

CLASS 6700

Zinc oxides and sulfides

6700-6749 Zinc Oxide

6750-6799 Zinc Sulfides, pure and lithopone

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March 15, 1955

Zinc Oxides

Number	Process	Particle	Name	Paint Consistency
6720	American	Acicular Large	Zinc Oxide	High
6721	American	Acicular Medium	Zinc Oxide	High
6722	American	Nodular Large	Zinc Oxide	Low
6723	American	Nodular Medium	Zinc Oxide	Medium
67C1	American		#40 Green Label	Medium
67F1	American		Off-shade ZnO	
6700	French		Green Seal	Med. High
6705	Fr. & Amer.		Blended ZnO	Medium
6710	Electrothermal		Zinc Oxide	High
67A1	American	Nodular Medium	Imported	Medium
67C4	American	Nodular Medium	XX-50	Med. Low
67Y1		Acicular Medium	Zinc Oxide	Low

Zinc Sulfides

Number	Material	Paint Consistency	ZnS % Min.
6750	Zinc Sulfide		97
6770	Lithopone	High	28
6771	Lithopone	Medium	28
6772	Lithopone	Low	28
67C2	Lithopone	Low	28
67C3	Lithopone	Medium	28

PV&L Bases

Number	% Pigment	#/Gal.
BW 19	56 6710, 6723, or 6705	15.0

0007-PMC-000000352

Oil Absorption S-W 419.2	ZnO % Min.	Residue 325 Mesh % Max.	Specific Resistance Ohms Min.	Remarks	Bulk G/100#	Number
36	98.5	0.2	2450		2.14	6720
34.5	98.5	0.05	4450		2.14	6721
27	98	0.5	2400		2.14	6722
36	98		1250		2.14	6723
30	99.2	0.03		Try to void	2.14	67C1
	98	0.5		Gibbsboro only	2.14	67F1
25	99	1.0	14,000		2.14	6700
31	98	0.5	2900		2.14	6705
34.5	99	0.01	20,500		2.14	6710
						67A1
	98.0	0.01			2.14	67C4
16	99.0	0.2			2.14	67Y1

Oil Absorption S-W 419.2	Specific Resistance Ohms Min.	Remarks	Bulk G/100#	Number
	3000		3.00	6750
30			2.79	6770
24			2.79	6771
17			2.79	6772
	3500	Emulsions	2.80	67C2
		Enamels	2.79	67C3

Remarks

Zinc Oxides

Effects of zinc oxide in paint are many, including increased consistency, better through drying, hardening, better gloss retention, reduced chalking, moisture and mildew resistance, and minimized discoloration.

Remarks concerning use of zinc oxides, particularly in exterior formulations, have been kindly provided by R. R. Bruhn of Paint Research, Chicago.

- 6720 Acicular-- high consistency. This material is very coarse and finds its major use in specification finishes.
- 6721 Acicular - high consistency. Medium particle size compared to 6720. This material finds particular use in fume resistant house paints, and is the preferred grade for this type of product. It is much easier to disperse and substantially equal in durability to 6720 for normal exterior products.
- 6722 Nodular - low consistency. This material is the alternate zinc oxide for use in fume resistant exterior house paints. Since its physical characteristics are quite different from 6721, some formula revision may be necessary to use the two materials interchangeably. It possesses good durability characteristics.
- 6723 Nodular - medium consistency. 6723 represents the next level of durability in zinc oxides below 6721 and 6722. It would be acceptable if used in metal primers and the like, in small amounts. It represents a reasonably universal pigment for a variety of uses where consumption does not justify stocking a variety of grades.
- 67C1 Paint Research does not consider this acceptable for use in exterior paints.
- 6700 French Process zinc oxide is used in high grade enamels where high brightness and gloss, and gloss and color retention are imperative. Consistency is higher than might be anticipated from the oil absorption.
- 6705 A 50-50 blend of French and American Process zinc oxides, brighter in color than American Process.
- 6710 Electrothermal type zinc oxide is normally used for its chemical properties in varnish films. It has low opacity, very fine particle size, and high reactivity. This zinc oxide finds particular use for the reduction in yellowing of white enamels and for the hardening of enamel-type films. Usage may occasionally result in embrittlement. Caution is suggested in use of 6710.

Lithopones

Use of lithopones has decreased considerably during the last several years due to cost disadvantage, and has been largely replaced by titanium dioxide.

Principal use today is in latex and emulsion paints where, among other advantageous features, they improve drying, emulsion stability, and washability and reduce lap marks.