



Vasavibala Resins (P) Ltd.

POLYMER DIVISION
Manufacturers of Unsaturated Polyester Resins

TECHNICAL BROCHURE – UNSATURATED POLYESTER RESINS

GRADE: VBR 6707 – Superior Vinyl ester Gel coat

VBR 6707 is a low shrink medium reactive thixotropic superior vinyl ester gel coat based on, novalac resin and methacrylic acid. It incorporates the workability and curing properties of novalac resin to the level of unsaturated Polyester Resins while retaining the outstanding properties of novalac resin. Compared to Bisphenolic Polyester, VBR 6707 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	5000 - 8000
Specific gravity at 25°C	1.09 – 1.11
Acid value, mg KOH/gm	08 - 12
Volatile content, %	26 - 30
Shelf life at 25°C, months	2
Gel time at 25°C, minutes*	20 - 30
Peak exotherm, °C**	140- 150

*Mix VBR 6707 -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 6707 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	125 – 130
Water absorption at 25°C over a period of 700 hrs, %	0.20
Elongation at break, %	4 – 6

CHEMICAL RESISTANCE

Casting of VBR 6707 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 6707 shows better dry heat stability than its Isophthalic counterpart. It becomes elastomeric at 150°C.

TEST METHODS IS 6746 – 1994.

APPLICATIONS

VBR 6707 has outstanding corrosion resistance and stress cracking. It is recommended for corrosion resistant process equipments, low shrink moulded parts, storage tanks, pipelines, flooring, Chimney, Marine equipments etc. In non-corrosion sector, VBR 6707 is used where tenacity and low temperature resistance are required.

STORAGE VBR 6707 should be stored in closed containers inside covered area. The storage temperature not exceeding 25°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 6707 is guaranteed for 2 months from the date of manufacture provided the storage conditions are strictly adhered to.

PACKING: 35 kg HDPE Carboys and 200 kg coated steel barrels.