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Material Data Sheet, October 2005

TECAMAX SRP sw

Chemical Designation :	Self reinforcing Polymer
DIN−Abbreviation:	PPP
Colours, fillers:	black

TECAMAX is a self reinforcing thermoplast with superior high strengt, stiffness and chemical resistance. Without reinforcement are strength data available as from high reinforced thermoplastics.

Main features

- very high strength and stiffness
- very good chemical resistance
- good properties in the cryogenic temperature range
- easily machined and polished
- excellent hardness and scratch resistance
- inherent low flammability (UL94 V−0)
- low thermal expansion coefficient

Preferred Fields

- chemical engineering
- electronics/ semiconductor industries
- machine construction
- cryogenics
- aircraft and aerospace industries
- medical technology
- automotive engineering

Applications

Bearings, gears, valve, valve seats, structural parts, connectors, thermal−electrical insulator

Properties

Mechanical	dry / moist		standard
Tensile strength at yield	207	MPa	ASTM D 638
Elongation at yield		%	
Tensile strength at break		MPa	
Elongation at break		%	
Modulus of elasticity in tension	8300	MPa	ASTM D 638
Modulus of elasticity after flexural test	8300	MPa	ASTM D 790
Hardness	80 B		ASTM D 785 (Rockwell B scale)
Impact strength 23º C (Charpy)	41,9	KJ/m²	ASTM D 256
Creep rupture strength after 1000 h with static load		MPa	
Time yield limit for 1% elongation after 1000 h		MPa	
Co−efficient of friction p = 0,05 N/mm²v=0,6 m/s on steel, hardened and ground			
Wear p = 0,05 N/mm²v=0,6 m/s on steel, hardened and ground		µm/km	

Thermal	dry / moist		standard
Crystalline melting point		°C	
Glass transition temperature	155	°C	ASTM E 1356
Heat distortion temperature HDT, Method A	152	°C	ISO−R 75 Verfahren A (DIN 53 461)
Heat distortion temperature HDT, Method B		°C	
Max. service temperature			
short term	150	°C	
long term	140	°C	
Thermal conductivity (23º C)		W/(K·m)	
Specific heat (23º C)		J/g.K	
Coefficient of thermal expansion (23−55ºC)	3−4	10^{-5} 1/K	

Properties

Electrical	dry / moist		standard
Dielectric constant (10^6 Hz)	3,1		ASTM D 150
Dielectric loss factor (10^6 Hz)			
Specific volume resistance	6x10^15	Ω*cm	DIN IEC 93
Surface resistance	2x10^16	Ω	DIN IEC 93
Dielectric strength	6,44	kV/mm	ASTM D 149
Resistance to tracking	CTI 150		IEC 112

Miscellaneous	dry / moist		standard
Density	1,21	g/cm^3	
Moisture absorption (23°C/50RH)	0,5	%	
Water absorption to equilibrium	0,5	%	
Flammability acc. to UL standard 94	V−0		

(1) Testing of semi−finished products

The above information corresponds with our current knowledge and indicates our products and possible applications. We cannot give a legally binding guarantee of chemical resistance, of certain properties and the suitability of our products and their applications. Our products are not destined for use in medical and dental implants. Existing commercial patents must be observed. Unless otherwise stated, these values represent averages taken from injection moulding samples, dry as moulded. We reserve the right to make technical alterations.