

METAL PROTECTIVE PAINT

Efficiency Information
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THE SHERWIN-WILLIAMS Co.

FACTORIES: CLEVELAND, CHICAGO, NEWARK, SAN FRANCISCO (EMERYVILLE)

SALES OFFICES AND WAREHOUSES IN PRINCIPAL CITIES

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METAL PROTECTIVE PAINT CHART

NOTE: The following chart represents in outline form what we believe to constitute the important features of a metal protective paint.

I. APPLICATION

- 1 Appearance and condition of the material in the package.
- 2 Working or ease of application with kind of color usually employed.
- 3 Proper drying of each coat, permitting application of subsequent coats within reasonable time.
- 4 Safety in drying and handling under average weather conditions.

- 1 Resistance to abrasion or strength of film

II. WEARING OR SERVICE

- 2 Elasticity

- 3 Imperviousness to destructive agents

- 1 Designing the product

III. COMPOSITION

- 2 Raw Materials

- 3 Assembling or Manufacturing

- 1 Cost per unit, i. e., cost of material, plus cost of labor, divided by term of service.
- 2 Term of service is the time elapsing between first application and renewal.

IV. ECONOMY

- (a) Drying
- (b) Toughness
- (c) Adhesiveness
- (d) Bonding and adhesion of several coats in one.

- (a) Responding to expansion and contraction of the metal, due to extremes of temperature without breaking.

- (a) Non-porous film } exclusion of air, gases and moisture.
- (b) Thickness of film }
- (a) A clear conception of what must be accomplished.
- (b) Capabilities of the designer.

- (a) Solids or pigments—selected to meet all requirements as determined by designer.
- (b) Fluids or vehicles—oil, driers, thickness to meet requirements as determined by designer.

- (a) Equipment and facilities.
- (b) Knowledge of handling final tests.

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Let us now take up the various headings and sub-headings:

APPLICATION

Under the heading of "application" we have:

- 1 Appearance and condition of the material in the package.
- 2 Working or ease of application with the kind of labor usually employed.
- 3 Proper drying of each coat permitting application or subsequent coats in reasonable time.
- 4 Safety in drying and handling under the average weather conditions.

Appearance and condition of the material in the package is important because of the fact that an opinion of the paint is often formed upon first appearance. If the paint has separated in the can, if the pigment is hard in the bottom, or if the paint appears gritty, opinions against the material may be formed. It is important, therefore, that first appearance and the condition of the material in the package be correct.

The working or ease of application is important and it is of special importance on account of the kind of labor usually employed for applying metal protective paint. It is necessary that the paint be one that will spread easy, spread out in a uniform way, dry well—not only so that each coat will dry thoroughly so that subsequent coats may be applied safely, but that they dry so that they will not be harmed under conditions of the weather. These and other points are important under application.

WEARING OR SERVICE

The wearing or the service of the paint is the important feature. It constitutes the resistance to abrasion or strength of the film, the elasticity of the film and the imperviousness to destructive agents. The resistance to abrasion or strength of the film depends upon hard drying, toughness, adhesiveness and bonding and cohesion of the several coats into one. The elasticity depends upon the ability of the film to respond to the expansion and contraction of the metal due to the extremes of temperature without breaking of the film. The imperviousness to destructive agents depends upon the thickness of the film and the non-porosity of the film, which in turn depends upon exclusion of air, gases and moisture for when these are kept away from the metal, the purpose of the paint has been fulfilled.

COMPOSITION

The composition of the paint is of importance in arriving at its purpose but the composition should interest the purchaser only through his confidence in the manufacturer and his faith in the manufacturer's ability to choose proper raw materials. The composition is divided under three headings, designing the products, raw materials and assembling or manufacturing, and one is as important as the other to the composition. Designing the product covers a clear conception of what must be accomplished by the paint and also the capabilities of the designer through his general knowledge and ability.

The raw materials are divided into two classes, the solids or pigments, and the fluids or vehicles. These selected to meet the requirements as determined by the designer through test or otherwise.

Here let us call attention to the location in our chart of the raw materials. Many in selling metal protective paints first offer a graphite paint or a carbon paint, or whatever they have in mind, and begin by telling what that paint is made of, whether it is red lead, or carbon, or graphite or silica, when in reality it seems clear that just what pigments or liquids are employed are not of such importance to the purchaser as they may seem to be without analyzing the product as we have here. There are so many other details and so many other points to take into consideration that the choice of raw materials is greatly dependent upon the accomplishments of the paint and having those accomplishments first in mind it must follow that the raw materials, whatever they may be, must be correct.

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Under assembling or manufacturing we have equipments and facilities, knowledge of handling and the final tests, so that the composition consists in knowing what is to be done with what is to be made, what to use in order to accomplish what is in hand and a thorough knowledge of how to do it and how to check up upon it in order to see that it has been done.

ECONOMY

Our fourth division of a metal protective paint is "economy" and the economy is measured by the cost per unit which may be the cost per car, or the cost per ton of steel, or the cost per 100 square feet, per yard, per year or per whatever term may be chosen in which to express the cost for comparison with other figures. This cost per unit is the cost of the material plus the cost of the labor divided by the term of service. The term of service being the time elapsing between the first application and the time when it becomes necessary to renew the coating.

GENERAL SUMMARY

METALASTIC

After carefully considering all of the above points, taking each into consideration and weighing one against the other, we feel that we have arrived at an efficient, economical and thoroughly satisfactory metal protective paint, and we have chosen to select as that paint our Metalastic. Let us, therefore, bend every effort on Metalastic as the one general choice for all of us to push and drive day in and day out as the Sherwin-Williams recommendation for the purpose of protecting iron and steel.

You will ask, where will we sell Carbon Paint Red Diamond Brand and where will we sell Non-Corrosible Graphite Paint? A description of each of these paints and suggestions for their recommendation are therefore in order.

CARBON PAINT RED DIAMOND BRAND

This paint produces probably the heaviest film of any of our metal protective paints. It is an ideal paint for finishing coats, but we do not recommend it for all coats because of the fact that it is not handled as easily by average labor and needs more care in application than does Metalastic. It should be recommended as a finishing coat on bridges and structures if the occasion arises for recommending something other than Metalastic.

NON-CORRODIBLE GRAPHITE PAINT

This paint is in our line to meet a demand for a strictly graphite paint. Some of our competitors, who are primarily in the graphite business, exert considerable effort in marketing graphite paint and have established a demand for them. Some engineers and architects are partial to graphite and we sell Non-Corrosible Graphite only where such is demanded. We are not particularly anxious to sell this product, for to our minds it does not represent the best thing in a paint for metal protection. It is rather slow in drying and the film does not become hard enough to resist abrasion. However, there are occasions that will rise when it would be advisable to sell this product and we must leave such to the judgment of our managers and representatives.

METALASTIC CARBON COATINGS

It occasionally becomes necessary to sell materials at prices lower than those prices which we have fixed for our regular established standard products. We then turn to Metalastic Carbon Coatings which are good paints, of good body, dry well, have a fair gloss and will give good service. They are to be sold distinctly with the understanding on the part of all of us that they do not represent to us everything that we can put into a metal protective paint, but they will give to the customer everything that he is paying for and represents full value at the prices.

BRIDGE AND ROOF PAINTS

As distinctly competitive products, or materials for structural painting, we can fall back on our line of Roof and Bridge Paints, which are too well known to need further description.

RED LEADS

We now come to the Red Leads and for our Red Leads are soliciting Paste Red Lead and Liquid Red Lead. In discussing Red Lead we wish to impress upon all of our people the fact that the litharge is not removed from our Red Lead as is done by some of our competitors, who must of necessity do it in order to keep their material in condition in the package.

We have maintained for a long time that the removal of the litharge destroyed the active drying and hardening agents upon which the best authorities maintain rests the value of Red Lead as a pigment. Mr. Henry A. Gardner, Assistant Director, The Institute of Industrial Research, Washington, in a recent bulletin of the department on Marine Paint, states that the results of many series of tests conducted by him to determine what percentage of litharge is best suited for the purpose of painting metal seem to indicate a pigment containing from 85% to 90% true Red Lead, the balance being 10% to 15% unoxidized litharge.

Our Liquid Red Lead is furnished in prepared form ready for use. It is composed of Red Lead and Silica, or pigment, ground in Linseed Oil, Drier and Mineral Spirits for the vehicles. The Red Lead, however, still containing the litharge.

This paint remains in splendid condition in the can for a long time without showing any tendency to harden. We have sold many thousand gallons of it during the past year to several of the railroads, car builders and to many of our marine accounts.

Again referring to Mr. Gardner's paper on Marine Paint, we quote as follows, which shows the results of his tests regarding Red Leads: "At the present time most red lead pastes that are used on naval vessels come in prepared form ready for brushing, one of the most satisfactory being composed of two parts of red lead and one part of silica, ground in linseed oil, drier and mineral spirits. Such a paint if well made will remain in prepared form in a can for a long period of time without showing any tendency to harden even though the red lead should contain up to 12% of litharge."

SELLING PROTECTION

We believe that our representatives have splendid ammunition in going after the metal protective paint business and that they can meet almost any competition. Selling metal protective paints is somewhat of a specialty and should be specialized on, although, as stated before, it is not in any way a science and any of our representatives who can sell any other products of our manufacture can sell our metal protective paints. It will have to be given particular attention, however. Study will have to be made of the possibilities, the uses, the requirements and the circumstances surrounding, so that recommendation can be made accordingly. Attention must be given to architects, engineers, contractors and all who have to do with the specifications and the use of the materials. Attention must be given to the large owners of property on which such products are used, and while the greatest possibilities are in the large centers there is an extensive demand for metal protective paint on many of the country territories for county bridges, stand pipes, water tanks and the metal surfaces that are to be found on various kind of structures.

Let us, therefore, try out this plan this year and work along this line, selling protection and in selling protection selling the paint that we know will give that protection and discussing with our prospects and customers the idea of protection, leaving the discussion of the pigment or the vehicle in the place where it belongs and not putting the idea of the paint being a graphite paint, or a carbon paint, or a red lead paint, or some other kind of a paint, ahead of the main fact that it is a metal protective paint.

