



Shanghai King Chemical Co.,Ltd

Tel: +86-21-67817854 Fax: +86-21-67817855

Address: ROOM CDEF , 9th Floor, Building D, Weijing Center Tower
NO.2337 GuDai Road, Minhang District, Shanghai, China

Name: Zinc oxide for ceramics

Project	Indicators		
	I type	II type	III type
Appearance	White powder		
Zinc oxide content, % \geq	99.70	99.70	99.50
Content of metal, % \leq	There is no	There is no	0.008
Hydrochloric acid insoluble, % \leq	0.006	0.008	0.03
Burn loss, % \leq	0.20	0.20	0.25
Sieve residue, % \leq	0.10	0.15	0.20
Water soluble, % \leq	0.10	0.10	0.15
105°C volatile, % \leq	0.3	0.4	0.5
Lead (Pb) content, % \leq	0.0080	0.05	0.10
Copper (Cu) content, % \leq	0.0002	0.0004	0.0007
Manganese (Mn) content, % \leq	0.0001	0.0001	0.0003
Cadmium (Cd) content, % \leq	0.0020	0.0050	0.010
Iron (Fe) content, % \leq	0.0050	0.010	-
Specific surface area /(m ² /g)	agreed		-
Oil absorption/(g / 100 g)	agreed		
color	agreed		
Decolorization force	agreed		
Note: zinc oxide (indirect method) products only			

Zinc oxide used in ceramics is an important ceramic chemical solvent raw material, which is widely used in building ceramic wall floor tile and low temperature porcelain glaze. It is also widely used in artistic glazes. In the ceramic industry, zinc oxide is widely used in the translucent glaze of brick glaze and coarse pottery and the transparent coarse glaze or cooked glaze of craft tableware. Do you know anything about it?

Characteristics and uses of ceramic grade zinc oxide:

Ceramics with zinc oxide in the glaze has a strong melting effect, can reduce the expansion coefficient of the glaze, improve the thermal stability of the product, while increasing the gloss and whiteness of the glaze, improve the strength of the glaze, while expanding the melting range can increase the luster of the glaze.

The main uses of zinc oxide for ceramics: a kind of semiconductor ceramic materials made by adding appropriate dopants into the main crystal phase. It has excellent nonlinear coefficient, wide range of voltage sensitive voltage (from a few tenths of a volt to tens of



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thousands of volts), low voltage temperature coefficient, fast time response, small leakage current and so on. The main raw material is zinc oxide, doped bismuth oxide, cobalt oxide, strontium oxide, titanium oxide and so on. Manufactured by general electronic ceramic process. It can be used to manufacture voltage stabilizer and overvoltage protection element in high voltage circuit (such as low voltage varistor in integrated circuit), and can also be used as lightning arrester.

Properties and implementation standards of zinc oxide for ceramics:

Physical properties

Appearance and properties: white powder or hexagonal crystal system. Odorless, tasteless and sandless. It turns yellow when heated and white again when cooled. It sublimates when heated to 1800°C. The hiding power is half that of titanium dioxide and zinc sulfide. Coloring power is twice that of basic lead carbonate.

Solubility: Soluble in acid, concentrated alkali hydroxide, ammonia water and ammonium salt solution, insoluble in water, ethanol.

Chemical properties

Ceramics with zinc oxide is a famous white pigment, the common name is zinc white. It has the advantage of not being black in the presence of H₂S gas, since ZnS is also white. When heated, ZnO from white, light yellow gradually into lemon yellow, when the cooling yellow will recede, using this characteristic, it mixed into the paint or add to the thermometer, make color paint or color thermometer. Because ZnO has convergence and certain bactericidal ability, it is often used as ointment in medicine, and ZnO can also be used as catalyst.