

PALAPREG® P 17-02

CHEMICAL/PHYSICAL NATURE

Palapreg® P 17-02 is an unsaturated polyester resin derived from orthophthalic acid and standard glycols, dissolved in styrene. Palapreg® P 17-02 is of medium viscosity and high reactivity.

MAJOR APPLICATIONS

Palapreg P 17-02 is intended for SMC and BMC production. It is mainly used together with Palapreg high polymer components for low shrink or low profile SMC/BMC applications. The resin can be readily thickened with magnesium oxide.

PRODUCT SPECIFICATIONS UPON DELIVERY

Property	Range	Unit	TM
Viscosity, 23°C	1300 - 1500	mPa.s	2013
Color, APHA	0 - 140	-	2017
Solids content, IR	63 - 66	%	2033
Appearance	clear	-	2265
Water content	0.04-0.07	%	2350
Acid value, as such	15-19	mg KOH/g	2401
Viscosity	450000 - 900000	mPa.s	2914A
Gel time, 130°C	65 - 110	seconds	2261
Peak time	110 - 155	seconds	2261
Peak temperature	265 - 290	°C	2261

REMARKS

Viscosity: Z2/100/23°C

Reactivity determined with 1 g TBPB added to 100 g resin

Typical Values Refractive Index (23°C - TM 2150) = 1.523 - 1.527

PROPERTIES OF THE LIQUID RESIN (TYPICAL VALUES)

Property	Value	Unit	TM
Density, 20°C	1100	kg/m ³	2160
Flash point	33	°C	2800
Stability, no init., dark, 25°C	3	months	-

PROPERTIES OF CAST UNFILLED RESIN (TYPICAL VALUES)

Property	Value	Unit	TM
Density, 20°C	1200	kg/m ³	DIN 53479
Flexural strength	100	MPa	ISO 178
Flexural modulus	3.8	GPa	ISO 178
Outer fiber strain	2.8	%	ISO 178
Tensile strength	60	MPa	ISO 527-2
Mod. of elasticity in tension	3.8	GPa	ISO 527-2
Elongation at break	1.7	%	ISO 527-2
Impact res. - unnotched sp.	8	kJ/m ²	ISO 179
Heat deflection temp. (HDT)	140	°C	ISO 75-A
Glass transition temp. (T _g)	170	°C	ISO 537

PROPERTIES OF SMC-MOULDINGS (TYPICAL VALUES)

Property	Value	Unit	TM
Glass content	30	%	-
Density, 20°C	1700	kg/m ³	DIN 53479
Flexural strength	200	MPa	ISO 178
Flexural modulus	13	GPa	ISO 178
Outer fiber strain	2.7	%	ISO 178
Tensile strength	100	MPa	ISO 527-2
Mod. of elasticity in tension	11	GPa	ISO 527-2
Elongation at break	1.9	%	ISO 527-2
Impact res. - unnotched sp.	110	kJ/m ²	ISO 179
Moulding shrinkage	0.25	%	DIN 53464
Glass transition temp. (T _g)	200	°C	DIN 53445
Coefficient of linear thermal expansion (0-60°C)	23·10 ⁻⁶	K ⁻¹	DIN 53752/A
Volume resistivity	10 ¹⁴	A · cm	DIN 53482
Surface resistance	10 ¹²	A	DIN 53482
Comparative tracking index	CTI 600	-	DIN IEC 112

PROPERTIES OF SMC-MOULDINGS (TYPICAL VALUES)

Component	Weight
Palapreg® P 17-02	100
TBpB	1.5
Styrene	5
Polyethylene powder	5
Calcium carbonate	150
Zinc stearate	4
MgO-paste (35% MgO)	3

PROCESSING

Palapreg® P 17-02 is usually processed into standard SMC / BMC, or together with Palapreg® high polymer solutions into low shrink / low profile SMC and BMC. As a rule, the ratio of Palapreg® P 17-02 and high polymer solution is 60:40, but it can be varied if necessary. Depending on the size of the molded part it is recommended to add 300 to 600 ppm p-benzoquinone to the system (calculated on UP-resin plus thermoplastic solution).

STORAGE GUIDELINES

The resin should be stored indoors in the original, unopened and undamaged packaging, in a dry place at temperatures between 5°C and 30°C and the properties might change during storage. Shelf life is reduced at higher temperatures and the properties of the resin might change during storage. The shelf life of styrene containing unsaturated polyesters will be significantly reduced when exposed to light. Store in dark and in 100%light tight containers only.

MATERIAL SAFETY

A Material Safety Data Sheet of this product is available on request.

TEST METHODS

Test methods (TM) referred to in the table(s) are available on request.

Aliancys is a leading global company active in the sales of Quality Resins for composite applications. Together with its customers, Aliancys is pushing the limits of both composite part manufacturing and performance. Taking an integral approach to new product development, Aliancys is using its full expertise in resin chemistry, material science, and component manufacturing for shaping new applications in composites. So let's talk and increase our mutual business success, both today and tomorrow. More information on www.aliancys.com

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