



Vasavibala Resins (P) Ltd.

POLYMER DIVISION

Manufacturers of Unsaturated Polyester Resins
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TECHNICAL BROCHURE - UNSATURATED POLYESTER RESIN

GRADE: VBR 5650P –Pre Acc Pigmented Halogen free Iso FRR Top Coat.

VBR 5650P is a versatile medium reactive pre accelerated isophthalic based fire retardant unsaturated polyester resin designed for topcoat brushing applications. It can be used in a wide range of products where fire retardant performance is needed. This resin contains inorganic fillers and other additives to ensure low smoke density and excellent fire retardant properties, with reference to IS 6746 - 1994, Type - 1.

It is a halogen free fire retardant resin with acrylate monomer for good weather resistance characteristics. **It also contain antimicrobial agent(Biocide).** It does not contain any additives of phosphorous or nitrogen base materials.

PROPERTIES OF LIQUID RESIN		
Appearance	:	Light greyish thixotropic liquid
Viscosity at 20°C, mPa.s Brookfield Viscometer LV DV II + Pro Spindle 64, rpm 6	:	20000 - 25000
Density @ 20°C , g/ml	:	1.25 – 1.5
Monomer content, %	:	18 - 20
Gel time at 20°C, min*	:	10 - 15
T max	:	90 – 120 deg c
Shelf life at 25°C, months	:	3
Fire Retardant time Annex N Type I	:	<5

* Mix VBR 5650P Resin -100 gm, VBR 1204 - 2 ml.

** Under insulated condition for 100 gram mixture

PROPERTIES OF UNREINFORCED CURED RESIN CASTING

The specimens are prepared by mixing of VBR 1204 with VBR 5650P and casted in a closed cell of specified dimension. These castings are cured for 24 hrs at room temperature and post curing at 90°C for 4 hrs.

PROPERTIES OF RESIN CASTING		
Hardness (Barcol)	:	35 – 40
Tensile strength, N/mm ²	:	45 – 48
Flexural strength, N/mm ²	:	>80
Heat distortion temperature, °C	:	>100
Water absorption at 25°C over a period of 700 hrs, %	:	0.42
Elongation at break, %	:	➤ 2 %

Horizondal Burning rate mm/minute IS 15061-2002 Clause3.2 and Annex A	:	0
Vertical Burning rate mm/minute as IS: 15061-2002 Clause 3.3 Annex B	:	The flame extinguished before reaching the first marker thread
Melting Behaviour test as per IS 15061-2002 Clause 3.4, Annex C	:	No drop was formed which ignites the cotton wool
Toxicity Index as per NCD 1409	:	< 1
Limiting Oxygen Index IS 13501-1992	:	Min 28 %
Resistance to Spread of flame as per Appendix-04 of UIC 564-2	:	Class A
Smoke Visibility as per Appendix-15 of UIC 564-2	:	Class A

TEST METHODS

IS 6746 – 1994. IS-1998, ASTM –D2583-81

APPLICATION

It can be used for moulded parts used indoors and outdoors applications.

VBR 5650P is recommended for wide range of applications where fire retardant performance is significant along with good chemical corrosion resistant characteristics.

It is recommended to post cure the molded product for 6 hours at $80 \pm 5^{\circ}$ C in a dry atmosphere for optimum properties

STORAGE

VBR 5650P should be stored in closed containers inside covered area. The storage temperature not exceeding 30°C is preferable. At higher storage temperature, the shelf life decreases sharply. It should not be exposed to direct sunlight, heat radiation and moisture; these may cause premature gelation. VBR 5650 P is guaranteed for 3 months from the date of manufacture provided the storage conditions are strictly adhered to. Mix the content thoroughly before use.

PACKING

40 kg HDPE carboy