| No. | CODE | NAME MATERIAL | MFG. | FULL BODY Be' | Visc. | Wt. | REDUCED S-23 Be' | % | Vol. | Visc. | % Solids | Set | DRY Free | Tape |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1- | 116153 | Swift Red | NP | 19HL | 43" | 7.83 | 21LL | 12½% | 1 oz.-8 | 21" | 45.3 | 15" | 60" | 5 hrs. |
| 2- | 29-207 | Pittsburgh Yellow | PPG | 15 LL | 69" | 8.04 | 17LL | 18-3/4% | 1½ oz.-8 | 21" | 54.6 | 20" | 75" | 5 hrs. |
| 3- | 92Y1006 | Ward's Yellow #51 (P4524) | GL | 28HL | 74" | 10.32 | 22HL | 15-3/4% | 1½ oz.-8 | 23" | 64.2 | 15" | 60" | 4 hrs. |
| 4- | 11728 | Armour Yellow | B&C | 12HL | 61" | 9.09 | 7HL | 18-3/4% | 1½ oz.-8 | 22" | 56.5 | 35" | 60" | ON |
| 5- | 92W140 | Spedene White | GL | 25HL | 57" | 10.07 | 19HL | 15½% | 1½ oz.-8 | 20" | 64.6 | 15" | 50" | 4 hrs. |
| 6- | 11749 | Light Yellow | B&C | 11HL | 46" | 9.01 | 7HL | 12½% | 1 oz.-8 | 22" | 52.8 | 15" | 75" | 5 hrs. |
| 7- | 92R1363 | Ward's #36 Red | GL | 4HL | 51" | 8.56 | 1HL | 15½% | 1½ oz.-8 | 20" | 50.5 | 15" | 60" | 4 hrs. |
| 8- | 29-12 | Lavax Lt. Cream | PPG | 17HL | 125" | 9.43 | 15HL | 25% | 2 oz.-8 | 21" | 56.5 | 20" | 50" | 4 hrs. |
| 9- | 92Y1006 | Ward's Yellow )P-9801) | GL | 30HL | 170" | 10.51 | 28HL | 31½% | 2½ oz.-8 | 22" | 67.8 | 15" | 60" | 4 hrs. |
| 10- | 11238 | Medium Cream | NP | 2HL | 52" | 8.44 | oHL | 15½% | 1¼ oz.-8 | 21" | 50.1 | 15" | 50" | 6 hrs. |
| 11- | | Sultana Brown | NP | 16HL | 41" | 7.99 | 18LL | 12½% | 1 oz.-8 | 19" | 41.5 | 15" | 60" | 4 hrs. |
| 12- | 92Y3E | Spedene Orange | GL | 21HL | 46" | 9.74 | 19LL | 12½% | 1 oz.-8 | 22" | 60.3 | 20" | 80" | 4 hrs. |
| 13- | 93-082 | Dulux Orange | DP | 16HL | 48" | 9.51 | 16HL | 12½% | 1 oz.-8 | 21" | 55.6 | 20" | 80" | 4 hrs. |
| 14- | 11671 | Teak Red | NP | SHL | Too Hvy. | 8.81 | 3HL | | 2 oz-8 + S 1 | 25" | 45.7 | 15" | 85" | 4 hrs. |
| 15- | 93-317R | Dulux Red | DP | 19LL | 68" | 7.83 | 21LL | 15½% | 1¼ oz.-8 | 21" | 46.4 | 15" | 70" | 4 hrs. |
| 16- | 29-302 | Lavax Red | PPG | 13LL | 83" | 7.88 | 20LL | 18-3/4% | 1½ oz.-8 | 22" | 43.2 | 15" | 70" | 5 hrs. |
| 17- | 118379 | Brockway Gray | NP | 14LL | 37" | 8.10 | 15LL | 6¼% | ½ oz-8 | 20" | 41.4 | 15" | 45" | 5 hrs. |
| 18- | 93-005 | Dulux Black | DP | 26LL | 47" | 7.47 | 28LL | 12½% | 1 oz-8 | 21" | 38.0 | 15" | 45" | 4 hrs. |
| 19- | 29-11 | Lavax Black | PPG | 20LL | 116" | 7.77 | 22LL | 25% | 2 oz-8 | 21" | 41.4 | 15" | 45" | 8 hrs. |
| 20- | 92B10C | Spedene Black | GL | 16LL | 30" | 7.99 | 17LL | 7-3/4% | 5/8oz-8 | 20" | 43.6 | 15" | 65" | 5 hrs. |
| 21- | 11435 | Export Blue | B&C | 3HL | 56" | 8.51 | 1HL | 18-3/4% | 1½ oz.-8 | 21" | 51.2 | 15" | 65" | 5 hrs. |
| 22- | GL-54889 | Pan American Blue | GL | 17LL | 45" | 7.93 | 19LL | 12% | 1 oz.-8 | 20" | 47.1 | 15" | 70" | 5 hrs. |

| NO. | FILM THICK. | HARD | GLOSS | CRP. | CAN CONDITION SKINS | DIRT | STRAIN | WEATHEROMETER EXPOSURE 106 hrs. | 201 hrs. | 304 hrs. |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1.2M | 30 | 94 | 26 | No | No | No | Sl. Darkening | Chalking | Chalking |
| 2 | 1.3M | 12 | 95 | 45 | Yes | No | No | Bad " | Bad Darkening | Sl. chalking |
| 3 | 1.3M | 20 | 88 | 11 | Yes | Yes | Yes | Sl. " | Sl. " | Hvy. " |
| 4 | 1.4M | 16 | 84 | 26 | No | No | No | Bad " | Bad " , water spots | Hvy. " |
| 5 | 1.5M | 12 | 92 | 14 | Yes | Yes | Yes | Sl. chalking | Chalking | Hvy. " |
| 6 | 1.7 | 18 | 95 | 23 | Yes | Yes | Yes | Bad darkening | Bad darkening, water spots | Sl. chalking |
| 7 | 1.2 | 22 | 92 | 16 | Yes | Yes | Yes | Sl. chalking | Sl. chalking, water spots | Hvy. chalking |
| 8 | 1.5 | 20 | 92 | 16 | Yes | Yes | Yes | Sl. darkening | Sl. chalking | Hvy. " |
| 9 | 1.5 | 14 | 91 | 10 | Yes | Yes | Yes | Very Sl. darkening | Sl. chalking | Hvy. " |
| 10 | 1.5 | 16 | 94 | 16 | Yes | Yes | Yes | Sl. darkening, water spots | Sl. chalking, water spots | Hvy. " |
| 11 | 1.0 | 24 | 90 | 10 | No | No | No | Dulling | Chalking | Hvy. " |
| 12 | 1.5 | 10 | 90 | 14 | Yes | Yes | Yes | Very sl. darkening | Sl. darkening | Sl. chalking |
| 13 | 1.6 | 10 | 94 | 18 | Yes | Yes | Yes | Sl. darkening | Darkening, water spots | Sl. " |
| 14 | 1.2 | 30 | 92 | 34 | No | No | No | Water spots | Dulling | Hvy. " |
| 15 | 1.2 | 24 | 94 | 28 | No | No | No | Water spots | Dulling | Hvy. " |
| 16 | 1.2 | 18 | 92 | 28 | No | No | No | Water spots | Dulling | Hvy. " |
| 17 | 1.2 | 30 | 95 | 12 | No | No | No | Water spots, dulling | Sl. chalking | Hvy. " |
| 18 | .9 | 32 | 95 | 12 | No | No | No | Water spots. dulling | Sl. chalking | Hvy. " |
| 19 | .9 | 16 | 85 | 13 | No | No | No | Water spots, dulling | Sl. chalking | Hvy. " |
| 20 | .8 | 34 | 94 | 11 | No | No | No | O.K. | Dulling, water spots | Checks |
| 21 | 1.1 | 22 | 90 | 13 | No | No | No | Sl. chalking | Sl. chalking | Hvy. chalking |
| 22 | 1.2 | 10 | 90 | 30 | No | No | No | Water spots | Color fade | Sl. chalking |

| NO. | 410 hrs. |
|---|---|
| 1 | Hard polishing, Film OK |
| 2 | Easy polishing, Checking |
| 3 | Easy polishing, Film OK |
| 4 | Easy polishing, checks |
| 5 | Easy polishing, Film OK |
| 6 | Easy polishing, Film OK |
| 7 | Hard polishing, Film OK |
| 8 | Easy polishing, Film OK |
| 9 | Easy polishing, Film OK |
| 10 | Easy polishing, Faint checks |
| 11 | Hard polishing, Film OK |
| 12 | Easy polishing, Film OK |
| 13 | Hard polishing, Film OK |
| 14 | Easy polishing, Film OK |
| 15 | Hard polishing, Film OK |
| 16 | Hard polishing, Film OK |
| 17 | Easy polishing, Film OK |
| 18 | Hard polishing, Film OK |
| 19 | Hard polishing, Film OK |
| 20 | Easy polishing, Checking |
| 21 | Easy polishing, Film OK |
| 22 | Easy polishing, Film OK |

GLD005183

Quick Drying Black Oil Resistant Enamel

GL-55020 is the result of considerable laboratory work to find a material that would air dry in two to two and a half hours so that it would not soften when covered with hydraulic shock absorber oil. In order to get fast enough dry and adequate resistance to hydraulic oil, it has formerly been necessary to use a lacquer type material.

We, in the past, have tried all types of synthetic resins, alkyds, Parlon types, G.R.S. Rubber solutions and oleoresinous materials without success. We might mention here that low price was also an item so that high cost materials like vinyls or phenolics could not be considered.

GL-55020 is a combination of vinsol resin, Ethocel, Hercolyn and properly balanced thinners. In our tests, this material exhibits good stability to aeration, good flexibility, toughness and adhesion, low cost and fast enough dry to satisfy the customers requirements. Materials along this line might be interesting for other applications. This particular material was made for flow coat application.

K. F. Atwood

KFA:pr

PAINT LABORATORY PROGRESS
REPORT

AUGUST 1947

In order to compare the quality and other properties of our air dry line of Spedeno Automobile Enamels with competitive products, the materials in the following list are being checked for all properties. To date the weather-ometer data has been completed. In a future report, the results of Cleveland exterior exposure as well as Florida exposure will be included.

All materials were applied over 53-E-35 Primer for weathering tests. It was noted in general that our Yellow Enamels darkened less than corresponding competitive products.

In general we note the following observations:

Glidden material seems to have higher solids, better hiding and drying and faster tape time right up with and better than our competitors.

Our package contidion is something that should be improved, as skinning seems to be the largest factor in dirty material, all our material had to be strained before the panels were made for exposure.

I think the use of ASA, our CH-243, in our formula would not interfere too much with the tape time.

Manufacturers Code:

| | |
|---|---|
| N.P. | National Paint |
| PPG | Pittsburgh Plate Glass |
| GL | Glidden |
| B & C | Beckwith Chandler |
| DP | DuPont |

GLD005185

PRODUCT DEVELOPMENT REPORT

PAINT, VARNISH & LACQUER LABORATORIES

FOR AUGUST 1947

NUBIAN DIVISION

Comments

This laboratory has had a great deal of experience in using mixtures of urea in alkyd resins, particularly for the production of White Nubelite enamels. The vehicles generally used are NRV-721 and NRV-786 plus melamine resins. From time to time we have had considerable difficulty with these materials or their alternates bodying up to a considerable extent on ageing, and in some cases where they were perfectly satisfactory when made there appears to be a seediness developing at a later date.

We have carried cut some work which indicates that it is exceedingly important to study very carefully the compatibility of these materials over an extended period of time in order to determine whether or not they are safe for use. We would be very much interested in knowing whether or not any of the other laboratories have had similar experiences.

In this month's Varnish Report you will note that where we have endeavored to use crude soya fatty acids or distilled soya fatty acids made from foots that we have not obtained satisfactory drying properties. When we have used the monoglyceride method for these same alkyds using O-5 we have obtained very satisfactory results with respect to dry. At the present time we are using O-5 in these materials and endeavoring to bolster the dry of the alkyds made from the fatty acids by the introduction of pentaerythritol or sorbitol.

This again points out the fact that one cannot safely switch from oil to fatty acids even where the fatty acids are derived from the same oil without a carefuly investigation in order to avoid any difficulties which one would not expect to encounter.

We are continuing our work with the sludge recovery program on White Nubelites which seems to be progressing rather well. One of the principal reasons for thesuccess of this program has been the careful inspection and grading of the various shipments of sludge sent in by our customers. This is a rather tricky procedure, which calls for some experience, but if any of the other plants are planning to do this work, we would like to caution them to be sure and look over the sludge just as soon as it is received in order to determine its suitability for reclaiming.

In the Paint Laboratory Report under "freight car paints" you will note that we have been successful in making a material with properties similar to that of the Pittsburgh Plate Glass Company's well known Carhide. This material is based on sulphur treated linseed oil O-288, using no resin whatever.

We have had numerous requests for one coat hammerloids, but have had considerable difficulty in the laboratory in producing satisfactory materials. We have recently made considerable progress in this respect and are at last making in a laboratory way very satisfactory materials. The work on this subject will be outlined in next month's report, and we hope it will be of interest to the other plants who may also have encountered some difficulty in making this material.

C. G. Moore

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GLD005187

# PRODUCT DEVELOPMENT REPORT FOR AUGUST 1947

## Paint Laboratory

### Syndicate

During the last month we completed the reformulation of the entire standard line enamels with cheaper varnishes which results in a saving of 12½¢ per gallon on an actual basis and 16½¢ per gallon on a market basis. Many different batches produced in the plant this month have proven these new formulae to be equal in gloss, fullness, adhesion, dry and durability to the previous formulae.

### Anti-Skinning Agent, CH-243

Some interesting facts have been found while investigating the use of anti-skinning agent, CH-243. We made additions of CH-243 to several batches of varnish to prevent skinning in the storage tanks in an effort to produce cleaner enamels in the paint department. In the case of several highly polymerized varnishes, we have found that the addition of CH-243 progressively reduces the viscosity of the varnishes on aging. An addition of 1/8 oz./gal. of CH-243 to a 45% phenolic varnish, 2-KB-338, reduced the viscosity from 46" to 43" in one week and to 36" in a month at which point it is apparently stable. This same varnish without CH-243 additions increases in viscosity rapidly and would normally increase to about 1'15" in a month and eventually to over 2' with considerable skinning.

In the case of V-715 at 40% solids, the initial viscosity was 3'15" and after the addition of CH-243 and standing overnight reduced to 2'35" and within one week to 2'02" and after a month to 1'57". A similar blend of V-715 and V-250 also reduced proportionately but with higher viscosities throughout. Another effect noted was that CH-243 arrested the increase in viscosity on aging of unstable enamels which contained phenolic varnishes or reactive pigments and varnishes.

### Super-Quality Enamels

Now that alkyd varnishes are becoming more available and at lower prices, we are concentrating on changing our enamels from the oleoresinous to the alkyd quality with the addition of a phenolic varnish to give better water resistance and durability. These changes will be made as rapidly as the increase in alkyd production in Reading allows. All Syndicate Florenamels are already being manufactured on the above basis. We are also experimenting with the chlorinated rubber types of enamels in an endeavor to obtain the valuable properties of fast dry, mar resistance, and chemical resistance which it imparts. At present, we are still having trouble with this type enamel with its characteristic ally lower sheen, less holdout, and self lifting properties.

(R. D. Canfield)

### Specialties

### Nail Polish Remover, RL-8233-B

Considerable work has been done to establish the best methods of

manufacture for this product. The filling mechanism of this product presents some rather unusual problems as it must be cooled rather rapidly in the package to get a satisfactory appearance.

Glid-N Cleaner, Y-1511-A

Work is underway to make this product into a paste-like consistenc to possibly vend in a tube to make for a more convenient package in the home.

White Tire Paint

Work is underway to develop a better type product using some of the vinyl acetate polymers. The adhesion of these products seems excellent.

Paper Mache Paints

A line of solid shades has been developed to use on paper mache toys which are to be filled with candy. The main consideration was that there must be no odor present in the boxes at the time of candy packaging. Spred Emulsion, 67-T-300, and Y-3000 were used as the bases and new tinting bases were made up where necessary. The following shades were developed.

RPL-188 - Flesh Spred Paint
RPL-189 - Light Red Spred Paint
RPL-190 - Yellow Spred Paint
RPL-191 - Dark Brown Spred Paint
RPL-192 - Blue Spred Paint
RPL-195 - Orange Spred Paint
RPL-196 - Basic Orange Spred Paint
RPL-197 - Leaf Green Spred Paint
RPL-198 - Dark Green Spred Paint
RPL-199 - Bright Red Spred Paint

Results of 2-4-D Field Tests

Several formulations of 2-4-D were applied in the field on similar patches of weeds at two different times of growth. The purpose of this test was to attempt to find a suitable synergist that would give us our product a plus over our competition. Several humectants (glycerine, ethylene glycol, sorbitol) were used; penetrating agents such as Triton X-100 were used; and water soluble binders such as polyvinyl alcohol were used. All of our formulations were run against Weedone (American Chemical Paint Co.) Weed-No-More (Sherwin-Williams). It was found that all the formulations were about equal in the long term kill. The formula containing ethylene glycol appeared to be the more rapid in killing, comparing very favorably with Weedone. Weedone apparently has some material in it that affects a very spectacular wilting of weeds but in the long run is no more effectiv e than other formulations.

( C. V. Pratt)

Trade Sales Products

House Paint Exposures

In our July report we enumerated some of the house paint primer and house paint tests we are now running. We have decided to include another

group of paints in these tests. In view of the increasing prices and the decreasing availability of lead compounds, we are going to expose a group of lead free paints and also some paints made only of $TiO_2$ and inert. The various grades of rutile and anatase will be evaluated as well as several inert combinations including whiting and mica. We have seen sev eral paints of this type on exposure and results have been surprisingly good. Paints of quite low price can be made using only $TiO_2$ and inert. This will fit quite well into our Syndicate picture. We plan to use the present type of Y-1800 vehicle rather than the pre-war high oil content type.

Finishes for Cement and Concrete Blocks

We have had a continuing number of inquiries for recommendations on finishes for cinder block, cement asbestos siding, and other types of alkaline surfaces. The ordinary type of primer such as Y-1851 is not adequate when applied to these surfaces especially if they are new. After a year or more of weathering in an uncoated condition, the surface is washed fairly clean of alkaline material, but when new, they cause saponification of the oil type primers, allowing them to be washed away or causing them to have very poor adhesion.

In several previous reports we have mentioned RL-8319 as a primer for these surfaces. This is a white vinyl product which is applied by spray at a 2:1 reduction with S-120 or is brushed full body. We have had this product on test for more than a year in several places and find it to be far superior to oil type primers. On our own lacquer roof, it is showing up very well on linabestos, regular concrete and cemesto.. After more than a year on a concrete building at Hershey Chocolate Co., it is holding very well. On this particular building, it is the only thing that will hold under the eaves without peeling. It can be coated with regular house paint to form a film that weathers just like house paint on non-alkaline surfaces. We highly recommend this type of product for priming any cement or concrete block, cement-asbestos, or regular concrete surfaces.

We have also been running tests on paints that will obliterate the texture of cinder blocks, giving them a more nearly smooth appearance. We have found that fibrating a paint with M-10 Asbestos fibre does a good job, especially if brushed. We have painted one concrete block building using a fibrated oil paint over RL-8319 primer with fairly good results. However, it appears that fibrating the RL-8319 primer does a far superior job when followed with a coat of regular house paint. We have applied several test areas on cinder block buildings of a local cinder block manufacturer using this technique. We will report on these exposures from time to time.

To date we have one year's exposure background on these vinyl primers in RL-8319 quality and all of them have held up well. They are:

RL-8319 - White
RL-8458 - Gray
RL-8459 - Cream
RL-8460 - Red
RL-8461 - Green

New formulae developed having the asbestos fibre included are:

RL-9015-A - White
RL-9031 - Ivory

In addition to the tests mentioned above, we have also had a cinder block wall placed on the roof of our laboratory building for the exposure of experimental paints. We feel this work is highly essential in view of the many homes and buildings being erected using these materials of alkaline nature which must be painted for both appearance and protection.

Yellowing and Hazing of White Enamels

A series of white enamels similar to those mentioned in our June report has been painted out for yellowing and hazing tests. Work is being continued in order to evaluate inclusion of zinc naphthenate, calcium naphthenate, zinc oxide, lecithin, rutile vs anatase $TiO_2$, the inclusion of either W-154 or W-41, and the value of bluing. These have been exposed since August 25th, 1947 and it is already apparent that zinc oxide hastens hazing and that cold cut resin is necessary for gloss retention. Other differences are not yet apparent. The vehicle used in these high hiding white enamels is V-856 modified as noted above. Results will be noted in forthcoming bulletins.

Garland Tung White

We have recently tested a sample of the above which was supplied locally as a special greenhouse paint. We found it to be inferior to our Y-1800 in every way, it being nothing more than a lithopone type house paint.

Shingle Stain

We have applied a number of experimental shingle stains in both red and green colors in an effort to evaluate the following rot-proofing agents on an approximate cost basis as compare to creosote:

1. (Creosote) -- 70028 Shingle Stain Oil (refrigerated)
2. Phenyl mercuric oleate
3. Y-569
4. Copper naphthenate
5. Zinc naphthenate

Marine Paints

Fumeproof Gloss White Enamels

We are preparing a set of 15 steel panels primed with both zinc chromate alkyd primer (52-P-18 type) and an alkyd, zinc chromate, red lead type finished with two coats of a series of alkyd whites of the B-6104 type ($TiO_2$, V-856, 2-KB-259 resin cut). Mixtures of chalking and non-chalking rutile, non-chalking rutile and anatase, V-856 vs 1240 Aroplaz, and cold cut resin vs no cold cut resin will be evaluated by the Sub-Tropical Testing Service in Florida. These tests are felt necessary in view of the severe conditions encountered by ocean going vessels in the tropics.

Tank Paints

In several previous reports we have tank top whites and gray tank paints that we have supplied for both general use and for tests. We are setting up a program of applying several of these to our own tanks at the Varnish Dept. This is an excellent opportunity for testing our own products on a large scale.

GLD005191

We feel that as much of this type of testing as possible should be done since it is such a valuable source of information near at hand.

Window Glazes

We have formulated three different colored glazes for application to window panes in order to reduce glare and visibility. These products are made from B-72 Acryloid and plasticizer and as such are excellent for color retention and water resistance (from condensation, etc.) They are fairly smooth and can easily be washed. Formula numbers are:

RGL-19230 - Uncolored
RGL-19231 - Blue
RGL-19232 - Green

Anti-Sagging Compound

RPL-187 has been formulated as a material to be added to architectural enamels to control sagging. We have found it to be effective in various enamels, even the straight resin cut enamels such as B-5070-L. Two liquid ounces per gallon seems to be sufficient to control sagging without unduly harming body or gloss. It can be stirred directly into the paint or enamel. Formula is as follows

| | | |
|---|---|---|
| CH-185 | 2-1/8 oz. | ) |
| S-56 | 1/8 pint | ) Mix first |
| S-14 | 7-3/4 pint | then add S-14, mixing thoroughly on high speed mixer. |

Anti-Flooding & Silking Agent, RL-8721

We have recently run into serious trouble in using the above product and are noting it here so that other users might be aware of it.

In using RL-8721, in a urea-alkyd dipping enamel that was placed in a dip tank on a conveyor line setup where the parts being dipped moved quite slowly causing a minimum of surface disturbance, we found that there was floatation of small streamers of liquid on the top of the tank where there was hardly any pigment present. When this liquid touched a box being dipped, either as it entered the tank or was withdrawn, a marked repellance of the pigment took place from this spot leaving an area covered with vehicle but no pigment. We thought at first it was unclean metal, but this was not true. Further, this same enamel was all right when hand dipped since the surface of the liquid is rather sharply disturbed in this operation. Also, it was all right in the spray guns, but in the automatic dip tank, it was not good. The tank was agitated by a pump and directions were reversed regarding intake, but this had no effect. The only cure was to place a batch in the tank containing no anti-silking agent. This did not do as good a job insofar as smooth, even flow was concerned, but it eliminated the spotting noted above.

This phenomenon was proven in the laboratory where we obtained it only by adding somewhat of an excess of RL-8721. However, in a dip tank of large surface area that is not violently disturbed, the reaction is much more noticeable For this particular account, we are forced to do without this otherwise very useful product.

## Industrial Finishes

### Quick Drying Gloss Red Enamel

We have recently submitted a sample of RGL-19185, Gloss Red Enamel, to an account manufacturing trailers and have been given approval as well as a substantial order. It is an alkyd-parlon type product that reduces 4:1 with S-23 for spray and can be handled after a 15-20' air dry.

RGL-19237 is a similar type product in a blue color. This reduces 5:2 with S-23 for spray and dries to handle in 15-20'. We use a combination of P-526 Beckosol and 10 cps parlon in these enamels.

### Quick Setting White Synthetic Enamel, RGL-18850-B

This is an alkyd white designed for use on wooden kitchen cabinets that have been properly primed. The enamel is reduced 3:1 with S-23 for spray and dries tack-free in 10-15'. It requires 8-12 hours for full hardness and wrapping, but it can be handled very quickly.

### White Baking Enamel for Aluminum Wall Tile, RGL-19155

This enamel is applied by roll coat full body or by automatic spray at a 4:1 reduction with S-23. It is to be applied to 3 SH aluminum wall tile that has not had any surface treatment. Adhesion is good but a treated surface is much better. This product will bake in a direct gas oven and will cure in 4' @ 350°F. or 1½" @ 425° F.

### White Baking Enamels for Brass Zippers, RGL-19126

RGL-19126 is applied by roll coat to brass zippers full body or after slight reduction with S-133. It has excellent adhesion on brass and bakes in 30' @ 275° F. It appears to w ithstand the abrasion caused by the closing device very well and should also stand laundering or dry cleaning.

### Enamels for Metal Strip Venetian Blinds

1. RGL-17808-C Off-White Gloss
2. RGL-18661 Ivory Gloss
3. RGL-18266-C Eggshell Ivory
4. RGL-18727-A Ivory Gloss

The first three are reduced as needed with Solvesso 150 or S-133 for roll coat according to the customer's setup. #4 is applied full body.

All bake in 45" to 60" @ 425°F to 450°F. in gas ovens where the strip is baked in a continuous process. Flow, adhesion, hardness, etc. appear satisfactory on these products which are on test at numerous places.

Up to this time we have made these products using our #21 Paste from Kroma Chemical which is W-91 in VM-386 and solvent - 65% pigment. However, competition is such that we have been forced to set these up as pebble mill grinds for our own manufacture in order to save money. Costs could further be reduced if W-163 were available. At present we get none of this product in Reading for anything other than marine paints which makes it quite difficult to be competitive in some white baking enamels.

Freight Car Paints

We have recently changed all our freight car paints to use soya and soya-wood oil combinations as linseed replacements in order to reduce costs. We are further investigating these formulae in order to use the red oxide pigments now available which are not the same in many cases as those originally used. This causes color variance in the mill batches and tinting in some cases. Formulae will be revised where necessary.

Our standard railroad black, 94-B-201, was recently compared to DuPont and Sherwin-Williams Black and was found to be comparable in everything but body. We have reformulated to increase our viscosity and have batches in process at present in the factory.

JPH:gs

J. P. HARNER