



47-11 BAKELITE CONTRACT

1953-54
10 Months
Expenditure

1954-55
Budget

\$ -0-

\$ 500.00

*Bakelite
house
development
contracts*

We are requesting \$500.00 to examine any new resins which may be submitted in the coming year under the present development contract. In the past year they submitted VKLD which is a vinylite resin soluble in aromatic solvents. The advantage of this type resin is that solution can be made at higher solids and with less expensive solvents. Preliminary results in our Vinyl-Cote tank lining indicated poor resistance to crude oil and therefore, is not satisfactory in this particular product.

Incidentally, along this line, Firestone have submitted their EXON 470 which is also aromatic soluble and which appears to give a more promising film and better resistance.

As a matter of interest, our total production of vinyl finishes for ten months in 1953 was 345,276 gallons, 32,578 (approx.) of which was pigmented, the remainder was manufactured under Stoner-Mudge and Continental Can arrangement.

47-12 TRADE SALES PRODUCTS

\$ 12,409.50

\$ 17,000.00

While emulsions have made rapid strides in volume, it should be pointed out our trade sales solvent type finishes still account for 37 per cent of our trade sales business or approximately 3 million gallons. Therefore, it is essential we continue to invest enough money to protect this business. Our largest volume trade sales item is house paint which accounts for over 1 million gallons or over 12 per cent of our trade sales total or 30 per cent of our solvent trade sales business.

HOUSE PAINT - In the past year Y-1800 Endurance White was changed to give higher gloss, better color, more hiding and improved chalk control. In order to retard the chalking we have included 25 per cent of our titanium oxide as rutile.

There is a definite trend toward the replacement of the silicate type of extender with calcium carbonate at a considerable savings in cost. Experimental formulations have been exposed. In order to gain background on this type in the field, Y-2200 Everon house paint has been changed accordingly to the calcium carbonate extender.

Our studies on the use of lead silicate in place of leaded zinc are continuing.

In regard to Titan-O-Zinc Y-1850, some companies during the year are stressing the use of lead free paints. Our Titan-O-Zinc has been changed to eliminate lead drier.

GLD37082

Blistering and peeling of house paint has become a major

47-12 TRADE SALES cont'd

problem, particularly on new construction. GL-63078 blister resistant house paint has been formulated and is being field tested. Preliminary work in the laboratory has been done by exposing the back side of a painted panel to humidity. It is amazing that moisture will go through a one inch board within several hours and cause blistering. This is a high pigment volume exterior paint based on alkyd vehicle.

IMPERIAL HOUSE PAINT - It seems that every fall when we have hot days and cold nights, our Imperial house paint white, Y-1867, has a tendency to wrinkle, particularly when applied heavily. This formula has been modified to have a more positive dry and the pigment volume has been raised slightly. The per cent of rutile has also been raised in order to reduce chalking.

The following other trade sales products have been improved:

SPEED-WALL FLAT has been changed to an alkyd type. Considerable amount of experimentation was done on evaluating odorless and semi-odorless flat wall paints. Considering the fact that odorless solvents are 15 cents per gallon more than semi-odorless solvents which are only 2 to 3 cents per gallon over regular solvent and the fact that the odorless solvents are poor in solvency, a semi-odorless Flat wall paint containing an alkyd vehicle was developed.

SPEED-WALL SEMI-GLOSS is now alkyd type.

FLORENAMEL - The quantity of alkyd has been increased to give added durability without increase in price.

PLI-NAMEL - Method of manufacture has been improved to lower cost.

EXTERIOR PLIOLITE - Complete line of ten colors for masonry and stucco coating has been developed using either Pliolite S-5 or Marbon 9200.

COLORS IN OIL - Formulas were changed so as to permit pebble mill grinding and a new perma green and perma blue using Monastral pigments were added to the line.

GRAPHIC ARTS - Bright Red 15-R-4, Fire Red 15-R-15, Dark Blue 15-A-20, and 15-W-1-K lettering white have been revised to give better gloss, gloss retention, lower cost and faster dry. The extra light panel green and the light panel green were reformulated in alkyd quality to improve durability and gloss retention.

NEV-A-RUST - Line was changed to alkyd quality at no increase in cost.

SPRAY-DAY-LITE - A new Spray-Day-Lite Mill White, 19-W-1006, and a Brush Day-Lite fume proof Mill White, No. 19-W-1007, have been formulated, field tested and approved; over 20,000 gallons of the Spray-Day-Lite Mill White have been made.

GLD37083

1953-54	1954-55
10 Months	Budget
<u>Expenditure</u>	<u>Budget</u>

47-12 Trade Sales cont'd

PROGRAM FOR THE COMING YEAR - Our studies on house paint will continue, particularly in relation to control of chalking and non-blistering. We also intend to investigate Mr. Duncan's idea of marketing a north and south exposure house paint.

We have been advised it is desirable to have a non-penetrating type of semi-gloss and gloss enamel which can be used as a one coat enamel over porous surfaces such as plaster, wood, etc., and eliminate the need of an under coat. Our maintenance enamel No. 5045 is this type, and principle will be followed into the regular trade sales line.

In regard to the Graphic Arts program for the coming year, we understand there is a need for a lower cost on some of the bulletin colors, a line of silk screen acrylic colors is requested and a general demand for faster drying silk screen colors.

47-13 PETROLEUM DRYING OILS

See Research Problem No. 54-27 Development of C-Oil Polymer

47-14 SPECIALTIES \$ -0- \$ 1,000.

We are requesting \$1,000 for any work which may arise during the year on specialty items such as paint and varnish remover, etc.

48-20 STYRENATED OILS & RESINS \$ 4,159.92 \$10,000.

Most of the work in the past year has been on the study of copolymerization of the drying oils and alkyd resins with styrene, vinyl toluene, divinyl benzene, etc.

During the past year it was necessary to develop a styrenated alkyd for specification MIL-E-10687 in order to improve the humidity resistance and salt spray resistance and compatibility, of the previous GRV-2137. GRV-2194 was developed at no increase in cost and approved by Aberdeen in Olive Drab.

In regard to the vinyl toluene, several new vehicles have been formulated. The most interesting one seems to be V-900 (GRV-2202-A) which has excellent possibilities as a replacement for Reichhold's Styresol in hammerloid. There is a potential savings of \$50,000 per year. Since it is soluble in mineral spirits this vehicle might also be of interest for special trade sales fast drying products. These vehicles have the advantage of drying almost as fast as lacquer and will set out of dust in 5 to 10 minutes.

We are asking this be included in our budget so that we may continue our copolymerization studies. Many of the other monomers such as methacrylate esters, acrylonitrile, etc., are lowering in price and therefore, will be of more decided interest to us in the coming year.