

Page 33-1
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Class 3300

Rosin, unesterified, and spirit and oil varnishes made therefrom.

- 3300-3309 Rosin, unpolymerized, and spirit solutions thereof.
- 3310-3319 Rosin, polymerized, hydrogenated, disproportionated or otherwise processed without added materials other than H, O or X, and spirit solutions thereof.
- 3320-3329 Rosin, metallized (limed rosin, gloss oils, etc.) and spirit solutions thereof.
- 3330-3399 Rosin and oil varnishes where the last two numerals indicate % oil content in the non-volatile portion.

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Number	Material	Melting Point °C.	Color U. S. Resin Standards
3300	WW Gum Rosin	70 - 84 (B&R)	WW min.
3310	Polymerized Wood Rosin	85 - 103 (B&R)	WG min.
33A5	FF Wood Rosin	76 Std. (B&R)	FF min.
33A11	Ppt. Manganese Resinate	-	-
33C1	Limed Polymerized Rosin	130-135 (B&R)	I min.
33C5	Oxidation Product of Terpene	86.5 (Drop Method)	FF min.
33C6	Oxidized Rosin Acids	100-110 (B&R)	-
33C16	Zinc Resinate	205 std. (B&R)	-
33C18	Zinc Resinate, 4.8%	130-135 (Capillary)	-
33C20	Rosin Med. Color	-	-
33C25	Galex W-100 (Hydrogenated Rosin)	62 std. (B&R)	WC std.
33C27	WG Gum Rosin	68 - 84 (B&R)	WG std.
33C28	Staybelite	-	-
33C30	Neville Resin R-17	-	-
33C31	Calcium Resinate Ppt.	-	-
33F3	Copper Resinate	-	-
33T3	Tall Oil Rosin	-	-
33Y3	Helix, 5.5% Limed Rosin	132 std. (B&R)	WG min.
33Y5	Zirex Resin	130-135 (B&R)	N std.
33Y6	6% Limed Polypale, Filtered	265-275 (B&R)	I min.

Number	% Oil	Resin	% NVM	Solvents	(GHT) Viscosity
(3322)	00	Zn. Resinate	64	(145)	H-M
(3324)	00	Lim. Zn. 3300	60	(145)	N-P
(3330)	6 (1527)	Limed 3300	55	24:76 - (145):(125)	E-G
(3362)	63.4 (1562)	Limed 3300	38	(145)	K-M
(3383)	83.8 (1562)	Limed 3300	49	(145)	S-U
(33A2)	66 2(1521) 98(2702)	Limed Pb. 3300	40	(145)	R-T
(33C4)	14.4 (2541)	3300	23.8	50:50 - (323):(125)	Thin
(33C14)	75 21(2539) 79(1562)	Limed 3300	41.5	(125)	O std.
(33C15)	92 (1562)	3300	54.5	(145)	F std.
(33C21)	00	Zein A, 3300	66	(406)	W std.
(33C22)	38.4 (1562)	Limed 3300	55	(145)	D-F
(33C23)	-	-	62	-	-
(33C26)	70 (2C24)	Limed 3300	100	-	7'-9'
(33C32)	00	Zein A, 3300	66	(406)	V-X
(33D10)	00	Vinsol	40	(5120)	W std.
(33F4)	31 (27F7)	3300	62	20:80 - (329):(125)	A ₂ -A ₄
(33N1)	65 (1562)	Limed 3300	39	(145)	K-M
(33N2)	80 20(1527) 80(1562)	Limed 3300	52	(145)	F std.
(33T2)	00	Limed 3300	55	24:76 - (145):(125)	G-I

Acid Value	Remarks	Bulk Gal./100 Lbs.	Number
158 - 175	-	11.1	3300
140 - 160	-	11.1	3310
165 std.	-	11.1	33A5
-	Stencil Inks - D64	-	33A11
50 - 60	-	11.2	33C1
119 std.	-	11.0	33C5
90 - 105	-	10.0	33C6
-	Fuchsine Inks	9.7	33C16
15 std.	-	10.5	33C18
-	Pigment Dispersion	-	33C20
156 - 157	-	11.1	33C25
158 - 175	-	11.1	33C27
-	Azo Dye	11.5	33C28
-	Flushed Colors	-	33C30
-	-	-	33C31
-	Sherdye	-	33F3
175 std.	-	-	33T3
75 std.	-	-	33Y3
-	-	10.3	33Y5
-	-	11.2	33Y6

Color (Gard.)	A.V./NVM	Remarks	T.O.C. F.P. °F	@ 75°F Lbs./Gal.	Number
11 max.	-	Used as drier	105 min.	8.20	(3322)
14 max.	-	-	105 min.	7.90	(3324)
12 max.	64 - 82	-	55 min.	7.75	(3330)
12	24 - 34	-	105 min.	7.19	(3362)
11 max.	-	-	105 min.	7.32	(3383)
Dark	12 - 25	-	105 min.	7.25	(33A2)
8 - 10	-	-	105 min.	7.07	(33C4)
12 std.	10.5	-	55 min.	7.07	(33C14)
14 std.	-	-	105 min.	7.41	(33C15)
-	-	-	55 min.	8.30	(33C21)
14 max.	53 std.	-	105 min.	7.62	(33C22)
-	-	-	-	7.85	(33C23)
14 max.	-	-	-	8.7	(33C26)
-	-	Gasket cement vehicle	-	8.30	(33C32)
-	-	-	-	9.0	(33D10)
18 max.	-	-	55 min.	7.65	(33F4)
14 max.	-	-	105 min.	7.19	(33H1)
11 std.	-	Has driers added	105 min.	7.35	(33N2)
12 max.	64 - 82	Similar to (3330)	55 min.	7.67	(33T2)

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Remarks

There are two types of rosin - gum rosin and wood rosin. Gum rosin is obtained from living trees. Wood rosin is obtained from stump wood. Either type of rosin consists essentially of 85% resin acids, 10% unsaponifiable matter, and 5% esters. Wood rosin and gum rosin are usually interchangeable. Wood rosin does tend to bleach when heated to about 260°C and therefore, is the rosin normally used in the manufacture of gloss oil, maleic resins, and modified phenolic resins.

Rosin has a very high acid value, low melting point, low hardness, and poor durability. Because of these properties, rosin is seldom used without treatment of some kind.

Metalized rosin (calcium and zinc) has a lower acid value, is harder, and has a much higher melting point. Zinc resinate has better water resistance than calcium resinate.

Polymerized rosin has a higher melting point and better durability.

(3324) Is similar to (3330) but instead of treating the rosin with straight calcium, a mixture of zinc and calcium is used. (3324) is also reduced with mineral spirits instead of VM&P naphtha. These factors tend to retard the initial drying rate of an enamel film, but by keeping the film open for a short period of time, it permits the film to attain a better degree of through drying. This also improves the flow when it is used in dipping enamels.

(3330) Used to shorten the oil length of a varnish because of the addition of rosin. It may be added to paints and enamels to speed up drying time and gloss. (3330) may be used in dipping finishes to promote smoother draining and to prevent formation of a bead or thick lip of paint on the edge of the piece. (3330) may also be used in Bulletin colors where it can be used in combination with zinc stearate to form a metallic soap.

The disadvantages of (3330) are that it is brittle and has very poor water resistance and exterior durability. It will also cause discoloration if enamels containing (3330) are baked.

(3362) Has excellent gloss and rather rapid dry. It is used in black drum enamels, railway maintenance finishes, and air dry industrials.

(3383) Used in black drum enamels and air dry primers.

(33C15) Has very rapid initial dry and therefore is an excellent anti-bleeding vehicle. Used in aluminum paints to be applied over asphalt, etc.

(33N1) Similar to (3362) but has better dip tank stability. Used on conduit cables.

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