

WPCP Pigments – Product Profile

WPCP PIGMENTS are dispersions of dry inorganic and organic coloring compounds in a specially formulated non-styrenated polyester resin. They are used for coloring Fibreglass Reinforced Plastics (FRP).

WPCP POLYESTER PIGMENTS are dispersions in an unsaturated polyester resin and are free from plasticizers. The carrier resin in the pigment pastes combine chemically with molding grades of polyester resin during curing.

PIGMENT PROPERTIES

WPCP PIGMENTS are known for their excellent dispersion, good compatibility, colour uniformity and freedom from streaking on moulded surfaces. The primary pigments are selected for the following properties:

• Light Fastness:

WPCP Pigments exhibit excellent light fastness and will resist fading on exposure to sunlight. Pastel shades in our range are recommended for indoor and outdoor applications.

• Outdoor Durability:

The durability of the WPCP Pigments depends on environmental conditions such as heat, light, moisture, and industrial pollutants present in the atmosphere. Generally the darker shades will have better durability when exposed to outdoor conditions. Translucent colours will have limited durability when exposed to outdoor conditions.

• Heat Resistance:

FRP moldings manufactured using dough/sheet molding compounds are usually processed at elevated temperatures of 140°C to 160°C, or higher. The heat resistance of the pigments in such applications depends on exposure time, temperature, oxidizing conditions during processing, heat transfer coefficients, and heat transport rates. We supply special polyester pigments for coloring these moldings.

• UV Resistance:

Ultraviolet (UV) radiation, from sunlight, accelerates the chemical and physical degradation of FRP moldings exposed to outdoor conditions. The degradation occurs mostly on the surface of the molding. But once degraded, the surface tends to chalk and erode due to weathering, exposing fresh surface to further attack. Protection of outdoor structures fabricated in FRP is, therefore, important.

WPCP Pigments absorb and convert UV radiation into heat, which is dissipated to the surrounding medium readily. Therefore, pigments prolong outdoor service life of composite moldings. Protection by this mechanism depends on the pigment concentration on the surface. Gel coats having higher pigment loading will, therefore, afford longer protection

• Chemical Resistance:

The compatibility of pigments to chemicals depends on the material constitution of the pigments themselves. As a general rule chemicals that would react with polyester resins would be incompatible with the pigments. Our technical staff would be able to assist you in recommending the available choice of colors for your applications.

• Electrical Properties:

Polyester moldings are used to a large extent in electrical applications. Special WPCP Pigments can be offered which will have no adverse effects on track resistance, surface resistivity, dielectric strength and other insulation properties.

• Toxicity:

Special, non-toxic pigments can be offered for colouring FRP equipments used for storage/processing of food products.

STORAGE STABILITY

WPCP PIGMENTS have excellent stability in storage and the minimum guaranteed shelf-life is 24 months. Storage below 25°C is recommended for longer shelf life.

PIGMENT USAGE LEVEL

The following is the recommended usage level of WPCP Pigments with commercial grades of molding resins. The percentage levels listed here is based on the weight of the molding resin.

7%-15%	For Gelcoats
3%-5%	For Laminates
8%-12%	For Sheet/Dough Molding Compounds
0.5%-3%	For Translucent Pigments Usage
3%-8%	For Filled Castings
8%-10%	For Pultrusions

Not using enough pigments may lead to non-uniformity of color and other surface defects. Higher pigmentation levels will provide better color uniformity, color depth, brightness and longer durability.

MIXING INSTRUCTIONS

WPCP Pigments mix readily with commercial polyester systems. Small quantities of pigments can be mixed easily by hand stirring. However, for large quantities of pigment, power mixing is necessary. The following mixing instructions are recommended.

A weighed quantity of the pigment is first charged into a mixing container, followed by a small amount of the resin. The contents are mixed well until the color is uniform. Next, the remainder of the resin is added and mixed.

COLOR MATCHING

WPCP Pigments can be mixed with one another to obtain intermediate shades. Dark shades present no particular color matching problems, but light shades may pose some difficulty. WPCP uses the latest state-of-the art color matching computer software and tools.