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	Silver electrode, 23°C, 12% r.h.	10^{14}	Ω	-	1)	(1) found in public sources (2) based on raw material data
volume resistivity	Silver electrode, 23°C, 12% r.h.	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)	

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Ensinger Ltd
Wilfried Way
Tonyrefail, Mid Glamorgan CF39 8JQ
Great Britain

Phone (01443) 678400
Fax (01443) 675777
ensingerplastics.com