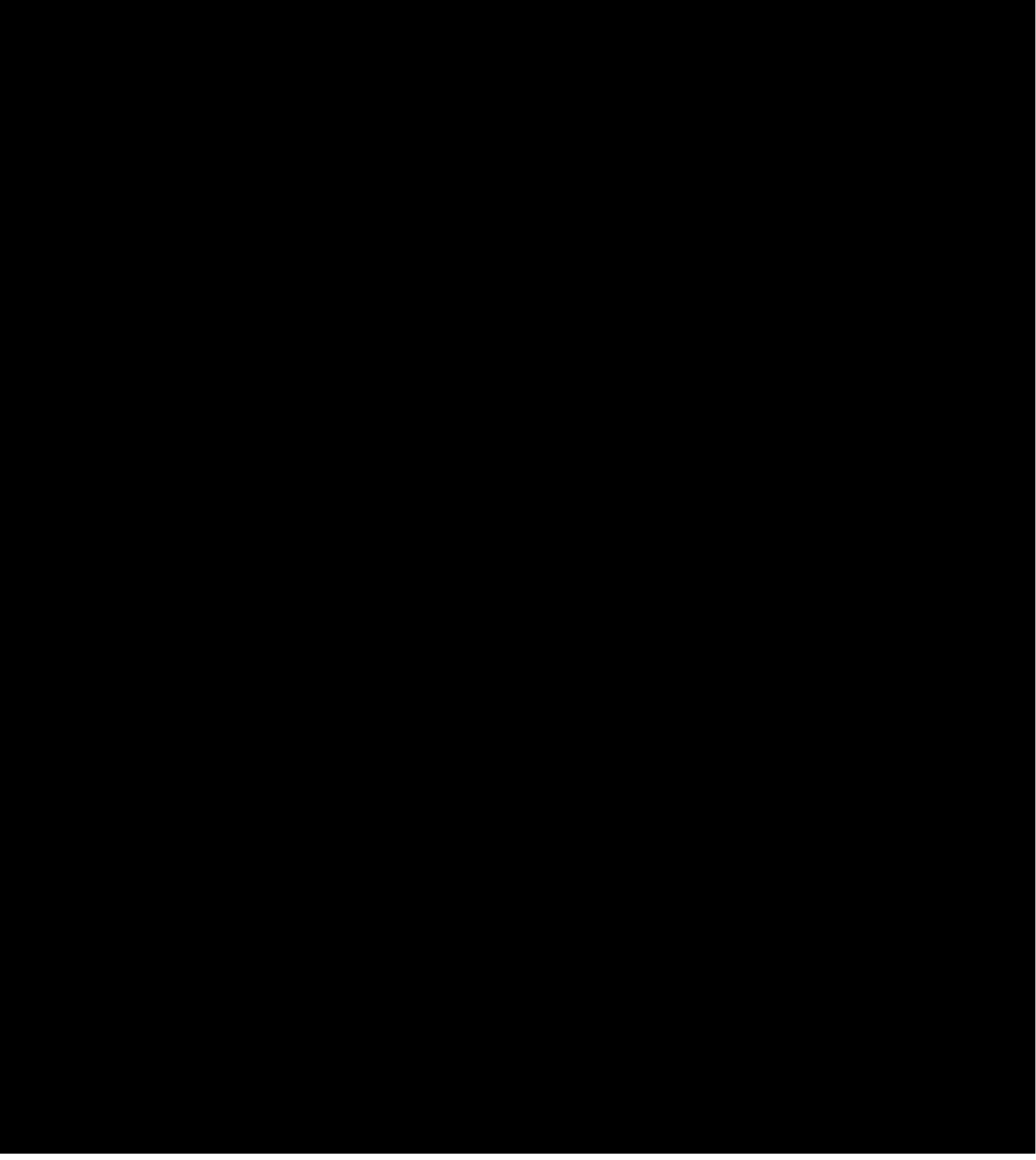




NATIONAL LEAD COMPANY

Paint Materials for the Protection and Decoration of Wood, Plaster, Masonry and Metal

NEW YORK, N. Y., 111 Broadway
BOSTON, MASS., NATIONAL-BOSTON LEAD COMPANY, 800 Albany Street
BUFFALO, N. Y., 116 Oak Street
CHICAGO, ILL., 900 West 18th Street
PHILADELPHIA, PA., JOHN T. LEWIS & BROS. Co., Widener Building

CINCINNATI, OHIO, 659 Freeman Avenue
CLEVELAND, OHIO, 820 West Superior Avenue
ST. LOUIS, MO., 722 Chestnut Street
SAN FRANCISCO, CAL., 235 Montgomery Street
PITTSBURGH, PA., NATIONAL LEAD & OIL CO., 316 Fourth Avenue

Products

WHITE LEAD (Dry and in Oil); RED LEAD (Dry, in Oil, Liquid); LINSEED OIL (Raw and Boiled); FLATTING OIL.

White Lead for General Painting

Gloss paint made of pure white lead and pure linseed oil has long been the standard protective and decorative coating for exterior wood, brick, stone, concrete and stucco. It forms a tough, tenacious film that does not crack and scale but wears down smooth and even, leaving the surface ready for repainting without expensive preparation. Being mixed to order, lead-and-oil paint can be adapted to meet all exposure, surface and weather conditions. It can also be varied in color from white to any desired shade or tint by the addition of the proper colors-in-oil.

White lead of our manufacture is guaranteed to be pure white lead ground in pure linseed oil. It is obtainable in the regular or heavy paste form and also in soft paste form. (The soft paste contains about $\frac{3}{4}$ gal. more oil to the 100 lbs. of paste than does the heavy paste. This makes it softer or easier to thin, saving the user time and labor in mixing.)

Both the heavy paste and the soft paste are sold under our Dutch Boy and Carter brands in 100-lb. steel kegs and 50, 25 and 12½-lb. steel pails.

Dutch Boy linseed oil is pure, clear, carefully filtered and well settled. Sold in 1 and 5-gal. sealed cans bearing the Dutch Boy trade-mark. Our linseed oil is also obtainable in half barrels and barrels.

Flat Finishes for Interiors

Most inside painting nowadays is done in either flat or eggshell gloss finishes, such as are obtainable by reducing heavy paste white lead to brushing consistency with Dutch Boy flattening oil.

When white lead is thinned with flattening oil an interior paint results which possesses many points of excellence. It has good working and hiding qualities. It is easy to apply. It levels itself nicely leaving no brush marks. It sets slowly, so that large areas can be worked without risk of laps or joints.

Some of the finest interior decorating jobs in the country have been done with white lead and flattening oil paint. The beauty and charm of the finish it gives, the all-around economy of this paint and its thorough washability recommend it for all types of interior work—plain wall finishes, sponge-mottle and crumpled roll effects, the tiffany, etc.

The washability of a white lead and flattening oil finish is a point that should not be overlooked. This paint can be washed without injury not only a few months after it is applied but throughout its long life. Its pigment, white lead, is insoluble in water and remains so, not changing chemically under normal expo-



TRADE-MARK

sure indoors. Thus there is no unsightly streaking due to washing off of some of the pigment. Dutch Boy flattening oil is sold in quart, gallon and 5-gal. cans sealed at the spout.

Red Lead for Metal

Pure white lead, properly thinned to suit the special conditions under which the paint is to be used, gives the best protection for wood and other building materials except metal. When it comes to the painting of metal, white lead (though good for the purpose) must yield first place to pure red lead.

The chief requirements of a protective coating for metal are that it should have the ability to stick firmly to metal and that it should keep moisture, which combined with air forms rust, from getting through. The paint must also be able to resist the destructive action of atmospheric gases, acid from the surface soil, and salt spray near the seacoast.

Paint made of pure red lead meets these requirements. It is insoluble in water, unaffected by ordinary atmospheric gases, adheres closely to metal, and is a true rust preventive.

A great advance in the quality of red lead was made when Dutch Boy red lead was perfected. It is a more highly oxidized product than old style dry red lead and is sold in paste form, ready for use after the addition of more linseed oil. Its exceptionally high true red lead content and the fineness of its pigment particles insure a paint of excellent brushing qualities, good coverage and extreme durability. Sold in 100-lb. steel kegs and 50, 25 and 12½-lb. steel pails.

The same highly oxidized red lead can also be had in liquid form. The liquid product is called Dutch Boy liquid red lead and is ready for use. It comes in natural red lead color, light and dark brown, light and dark green, and black. Sold in 1-gal. cans and 2½-gal. kegs.

We also make dry red lead for painting purposes.

General Painting Specifications

Following are general specifications for the painting of interior and exterior surfaces:

Preparation of Surface—(1) Woodwork—New woodwork shall be smoothed off with sandpaper where required and dusted clean before priming. From old woodwork which has been painted before, all loose paint, dirt and dust shall be removed. Wash off with benzine or turpentine all parts where liquid paint remover has been used.

Before priming new woodwork, all knots and sappy streaks shall receive one coat of pure orange shellac, brushed out thin. After the priming coat is thoroughly dry, putty up all knot holes, dents, cracks, and other defects with putty composed of white lead and whitening.

(2) **Plaster**—Before applying any paint to plaster, either new or old, see that the plaster is clean and smooth. Fill all cracks with approved patching plaster. Where new plaster to be painted is not properly aged, it shall be treated before priming with a solution made by dissolving 2 lb. of zinc sulphate in 1 gal. of water.

(3) **Brick and Stone**—New brickwork shall not be primed until dry. At least 2 or 3 days of dry weather should precede painting. If any mortar has become loose or washed out, repoint all such damaged places with mortar or portland cement before applying paint. After priming correct small defects in the surface with putty.

(4) **Stucco and Concrete**—Stucco or concrete should be allowed to stand and dry a year before paint is applied. If painted within a year, it shall be aged artificially by washing with a solution made by dissolving 2 lb. of zinc sulphate in 1 gal. of water, or with carbonic acid water.

(5) **Metal Work**—Iron, steel and other metal work shall be cleaned thoroughly of all loose paint, dirt, oil, grease, rust, scale and other foreign matter before paint is applied. This cleaning should be done with scrapers and wire brushes. Where soldering fluids have been used, the surface shall be scrubbed carefully with sand soap and water and dried thoroughly before paint is applied.

The Paint and Its Application—(6) **Designation of Paint to be Used**—All woodwork, plaster, brick, stone, concrete and stucco which are to be painted, shall be painted with Dutch Boy or Carter white lead, Dutch Boy flatting oil, pure linseed oil, pure turpentine and pure drier mixed according to the formulas herein-after designated for each kind of work. All metal shall be painted with NATIONAL LEAD COMPANY'S Dutch Boy red lead-in-oil, Dutch Boy liquid red lead, or pure dry red lead and pure linseed oil mixed according to formulas hereinafter given for each specific purpose.

(7) **Tinting Materials**—In producing tints and shades, John T. Lewis & Bros. Company colors-in-oil or those of equally high grade shall be used. If colors-in-oil are used in quantities large enough to affect the consistency of the paint, the quantities of thinners named in the formulas shall be increased in amount equal to one-half the weight of the tinting material.

(8) **Applying the Paint**—No exterior painting shall be done when rain or snow is falling, during fog, or until after dew or moisture which may be on the surface has completely disappeared. Painting done in winter weather shall only be done when the temperature is above 50° F. and when all surfaces are dry. All exterior work shall be allowed to dry from 2 to 4 days before the next coat is applied and at least 24 hours shall be allowed between coats on interior work.

(9) **Finishing Metal to Suit Color Scheme**—Where the color of red lead paint specified for metal work does not conform to color scheme, white lead-and-oil paint tinted as desired shall be applied over the red lead paint.

Formulas—The following white lead formulas take no account of tinting materials. See Paragraph No. 7 when adding colors to the formulas.

It will be noted that the formulas for painting exterior wood are on the basis of soft paste white lead as well as heavy paste white lead. For flat effects inside, the heavy paste is to be preferred, as the higher oil content of the soft paste will give more of a sheen to surfaces painted with it.

(10) **New Woodwork Outside**—Three coats of paint, mixed as follows, shall be applied to new unpainted woodwork outside:

(a) Priming coat		
Dutch Boy or Carter white lead	Heavy Paste 100 lb.	Soft Paste 100 lb.
Pure raw linseed oil	4 gal.	3 1/4 gal.
Pure turpentine	2 gal.	2 gal.
Pure drier	1 pt.	1 pt.
(b) Second coat		
Dutch Boy or Carter white lead	Heavy Paste 100 lb.	Soft Paste 100 lb.
Pure raw linseed oil	1 1/2 gal.	3/4 gal.
Pure turpentine	1 1/2 gal.	3/4 gal.
Pure drier	1 pt.	1 pt.
(c) Third coat		
Dutch Boy or Carter white lead	Heavy Paste 100 lb.	Soft Paste 100 lb.
Pure raw linseed oil	3 1/2 to 4 gal.	2 3/4 to 3 1/4 gal.
Pure turpentine	1 pt.	1 pt.
Pure drier	1 pt.	1 pt.

Note: The painter may exercise his discretion in using a larger or smaller quantity of oil according to whether the wood is oil absorbing, as white pine, poplar and basswood; or less permeable, as yellow pine, cypress, spruce and hemlock. The painter may, in rare cases, find it advisable to increase the quantity of turpentine, as in southern exposure to prevent blistering. Where this is done, a corresponding decrease should be made in the specified amount of linseed oil. If the wood is very resinous, such as cypress, prepare it for priming by brushing on a mixture of 1 pt. linseed oil, 1 pt. turpentine and 1 pt. drier.

(11) **Old Woodwork Outside**—Two coats of paint as follows shall be applied in repainting old woodwork outside:

(a) First coat		
Dutch Boy or Carter white lead	Heavy Paste 100 lb.	Soft Paste 100 lb.
Pure raw linseed oil	2 gal.	1 1/4 gal.
Pure turpentine	2 gal.	2 gal.
Pure drier	1 pt.	1 pt.
(b) Second coat		
Dutch Boy or Carter white lead	Heavy Paste 100 lb.	Soft Paste 100 lb.
Pure raw linseed oil	3 1/2 to 4 gal.	2 3/4 to 3 1/4 gal.
Pure turpentine	1 pt.	1 pt.
Pure drier	1 pt.	1 pt.

(12) **New Woodwork Inside**—Three coats of paint, mixed as follows, shall be applied to new unpainted woodwork inside:

(a) Priming coat		(b) Second coat	
Dutch Boy or Carter white lead (heavy paste)	100 lb.		100 lb.
Dutch Boy flatting oil	3 gal.		2 to 3 gal.
Pure raw linseed oil	3 gal.		None
Pure drier	1 pt.		None
(c) Third coat		(d) Third coat	
Dutch Boy or Carter white lead (heavy paste)	100 lb.	(Flat finish)	(Eggshell gloss finish)
Dutch Boy flatting oil	2 to 3 gal.		1 1/2 to 2 gal.
Pale varnish (suitable for enamel)	None		3/4 gal.

Note: As on outside wood, the painter may exercise his discretion in the use of the thinners prescribed—thus on white pine, poplar and basswood, which more readily absorb oil, increase the quantity of linseed oil for the priming coat. On yellow pine, cypress, spruce and hemlock, use less linseed oil and more flattening oil.

(13) **Old Woodwork Inside**—Two coats of paint shall be used in repainting woodwork inside. For a flat finish, mix the paint for the first and second coats according to formula B in paragraph 12. For an eggshell gloss finish, mix the paint for the first coat according to formula B in paragraph 12 and according to formula D for the finishing coat.

(14) **Plaster Walls**—Three coats of paint shall be applied to plaster which has never before been

Painted. The priming coat shall be mixed as follows:

Dutch Boy or Carter white lead (heavy paste)	100 lb.
Pure kettle-boiled linseed oil	7 gal.
Pure turpentine	1 gal.

Note: If boiled linseed oil can not be obtained, 7 gal. raw linseed oil with 3 pt. drier may be used instead, and will in most cases give satisfactory results. Boiled oil is much superior, however, and will obviate trouble when conditions are difficult. It seals pores in the plaster and prevents suction.

Mix the paint for the second coat according to formula B in paragraph 12 and according to formula C for the finishing coat if a flat finish is desired. If an eggshell finish is wanted, mix the paint for the finishing coat according to formula D.

In repainting plaster walls, follow the practice recommended for new plaster, except that the priming coat may be omitted.

(15) *Brick and Stucco*—Three coats of paint, mixed as follows shall be applied to brick or stucco which has never before been painted:

(a) Priming coat		(b) Second coat	
Dutch Boy or Carter white lead (heavy paste)	100 lb.	Dutch Boy or Carter white lead (heavy paste)	100 lb.
Pure linseed oil	7 gal. boiled	Pure linseed oil	4 gal. (1/2 boiled, 1/2 raw)
	or 7 gal. raw and 1 1/2 pt. drier		or 4 gal. raw and 1 pt. drier
Pure turpentine	1 gal.	Pure turpentine	1 gal.

(c) Third coat (gloss finish)	
Dutch Boy or Carter white lead (heavy paste)	100 lb.
Pure linseed oil	3 1/2 gal. (1/2 boiled, 1/2 raw)
	or 3 1/2 gal. raw and 1 pt. drier
Pure turpentine	1 pt.

(d) Third coat (flat finish)	
Dutch Boy or Carter white lead (heavy paste)	100 lb.
Dutch Boy flattening oil	2 gal.

Two coats of paint shall be applied in repainting brick and stucco. For the first coat, mix the paint according to formula B in paragraph 15 and for the finishing coat according to formula C or D.

(16) *Concrete and Stone*—Three coats of paint, mixed as follows, shall be applied to concrete and stone which have never before been painted:

(a) Priming coat		(b) Second coat	
Dutch Boy or Carter white lead (heavy paste)	100 lb.	Dutch Boy or Carter white lead (heavy paste)	100 lb.
Pure linseed oil	5 gal. boiled	Pure linseed oil	3 gal. (1/2 boiled, 1/2 raw)
	or 5 gal. raw and 1 pt. drier		or 3 gal. raw and 1 pt. drier
Pure turpentine	1 gal.	Pure turpentine	1/2 gal.

(c) Third coat (gloss finish)	
Dutch Boy or Carter white lead (heavy paste)	100 lb.
Pure linseed oil	3 1/2 gal. (1/2 boiled, 1/2 raw)
	or 3 1/2 gal. raw and 1 pt. drier
Pure turpentine	1 pt.

(d) Third coat (flat finish)	
Dutch Boy or Carter white lead (heavy paste)	100 lb.
Dutch Boy flattening oil	2 gal.

In repainting concrete and stone, apply 2 coats. Mix the paint for the first coat according to formula B in paragraph 16 and according to formula C or D for the second coat.

Excellent semi-flat finishes on brick, stone, concrete

and stucco can be secured by applying over the second coat 1 or 2 coats of paint made with 100 lb. heavy paste white lead, 1 1/2 to 2 gal. flattening oil and 3/4 gal. of spar varnish. For brick red finish on outside brick, thin the color with Dutch Boy flattening oil.

(17) *Metal Work, Exterior and Interior*—Three coats of paint, mixed as follows, shall be applied to exterior and interior metal work:

(a) First coat		(b) Second coat	
Dutch Boy red lead-in-oil	100 lb.	light brown lead-in-oil	100 lb.
Pure linseed oil	2 1/2 gal.	Pure linseed oil	2 3/4 gal.
Lampblack-in-oil	None	Lampblack-in-oil	12 oz.
or			
Pure dry red lead	100 lb.	Pure dry red lead	100 lb.
Pure linseed oil	3 3/4 gal.	Pure linseed oil	3 3/4 gal.
Lampblack-in-oil	None	Lampblack-in-oil	13 oz.
(c) Third coat (dark brown)			
Dutch Boy red lead-in-oil	100 lb.	Pure linseed oil	3 3/4 gal.
Pure linseed oil	3 3/4 gal.	Lampblack-in-oil	6 lb.
Lampblack-in-oil	6 lb.	or	
Pure dry red lead		Pure dry red lead	100 lb.
Pure linseed oil		Pure linseed oil	4 3/4 gal.
Lampblack-in-oil		Lampblack-in-oil	6 1/2 lb.

Note: If genuine boiled linseed oil is available, use one-third boiled and two-thirds raw oil. If raw oil only is used, add 1/2 pt. drier to every gallon of paint. One-half pint of turpentine may be added to each 2 gal. of paint whenever it is deemed advisable to make the paint produced by any formula work more easily.

If liquid red lead is to be used, specify Dutch Boy liquid red lead No. 1 (natural red lead color) for first coat, Dutch Boy liquid red lead No. 6 (light brown) for second coat and Dutch Boy liquid red lead No. 7 (dark brown) for third coat.

Where a dark color other than brown is desired for the finishing coat, one of the following formulas shall be used according to the color desired:

	Light green	Dark green
Dutch Boy red lead-in-oil	100 lb.	100 lb.
Pure linseed oil	6 gal.	6 1/4 gal.
Medium chrome yellow	31 lb.	15 lb.
Prussian or Chinese blue	24 lb.	52 lb.
Black		
Dutch Boy red lead-in-oil	100 lb.	
Pure linseed oil	13 gal.	
Pure turpentine	1 gal.	
Prussian or Chinese blue	16 lb.	
Lampblack	52 lb.	

If liquid red lead is to be used, specify Dutch Boy liquid red lead according to the finishing color desired, that is: No. 8—light green; No. 9—dark green or No. 5—black.

Specifications in Pamphlet Form

Specifications for the use of white lead and red lead in painting are available in pamphlet form and will be sent to any engineer interested. Write for "Standard Specification for the use of White Lead" or "Standard Specification for the use of Red Lead."

Other Publications

A practical book, of unusual value to those interested in the subjects of paint and painting, is our "Cyclopedia of Paint Information." This book gives formulas and directions for exterior and interior work of all kinds. It covers, in complete detail, the painting of wood, plaster, brick, stone, concrete, stucco and metal.

We also publish a booklet "Structural Metal Painting" which discusses the causes of corrosion and remedies for it, besides giving formulas and going into detail on the subject of painting structural metal of all kinds.