

ORTHOPHTALIC Polyester Resin ALFA-10-184 TPR

TECHNICAL DATA SHEET

HPR *High Performance Resins*

Description: ALFA-10-184 TPR Series are blend of unsaturated polyester resins dissolved in styrene, thixotropic, pre-promoted and added with catalyst indicator. The resin does not contain waxes or paraffin of any kind and does not therefore pose delamination problems. However, we recommend avoiding stratifying at intervals exceeding three days to assure good interlaminar adhesion.

Main fields of application: ALFA-10-184 TPR Series had been designed for all fibreglass sectors and can be applied either by manual stratification or spraying.

Advantages: The special chemical composition of the resin guarantees good compatibility and wettability with fibreglass and good workability.

Main characteristics: ALFA-10-184 Series give to GRP good mechanical properties. ALFA-10-184 TPR Series have good reactivity with a medium-high exothermal peak. The special thixotropic system guarantees the absence of thixotropic agent sedimentation.

Chemical and physical characteristics of liquid resin

Characteristics	Unit	Method	ALFA-10-184 TPR 10	ALFA 10-184 TPR 20	ALFA-10-184 TPR 30
Appearance			Hazy blue liquid		
Viscosity @25°C (*)	mPa-s	I.O. 369	500 ÷ 650	600 ÷ 750	600 ÷ 750
Thixotropic index (**)		I.O. 369	3,2 ÷ 3,8	3,2 ÷ 3,8	3,2 ÷ 3,8
Gel time @25°C (***)	Minutes	I.O. 1000	8 ÷ 17	17 ÷ 25	25 ÷ 35
Exothermal peak	°C	I.O. 1000	180 ÷ 200	175 ÷ 195	175 ÷ 195
Gel to peak time	Minutes	I.O. 1000	9 ÷ 15	10 ÷ 15	11 ÷ 17
Styrene content (****)	%	I.O. 349	42 ÷ 46	41 ÷ 45	41 ÷ 45
Water content (****)	%	I.O. 360	Max 0,15	Max 0,15	Max 0,15

(*) Brookfield RVF Spindle#2@20rpm (**) Brookfield RVF @ 2 rpm/20 rpm (***) Catalysis conditions: 100g resin + 1,50 g MEKP 50.

(****) not reported in COA

Mechanical characteristics of set pure resin - Typical values (*****)

Characteristics	Unit	Method	ALFA-10-184 TPR 10	ALFA-10-184 TPR 20	ALFA-10-184 TPR 30
HDT	°C	ASTM D 648	72	72	72
Tg	°C	DIN 53445	90	90	90
Tensile strength	MPa	ASTM D 638	50	50	50
Flexural strength	MPa	ASTM D 790	110	110	110
Tensile elastic modulus	GPa	ASTM D 638	4,3	4,3	4,3
Flexural elastic modulus	GPa	ASTM D 790	4,4	4,4	4,4
Tensile elongation	%	ASTM D 638	3,0	3,0	3,0
Barcol hardness	--	ASTM D 2583	45	45	45

(*****) Catalysis: 100g resin + 1,50 g MEKP 50. 24 h at RT + 2 h at 100 °C

Use: We recommend using the resin at temperatures of between 15°C and 30 °C. Using a blend of MEKP (standard reactivity Methyl Ethyl Ketone Peroxide) and AAP (acetyl acetone peroxide) enables shorter gel time with a higher exothermal peak. If you need to produce GRP where chemical resistance is required, before use the resin, please contact our Technical Service.

Instructions before use: The resin must be conditioned to at least 15°C before use to obtain adequate catalysis when MEKP is used as a catalysis system. Shake resin well before use.

Storage instructions: The resin must be stored in original, sealed and intact containers, in a dry place and at a temperature of between 5°C and 25 °C. The product's stability decreases at high temperatures and the resin's properties may change during storage. The storage times of unsaturated resins diluted in styrene may be significantly decreased when the product is exposed to light. Store in a dark place, in non-transparent containers.

Properties of liquid resin - Typical values

Stability at 65°C	Days	I.O. 375	Minimum 6
Storage stability	months		Minimum 6

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The information contained in this datasheet is based on laboratory data and our experience. Gel time and rheological properties may change because of reactive nature of material. We believe this information to be reliable, however we cannot guarantee its applicability in your process. We decline all responsibility for events that may arise as a consequence of improper use of the product.

By accepting the products described herein, the user accepts the responsibility to thoroughly test any application before commencing production. Our advice should not be taken as encouragement to breach any patent, law, safety code or insurance regulation.