



Vasavibala Resins (P) Ltd.

POLYMER DIVISION
Manufacturers of Unsaturated Polyester Resins

TECHNICAL BROCHURE – UNSATURATED POLYESTER RESINS

GRADE: VBR 6718- VINYLESTER TOOLING GEL COAT

VBR 6718 is a medium reactive thixotropic vinyl ester tooling gel coat based on Bisphenol-A, epoxy resin and methacrylic acid. It incorporates the workability and curing properties of epoxy resin to the level of unsaturated Polyester Resins while retaining the outstanding properties of epoxy resin. Compared to Bisphenolic Polyester, VBR 6718 offers equal or better corrosion resistance to oxidizing acids and solvents along with excellent mechanical, electrical and adhesive properties.

PROPERTIES OF LIQUID RESIN

Appearance	Pale yellowish to Pale brownish thixotropic hazy liquid
Viscosity at 25°C, (Brookfield Viscometer LV DV II + Pro Spindle 64, rpm 60) cP	6000 - 9000
Specific gravity at 25°C	1.07 – 1.09
Acid value, mg KOH/gm	06 - 10
Volatile content, %	29 - 33
Shelf life at 25°C, months	3
Gel time at 25°C, minutes*	20 - 30
Peak exotherm, °C**	150- 160

*Mix VBR 6718-100gm, VBR 1201-1.5ml, VBR 1206-1.5 ml, VBR 1204-1.5ml

** Under insulated condition for 50 gm mixture

Caution: VBR 1201& VBR 1206 should never be independently mixed with VBR 1204, as this would cause explosion.

PROPERTIES OF UNREINFORCED CURED RESIN CASTING

The specimens are prepared by separately mixing 1.5% of VBR 1201, VBR 1206 and VBR 1204 with 6708 and casted in a closed cell of specified dimension, The castings are cured for 24 hrs at room temperature and post curing at 100°C for 3 hrs.



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PROPERTIES OF RESIN CASTING

Hardness (Barcol)	35 – 40
Tensile strength, MPa	90 - 95
Flexural strength, MPa	135 - 145
Heat distortion temperature, °C	105 – 110
Water absorption at 25°C over a period of 700 hrs, %	0.20
Elongation at break, %	4 – 6

CHEMICAL RESISTANCE

Casting of VBR 6718 exhibit acid, base and solvent resistance over a wide temperature range. It shows excellent resistance towards hydrochloric acid, chlorinated brine, sodium hydroxide, sodium sulphide, chlor alkali plant residue etc.

THERMAL STABILITY

Casting of VBR 6718 shows better dry heat stability than its Isophthalic counterpart. It becomes elastomeric at 150°C.

TEST METHODS IS 6746 – 1994.

APPLICATIONS

VBR 6718 has outstanding corrosion resistance and stress cracking. It is recommended for corrosion resistant process equipments, storage tanks, pipelines, flooring, Chimney, Marine equipments etc. In non-corrosion sector, VBR 6708 is used where tenacity and low temperature resistance are required.

STORAGE VBR 6718 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 6718 is guaranteed for 3 months from the date of manufacture provided the storage conditions are strictly adhered to.

PACKING: 35 kg HDPE Carboys and 220 kg coated steel barrels