



## TECHNICAL DATA SHEET

# POLESTER 7215

Non-accelerated unsaturated polyester resin

### SPECIAL PROPERTIES AND USE

High reactivity, medium viscous unsaturated : polyester resin dissolved in styrene.

### GENERAL PROPERTIES

**Polester 7215** can be diluted with a proper ratio of styrene to suit for the applications, however, dilution more than 10% with styrene should be avoided since it might cause adverse effects of the mechanical properties.

### APPLICATIONS

**Polester721S** is a general purpose unsaturated polyester resin providing high hardness, good chemical resistance and good dimensionnal stability at elevated temperature. It is designed particularly for

- |                  |                     |
|------------------|---------------------|
| Hand lay-up      | Spray molding       |
| Filament winding | Centrifugal molding |
| Casting          | Hot press molding   |
| Vacuum process   | Cold press molding  |

### PACKING AND STORAGE

Steel drum, net weights 230 kg.

### SPECIFICATION

Appearance	Clear, light yellow liquid
Color (APHA)	100 max
Acid Value (mg KOH/g):	27 - 30
Viscosity (cPs.) (Brookfield, 25oC)	600 - 1,000
Non-volatile ( % )	65 - 68
Gel time ( Min.) ( 2%MEKPO-50, 25° C )	5 - 8
Density (g/crn <sup>3</sup> ) (at 25°C)	1.12
Shrinkage after cure (% b,v.)	ca.7
Flash Point CC) (DIN 53213)	34

### STORAGE STABILITY

**Polester 7215** must be kept away from sources of ignition and heat and not in direct sunlight. It is recommended the storage temperature should not exceed 25°c, At 25°c (no access of air and light) storage stability is more than 6 months.



**PHYSICAL PROPERTIES** of cured **Polester 7215**

<b><u>PROPERTY</u></b>	<b><u>VALUE</u></b>	<b><u>UNIT</u></b>	<b><u>TEST METHOD</u></b>
Specific gravity, 25°C	1.20	g/cm <sup>3</sup>	DIN 53479
Refractive index, 25°C	1.558	-	DIN 53491
Barcol Hardness	85	-	-
Elongation	1.8	%	DIN 53455
E-modulus	32,000	kp/cm <sup>2</sup>	-
Flexural strength	1,100	kp/cm <sup>2</sup>	DIN 53452
Tensile strength	550	kp/cm <sup>2</sup>	DIN 53455
Impact strength	7.0	kp/cm <sup>2</sup>	DIN 53453
Compressive strength	1,700	kp/cm <sup>2</sup>	DIN 53454
Water absorption	0.2	%	5-day dipping

**THERMAL PROPERTIES** of cured **Polester 7215**

Specific heat	0.35	kcal/kg °C	-
Thermal conductivity	0.12	kcal/m h °C	DIN 53455
Martens temperature	58	°C	DIN 53455
Heat distortion temperature	78	°C	ASTM D 648-45T

**ELECTRICAL PROPERTIES** of cured **Polester 7215**

Dielectric strength, at 50 Hz	40	kV/mm	DIN 16946
Surface resistance, R <sub>o</sub>	>10 <sup>12</sup>	Ohm	DIN 53482
Surface insulation resistance, R <sub>ST</sub> (test Sheet thickness 1.0 cm)	12x10 <sup>11</sup>	Ohm	DIN 53482
Dielectric constant, at 800 Hz	3.0	-	DIN 16946
Loss factor tang, at 800 Hz	1.5x10 <sup>-2</sup>	-	DIN 16946
Track resistance	KA 3 C	-	DIN 16946
	KB 600	-	



**MECHANICAL and THERMAL PROPERTIES of Polestar 7215 fiber glass laminates**

Property	Unit	Laminate with			Test Method
		30%	50%	65%	
		Chopped strand mat		Woven roving	
Tensile strength	kp/cm <sup>2</sup>	1,000	2,000	4,500	DIN 53455
Elongation	%	1.8	2.0	1.8	DIN 53455
Flexural strength	kp/cm <sup>2</sup>	2,000	2,500	4,500	DIN 53452
E-modulus	kp/cm <sup>2</sup>	70,000	90,000	245,000	-
Impact strength	kpcm/cm <sup>2</sup>	65	90	140	DIN 53453
Compressive strength	kp/cm <sup>2</sup>	2,300	3,000	1,800	DIN 53454
Martens temperature	°C	95	110	>200	DIN 53458