered by the following clause:

All painting work under this contract, except as hereinafter specified, shall be executed in strict conformity with the Specifications of National Lead Company, which Specifications are hereby declared and made part of this specification, with the same force and effect as if written herein in full.

PART

1. GENERAL CONDITION
The General Conditions of part of these specifications, they apply to work under d
2. WORK INCLUDED
(a) The painting contractor necessary and shall perform described as follows:
(b) (Here describe generally
(c) (Here also describe work under these specifications.)
3. DRAWINGS
(a) The painting contractor necessary for the painting c
(b) In the event of any discrepancy reference shall be made to c
4. SAMPLES
(a) Samples of all finishes of finished work shall match s
(b) The painting contractor if same is not in proper condition contractor will be held responsible
5. INSPECTION
(a) The architect, or his duly authorized representative, of materials and shall be in accordance with workmanship is in accordance
(b) Defective work shall be replaced and the contractor reserves the right to replace
6. ALTERATIONS AND I
All present work that is required remodeling, shall be refin

NLI 001983

SECTION A

PART I—General Requirements

1. GENERAL CONDITIONS

The General Conditions of the American Institute of Architects, latest edition, shall form a part of these specifications, and all work shall be subject to the provisions thereof, insofar as they apply to work under these specifications.

2. WORK INCLUDED

(a) The painting contractor shall supply all labor, materials, tools, staging, and equipment necessary and shall perform all painting and finishing work in connection with the building described as follows:

(b) (Here describe generally the work which is to be painted.)

(c) (Here also describe work which is to be primed under other specifications but finished under these specifications.)

3. DRAWINGS

(a) The painting contractor shall be furnished with all drawings, details and other information necessary for the painting of all classes of work which are to receive a painted finish.

(b) In the event of any doubt or question, respecting the drawings and/or specifications, reference shall be made to the architect whose decision thereon shall be final.

4. SAMPLES

(a) Samples of all finishes shall be submitted to the architect for approval before applying, and finished work shall match same.

(b) The painting contractor shall carefully inspect each surface before applying any finish and, if same is not in proper condition, he shall notify the architect in writing. Otherwise the contractor will be held responsible for any defects in the finish arising therefrom.

5. INSPECTION

(a) The architect, or his duly authorized representative shall have access at all times to the stock of materials and shall be furnished with every reasonable facility for ascertaining that the workmanship is in accordance with the requirements and intent of these specifications.

(b) Defective work shall be made good and unsuitable materials may be rejected. The architect reserves the right to replace both at the expense of the painting contractor.

6. ALTERATIONS AND REMODELING

All present work that is removed and reset or that is affected in any way by the alterations and remodeling, shall be refinished to match the finished surfaces adjacent thereto.

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PAINTING SPECIFICATIONS covering the use of DUTCH BOY PRODUCTS • • SECTION A

7. STORAGE

The painting contractor shall store his materials in one place in the building, and such storage place shall be kept neat and clean and all damage thereto or to its surroundings shall be made good, care being taken in the storage of paints, oils etc. to prevent all danger of fire. Only rags shall be removed from the building every day upon the stopping of work.

8. CLEANING

Upon completion of the building, the painting contractor shall remove all paint spots from all finished work, and shall leave the entire premises free from rubbish caused by his work, and shall remove his equipment from the premises. He shall present the work clean and free from blemish.

(Washing glass is not intended to be included in this specification. If the architect wishes it to be included, he should specifically mention it.)

9. EXTRAS

The painting contractor shall not be entitled to payment in excess of the amount agreed upon in his contract for any extra work over and above that specified herein, unless authorized in writing by the architect or his superintendent.

10. PROTECTION OF WORK

It shall be the painting contractor's responsibility to protect his work, and the work of all other contractors during the time his work is underway. He shall be responsible for any and all damage to the work or property of others caused by his employees or himself.

11. WORKMANSHIP

- (a) Before any painting is done, all surfaces shall be clean, smooth and free from dust, dirt, grease, mortar, rust and other foreign substances and all parts where paint remover has been used shall be washed off with turpentine or benzine.
- (b) All paint shall be evenly spread and thoroughly brushed out.
- (c) No coat of paint shall be applied on a wet or damp surface and in no case until preceding coat is dry and hard.
- (d) No painting shall be done on outside work in extremely cold, frosty, foggy or damp weather. Painting done in winter weather shall be done only when the temperature is above 50°F. and when all surfaces are dry.

PART II—Materials

12. GENERAL

All materials for painting shall be delivered at the building in unbroken packages, bearing the manufacturer's brand and name, and shall be used without adulteration.

The following materials are covered in these specifications: white-lead, colors in oil, linseed oil, Lead Mixing Oil, wall primer, turpentine, drier, varnish, shellac varnish, putty and red-lead.

PAINTING

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NLI 001985

• • SECTION A

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in surroundings shall be made
to prevent all danger of fire. Oily rags
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paint the work clean and free from

When the architect wishes it

in excess of the amount agreed upon
specified herein, unless authorized in

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He shall be responsible for any and
his employees or himself.

can, smooth and free from dust, dirt,
and parts where paint remover has been

used out.

surface and in no case until preceding

extremely cold, frosty, foggy or damp
only when the temperature is above

Materials

being in unbroken packages, bearing the
mark of authentication.

white-lead, colors in oil, linseed oil,
shellac varnish, putty and red-lead.

PAINTING SPECIFICATIONS covering the use of DUTCH BOY PRODUCTS • • SECTION A

13. MIXING

All paint shall be mixed at the job in a manner to assure the proper incorporation of the ingredi-
ents and in conformity with formulas as given hereinafter.

14. MATERIALS

(a) *White-Lead*

All white-lead shall be pure white-lead of Dutch Boy brand which conforms to the latest speci-
fications of the American Society for Testing Materials.

(b) *Red-Lead*

All red-lead shall be pure red-lead of Dutch Boy brand which conforms to the latest speci-
fications of the American Society for Testing Materials.

(c) *Colors in Oil*

All colors in oil shall be of Dutch Boy brand.

(d) *Linseed Oil*

All linseed oil shall be pure linseed oil of Dutch Boy brand which conforms to the latest speci-
fications of the American Society for Testing Materials.

(e) *Lead Mixing Oil*

All Lead Mixing Oil shall be Dutch Boy Lead Mixing Oil.

(f) *Wall Primer*

All wall primer shall be Dutch Boy wall primer.

(g) *Turpentine*

All turpentine shall be pure gum spirits of turpentine or pure steam-distilled turpentine and
shall conform to the latest specifications of the American Society for Testing Materials.

(h) *Drier*

All drier used shall be pure drier of Dutch Boy brand which conforms to Type I of the latest
Federal Specifications for liquid paint drier.

(i) *Varnish*

All varnish shall be the best grade of floor varnish, the product of an approved manufacturer
and suitable for mixing with white-lead as specified.

(j) *Shellac Varnish*

All shellac varnish shall be free from rosin and shall be composed of a pure gum shellac cut in
pure denatured alcohol, using four pounds of gum to one gallon of alcohol.

(k) *Putty*

Putty shall be composed of pure white-lead and whiting, mixed with pure linseed oil to proper
consistency, and shall conform to white-lead whiting putty, Class B, of the latest specifications
of the American Society for Testing Materials. For metal sashes, the pigment content may
include 10 per cent of powdered litharge.

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001986

SECTION B

Application

1. PAINTING NEW EXTERIOR WOOD

- (a) (Here list and describe surfaces to be painted.)
- (b) Door and window casings, mullions, etc. shall be sanded to remove loose edges left by sanding machine. All surfaces shall be free from slivers, splinters, etc.
- (c) After priming coat is dry, knots and sappy streaks shall receive one coat of shellac varnish brushed out thin and all cracks, nail holes, etc. shall be puttied with white-lead putty.
- (d) All painting work shall be allowed to dry from four to six days before the next coat is applied.
- (e) All surfaces shall be primed with Formula No. 1 and receive two additional coats, using Formulas No. 2 and No. 3, respectively.
- (f) If colors other than white are to be used, the necessary tinting materials should be added to the last two coats of paint. Specifications of colors and where they are to be used should be stated here.)

FORMULA NO. 1

Priming Coat—New Exterior Wood

MATERIALS	SOFT PASTE	HEAVY PASTE
Dutch Boy white-lead	100 pounds	100 pounds
Dutch Boy linseed oil	4 gallons	4 gallons
Pure turpentine	1 3/4 gallons	2 gallons
Dutch Boy liquid drier	*1 pint	*1 pint

The above formula makes 9 gallons of paint which covers about 600 square feet per gallon, one coat.

FORMULA NO. 2

Second Coat—New Exterior Wood

MATERIALS	SOFT PASTE	HEAVY PASTE
Dutch Boy white-lead	100 pounds	100 pounds
Dutch Boy linseed oil	1 1/2 gallons	1 1/2 gallons
Pure turpentine	1 1/4 gallons	1 1/2 gallons
Dutch Boy liquid drier	*1 pint	*1 pint

The above formula makes 6 gallons of paint which covers about 700 square feet per gallon, one coat.

*If boiled oil is used, reduce drier to 1/2 pint.

MATERIALS

Dutch Boy white-lead
Dutch Boy linseed oil
Pure turpentine
Dutch Boy liquid drier

2. REPAINTING EXTERIOR WOOD

- (a) (Here list and describe surfaces to be repainted.)
- (b) If any portions of the old paint are to be removed, such surfaces and the surrounding areas shall be sanded to remove loose edges left by sanding machine. All surfaces shall be free from slivers, splinters, etc.
- (c) After the first coat is dry, knots and sappy streaks shall receive one coat of shellac varnish brushed out thin and all cracks, nail holes, etc. shall be puttied with white-lead putty.
- (d) All painting work shall be allowed to dry from four to six days before the next coat is applied.
- (e) All surfaces shall be primed with Formula No. 1 and receive two additional coats, using Formulas No. 2 and No. 3, respectively.
- (f) If colors other than white are to be used, the necessary tinting materials should be added to the last two coats of paint. Specifications of colors and where they are to be used should be stated here.)

MATERIALS

Dutch Boy white-lead
Dutch Boy linseed oil
Pure turpentine
Dutch Boy liquid drier

*If boiled oil is used, reduce drier to 1/2 pint.

NLI 001987

SECTION B
Application

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be painted.)
on, etc. shall be needed to remove loose edges left by
from from above, splinters, etc.
if supply materials shall receive one coat of shellac varnish
bottom, etc. shall be painted with white-lead putty.
-ed to dry from four to six days before the next coat is

Formula No. 1 and receive two additional coats, using
3p.
be used, the necessary tinting materials should be added
amount of colors and where they are to be used should be

Formula No. 1
First Coat—New Exterior Wood

SOFT PASTE	HEAVY PASTE
100 pounds	100 pounds
4 gallons	4 gallons
1 1/4 gallons	2 gallons
*1 pint	*1 pint

will make 9 gallons of paint which
covers about 700 square feet per gallon, one coat.

Formula No. 2
First Coat—New Exterior Wood

SOFT PASTE	HEAVY PASTE
100 pounds	100 pounds
1 1/4 gallons	1 1/2 gallons
1 1/4 gallons	1 1/2 gallons
*1 pint	*1 pint

will make 6 gallons of paint which
covers about 700 square feet per gallon, one coat.

to be 1/2 pint

Formula No. 3
Finish Coat—New Exterior Wood

MATERIALS	SOFT PASTE	HEAVY PASTE
Dutch Boy white-lead.....	100 pounds	100 pounds
Dutch Boy linseed oil.....	3 gallons	3 gallons
Pure turpentine.....		1 quart
Dutch Boy liquid drier.....	*1 pint	*1 pint

The above formula makes 6 1/4 gallons of paint which
covers about 700 square feet per gallon, one coat.

2. REPAINTING EXTERIOR WOOD

- (a) (Here list and describe surfaces to be painted.)
- (b) (If any portions of old paint must be removed and surface re-primed, here list and describe such surfaces and their treatment.)
- (c) After the first coat has dried sufficiently, nailholes, cracks, etc. shall be puttied with white-lead putty.
- (d) All painting work shall be allowed to dry from four to six days before the next coat is applied.
- (e) All surfaces shall receive two coats of paint, using Formulas No. 4 and No. 5, respectively.
- (f) (If colors other than white are to be used, the necessary tinting materials should be added to both coats of paint. Specifications of colors and where they are to be used should be stated here.)

Formula No. 4
First Coat—Repainting Exterior Wood

MATERIALS	SOFT PASTE	HEAVY PASTE
Dutch Boy white-lead.....	100 pounds	100 pounds
Dutch Boy linseed oil.....	2 gallons	2 gallons
Pure turpentine.....	1 1/4 gallons	2 gallons
Dutch Boy liquid drier.....	*1 pint	*1 pint

The above formula makes 7 gallons of paint which
covers about 700 square feet per gallon, one coat.

*If boiled oil is used, reduce drier to 1/2 pint.

(7)

NLI 001986

FORMULA No. 5
Finish Coat—Repainting Exterior Wood

MATERIALS	SOFT PASTE	HEAVY PASTE
Dutch Boy white-lead	100 pounds	100 pounds
Dutch Boy linseed oil	3 gallons	3 gallons
Pure turpentine		1 quart
Dutch Boy liquid drier	*1 pint	*1 pint

The above formula makes 6 1/2 gallons of paint which covers about 700 square feet per gallon, one coat.

3. PAINTING BRICK, STUCCO, STONE OR CONCRETE

- (a) (Here list and describe surfaces to be painted.)
- (b) Unpainted stucco or concrete which has not been allowed to age for a period of six months or longer, shall be treated with a solution made by dissolving two pounds of zinc sulphate in one gallon of water. After the zinc sulphate solution has been applied, sufficient time shall be allowed for the stucco or concrete to dry before priming.
- (c) Unpainted brick work shall be brushed vigorously with a wire brush to remove efflorescence or other foreign substances. If any mortar has become loose or damaged, all such places shall be pointed with mortar before paint is applied. After priming, small defects in the surface shall be corrected with putty.
- (d) (If brick is to be lined, it should be so specified here.)
- (e) Previously painted stucco, concrete, brick or stone surfaces shall be dry-brushed before painting. If the old paint is blistered, cracking or scaling, the surfaces shall be brushed vigorously with a wire-brush before painting.
- (f) Unpainted exterior brick, stucco, stone or concrete surfaces or all such surfaces which have been wirebrushed to remove completely the old paint, shall be primed with Formula No. 6 and shall receive two additional coats, using Formula No. 7 for the second coat and Formula No. 8, flat finish, 9, semi-gloss finish, or 10, gloss finish for the finishing coat. (Previously painted surfaces on which the old paint is in good condition do not require the priming coat.)
- (g) Interior brick, stucco, stone or concrete surfaces should be painted the same as interior plaster. See Paragraph f, Page 11.
- (h) If colors other than white are to be used, the necessary tinting materials should be added to the last two coats of paint. Specifications of colors and where they are to be used should be stated here.)

FORMULA No. 6
Priming Coat—Brick, Stucco, Stone or Concrete

MATERIALS	SOFT PASTE	HEAVY PASTE
Dutch Boy white-lead	100 pounds	100 pounds
Dutch Boy Lead Mixing Oil	**4 to 5 gallons	**4 to 5 gallons

The above formula makes from 7 to 8 gallons of paint which covers about 200 square feet per gallon, one coat.

*If boiled oil is used, reduce drier to 1/2 pint.

**The minimum amount of Lead Mixing Oil should be used when the greatest amount of hiding is desired.

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SECTION B

HEAVY PASTE
100 pounds
3 gallons
1 quart
*1 pint

The above formula makes 6 to 7 gallons of paint which covers about 400 square feet per gallon, one coat.

REMARKS

1. Surfaces should be kept for a period of six months or more, allowing one pound of zinc sulphate in one year has been applied, sufficient time shall be allowed.

2. Surfaces with a wire brush to remove efflorescence or other loose or damaged, all such places shall be repaired, small defects in the surface shall be filled.

3. Surfaces shall be dry-brushed before painting or staining, the surfaces shall be brushed with a wire brush.

4. Surfaces or all such surfaces which have been painted, shall be primed with Formula No. 6 and Formula No. 7 for the second coat and Formula No. 8 for the finishing coat. (Previously painted surfaces do not require the priming coat.)

5. Surfaces should be painted the same as interior

6. The necessary tinting materials should be added or omitted and where they are to be used should be

Formula No. 6

Stucco, Stone or Concrete

SOFT PASTE **HEAVY PASTE**
100 pounds 100 pounds
to 5 gallons **4 to 5 gallons

The above formula makes 6 to 7 gallons of paint which covers about 400 square feet per gallon, one coat.

*1 pint.

Oil should be used when the greatest amount of

PAINTING SPECIFICATIONS covering the use of DUTCH BOY PRODUCTS • • SECTION B

FORMULA No. 7

Second Coat—Brick, Stucco, Stone or Concrete

MATERIALS	SOFT PASTE	HEAVY PASTE
Dutch Boy white-lead.....	100 pounds	100 pounds
Dutch Boy Lead Mixing Oil... **3 to 4 gallons		**3 to 4 gallons

The above formula makes 6 to 7 gallons of paint which covers about 400 square feet per gallon, one coat.

FORMULA No. 8

Third Coat—Brick, Stucco, Stone or Concrete
(Flat Finish)

MATERIALS	SOFT PASTE	HEAVY PASTE
Dutch Boy white-lead.....	100 pounds	100 pounds
Dutch Boy Lead Mixing Oil... **3 to 4 gallons		**3 to 4 gallons

The above formula makes 6 to 7 gallons of paint which covers about 600 square feet per gallon, one coat.

FORMULA No. 9

Third Coat—Brick, Stucco, Stone or Concrete
(Semi-Gloss Finish)

MATERIALS	SOFT PASTE	HEAVY PASTE
Dutch Boy white-lead.....	100 pounds	100 pounds
Dutch Boy Lead Mixing Oil... **2 to 3 gallons		**2 to 3 gallons
Spar varnish.....	1 gallon	1 gallon

The above formula makes 6 to 7 gallons of paint which covers about 600 square feet per gallon, one coat.

FORMULA No. 10

Third Coat—Brick, Stucco, Stone or Concrete
(Glass Finish)

MATERIALS	SOFT PASTE	HEAVY PASTE
Dutch Boy white-lead.....	100 pounds	100 pounds
Dutch Boy linseed oil.....	3 gallons	3 gallons
Pure turpentine.....		1 quart
Dutch Boy liquid drier.....	*1 pint	*1 pint

The above formula makes 6 1/4 gallons of paint which covers about 600 square feet per gallon, one coat.

**The minimum amount of Lead Mixing Oil should be used when the greatest amount of hiding is desired.

*If boiled oil is used, reduce the drier to 1/2 pint.

(9)

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4. PAINTING INTERIOR WOOD

- (a) (Here list and describe surfaces to be painted.)
- (b) New woodwork shall be cut smooth with sandpaper where required and dusted clean before priming.
- (c) Old painted or varnished woodwork that shows bad cracking, checking or scaling shall be stripped by means of a good paint and varnish remover, and then cleaned with benzine or turpentine. Woodwork that is greasy or coated with wax should be scrubbed clean with turpentine or benzine before painting.
- (d) All nail holes, cracks, dents or other defects shall be filled with white-lead putty after the priming coat has dried.
- (e) All unpainted wood, or surfaces from which the paint has been removed completely, shall be primed with Formula No. 11 and shall receive two additional coats, using Formula No. 12 for the second coat and Formula No. 13, *flat finish*, or 14, *semi-gloss finish* for the finishing coat. (Previously painted surfaces on which the old paint is in good condition do not require the priming coat.)
- (f) (If a gloss finish is wanted on interior wood, specify a prepared enamel for the third or finishing coat.)
- (g) (If colors other than white are to be used, the necessary tinting materials should be added to the last two coats of paint. Specifications of colors and where they are to be used should be stated here.)

FORMULA NO. 11
Priming Coat—Interior Wood

MATERIALS	SOFT PASTE	HEAVY PASTE
Dutch Boy white-lead	100 pounds	100 pounds
Dutch Boy linseed oil	3 gallons	3 gallons
Pure turpentine	1 1/4 gallons	2 gallons
Dutch Boy liquid drier	1 pint	1 pint

The above formula makes 6 gallons of paint which covers about 700 square feet per gallon, one coat.

FORMULA NO. 12
Second Coat—Interior Wood

MATERIALS	SOFT PASTE	HEAVY PASTE
Dutch Boy white-lead	100 pounds	100 pounds
Dutch Boy Lead Mixing Oil	3 gallons	3 gallons

The above formula makes 6 gallons of paint which covers about 800 square feet per gallon, one coat.

FORMULA NO. 13
*Third Coat—Interior Wood
(Flat Finish)*

MATERIALS	SOFT PASTE	HEAVY PASTE
Dutch Boy white-lead	100 pounds	100 pounds
Dutch Boy Lead Mixing Oil	3 gallons	3 gallons

The above formula makes 6 gallons of paint which covers about 800 square feet per gallon, one coat.

(10)

MATERIALS
Dutch Boy white-lead
Dutch Boy Lead Mixing Oil
Dutch Boy white-lead

5. PAINTING INTERIOR WALLS

- (a) (Here list and describe surfaces to be painted.)
- (b) Before any paint is applied, the wall shall be smooth.
- (c) All cracks and holes shall be filled with plaster. Large cracks before filling with plaster shall be sandpapered.
- (d) Walls that have been plastered shall be sandpapered before applying any paint.
- (e) Where new plaster is used, a solution made by zinc sulphate solution shall be applied before priming.
- (f) All plaster not yet dry shall be sandpapered.
- (g) All plaster not yet dry shall be sandpapered before applying any paint.
- (h) All plaster not yet dry shall be sandpapered before applying any paint.
- (i) All plaster not yet dry shall be sandpapered before applying any paint.
- (j) All plaster not yet dry shall be sandpapered before applying any paint.
- (k) All plaster not yet dry shall be sandpapered before applying any paint.
- (l) All plaster not yet dry shall be sandpapered before applying any paint.
- (m) All plaster not yet dry shall be sandpapered before applying any paint.
- (n) All plaster not yet dry shall be sandpapered before applying any paint.
- (o) All plaster not yet dry shall be sandpapered before applying any paint.
- (p) All plaster not yet dry shall be sandpapered before applying any paint.
- (q) All plaster not yet dry shall be sandpapered before applying any paint.
- (r) All plaster not yet dry shall be sandpapered before applying any paint.
- (s) All plaster not yet dry shall be sandpapered before applying any paint.
- (t) All plaster not yet dry shall be sandpapered before applying any paint.
- (u) All plaster not yet dry shall be sandpapered before applying any paint.
- (v) All plaster not yet dry shall be sandpapered before applying any paint.
- (w) All plaster not yet dry shall be sandpapered before applying any paint.
- (x) All plaster not yet dry shall be sandpapered before applying any paint.
- (y) All plaster not yet dry shall be sandpapered before applying any paint.
- (z) All plaster not yet dry shall be sandpapered before applying any paint.

Dutch Boy

MATERIALS
Dutch Boy white-lead
Dutch Boy Lead Mixing Oil
Dutch Boy white-lead

"Dutch Boy white-lead"
porous or in
The minimum
amount of h

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SECTION B

PAINTING SPECIFICATIONS COVERING THE USE OF DUTCH BOY PRODUCTS • • SECTION B

FORMULA No. 14 Third Coat—Interior Wood (Semi-Gloss Finish)

MATERIALS	SOFT PASTE	HEAVY PASTE
Dutch Boy white-lead	50 pounds	50 pounds
Dutch Boy Lead Mixing Oil	1 1/2 gallons	1 1/2 gallons
Dutch Boy wall primer	3 gallons	3 gallons

The above formula makes 6 gallons of paint which covers about 800 square feet per gallon, one coat.

5. PAINTING INTERIOR PLASTER

- (Here list and describe surfaces to be painted.)
- Before any paint is applied, plaster surfaces, either new or old, shall be made clean and smooth.
- All cracks and holes shall be filled with plaster of paris or approved patching plaster. Large cracks before filling shall be opened up in dovetail shape clear to the lath and soaked with water. The filling plaster shall be leveled off even with the adjoining plaster surfaces, and when dry shall be sandpapered smooth.
- Walls that have been calcimined shall be washed until all calcimine is removed before applying any paint.
- Where new plaster to be painted is not properly aged, the surfaces shall be treated with a solution made by dissolving two pounds of zinc sulphate in one gallon of water. After the zinc sulphate solution has been applied, sufficient time shall be allowed for the plaster to dry before priming.
- All plaster not previously painted shall be primed with Formula No. 15 and shall receive two additional coats, using Formula No. 16 for the second coat and Formula No. (17, flat finish) or (18, semi-gloss finish) for the finishing coat. (Plaster previously painted does not require the priming coat.)
- If a gloss finish is wanted on interior plaster, specify a prepared enamel for the third or finishing coat.
- If colors other than white are to be used, the necessary tinting materials should be added to the last two coats of paint. Specifications of colors and where they are to be used as well as any instructions as to special decorative finishes should be stated here.)

FORMULA No. 15 Priming Coat—Interior Plaster *Dutch Boy wall primer

Dutch Boy wall primer covers about 800 square feet per gallon, one coat.

MATERIALS	SOFT PASTE	HEAVY PASTE
Dutch Boy white-lead	100 pounds	100 pounds
Dutch Boy Lead Mixing Oil	**4 to 5 gallons	**4 to 5 gallons

The above formula makes 7 to 8 gallons of paint which covers about 800 square feet per gallon, one coat.

*Dutch Boy wall primer should always be specified when walls are extremely porous or in an otherwise poor condition.

**The minimum amount of Lead Mixing Oil should be used when the maximum amount of hiding is wanted.

(11)

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FORMULA No. 16

Second Coat—Interior Plaster

MATERIALS	SOFT PASTE	HEAVY PASTE
Dutch Boy white-lead.....	100 pounds	100 pounds
Dutch Boy Lead Mixing Oil.....	^{**} 3 to 4 gallons	^{**} 3 to 4 gallons

The above formula makes 6 to 7 gallons of paint which covers about 800 square feet per gallon, one coat.

FORMULA No. 17

Third Coat—Interior Plaster
(Flat Finish)

MATERIALS	SOFT PASTE	HEAVY PASTE
Dutch Boy white-lead.....	100 pounds	100 pounds
Dutch Boy Lead Mixing Oil.....	^{**} 3 to 4 gallons	^{**} 3 to 4 gallons

The above formula makes 6 to 7 gallons of paint which covers about 800 square feet per gallon, one coat.

FORMULA No. 18

Third Coat—Interior Plaster
(Semi-Gloss Finish)

MATERIALS	SOFT PASTE	HEAVY PASTE
Dutch Boy white-lead.....	50 pounds	50 pounds
Dutch Boy Lead Mixing Oil.....	1½ gallons	1½ gallons
Dutch Boy wall primer.....	3 gallons	3 gallons

The above formula makes 6 gallons of paint which covers about 800 square feet per gallon, one coat.

MATERIALS
Dutch Boy white
Dutch Boy linseed
Pure turpentine
Dutch Boy liquid

The
coat

MATERIALS
Dutch Boy white
Dutch Boy linseed
Pure turpentine
Dutch Boy liquid

The
coat

6. PAINTING WOOD FLOORS

- (a) (Here list and describe surfaces to be painted.)
- (b) All wood floors shall be cleaned and sandpapered smooth before painting. If the old paint on a previously painted floor is in bad condition, it should be removed by planing, scraping or by the use of a liquid paint remover.
- (c) All work shall be allowed to dry for at least four days before the next coat is applied.
- (d) All floors not previously painted, or from which the paint has been removed, shall be primed with Formula No. 19 and shall receive two additional coats, using Formulas No. 20 and 21, respectively.
- (e) All floors previously painted shall be touched up on worn places using Formula No. 20, after which they shall receive two coats, using Formulas No. 20 and No. 21, respectively.
- (f) (Specifications of colors should be stated here. The necessary tinting materials should be added to the last two coats.)
- (g) Underside of all new porch floors and the tongued and grooved edges of the boards shall receive one coat, using Formula No. 22.

^{**}The minimum amount of Lead Mixing Oil should be used when the maximum amount of hiding is wanted.

MATERIALS
Dutch Boy white
Dutch Boy linseed
Pure turpentine
†Floor varnish
Dutch Boy liquid

The
coat

^{**}If the floor is of b
^{**}When boiled oil is
†If the floor is exp

SECTION B

PAINTING SPECIFICATIONS covering the use of DUTCH BOY PRODUCTS • • SECTION B

FORMULA No. 19

Priming Coat—Wood Floors

MATERIALS	SOFT PASTE	HEAVY PASTE
Dutch Boy white-lead.....	100 pounds	100 pounds
Dutch Boy linseed oil.....	3 gallons	3 gallons
Pure turpentine.....	2 1/4 gallons	2 1/2 gallons
Dutch Boy liquid drier.....	*1 pint	*1 pint

The above formula makes 8 1/4 gallons of paint which covers about 600 square feet per gallon, one coat.

FORMULA No. 20

Second Coat—Wood Floors

MATERIALS	SOFT PASTE	HEAVY PASTE
Dutch Boy white-lead.....	100 pounds	100 pounds
Dutch Boy linseed oil.....	1/2 gallon	1/2 gallon
Pure turpentine.....	2 1/4 gallons	2 1/2 gallons
Dutch Boy liquid drier.....	1/2 pint	1/2 pint

The above formula makes 6 1/4 gallons of paint which covers about 700 square feet per gallon, one coat.

FORMULA No. 21

Third Coat—Wood Floors

MATERIALS	SOFT PASTE	HEAVY PASTE
Dutch Boy white-lead.....	100 pounds	100 pounds
Dutch Boy linseed oil.....	1/2 gallon	1/2 gallon
Pure turpentine.....	1/4 gallon	1 gallon
†Floor varnish.....	1 gallon	1 gallon
Dutch Boy liquid drier.....	1/2 pint	1/2 pint

The above formula makes 5 1/4 gallons of paint which covers about 700 square feet per gallon, one coat.

*If the floor is of hard wood, use 1/2 gallon less linseed oil in this formula.

*When boiled oil is used, reduce the drier to 1/4 pint.

†If the floor is exposed to the weather, use spar varnish instead of a floor varnish.

FORMULA No. 22
Underside of Porch Floors

MATERIALS	SOFT PASTE	HEAVY PASTE
Dutch Boy white-lead.....	100 pounds	100 pounds
Dutch Boy linseed oil.....	3 gallons	3 gallons
Pure turpentine.....		1 quart
Dutch Boy liquid drier.....	1 pint	1 pint

The above formula makes 6 1/4 gallons of paint which covers about 600 square feet per gallon, one coat.

7. PAINTING CONCRETE FLOORS

- (a) New concrete floors shall be aged at least six months before being painted. If necessary to paint before that time, they may be aged artificially by washing with a solution of two pounds of zinc sulphate to a gallon of water.
- (b) Previously painted concrete floors shall be wire-brushed to remove all loose paint.
- (c) All work shall be allowed to dry at least four days before the next coat is applied.
- (d) Unpainted concrete floors shall be primed with Formula No. 23 and receive two additional coats, using Formula No. 24 for the second coat and finished as specified in Paragraph (e). (Previously painted floors do not require the priming coat.)
- (e) (Here specify whether floors are to be finished with floor enamel or waxed or varnished. If waxing or varnishing is specified, a third coat of paint mixed according to Formula No. 24 should first be applied.)
- (f) (The undercoat of paint should be brought to an approximate match with the desired finish coat color by the addition of the necessary tinting materials. Specifications of colors should be stated here.)

FORMULA No. 23
Priming Coat—Concrete Floors

MATERIALS	SOFT PASTE	HEAVY PASTE
Dutch Boy white-lead.....	100 pounds	100 pounds
Dutch Boy Lead Mixing Oil.....	4 to 5 gallons	4 to 5 gallons

The above formula makes 7 to 8 gallons of paint which covers about 200 square feet per gallon, one coat.

FORMULA No. 24
Second Coat—Concrete Floors

MATERIALS	SOFT PASTE	HEAVY PASTE
Dutch Boy white-lead.....	100 pounds	100 pounds
Dutch Boy Lead Mixing Oil.....	3 to 4 gallons	3 to 4 gallons

The above formula makes 6 to 7 gallons of paint which covers about 400 square feet per gallon, one coat.

*The minimum amount of Lead Mixing Oil should be used when the maximum amount of hiding is wanted.

(14)

8. PAINTING METAL

- (a) (Here list and describe metal surfaces to be painted.)
- (b) All metal surfaces shall be cleaned with petroleum solvents or by means of wire brushes or by means of sand blasting.
- (c) Galvanized iron, steel, or aluminum shall be cleaned with petroleum solvents.
- (d) All metal work shall be primed with a zinc-rich primer for each coat, writing name and number in the primer is wanted on exterior surfaces (Pages 6, 7), respectively second and third coat.

MATERIALS

Dutch Boy past
Dutch Boy raw
Pure turpentine
Dutch Boy liqu

The above
600 square
per gallon

This paint will
to the gallon

MATERIALS

Dutch Boy past
Dutch Boy lins
Dutch Boy lam
Pure turpentine
Dutch Boy liqu

The above
pounds per

*See Note A. Page

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B. PAINTING METAL

- (a) (Here list and describe surfaces to be painted.)
- (b) All metal surfaces before priming shall be cleaned thoroughly with steel scrapers, wire brushes or by means of sandblasting where necessary.
- (c) Galvanized iron, or all metal surfaces where solder fluids have been used, shall be carefully cleaned with petroleum spirits before any paint is applied.
- (d) All metal work shall receive three coats of paint as follows: (Here specify paint to be used for each coat; writing in the formulas if Dutch Boy paste red-lead is to be used, designating by name and number in the case of the Dutch Boy Liquid Red-Lead Paints. If a light-colored finish is wanted on exterior metal, specify for the second and third coat Formulas No. 2 and No. 3 (Pages 6, 7), respectively. If a light-colored finish is desired on interior metal, specify for the second and third coat, Formulas No. 16 and No. 17 (Page 12), respectively.)

FORMULA NO. 25
Priming Coat—Metal Surfaces
(Orange-Red)

MATERIALS	QUANTITIES
Dutch Boy paste red-lead	100 pounds
Dutch Boy raw linseed oil	1 7/8 gallons
Pure turpentine	1 1/2 pints
Dutch Boy liquid drier	1 1/2 pints

The above formula makes 4 1/4 gallons of paint which covers about 600 square feet per gallon, one coat. This paint weighs 26.1 pounds per gallon and contains 33 pounds of dry red-lead to the gallon of oil.

(or)

DUTCH BOY LIQUID RED-LEAD NO. 1
(Orange-Red)

This paint weighs 28 pounds per gallon, contains 33 pounds of dry red-lead to the gallon of oil and covers about 600 square feet per gallon, one coat.

FORMULA NO. 26
Second Coat—Metal Surfaces
(Light Brown)

MATERIALS	QUANTITIES
Dutch Boy paste red-lead	100 pounds
Dutch Boy linseed oil	1 7/8 gallons
Dutch Boy lampblack	3/4 pint
Pure turpentine	1 1/2 pints
Dutch Boy liquid drier	1 1/2 pints

The above formula makes 4 1/4 gallons of paint which weighs 25.9 pounds per gallon and covers about 600 square feet per gallon, one coat.

(or)

DUTCH BOY LIQUID RED-LEAD NO. 6
(Light Brown)

This paint weighs 26.8 pounds per gallon and covers about 600 square feet per gallon, one coat.

*See Note A. Page 16.

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FORMULA No. 27
Third Coat Metal Surfaces
(Black)

MATERIALS	QUANTITIES
Dutch Boy paste red-lead	25 pounds
Dutch Boy lampblack	1 1/2 gallons
Dutch Boy prussian blue	1/2 gallon
Dutch Boy linseed oil	2 1/2 gallons
Pure turpentine	3 pints
Dutch Boy liquid drier	3 pints

The above formula makes 6 gallons of paint which weighs 11.6 pounds per gallon and covers about 700 square feet per gallon, one coat.

(or)

DUTCH BOY LIQUID RED-LEAD No. 5
(Black)

This paint weighs 11.6 pounds per gallon and covers about 700 square feet per gallon, one coat.

Note A. The red-lead priming coats offered in these specifications are mixed on the basis of 35 pounds of dry red-lead to the gallon of linseed oil. Experience has shown that a primer of this composition gives maximum durability and service, particularly where exposure conditions are severe as in warm, moist climates or near the seacoast.

If, however, exposure conditions are not so severe it is frequently possible to use a lighter weight primer containing a lower percentage of pigment and secure perfectly satisfactory results.

For this purpose, National Lead Company offers Pure Red-Lead Paint No. 25 and Pure Red-Lead Paint No. 16. Both are 100% pure red lead paints, the former mixed on the basis of 35 pounds of dry red lead to one gallon of vehicle, the latter on the basis of 16 pounds of dry red-lead to one gallon of vehicle.

B-A. PAINTING METAL WHEN QUICK DRYING IS REQUIRED

Whenever conditions demand quick drying Dutch Boy Quick Drying Red-Lead Primer should be specified.

Dutch Boy Quick Drying Red Lead Primer is a straight red lead paint weighing 19.3 pounds to the gallon. Its quick drying properties are obtained through the use of a synthetic resin vehicle. It dries by recoating in from two to six hours. It is specially adapted for use in painting ships, water tanks and other equipment which cannot be conveniently kept out of service for an extended period.

Dutch Boy Quick Drying Red Lead Primer dries to a hard, firm, yet elastic film, uniform in thickness. It adheres tightly to metal, holds well the paint coats applied over it, and will stand severe rubbing. On exposure, it is resistant to the softening action of water. It may be used for all coats. For inspection purposes succeeding coats can be tinted to brown by the addition of from 1/4 to 1/2 pint of lampblack per gallon. If the proportion is increased beyond 1/2 pint to a gallon, the lampblack should be ground in Japan.

The price of paints and other materials is subject to change without notice. In the only log which the product

Paint is specified and better the common what the and used maximum

So it is better into selection of

That years, as instances of wrong method arrested becomes a

This statement situations that may are rendered

White the architect white-lead For

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The Why of Good Paint

The preceding specifications are based not only on our own constant testing of paints and painting methods under actual service conditions but also upon the practical knowledge and experience of skilled painters. But no matter how carefully worked out they may be, the usefulness of these specifications to any particular individual depends chiefly on his acceptance of white-lead and red-lead as satisfactory paints for the job he is considering.

In other words, the specifications represent standard practices and it seems only logical to devote a portion of this booklet to a discussion of the facts upon which the recommendations are founded. In this way the picture will be complete. It will include the "why" as well as the "how" of specifying Dutch Boy paint products.

EXTERIOR PAINTING

Paint is specified for exterior surfaces to bring about a combination of benefits including preservation and better appearance. The exterior surfaces for which it is fittingly specified include practically all the common building materials . . . wood, concrete, brick, stucco, stone, metal. But no matter what the purpose nor what the surface, the man who pays the bill wants the paint that is specified and used to function longer than any other paint that might have been used. In short, he wants maximum paint life and, usually, minimum paint cost.

So it becomes the problem of those responsible for the specifications to merge these two requirements into realization. This can be done and has been done on numberless occasions through the selection of white-lead.

That is to say—white-lead has a long, proved background of practical use behind it. It takes years, as a rule, to prove whether a paint or a painting method is sound. There are plenty of instances where trouble has developed ten years after the wrong materials were employed or the wrong method followed. But white-lead has been used for many generations. Its qualities have been attested by thousands upon thousands of actual paintings and repainting. Its performance thus becomes a matter of past knowledge and not a matter for future speculation.

This is why we can say that white-lead is a safe paint to specify and a safe paint to use, a statement which remains true not only under ideal laboratory conditions but in practical, everyday situations as well. In other words, white-lead is a paint with a generous margin of safety. Factors that may be beyond the specifiers control, such as poor weather conditions at the time of painting, are rendered less hazardous. Of course, such unfortunate happenings do affect the life and the appearance of any paint job but the more foolproof the paint, the less the damage.

White-lead has another important characteristic, too. It permits a custom-made paint. Just as the architect selects the building material that fits his purpose, so the architect or his painter, with white-lead, selects the mixture that fits the conditions at the time of painting.

For example, all building materials are not the same in the way they take paint. Not even all

QUANTITIES

25 pounds
1 1/4 gallons
1/2 gallon
2 1/4 gallons
3 pints
3 pints

• • • • • which weighs 11.6 pounds
• • • • • per gallon, cost cost.

• • • • • No. 5

• • • • • per gallon and
• • • • • per gallon, cost cost.

These specifications are mixed on the basis of all experience has shown that a primer of service, particularly where exposure conditions are severe.

It is frequently possible to use a lighter pigment and secure perfectly satisfactory

Pure Red-Lead Paint No. 15 and Pure Red-Lead paint, the former mixed on the basis of 25 pounds of dry red-lead, the latter on the basis of 16 pounds of dry red-lead.

PAINTING IS REQUIRED

Dutch Boy Quick-Drying Red-Lead Primer should

is a straight red-lead paint weighing 19.3 pounds per gallon. It is obtained through the use of a synthetic resin which is specially adapted for use in paint-equipment which cannot be conveniently kept out of service

Primer dries to a hard, firm, yet elastic film, uniform in color, holds well the paint coats applied over it, and will stand constant to the softening action of water. It may be used for succeeding coats can be tinted to brown by the addition of color. If the proportion is increased beyond 1/2 pint to a gallon in Japan.

PAINTING SPECIFICATIONS COPYING FOR BOY BY DUTCH BOY PRODUCTS



This photograph of the siding on a double house tells its own story about paint. The owner of the left side of this double house "saved" money on the initial cost of his paint job. He paid \$16 less than the owner on the right side who got a white-lead job. Both jobs were two years old when the picture was taken. The "cheap" paint job is through. The white-lead job is still good for plenty of service.

wood is alike. Neither do all exposures of a building affect the paint to the same extent. Nor are all climatic conditions equal in their influence on paint life and paint appearance. The foregoing specifications give proper formulas for all surfaces under average conditions and if followed to the letter should produce a long-wearing paint job that will retain its original fine appearance for a long time. But the competent painter will know from his experience what slight variations to make in the proportions of vehicle and pigment that will result in even longer life for the paint film. That's the advantage of hiring a skilled painting craftsman who knows how to use his head as well as his brush. It is a plus for the owner and a safeguard for the architect.

Another fact that should never be forgotten is that today's painting governs tomorrow's repainting. Paint must wear out . . . must be replaced sooner or later. How soon and how inexpensively depends on what is done now.

It is a simple, arithmetical truth that the longer repainting can be postponed safely, the less the cost per year for the original painting. It is likewise true that the cost of the repainting will be much less if the old surface requires no more preparation than dusting off loose dirt. That's all a white-lead job needs. White-lead wears down slowly and evenly . . . an action known as "chalking." One of its great advantages is that the surface is smooth and unbroken when it is time to repaint.

Any other type of paint wear, such as cracking and scaling, resulting in spotty disintegration of the paint, requires complete removal of what is left of the old film. This is a laborious task and a costly one—doubly irritating to the owner because it would have been unnecessary if the proper materials had been specified at the time the original paint was applied.

Whenever cost enters into the picture it is important to remember that the only painting cost worth considering is the cost per year. That's not saying that one should not "buy right" both the materials and the labor for the painting job. It is simply saying that neither the materials nor the labor should be bought because of "cheapness."

(18)

PAINTING SPECIFICATIONS

It is easy to figure why. A and low quality is either or b between paintings and thus it materials because not even the to justify its low price.

Take the case shown photo but it is especially apt because but that exposure and surface house saved money on the first a white-lead job. When the photo which owner got his money's story every time.

The specifications contain steel surfaces. It requires little continual paint protection. From metal and once started rust not months can seriously endanger.

Pure red-lead paint has the of the surface it covers. Red-lead is in the preservation of wood have had red-lead protection.

The long wear and resultant arguments we have used to justify this standard metal protecting the owner and the structure its type and formulation to fit the

To properly choose an interior job—probably on most jobs—

In this respect, white-lead the same effect—an effect which generations this quality has made orate decorations of church interiors and public buildings, the best

White-lead must necessarily interiors for which it is used.

Another factor related to a tint of color be employed to design. White-lead, being a cast with Dutch Boy colors in oil effect they want, not just some

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PAINTING SPECIFICATIONS covering the use of DUTCH BOY PRODUCTS

It is easy to figure why. A paint job is made up of only these two elements, material and labor, and low quality in either or both is bound to decrease the life of the paint job, shorten the time between paintings and thus increase the cost per year. It is particularly risky to skimp on the materials because not even the most skilled applicator can make inferior paint stick long enough to justify its low price.

Take the case shown photographically on the opposite page. It is one of many that can be cited but it is especially apt because the two jobs are side by side on the same house. There is no question but that exposure and surface conditions were the same. The owner of the left side of this double house saved money on the first cost of the paint job. He paid \$16 less than the other owner who got a white-lead job. When the pictures were taken both jobs were 2 years old. It is perfectly evident which owner got his money's worth and why he got it. Paint wear and cost per year tell the final story every time.

The specifications contained in this booklet also cover the use of red-lead for painting iron and steel surfaces. It requires little argument to prove that exposed surfaces of iron and steel need continual paint protection. Frequently, a few hours in the weather is enough to start rust on bare metal and once started rust never rests. Rust spots soon develop into damage spots and in a few months can seriously endanger an expensive structure.

Pure red-lead paint has the faculty of sticking so tight to metal that it becomes almost a part of the surface it covers. Red-lead has long been as prominent in the protection of metal as white-lead is in the preservation of wood and other surfaces. Most of the important structures in the world have had red-lead protection ever since the metal left the mill.

The long wear and resultant economy of Dutch Boy red-lead is a matter of record and the same arguments we have used to justify the specifying of white-lead apply with equal truth and force to this standard metal protecting paint. It is always to the best interests of the architect or engineer, the owner and the structure itself to specify red-lead paint—Dutch Boy red-lead paint—of proper type and formulation to fit the job to be done.

INTERIOR PAINTING

To properly choose an interior paint the standard for judging it must first be determined. On many jobs—probably on most jobs—the standard is appearance.

In this respect, white-lead is really in a class by itself. There is no other paint that gives quite the same effect—an effect which can best be described as a solid, rich beauty of finish. For many generations this quality has made white-lead the unquestioned choice for fine interiors. The elaborate decorations of church interiors, the impressive treatments of the important rooms in hotels and public buildings, the best effects in homes, all have been achieved with white-lead paint.

White-lead must necessarily bring this same beauty of finish, this same fine appearance to all interiors for which it is used.

Another factor related to appearance is color. So often it is imperative that an exact shade or tint of color be employed to effect the architect's purpose or to fit in with a particular structural design. White-lead, being a custom-made paint mixed on the job, can be tinted to just the right color with Dutch Boy colors in oil. The architect, the decorator and the owner will all receive the effect they want, not just something approximately like it.

PAINTING SPECIFICATIONS covering the use of DUTCH BOY PRODUCTS

On the other hand, the standard for judging the value of an interior paint might be durability. That is, the type of durability that will successfully withstand cleaning with soap and water as well as the ordinary wear and mechanical abrasion to which most interior surfaces are subject.

Here again, white-lead mixed as recommended in these specifications has unique advantages. The resulting flat paint produces a thoroughly "cleanable" surface—one that can be scrubbed as frequently as necessary to keep it in good condition. It is a flat paint that is daily demonstrating its durability under actual service conditions. The test illustrated on this page shows in graphic form just how much abuse this paint will take.

No interior wall surface is likely to be soiled with all of the materials used in this test, but you can expect the same "washableness," the same durability on every job done with Dutch Boy.

There are times, just as in the specifying of outside paint, when cost becomes the all-important factor. Even on this basis white-lead has nothing to fear if all the phases of cost are considered. There are interior "flats" sold for a lower price per gallon, of course, but application has a vital influence on interior painting costs. Dutch Boy goes on so easily and levels out so smoothly that a man can paint more surface per hour. Thus the labor charge per square foot applied is lowered. Also, Dutch Boy white-lead covers at least 800 square feet per gallon on smooth plaster which makes it an economical paint from the standpoint of the quantity needed for the job.

So, no matter what the yardstick for selecting an interior paint may be, Dutch Boy white-lead will work out to the advantage of the man who foots the bill. It is a flat paint that will stand out against the field in any reasonable and fair test and one that the architect can specify with perfect confidence both as to its immediate satisfaction and its future performance.



This test illustrates the remarkable sturdiness of white lead flat paint. For a full week, a Dutch Boy painted panel was tacked down on the floor in front of a busy doorway—walked over by hundreds of shuffling feet. Then it was taken up and unceremoniously rubbed with everything that ordinarily soils walls—pencil marks, grease smudges, shoe blacking, mercury chrome, lipstick and ink. After that, this dirty, defaced, mis-treated surface was washed with a sponge, washing powder and cold water. The photograph on the right clearly shows the result. The panel cleaned perfectly without damage to the paint.

PAINTING SPECIFICATIONS

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The Dutch Boy Line

A complete line of paint products is marketed under the Dutch Boy trademark. It includes nearly all the materials needed for painting any type of surface—interior or exterior.

To the architect or engineer this Dutch Boy line offers a definite check on the quality of every brushful of paint. Inferior materials—even those used as sparingly as colors in oil or liquid drier—sometimes impair a paint's protective or decorative qualities to a degree out of all proportion to their volume percentage.

Each Dutch Boy product is of the same high quality as the basic materials—white-lead and red-lead. Each is a tested product—tested in the laboratories of science and of practical experience. Although intended primarily for use together, each also stands, on its own merit, as the finest material available for the purpose.

The full Dutch Boy line simplifies the preparation of specifications—they can be made "Dutch Boy" throughout. Furthermore, the presence on the job of their brilliant orange and black containers facilitates inspection.

WHITE-LEAD

"Good paint's other name" is a statement often made in referring to Dutch Boy white-lead. But it is more than just a slogan. Actually it expresses the experience of thousands of architects, owners and master painters who have specified or applied Dutch Boy white-lead on many thousands of buildings—who have watched Dutch Boy withstand years of weather exposure—who have seen Dutch Boy beautify the finest interiors.



Today, white-lead is accepted as the standard in quality paint. The specification of it is recognized as an assurance of a quality paint job—one that protects both an owner's property and his pocket-book.

Dutch Boy white-lead is available in two forms—heavy paste and all purpose soft paste. While the two are identical in quality and make the same amount of paint, all purpose soft paste contains a small quantity of pure gum spirits of turpentine which makes it more convenient to use. It mixes easily and quickly. It saves the time and labor of the painter.

Both forms of white-lead can be used for all jobs on interior as well as exteriors—for flat or eggshell as well as gloss finishes—are sold in 100 lb. steel kegs and 25 and 12½ lb. steel pails.

NLI 002002

LINSEED OIL

The vehicle is an important part of any paint film. Its function is to bind the pigment particles together. It determines the drying qualities of the paint and, to a considerable extent, its ease of application. Experience has shown that from all these points of view, linseed oil is the ideal paint vehicle.

Dutch Boy linseed oil is clear, uniform and well settled. Since it is easy to adulterate linseed oil but difficult to detect the adulteration, the safest procedure in preparing specifications is to specify a brand of known purity and quality.

Three types of strictly pure linseed oil—raw, boiled and standoil type are marketed under the Dutch Boy trademark.

Dutch Boy raw linseed oil is the filtered oil obtained by crushing the finest grade of flaxseed. Besides filtering, the oil is permitted to stand for a long period so that impurities may settle out.

Dutch Boy boiled linseed oil is oil which has been put through a heating process during which certain drying compounds are added. It is thicker than raw oil and hastens the drying action of paint.

Dutch Boy Standoil Type linseed oil is pure linseed oil which is treated by a special process. It is called "Standoil Type" because it is similar to the bodied oil made by the Dutch and long employed in preparing high-grade enamels. Its use gives improved gloss and better leveling qualities to white lead paint, reduces the tendency toward dirt collection and helps prevent paint troubles due to absorbent, weathered surfaces.

All three types are sold in 1 gallon cans and 5 gallons drums—sealed at the factory as a guarantee of purity.



LEAD MIXING OIL

Dutch Boy Lead Mixing Oil is a companion vehicle to Dutch Boy linseed oil. It was developed for a particular purpose—to provide an oil which would mix perfectly with white-lead for the sealing and decoration of all porous surfaces—plaster, wallboard, concrete, brick and stucco—whether on the interior or exterior.

A special virtue of white-lead paint made with Lead Mixing Oil is its sealing quality. It stops suction on plaster and wallboard and on exterior stucco, concrete and brick. It fills up hole firecracks and forms a film that is resistant to water and moisture penetration.

It dries to a soft flat finish. The surface is free from brushmarks or shiners. It retains its good appearance, despite frequent washing and every day wear and tear.

Paint made from Lead Mixing Oil has the easy working qualities characteristic of white-lead and linseed oil. It tints and brushes out easily. It hides well and spreads far. It produces a solid, durable finish—and gives real economy.

Dutch Boy Lead Mixing Oil is available in sealed 1 gallon cans and 5 gallon drums.



(22)

COLORS

Colors in oil are concentrating white paint. Some are natural compounds.

For accurate tinting, a clear tone. This facilitates the paint already applied and should have a high tinting quantity of color is needed pigment particles should be even coloring and rapid dis-

Care in the selection of backed by over seventy-five (50) guarantee that Dutch these qualities.

Dutch Boy colors in oil white-lead paint. They come mixed into the paint without. There is no lumping or and labor for the painter.

There is a wide range. They come in airtight, from 1/2 pint cans and in 5-gallon

WALL

Dutch Boy wall primer is combined. In one coat it is the most absorbent wall be spots and smudge surfaces.

Dutch Boy wall primer and penetrates the surface so. It makes a perfect four lead flat. It requires no sp-

Dutch Boy wall primer cans and 5 gallon kits.

LIQUID

Drier that acts too rapid wrinkling. If it works too coloring the job.

Dutch Boy liquid drier ally for use with Dutch neither too fast nor too slow of the best known composition about efficient drying. The exactly the same, uniform produced. It will not curd!

It is sold in 1/2 pint, pint

LEAD MIXING OIL

Its function is to bind the pigment particles in the paint and, to a considerable extent, its ease of use.

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gallons drums—made at the factory as a guarantee

LEAD MIXING OIL

Lead Mixing Oil is a companion vehicle to Dutch lead oil. It was developed for a particular purpose— as an oil which would mix perfectly with white-lead and the sealing and decoration of all porous surfaces— wallboard, concrete, brick and stucco—whether on interior or exterior.

Special virtue of white-lead paint made with Lead Mixing Oil is its sealing quality. It stops suction on plaster wallboard and on exterior stucco, concrete and brick. It fills fine firecracks and forms a film that is resistant to moisture penetration.

It gives to a soft flat finish. The surface is free from cracks or shiners. It retains its good appearance, despite frequent washing and every day wear and tear.

Paint made from Lead Mixing Oil has the easy working characteristic of white-lead and linseed oil. It tints and mixes out easily. It hides well and spreads far. It gives a solid, durable finish . . . and gives REAL economy. Dutch Boy Lead Mixing Oil is available in sealed cans and 5 gallon drums.



COLORS IN OIL

Colors in oil are concentrated color pigments used for tinting white paint. Some are natural earths. Others are chemical compounds.

For accurate tinting, colors in oil should have a true clear tone. This facilitates the matching of color chips or of paint already applied and insures pure clean tints. They should have a high tinting strength so that a minimum quantity of color is needed to produce a given tint. The pigment particles should be of an extreme fineness to insure even coloring and rapid dispersion in the paint.

Care in the selection of pigments and thorough grinding (backed by over seventy-five years of color-making experience) guarantee that Dutch Boy colors in oil possess all these qualities.

Dutch Boy colors in oil are specially made for tinting white-lead paint. They come in a soft paste form and can be mixed into the paint without thinning. They disperse rapidly. There is no lumping or streaking. Thus they save time and labor for the painter.

There is a wide range of colors in the Dutch Boy line. They come in airtight, friction top 1 gallon, 1 quart and 1/2 pint cans and in 2-ounce tubes.



WALL PRIMER

Dutch Boy wall primer is the ideal sealer and paint coat combined. In one coat it not only stops the suction of even the most absorbent wall board but it also hides discolored spots and smudgy surfaces.

Dutch Boy wall primer works easily under the brush and penetrates the surface sufficiently to give proper anchorage. It makes a perfect foundation for later coats of white-lead flat. It requires no special thinners or special colors.

Dutch Boy wall primer is sold in 1 quart and 1 gallon cans and 5 gallon kits.



LIQUID DRIER

Drier that acts too rapidly may cause skin-drying and wrinkling. If it works too slowly, dirt and dust collect, discoloring the job.

Dutch Boy liquid drier is a dependable drier made especially for use with Dutch Boy white-lead. Its action is neither too fast nor too slow. It is an unusually strong drier of the best known composition—properly balanced to bring about efficient drying. The contents of every container are exactly the same, uniform in strength and uniform in results produced. It will not curdle or discolor the paint.

It is sold in 1/2 pint, pint, quart and gallon cans.

NLI 002004

RED-LEAD

Red-lead paint is the standard coating for the protection and preservation of iron, steel and other metal surfaces. No other paint thus far developed, either in the laboratory or the field, has proved to be its equal for this purpose. Properly mixed and applied, it remains for many years as an unbroken, closely adhering coating, sufficiently elastic to follow the movement of the metal surface as it expands and contracts with temperature changes. This extreme durability is not only desirable from the technical standpoint, but it makes red-lead by far the most economical paint for the permanent maintenance of large or small metal structures of all types.

Just as pure red-lead excels other paint materials as a protection for metal, so does highly-oxidized red-lead—that is, red-lead containing more than 97% Pb_2O_3 —excel other red-leads with a lower-grade red-lead content. Paint made from highly oxidized red-lead has better keeping qualities. It is easier to apply and has a greater spreading capacity. It produces a uniform film of greater density and thus is more durable and more resistant to destructive atmospheric influences.

Only this better type of red-lead, containing more than 97% Pb_2O_3 , is used in the paste or ready-to-use red-lead paints sold under the Dutch Boy trademark.

Dutch Boy paste red-lead is highly oxidized red-lead ground in pure linseed oil. It is sold in 100-lb. kegs, 50, 25 and 12½ lb. steel pails.

Dutch Boy Liquid Red-lead No. 1 (orange red) is a heavy-service ready-to-use paint mixed on the basis of 33 lbs. of dry red-lead to a gallon of linseed oil. It is unexcelled for all metal surfaces exposed to the weather and especially for surfaces that have to withstand extreme exposure conditions. Sold in 20-gallon drums, 5 gallon kits and quart and gallon cans.

Dutch Boy Liquid Red-lead No. 6 (Light Brown) is similar to No. 1 except for the addition of a small amount of carbon black. It was designed for use as a second coat, its light brown color facilitating inspection. Sold in 20-gallon drums, 5 gallon kits and gallon cans.

Dutch Boy Liquid Red-lead No. 7 (Dark Brown) is similar to No. 6 but contains more carbon black. It may be used either as a second coat or a finishing coat. Sold in 20-gallon drums, 5 gallon kits and gallon cans.

Dutch Boy Liquid Red-lead No. 5 (Black) is a long-oil black paint designed for finishing coat purposes. It has better drying properties than are usually found in paints containing a large volume of carbon black. It is especially valuable as a finish coat in industrial localities where soot and gas in the atmosphere result in an immediate discoloration of light-colored paints. Sold in 30 gallon drums, 5 gallon kits and gallon cans.

Dutch Boy Quick-Drying Red-Lead Primer is a special type of red-lead paint designed for use when the available drying time is short. It dries for recoating in from two to six hours, may be painted over the same day if necessary. It contains nothing but pure highly-oxidized red-lead ground in a synthetic resin vehicle. In addition to its quick-drying properties, this primer has excellent protective qualities. It adheres tightly to metals, is elastic and resistant to water and abrasion. It holds well any paint applied over it. It can be used for either brush or spray application and is self-leveling, a feature which produces a film of very uniform thickness. Sold in 20 gallon drums, 5 gallon kits and gallon cans.





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HOW TO INSURE BEAUTY, DURABILITY AND ECONOMY ON



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