TECARIM 1500 yellow - Stock Shapes (rods, plates, tubes)

Chemical Designation
PA 6 C (Cast polyamide 6)

Colour
yellow opaque

Density
1.11 g/cm^3

Fillers
elastomer

Data generated directly after machining (standard climate Germany).

Main features
- electrically insulating
- resistant to many oils, greases and fuels
- high toughness
- good slide and wear properties
- good wear properties
- good impact strength

Target Industries
- automotive industry
- mechanical engineering
- heavy duty industry

Mechanical properties	parameter	value	unit	norm		comment
Tensile strength	50mm/min	53	MPa	DIN EN ISO 527-2		(1) For tensile test: specimen type 1b (2) For flexural test: support span 64mm, norm specimen. (3) Specimen 10x10x10mm (4) Specimen 10x10x50mm, modulus range between 0.5 and 1% compression. (5) For Charpy test: support span 64mm, norm specimen. n.b. = not broken
Modulus of elasticity (tensile test)	1mm/min	2200	MPa	DIN EN ISO 527-2	1)	
Tensile strength at yield	50mm/min	53	MPa	DIN EN ISO 527-2		
Elongation at yield (tensile test)	50mm/min	13	%	DIN EN ISO 527-2		
Elongation at break (tensile test)	50mm/min	58	%	DIN EN ISO 527-2		
Flexural strength	2mm/min, 10 N	73	MPa	DIN EN ISO 178	2)	
Modulus of elasticity (flexural test)	2mm/min, 10 N	2200	MPa	DIN EN ISO 178		
Compression strength	1% / 2% / 5% 5mm/min, 10 N	14/26/53	MPa	EN ISO 604	3)	
Compression modulus	5mm/min, 10 N	2100	MPa	EN ISO 604	4)	
Impact strength (Charpy)	max. 7,5J	n.b.	kJ/m^2	DIN EN ISO 179-1eU	5)	
Notched impact strength (Charpy)	max. 7,5J	16	kJ/m^2	DIN EN ISO 179-1eA		
Shore hardness	D	77		DIN EN ISO 868		

Thermal properties	parameter	value	unit	norm		comment
Glass transition temperature		53	°C	DIN EN ISO 11357	1)	(1) Found in public sources. (2) Found in public sources. Individual testing regarding application conditions is mandatory.
Melting temperature		216	°C	DIN EN ISO 11357		
Service temperature	short term	160	°C		2)	
Service temperature	long term	95	°C			
Thermal expansion (CLTE)	23-60°C, long.	13	10^{-5} K^{-1}	DIN EN ISO 11359-1;2		
Thermal expansion (CLTE)	23-100°C, long.	13	10^{-5} K^{-1}	DIN EN ISO 11359-1;2		
Specific heat		1.7	J/(g*K)	ISO 22007-4:2008		
Thermal conductivity		0.32	W/(K*m)	ISO 22007-4:2008		

Electrical properties	parameter	value	unit	norm		comment
surface resistivity		10^{14}	Ω	-		
volume resistivity		10^{14}	Ω*cm	-		

Other properties	parameter	value	unit	norm		comment
Water absorption	24h / 96h (23°C)	0.6 / 1.2	%	DIN EN ISO 62	1)	(1) Ø ca. 50mm, h=13mm (2) (+) limited resistance (3) - poor resistance (4) Corresponding means no listing at UL (yellow card). The information might be taken from resin, stock shape or estimation. Individual testing regarding application conditions is mandatory.
Resistance to hot water/ bases		(+)		-	2)	
Resistance to weathering		-		-	3)	
Flammability (UL94)	corresponding to	HB		DIN IEC 60695-11-10;	4)	

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