

TAP Pigments – Product Profile

TAP 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).

PIGMENT PROPERTIES

TAP 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:** TAP Pigments exhibit excellent light fastness and will resist fading on exposure to sunlight. Pastel shades in our range are recommended for indoor applications.
- **Outdoor Durability:** The durability of the TAP Pigments depend 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 depend on exposure time, temperature, oxidizing conditions during processing, heat transfer coefficients, and heat transport rates.

- **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.

TAP Pigments absorb and convert UV radiation into heat, which is dissipated to the surrounding medium readily. Therefore, pigments prolong the 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.

STORAGE STABILITY

TAP PIGMENTS have excellent stability in storage and the minimum guaranteed shelf-life is 6 months. Storage below 77°F is recommended for longer shelf life.

PIGMENT USAGE LEVEL

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

8%-12%	For Gelcoats
4%-6%	For Laminates
8%-10%	For Sheet/Dough Molding Compounds
1%-5%	For Translucent Pigments Usage
4%-6%	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

TAP Pigments mix readily with commercial polyester and epoxy resin 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.

On no account should a small quantity of the pigment be added to a large bulk of the resin before first thinning.

COLOR MATCHING

TAP 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.