TECAMID 6 FRT natural - Stock Shapes (rods, plates, tubes)

Chemical Designation
PA 6 (Polyamide 6)

Colour
ivory opaque

Density
1.19 g/cm^3

Fillers
flame retardant (halogen free)

Data generated directly after machining (standard climate Germany).

Main features
- tested according to EN 45545
- flame retardant as per FAR 25.853
- flame retardant according to UL94 V-0
- resistant to many oils, greases and fuels
- good slide and wear properties
- high strength
- good machinability

Target Industries
- aircraft and aerospace technology
- transportation
- electronics
- mechanical engineering
- automotive industry

Mechanical properties	parameter	value	unit	norm		comment
Tensile strength	50mm/min	79	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.
Modulus of elasticity (tensile test)	1mm/min	3900	MPa	DIN EN ISO 527-2	1)	
Tensile strength at yield	50mm/min	79	MPa	DIN EN ISO 527-2		
Elongation at yield (tensile test)	50mm/min	3	%	DIN EN ISO 527-2		
Elongation at break (tensile test)	50mm/min	3	%	DIN EN ISO 527-2		
Flexural strength	2mm/min, 10 N	121	MPa	DIN EN ISO 178	2)	
Modulus of elasticity (flexural test)	2mm/min, 10 N	3900	MPa	DIN EN ISO 178		
Compression strength	1% / 2% 5mm/min, 10 N	15 / 34	MPa	EN ISO 604	3)	
Compression modulus	5mm/min, 10 N	3300	MPa	EN ISO 604	4)	
Impact strength (Charpy)	max. 7,5J	53	kJ/m^2	DIN EN ISO 179-1eU	5)	
Shore hardness	D	81		DIN EN ISO 868		

Thermal properties	parameter	value	unit	norm		comment
Glass transition temperature		45	°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		221	°C	DIN EN ISO 11357		
Service temperature	short term	160	°C		2)	
Service temperature	long term	100	°C			

Electrical properties	parameter	value	unit	norm		comment
surface resistivity		10^{13}	Ω	DIN EN 61340-2-3	1)	(1) (2) based on raw material data
volume resistivity		10^{14}	Ω*cm	-		
Resistance to tracking (CTI)		600		DIN EN 60112	2)	

Other properties	parameter	value	unit	norm		comment
Resistance to hot water/ bases		(+)		-	1)	(1) (+) limited resistance (2) - poor resistance (3) compliant, tested on 3 mm thick test specimen (4) compliant, tested on 4 mm thick test specimen (5) compliant, tested on 4 mm thick test specimen (6) compliant, tested on 4 mm thick test specimen (7) compliant, tested on 4 mm thick test specimen
Resistance to weathering		-		-	2)	
Flammability (UL94)	raw material listed (value at 1.5mm)	V0		DIN IEC 60695-11-10;		
Flammability		R22 HL1 HL2, R23 HL3		EN 45545-2:2016		
Flammability	60 sec. Vertical Bunsen Burner test, 25.853 (a) and Appendix F, Part I, para. (a)(1)(i)	+		FAR 25.853	3)	
Flammability	15 sec. Horizontal Bunsen Burner test, 25.853 (a) and Appendix F, Part I, para. (a)(1)(iv) and (v)	+		FAR 25.853	4)	
Flammability	Heat Release, FAR Part 25, § 25.853 (d) and Appendix F, Part IV	+		FAR 25.853	5)	
Flammability	Smoke density FAR Part 25, § 25.853 (d) and Appendix F, Part V	+		FAR 25.853	6)	
Flammability	Gas Toxicity, as per Airbus directive ABD 0031	+		AITM 3.0005	7)	

Our information and statements reflect the current state of our knowledge and shall inform about our products and their applications. They do not assure or guarantee chemical resistance, quality of products and their merchantability in a legally binding way. Our products are not defined for use in medical or dental implants. Existing commercial patents have to be observed. The corresponding values and information are no minimum or maximum values, but guideline values that can be used primarily for comparison purposes for material selection. These values are within the normal tolerance range of product properties and do not represent guaranteed property values. Therefore they shall not be used for specification purposes. Unless otherwise noted, these values were determined by tests at reference dimensions (typically rods with diameter 40-60 mm according to DIN EN 15860) on extruded and machined specimen. As the properties depend on the dimensions of the semi-finished products and the orientation in the component (esp. in reinforced grades), the material may not be used without a separate testing under individual circumstances. The customer is solely responsible for the quality and suitability of products for the application and has to test usage and processing prior to use. Data sheet values are subject to periodic review, the most recent update can be found at www.ensingerplastics.com. Technical changes reserved.

Ensinger India Engineering Plastics Pvt Ltd.
2205, 22nd Floor, SOLUS Building,
Hiranandani Estate, Thane West - 400607,
India

Phone +91 22-49797082
www.ensinger.in

Date: 2025/08/21

Version: AK