

Bulletin No. 4

COURSE IN RETAIL PAINT SALESMANSHIP

Copyright 1917

Published by

THE SHERWIN-WILLIAMS CO.

RSJ2 A24 389

0007-SWP-040565

N28929

SHERWIN-WILLIAMS
COURSE IN RETAIL PAINT SALESMANSHIP

Bulletin No. 4

A Study of Other
White Pigments

In the preceding article the various pigments entering into SWP Gloss White were described, with the exception of the inert material which is referred to on the label as Magnesium Silicate. This is a nature pigment, mined from the earth in just the same way that other earth pigments such as ochre, sienna and umber are handled. Deposits of Magnesium Silicate are found in many different sections of our continent, but only those which are entirely free from other elements are developed and used. Deposits which are not contaminated require no preparatory treatment other than to be powdered to a satisfactory degree of fineness.

It will be remembered that in the preceding article it was stated that the requirements of white pigments might be covered by three general headings - viz:

1. Whiteness.
2. Opacity.
3. Endurance.

In making a study of the office of each pigment in our composite paint, these three requirements will be referred to frequently.

In earlier times White Lead was used almost entirely, as it was really the only white pigment available. When measured by the above standard it proves to be lacking somewhat for whiteness. Yet, it is fairly satisfactory in its original form, but is subject to being darkened when exposed to atmospheric gases. It is because of this that outside paint made from White Lead alone soon shows a tendency to darkening or becoming comparatively gray. The real reason for this is that White Lead is more active chemically than any of the other pigments now employed.

For opacity, White Lead is exceptional and this fact is largely responsible for its popularity. The chief reason for this great opacity is its density or comparative weight to a given volume. This feature will be referred to again when considering its endurance.

Objections to
Use of White
Lead Alone

The endurance of White Lead is perhaps its weakest point. There are different reasons for this, all leading up to the same result. First, White Lead is rather active chemically, which, taken together with its characteristic density, is inclined to shorten the natural life of the binder, linseed oil. This is a very important point to understand and to have in mind at all times. When making a straight White Lead paint the pigment portion will be much greater than the liquid portion, the relation being about 72% pigment to 28% liquid.

0007-SWP-040566

0007-SWP-000123957

Objections to
Use of White
Lead Alone
(Continued)

Such a large percentage of pigment which has chemical affinity for certain portions of all the oil or carrier, causes it to oxidize and finally to perish. This characteristic first becomes evident when the paint begins to chalk, which is nothing other than the wearing away of the film, which manifests itself comparatively early in this kind of a paint.

In all fairness it must be stated that this tendency to chalking is not altogether bad, but on the contrary is to some extent desirable, as it leaves a better character of surface over which to repaint. It will be seen that the marked opacity of White Lead paint is in reality due to the very high pigment percentage as compared to the oil. This high pigment percentage is necessary to prevent the paint from running and also to secure reasonably satisfactory whiteness.

The foregoing is intended to convey a fairly clear idea of both the merits and weaknesses of White Lead.

The next pigment in order is Sulphate of Lead. With respect to whiteness this is about the same as the Carbonate of Lead, but being less active chemically, it does not darken so much when exposed to atmospheric gases. Its opacity is practically the same as that of Carbonate of Lead.

The endurance of Lead Sulphate is perhaps greater than that of the carbonate, which may be accounted for by the reason that it is less active chemically and for that reason the oil in the paint does not perish quite so rapidly.

As has already been stated, there really is no such thing as a pigment which is pure Lead Sulphate - there always being some zinc present, this having some bearing on the results.

What Zinc Oxide
Accomplishes

Zinc Oxide makes a much better showing than any of the Lead pigments when examined for whiteness. This is true not only in the beginning, but continues after being made up into paint and exposed to the elements, which may be traced to its being less active chemically.

With respect to opacity - Zinc does not make a very good showing, the reason being that paint made from Zinc alone will contain only about 50% of pigment. The endurance of the Zinc paint is wonderful, in fact it has endurance or wearing properties to an extent that constitutes a fault.

The paint made from Zinc alone carries such a low pigment percentage and correspondingly high oil percentage that it never shows any tendency to waste or wear away as indicated by chalking, so that repeated painting finally builds up a thick film which must eventually reach a point where the film cracks in places, which is the forerunner of peeling or scaling.

It is apparent that none of the three primary white pigments make a thoroughly satisfactory paint and this is what led to the development of composite paints in which all of the important pigments have been blended in such proportions as to take advantage of their individual strong points or merits and at the same time to minimize their weaknesses or faults.

0007-SWP-040567

0007-SWP-000123958

SWP is a
Composite Paint

SWP has always been a composite paint - the pigment first used being Carbonate of Lead and Zinc Oxide. This combination made a good paint, but the results were not entirely satisfactory, it being found that if enough Zinc were used to counteract the objectionable features of Lead Carbonate, that the paint was subject to some of the faults of Zinc, and if the lead was increased, then the reverse was true.

This condition was finally corrected by the development and use of a highly perfected Zinc Lead which we call Ozlo. As described in the preceding article, Ozlo is a molecular combination of Lead Sulphate and Zinc Oxide. The theoretical advantage of a pigment of this kind over a mechanical mixture of Lead Sulphate and Zinc Oxide of the same proportions or chemical composition, is that the Zinc is more finely divided or spread out than would be possible to do in any other way. The result is that we are able to use the maximum amount of Zinc and at the same time, due to the presence of the Lead Sulphate, we avoid an excess of Zinc and any characteristic troubles. These theories have been more than verified by many years of actual use.

The offices of the inert material must be understood before we have the finished product SWP.

What are the
Qualifications
of a Good Paint?

To fully understand the purpose of using a small percentage of inert material in the paint, it is necessary that we be conversant with some important essentials of a prepared paint:

1. The paint must present a good appearance when the package is opened.
2. The pigment must not be settled to a hard mass and must permit of easy stirring to a uniform consistency.
3. It must be full, heavy and thick so that it will be feasible to withstand all necessary and desirable manipulation, such as thinning in various ways for various coats and conditions in conformity to the laws of good painting practice.
4. Under all these conditions, the working must be free and easy, the covering must be ample and the film when dry should be free from brush marks, and if it is to shed water properly there must be a nice, sharp gloss.

As was pointed out earlier in this article, we cannot have a good gloss and freedom from brush marks if the paint is overburdened with heavy pigments.

In SWP, after having introduced all the heavy pigments necessary for covering, color, etc., we find that it is necessary to have something more to produce the desirable thickness of the paint - something which will not be in any way injurious to the other elements present or to the wear-

0007-SWP-040568

0007-SWP-000123959

What are the
Qualifications
of a Good Painter?
(Continued)

ing and at the same time which will not seriously detract from the gloss. For this purpose we use a small amount of Magnesium Silicate, a material similar to whiting. In addition to taking care of the other features mentioned, we find that it is wonderfully effective in rendering the paint easy to stir to a uniform consistency even though the paint may have been in the package on the dealer's shelf several years before being used.

Making the Tints
and Colors

Now that we have dissected the White Paint, let us consider the tints or light shades, as these paints partake to a great extent of the requirements and characteristics of the white. The very light tints should be regarded as the white to which a trace of suitable colored pigment is added for the purpose of producing the required tint.

The selection of the necessary tinting materials requires much care and knowledge if the results are to be satisfactory. First, the tinting material must be the best, considered from a chemical standpoint, so that rapid fading or change of color will not occur. Then the preparation and introduction into the paint must be thorough so that it will remain thoroughly combined and show no signs of streaking, etc., when the paint is brushed out.

With respect to these things the paint manufacturer who is in position to avail himself of everything that the market affords and can make exhaustive and repeated tests of many kinds, has a great advantage over the individual painter who does not have many of the necessary materials available and frequently lacks the knowledge necessary to making the best use of those which he does have. We are able to make more attractive tints and at the same time they are more permanent.

When it comes to the development of the darker or solid colors, this same experience gained in the selection and use of tinting colors enables us to deliver a much more satisfactory product than the average painter can concoct from such materials as he selects.

Our product works better, dries better, has more gloss and shows more characteristic color.

0007-SWP-040569

0007-SWP-000123960