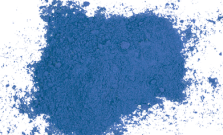
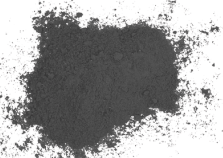




FIRED ^{UP} KILNS
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TYPES OF CERAMIC PIGMENTS

COLOR	BASE	PROPERTIES
YELLOW 	Tin-Vanadium Praseodymium-Zircon Vanadium-Zirconium Lead-Antimony Cadmium Tin-Antimony-Nickel	- High-temperature-stable pigments sensitive to reducing kiln conditions. - Clean and bright yellow pigment appears to have less red value compared to other yellow pigments. - High temperature stability and less sensitive to glaze composition. - Orange pigment, not to be used in high lead or boron glazes. Over-grinding will cause loss of intensity and glaze defects. - Develops a deep yellow-orange color in high-lead glazes. The pigment is stable only to a maximum temperature of 2100°F - Cadmium sulfide yellow and cadmium sulphoselenide orange belongs to this group. Mainly used in glass and porcelain enamel ware. - Light yellow pigment for low-temperature products (glass and enamels)
BLUE 	Vanadium-Zirconium Cobalt	- Famous turquoise blue pigment with high chemical and temperature stability. - This group contains pigments based on Co-Si, Co-Zn, and Co-Al. These pigments can be used in all applications
GREEN 	Chrome Chrome-Cobalt	- Chrome-silica is known as Victoria Green. Application is restricted only in non-opaque transparent glazes. - Yields clear green to blue-green shaded colors. Strongly recommended for body stains.
BROWN 	Chrome-Iron-Zinc Chrome-Iron-Zinc-Alumina Chrome-Antimony Chrome-Wolfram Titanium-Chrome-Wolfram	- Provide color shades ranging from light tan to deep red brown. The addition of tin oxide improves the stability of the pigment. Excess grinding should be avoided as it changes the color from red to yellow-brown. - Light to dark brown color used as body stains and in porcelain enamels. Not recommended for use as a glaze stain. - Light brown pigment used in the porcelain enamel industry.
RED AND PINK 	Chrome-Tin Iron-Zircon Manganese-Alumina Chrome-Alumina Cadmium-Zircon	- Suitable for glazes rich in calcium. Small addition of tin oxide is recommended to improve the stability. - Color shades from pink to burgundy can be obtained. - Suitable for glazes containing zircon. Low zinc content is advisable. - Not suitable as glaze stain due to the refractory property of the pigment. Used to color bodies. - Used only in low-temperature glazes. The glaze should be free from calcium and high in zinc. - Encapsulated cadmium pigments. High stability.
VIOLET 	Chrome-Tin Cobalt-Borate	- Same family as the Cr-Sn pink, but used in glazes low in calcium. - Low-temperature violet pigment.
GRAY 	Tin Titanium-Antimony Zircon	- Stable gray pigment with a light blue shade. - Gray pigment used in the porcelain enamel industry. - Used in opaque glazes with low zinc content.
BLACK 	Cobalt-Nickel Chrome-Copper	- Stable spinel structure. Recommended for all glaze types. - Suitable for glass and porcelain enamel ware. Not recommended as a glaze pigment.