



Pure For Chemicals and Paints

POLY RESIN **100**[®]

POLY SACCHARIDE RESIN

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What's polysaccharide means ?

Its a long chain polymeric carbohydrates and coactive resin, which will emulsify and stabilize water molecules in Alkyd resin chain by hydrogen bond.

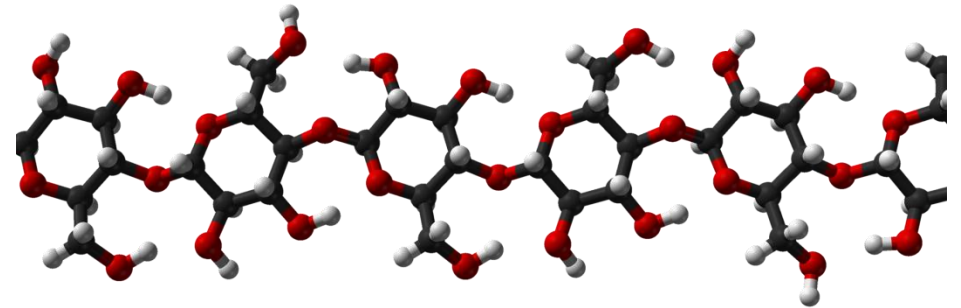
Polysaccharide resin create new phase from (Water, Polysaccharide resin, Alkyd resin) its form new generated molecules so its control the water evaporation through drying so it prevent pinholes .

Compatible with

Long alkyd chain

Medium alkyd chain

Short alkyd chain (fast dry ,chain stop alkyd and short cocount)



Polysaccharide resin

Different between (Polysaccharide & Emulsifier)

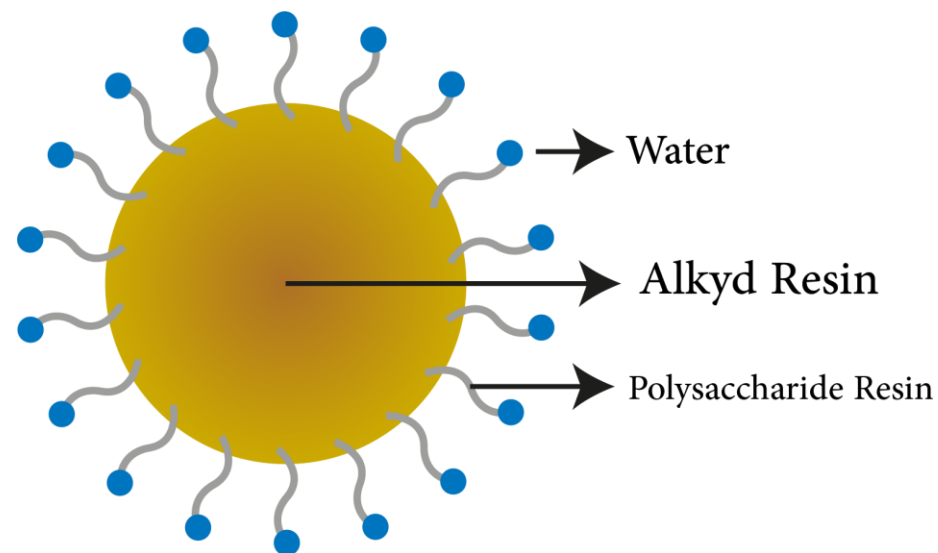
Polysaccharide resin (poly resin 100)

work by insert water molecules in alkyd chain resin by hydrogen bond so its improve stability ,film forming performance and control drying process

Emulsifier

work by miscible water within alkyd particle so water just suspended in solvent base resin less stability ,less addition water , low water evaporation control and free water particles .

	Polysaccharide Resin	Emulsifier
Stability	++	+
Gloss	++	+
Yellowing	+	++
Drying time	++	+
Wetability	++	-
Water addition	++	+



Features of polysaccharide Resin (polyresin100)

Reduce VOC

Poly resin 100 decrease petroleum solvent so decrease volatile organic compound .

Cost Reduction

Poly resin 100 make cost reduction because allow addition water by high ratio instead by alkyd ,solvent and filler and decrease the density of products .

Gloss and Gloss retention

Poly resin 100 create new phase particles (water,polyresin 100,alkyd)not effect on gloss and gloss retention

Drying

Poly resin 100 act as a catalyst so although the decrease the driers percentage according to alkyd the drying time is better .

Wetability ,Workabiliy and Film forming performance

Poly resin 100 improve wetability, workability and film forming performance .

Compatibility

Poly resin 100 allow to addition water to (long alkyd ,medium and short) .

Storage

Poly resin 100 create new phase from alkyd and water so its very stable for long time .

How to work ?

1-Emulsion Intermediate (E.I)

GUIDE FORMULA FOR E.I For Long Alkyd

RAW MATERIAL	Wt.%	Function
long alkyd (70%)	17.00	Resin
White Spirite	16.50	Solvent
Byk 052	0.50	Defoamer
Poly Resin 100	6.00	Polysaccharide Resin
Water	60.00	Solvent
Sum	100.00	

GUIDE FORMULA FOR E.I For Short Alkyd

RAW MATERIAL	Wt.%	Function
Short alkyd (60%)	17.00	Resin
Xylene	16.50	Solvent
Byk 052	0.50	Defoamer
Poly Resin 100	6.00	Polysaccharide Resin
Water	60.00	Solvent
Sum	100.00	

- Mix Poly resin well with alkyd , solvents and defoamer .
- Add water by rate (60-100) L/M on the desk of the mixer with high speed (1500-2000) RPM .
- After finish water addition let the mixer 30 min at the same speed .

2-Direct water addition (DWA)

After production mill base add poly resin 100 to completely mix then add water 1500 RPM by rate 60-100 L/M after full addition mix for 30 min at the same speed .

Stability test

Put E.i or final product in oven at 55 C° for 48 Hours (No seperation and Stable viscosity) .

Guide formula for White enamel paints

Raw material	Standard formula	by Poly resin 100
long alkyd (70%)	52.00	32.00
Ca 10 %	1.00	0.60
Disperse solvent base	0.30	0.30
Bentone	0.10	0.20
White Spirite	25.00	11.00
Dupont R 902	20.00	20.00
Emulsion intermediate	0.00	35.00
Co 10 %	0.50	0.25
Zr 18 %	0.80	0.50
Antiskin	0.30	0.30
Sum	100.00	100.00

Cost saving by Weight **12%**

Cost saving by Volume **18%**

Initial Results

Viscosity @ 25°C

Colour (L,a,b)

Contrast Ratio (%)

Gloss 20/60

Dry time

1 week @ 50°C

Viscosity @ 25°C

Colour (L,a,b)

Contrast Ratio (%)

Gloss 20/60

Dry time

2 weeks @ 50°C

Viscosity @ 25°C

Colour (L,a,b)

Contrast Ratio (%)

Gloss 20/60

Dry time

standard

82 KU

96.57, -1.17, 2.49

97

84.7/91.5

5.0 hrs.

79 KU

94.48, -0.95, 3.12

96.8

84.2/91.6

8.0 hrs.

80 KU

96.35, -0.80, 2.92

96.7

83.6/92.2

9.5 hrs.

modified

80 KU

96.49, -1.13, 2.44

97.3

82.5/91.7

4.5 hrs.

80 KU

94.50, -0.96, 2.97

96.7

83.9/91.6

7.5 hrs.

80 KU

96.42, -0.81, 2.72

96.2

83.7/91.8

8.75 hrs.



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Thank You

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