

# POLYTONE™

## ABR Series/Thermoplastic Acrylic Resins



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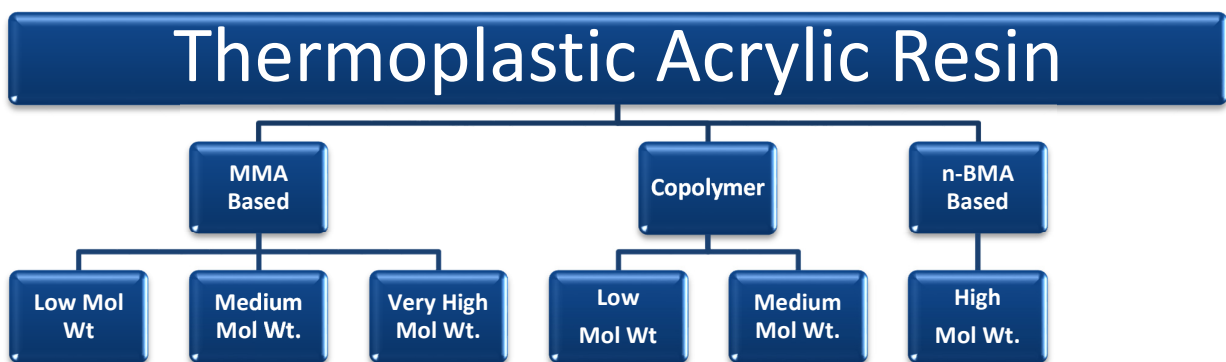
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# POLYTONE™

## ABR Series Thermoplastic Acrylic Resins



POLYTONE™ ABR Series Acrylic Bead Resins are polymers or copolymers of acrylic monomers for use in solvent applied lacquers, inks, speciality coatings & adhesives. These resins are available in fine granules and are thermoplastic in nature; they are thermally stable upto 180-235°C.

Coatings of these resins give water white transparent films having gloss and hardness. Polytone Acrylic Bead Resins provide excellent abrasion resistance & weatherability with low pigment reactivity. Having compatibility with a variety of plasticizers and fillers these resins provide excellent resistance to alkalis dilute acids, alcohols as also corrosive and oxidizing atmospheres. Polytone Acrylic Bead Resins show outstanding resistance to ultraviolet degradation and resistance to discolouration on heating.

## THERMOPLASTIC ACRYLIC RESINS

<b>POLYTONE™ ABR</b>
<b>Type</b>
<ul style="list-style-type: none"> <li>• Thermoplastic</li> <li>• Acrylic Polymer</li> <li>• Solvent Soluble</li> </ul>
<b>Chemistry: ABR 1011,1012,1013,1014</b>
<ul style="list-style-type: none"> <li>• Suspension Polymer</li> <li>• MMA</li> <li>• Methyl Methacrylate</li> </ul>
<b>Chemistry: ABR 1033,1034</b>
<ul style="list-style-type: none"> <li>• Co Polymer</li> <li>• Butyl Methacrylate - Methyl Methacrylate</li> <li>• MM - BMA</li> </ul>
<b>Chemistry: ABR 1044</b>
<ul style="list-style-type: none"> <li>• n-BMA Based</li> </ul>

<b>THERMOPLASTIC ACRYLIC RESIN/ HOMO-POLYMER/MMA BASED</b>				
	<b>POLYTONE™ ABR 1011</b>	<b>POLYTONE™ ABR 1012</b>	<b>POLYTONE™ ABR 1013</b>	<b>POLYTONE™ ABR 1014</b>
<b>Colour &amp; Form</b>	White Beads	White Beads	White Beads	White Beads
<b>Glass Transition Temperature</b>	95 °C	98 °C	87°C	105 °C
<b>Viscosity of 17.5% solution in Toluene at 25° C</b>	12 – 16 Poises			8.5 – 10.5 Poises
<b>Viscosity of 37.5% solution in Toluene at 25° C</b>		33 – 37 Poises	16 – 18 Poises	
<b>Acid Value</b>	0 mg KOH/ g resin	0 mg KOH/ g resin	0 mg KOH/ g resin	9 mg KOH/ g resin
<b>Molecular Weight</b>	Very High	Medium	Medium	Low
<b>Characteristics</b>	<ul style="list-style-type: none"> <li>✓ High Abrasion Resistance</li> <li>✓ Maximum Toughness</li> </ul>	<ul style="list-style-type: none"> <li>✓ General Purpose</li> <li>✓ High Tensile Strength</li> <li>✓ Medium Hardness</li> </ul>	<ul style="list-style-type: none"> <li>✓ Softer than ABR 1012</li> <li>✓ Chip Resistance</li> </ul>	<ul style="list-style-type: none"> <li>✓ Lower Mol.Wt</li> <li>✓ High Tack</li> <li>✓ Pigment Dispersion</li> </ul>
<b>Application/ Industry</b>	Barrier Coating on Vinyl Fabric, Scuff Resistance Top Coats.	Lacquers, Clear Lacqures for Steel, Barrier Coatings	Lacquers, Clear Lacqures for Steel, Barrier Coatings	Base Coat for Vacuum Metalizing, Gravure Inks Low Viscosity

<b>THERMOPLASTIC ACRYLIC RESIN/ CO-POLYMER</b>		
	POLYTONE™ ABR 1033	POLYTONE™ ABR 1034
<b>Colour &amp; Form</b>	White Beads	White Beads
<b>Glass Transition Temperature</b>	81 °C	40 °C
<b>Viscosity of 17.5% solution in Toluene at 25° C</b>	1 – 3 Poises	4 – 6 Poises
<b>Acid Value</b>	5.0 mg KOH/ g resin	14.0 mg KOH/ g resin
<b>Molecular Weight</b>	Low	Medium
<b>Characteristics</b>	<ul style="list-style-type: none"> <li>✓ Fastest Dissolving</li> <li>✓ Quick Solvent Release</li> </ul>	<ul style="list-style-type: none"> <li>✓ Flexible Grade</li> <li>✓ Good Pigment Wetting</li> </ul>
<b>Application/ Industry</b>	Industrial Lacquers, Flexo and Gravure Inks, Aerosol Sprays, Toners	Clear Metal Lacquers, Mettalic Paints & Inks,

<b>THERMOPLASTIC ACRYLIC RESIN/ N-BMA BASED</b>	
	POLYTONE™ ABR 1044
<b>Colour</b>	White
<b>Glass Transition Temperature</b>	17 °C
<b>Viscosity of 30% solution in Toluene at 25° C</b>	1 – 2.5 Poises
<b>Acid Value</b>	0 mg KOH/ g resin
<b>Molecular Weight</b>	High
<b>Characteristics</b>	<ul style="list-style-type: none"> <li>✓ Very Soft Flexible</li> <li>✓ Improves Outdoor Durability</li> </ul>
<b>Application/ Industry</b>	Cigarette Packaging, Adhesives,

## COMPATIBILITY

The compatibility of POLYTONE™ Acrylic resins with a variety of plasticizers and reins help in the formulation of adhesives, lacquers, inks etc.

**Alkyd Resins :** In general alkyds as a class have poor compatibility with acrylic. Acrylic modified alkyds show better compatibility. Copolymers resins e.g ABR 1033 and 1035 can be combined with a suitable alkyd for gloss and improved pigment wetting.

**Vinyl Chloride Resins :** Have excellent compatibility with POLYTONE™ Acrylic resins. Vinyl chloride homopolymers also compatible. By blending these resins excellent abrasion resistance, gloss retention and slip are achieved.

**Chlorinated Rubber :** is compatible with most grades of POLYTONE™ Acrylic resins. Aromatic rich solvents should be first used for optimum compatibility.

**Cellulosics** : Nitrocellulose and cellulose acetate butyrate are compatible with Polytone Resins. Inclusion of cellulosics increases the block resistance and hardness of soft Polytone resins like 1034, 1035, 1044. On the other hand softer acrylics can be helpful for improving the flexibility and durability of the cellulosics. Other Resins such as epoxy, ketone, rosin esters, amino, cumarone-indone are compatible with Polytone resins. ABR 1034, 1035 can be used as modifiers and extenders for silicone resins.

**Plasticizers** : POLYTONE™ acrylic resins are compatible with a number of plasticizers. Phthalate esters in general are useful plasticizers for Polytone Resins.

SOLUBILITY	
	POLYTONE™ ABR Series
Aromatic Hydrocarbon - Toluene - Xylene	●
Ethers	⊙
Alcohols -Methanol -Ethanol	●
Higher Alcohols -N-Butanol -ISO-Butanol	●
Esters	●
Ketones -Cyclohexanone -Methyl Ethyl Ketone -Methyl Iso Butyl Ketone	●
Nitro Paraffins	●
Acetonitrile	●
Mineral Oils	⊙
Long Castor Oil	●
Water	⊘
● Soluble ⊙ Limited Solubility ⊘ Insoluble	

COMPATIBILITY (Parts by Weight)	
	POLYTONE™ ABR Series
Nitrocellulose	●
Epoxy Resin	●
Silicones	●
Cummarone Indene Resins	●
PTSF Resins	●
Vinyl Chloride	●
CAB Resin	●
Chlorinated Rubber	●
Maleic Resin	●
Alkyd Resin	●
Fully Compatible	: ●
Limited Compatibility	: ⊙
Not Compatible	: ⊘

## APPLICATIONS

Application/Compatibility	1011	1012	1013	1014	1033	1034	1044
Flexographic Inks	✓				✓	✓	
Gravure Inks		✓	✓	✓	✓		
Overprint			✓				✓
Silk Screen	✓		✓				✓
Polystyrene/ABS		✓		✓	✓		
Vinyl	✓	✓	✓				
Steel		✓	✓	✓	✓		
Metal						✓	
Masonry					✓	✓	
Marine					✓	✓	
Automotive Finish		✓	✓	✓	✓		
Toner					✓		✓
Zinc Oxide Binders						✓	✓
Adhesive							✓
Aerosol					✓	✓	

Grade	MOL. WT.	Principal Characteristics & Uses
ABR 1011	V. High	Used in Barrier Coating on vinyl fabrics for difference for dielectric heat sealability, high abrasion resistance, block resistance and slip. Since this resin provides maximum toughness and abrasion resistance, it is suggested as scuff resistance top coat for luggage and similar items.
ABR 1012	Medium	General purpose grade for lacquers such as barrier top coating of vinyl fabrics , clear lacquer for steel, ABS , Polyesterene etc. Suitable for gravure inks. Very high tensile strength and hardness.
ABR 1013	Medium	This resin is a softer version of ABR 1012 having the same uses. Excellent chip resistance.
ABR 1014	Low	Lowest Molecular Weight Grade. Used in lacquers and gravure inks requiring low viscosity at high solids . High Tack Temperature. Good Pigment Dispersion. Used in Base coat for Vacuum Metalizing of Plastic Articles.
ABR 1033	Low	Fast dissolving low viscosity Grade with quick solvent release properties for use in industrial lacquers, flexo and gravure inks, coatings for plastics-polyester, ABS, toners, aerosol sprays.
ABR 1034	Medium	Softest and the most flexible grade having good pigment wetting properties. Useful for clear. translucent or pigmented metal lacquers for aluminium, bronze, steel and bright metals like silver, copper, brass. Also used in electrofax copy paper and seamless flooring.
ABR 1044	High	Very soft flexible grade. Useful in adhesives for smooth plastic films and aluminium. Used in silk screen inks. Can be used for plasticizing and improving adhesion of harder resins and nitrocellulose. Improves outdoor durability of vinyl chloride in pigmented lacquers.



#### STORAGE & HANDLING

Available in 20/25Kg HDPE Line KRAFT Paper Bags with Anti Static Liner or 20/25Kg 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.

#### 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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