

POLYTONE®

P Series/Rosin Modified Phenolic Resin
MPE Series/Modified Rosin Esters



25 years
1989 - 2014



POLYOLS & POLYMERS PVT. LTD.

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POLYTONE®

P Series Rosin Modified Phenolic Resin

LOW VISC./LOW MELTING	<ul style="list-style-type: none">• POLYTONE® P 140• POLYTONE® P 141
MED VISC./MED MELTING	<ul style="list-style-type: none">• POLYTONE® P 143• POLYTONE® P 144
HIGH STRUCTURE	<ul style="list-style-type: none">• POLYTONE® P 145• POLYTONE® P 146
PETROLEUM DISTILLATE SOLUBLE	<ul style="list-style-type: none">• POLYTONE® P 142

POLYTONE™ P Series range of resins are Ink Resins and Vehicles. They also find use in coatings applications. The various grades in the P Series have been developed to offer solutions for a various ink applications like Offset, Webset, Sheetfed, Coldfed, Heatset etc. Act as vehicles and facilitate high speed printing in modern machines. The products are further customizable and variation in the properties if needed can be done.

MPE Series Rosin Modified Phenolic Resin

LOW SOFTENING RESIN	<ul style="list-style-type: none">• POLYTONE® MPE 45
MEDIUM SOFTENING RESIN	<ul style="list-style-type: none">• POLYTONE® MPE 46

POLYTONE™ MPE Series range of resins are low odor modified gum rosin esters.

ROSIN MODIFIED PHENOLIC RESIN

POLYTONE® P 140/141/142/143/144/145/146

Type

- Phenolic Resin
- Rosin Modified Phenolic Resin
- Phenolic Modified Rosin Ester

Chemistry

- Rosin Modified
- Penta Esterfied
- Modified Phenolic

POLYTONE P 140/141/142/143/144/145/146 Resins are phenolic modified rosin esters with a range of molecular weights which offers complete viscosity range (low to high). These resins have reactivity to gelling agents and excellent solubility in mineral oils.

These resins promotes fast adhesion and anchorage to substrate and offer gloss. Its ideal for offset inks in heat set and quick set and as modifying resin in flushing. High Melting resins are designed for modern high speed printing equipment.

Its good gel stability makes its an excellent choice to obtain high structure and fast setting in sheet fed inks and provides excellent gloss.

APPLICATIONS

- *Inks*: Sheet Fed, Heat Set, Quick Set, Webfed (Heatset and Coldfed), Offset, Letterpress, Aromatic Free Inks, Inks based in Vegetable Oil, Waterless Inks,
- *Varnishes* : Wetting varnishes, flushes, Overprint Varnishes (OPV)
- *Coatings/Enamels*: Oil Soluble Formulations,

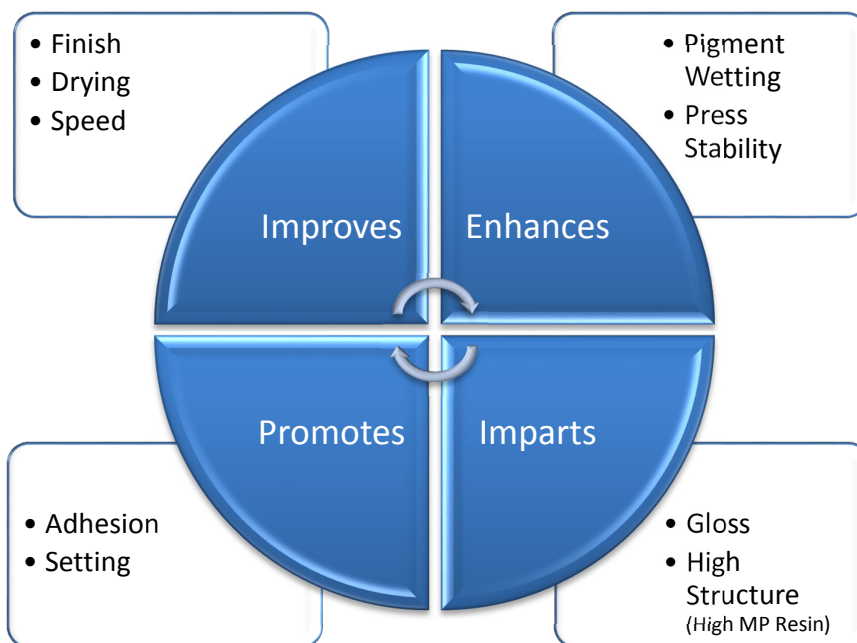
<i>MODIFIED PHENOLIC RESIN / LOW MELTING / LOW VISCOSITY/ ROSIN MODIFIED PENTA ESTERIFIED RESIN</i>		
	POLYTONE™ P 140	POLYTONE™ P 141
Colour	Yellowish-Brown	Yellowish-Brown
Melting Point (Capillary)	110 – 120 °C	135 – 145 °C
Viscosity of 50% solution in Toluene at 30° C by B 4 Ford Cup	18 - 22 sec	28 - 36 sec
Acid Value	20 mg KOH/ g resin (Max)	20 mg KOH/ g resin (Max)
MTO Tolerance of 50% solution in Toluene	1:10 Min	1:10 Min
Characteristics	<ul style="list-style-type: none"> ✓ Low Viscosity ✓ Water Resistant ✓ Colour Retention 	
Application/ Industry	Offset Printing Inks, Flexographic Inks, Gravure Inks, Printing Inks, Varnishes	

<i>MODIFIED PHENOLIC RESIN / MEDIUM MELTING / MEDIUM VISCOSITY/ ROSIN MODIFIED PENTA ESTERIFIED RESIN</i>		
	POLYTONE™ P 143	POLYTONE™ P 144
Colour	Yellowish-Brown	Yellowish-Brown
Melting Point (Capillary)	145 – 155 °C	145 – 160 °C
Viscosity of solution in Toluene at 30° C by B 4 Ford Cup	70 - 90 sec [50% solution]	19 - 24 sec [30% solution]
Acid Value	30 mg KOH/ g resin (Max)	30 mg KOH/ g resin (Max)
MTO Tolerance of 50% solution in Toluene	1:15 Min	1:15 Min
Characteristics	<ul style="list-style-type: none"> ✓ Water Resistant ✓ Colour Retention 	
Application/ Industry	Resin suitable for manufacture of high gloss quickset sheet fed and web offset inks, Offset Printing Inks, Flexographic Inks, Gravure Inks, Printing Inks, Varnishes	

MODIFIED PHENOLIC RESIN / HIGH MELTING / HIGH VISCOSITY/ ROSIN MODIFIED PENTA ESTERIFIED RESIN		
	POLYTONE™ P 145	POLYTONE™ P 146
Colour (50% Solution in Toluene)	12 MAX [Gardner Scale]	12 MAX [Gardner Scale]
Melting Point (Capillary)	140 – 165 °C	130 – 160 °C
Viscosity of solution in Toluene at 30° C by B 4 Ford Cup	50 - 70 sec [50% solution]	170 - 190 sec [50% solution]
Acid Value	25 mg KOH/ g resin (Max)	25 mg KOH/ g resin (Max)
MTO Tolerance of 50% solution in Toluene	-	1:15 Min
Methanol No.	25 – 35	-
Solubility in MTO	30 - 40	-
Heptane Value	-	20±1 ml
Characteristics	<ul style="list-style-type: none"> ✓ High Structure ✓ Quick Drying 	
Application/ Industry	POLYTONE™ P 146 is ideally suited for heat set inks because of its solubility in aliphatic hydrocarbon solvents.	

MODIFIED PHENOLIC RESIN / HIGH INK OIL/PETROLEUM DISTILLATE SOLUBILITY/ ROSIN MODIFIED PENTA ESTERIFIED RESIN	
	POLYTONE™ P 142
Colour (50% Solution in Toluene)	12 (MAX) Gardner Scale
Melting Point (Capillary)	130° C – 150 ° C
Viscosity of 33% solution in ARLO at 30° C by Brookfield Viscometer	4000 cP – 10000 cP
Viscosity of 50% solution in Toluene at 30° C by B4-Ford Cup	55-75 Sec
Heptane Value	30±1 ml
Acid Value	25 mg KOH/ g resin (Max)
MTO Tolerance of 50% solution in Toluene	1:10 Min
Ink Oil (280/310) Solubility of 5g - 33% solution in ARLO at 30° C	5g : 12±3 ml

CHARACTERISTICS – EFFECT ON FORMULATION & END PRODUCT



SOLUBILITY	
	POLYTONE™ P 140/41/42/43/ 44/ 45/46
Mineral Oil	○
Vegetable Oil	●
Aromatic Solvents <i>Toluene</i> <i>Xylene</i>	●
Aliphatic Solvent <i>Gas-Naptha</i> <i>Gas Solvent</i>	○
<i>Alcohol</i>	○
Esters	●
Varnish Oil	●
Water	⊗
<ul style="list-style-type: none"> ● Soluble ○ Limited Solubility ⊗ Insoluble 	

COMPATIBILITY	
	POLYTONE™ P 140/41/42/43/ 44/ 45/46
Vegetable Oil	●
Tall Oil Alkyd Resin	●
Hydrocarbonaceous Resin	●
Rosin Based Resins	●
Fully Compatible	: ●
Limited Compatibility	: ○
Not Compatible	: ⊗

MODIFIED GUM ROSIN ESTERS

POLYTONE™ MPE Series range of resins are low odor modified gum rosin esters. They have very good tackifying properties which can be used in the formulation of different kind of adhesives with light color, stability and oxidation resistance.

POLYTONE® MPE 45/46

Type

- Gum Rosin Ester
- Tacky Gum Rosin

Chemistry

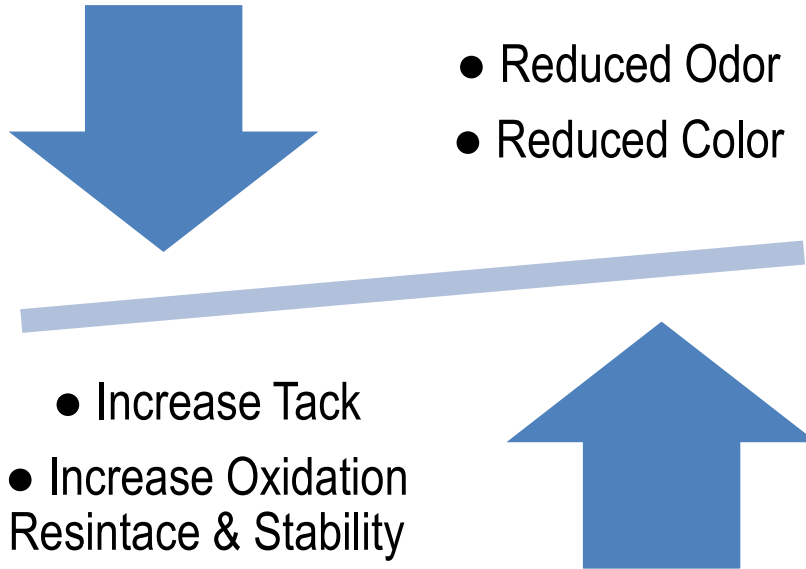
- Rosin Modified
- Acid Esterified

MODIFIED GUM ROSIN ESTER		
	POLYTONE™ RE 45	POLYTONE™ RE 46
Chemical Classification	Modified Gum Rosin Ester	Modified Gum Rosin Ester
Physical Form	Broken Lumps	Broken Lumps
Colour (Gardner) (60% Solution in Toluene)	3-7	3-7
Softening Point (B&R)	98° C – 108 ° C	108° C - 118° C
Acid Value	30 mg KOH/ g resin (Max)	25 mg KOH/ g resin (Max)

APPLICATIONS

- *Inks:* Sheet Fed, Heat Set, Quick Set, Webfed (Heatset and Coldfed), Offset, Letterpress, Aromatic Free Inks, Inks based in Vegetable Oil, Waterless Inks.
- *Adhesives :* Hot Melt Adhesives, Bookbinding Adhesives,
- *Paints:* Road Marking Paints, Paints

CHARACTERISICS – EFFECT ON FORMULATION & END PRODUCT



SOLUBILITY	
	POLYTONE™ MPE 45/46
Mineral Oil	●
Vegetable Oil	●
Aromatic Solvents	●
Aliphatic Hydrocarbons	●
Ketones	●
Esters	●
Varnish Oil	●
Water	⊙
<ul style="list-style-type: none"> ● Soluble ● Limited Solubility ⊙ Insoluble 	

COMPATIBILITY	
	POLYTONE™ MPE 45/46
SBR/CR/NR	●
EVA	●
Process Waxes	●
Rosin Based Resins	●
Fully Compatible	: ●
Limited Compatibility	: ●
Not Compatible	: ⊙



POLYTONE® P Series

POLYTONE® MPE Series

STORAGE & HANDLING

Available in 25Kg HDPE Line KRAFT Paper Bags with Anti Static Liner *or* 25Kg HDPE Bags
Choice of ISPM 15 Standard Heat Treated/Fumigated Pallets or Plastic Pallets.
500Kg/1000Kg Jumbo Bags available as an option
Can be stored up to 12 months at temperatures below 35 °C.
Ketonic Resin has a natural property of yellowing over time with no deterioration in property.

SAFETY

Please follow advice and information provided in MSDS. Protective clothing & workplace hygiene measure must be observed at all times.

Detailed MSDS available on request.

CONTACT US

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