

Of the many types and grades of color pigments, a few of the more important are briefly mentioned.

White Pigments

Titanium dioxide is the most important white pigment. Its hiding power is excellent and it is highly compatible with most vehicles.

Zinc oxide is also a fine white pigment but lacks the hiding power and the overall compatibility of titanium dioxide.

Antimony oxide is used mostly as an additive for imparting fire retardance and UV light resistance.

Blue Pigments

Phthalocyanine blue pigments have the excellent qualities of high tinting strength, lightfastness, heat stability, chemical resistance, and exterior durability.

Green Pigments

Phthalocyanine green pigments have the same excellent qualities as listed for the phthalocyanine blue pigments.

Chrome oxide is good on exterior exposure, heat stability, and IR reflectance.

Yellow Pigments

Chrome yellows (lead chromates) are available in many shades. They provide good tinting strength and hiding power but they are toxic, have poor exterior color retention (darken), and exhibit little resistance to an alkaline environment.

Orange Pigments

Molybdate oranges provide good tinting and hiding properties but they darken on exterior exposure.

Red Pigments

Ferric oxides are very good except for poor exterior gloss retention and poor tint quality.

Cadmium pigments are better than iron pigments in overall performance but they have poorer lightfastness and are more expensive.

Black Pigments

Carbon blacks are small in particle size and provide a fine hiding quality. However, they are poor for tinting purposes.

Lampblacks are better than carbon black for tinting but are inferior in other properties.

Other Pigments

Extender pigments such as calcium sulfate are relatively inexpensive but they impart only low opacity. One of their main uses is for the creation or control of gloss.

Metallic pigments and zinc and strontium chromates are classified as reinforcing pigments since they impart additional desirable physical properties to the coating. However, interior designers are now specifying metallic pigments to create the new "metallic look" strictly for decor.

SAFETY REGULATIONS

A proposed Federal Standard effective December 31, 1973 restricts the lead content of coatings to 0.06% of the total weight of the contained solids or dried film when such coatings are intended or packed in a form suitable for use in or around the household and on articles for use by children. A few states have already put this standard into effect.

This regulation imposes severe limitations on the choice of many of the conventional pigments as discussed above, especially in the red, orange, yellow, and green colorant classes. Transition to essentially lead-free coatings involves an arduous and costly process but presumably the change will provide safer although more expensive coating systems.

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A marine coating used on marine environment there of coatings for v to the harshness greatest demand coatings. Therefore are designed essentially prevention of corrosion.

This chapter describes pigments play in coatings. In addition systems are present for economic benefits.

Coating system structures can be compared to another. For example, paint applied to shipbottoms to Similarly, anticorrosion offshore towers equally well on various conditions.