

Chemical Designation

PA 6 (Polyamide 6)

Colour

ivory opaque

Density

1.19 g/cm³

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
Modulus of elasticity (tensile test)	1mm/min	3900	MPa	DIN EN ISO 527-2	1) (2) For flexural test: support span 64mm, norm specimen.
Tensile strength at yield	50mm/min	79	MPa	DIN EN ISO 527-2	(3) Specimen 10x10x10mm
Elongation at yield (tensile test)	50mm/min	3	%	DIN EN ISO 527-2	(4) Specimen 10x10x50mm, modulus range between 0.5 and 1% compression.
Elongation at break (tensile test)	50mm/min	3	%	DIN EN ISO 527-2	(5) For Charpy test: support span 64mm, norm specimen.
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.
Melting temperature		221	°C	DIN EN ISO 11357	2) Found in public sources.
Service temperature	short term	160	°C		2) Individual testing regarding application conditions is mandatory.
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)
volume resistivity		10 ¹⁴	Ω*cm	-	2) based on raw material data
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
Resistance to weathering		-		-	2) - poor resistance
Flammability (UL94)	raw material listed (value at 1.5mm)	V0		DIN IEC 60695-11-10;	3) compliant, tested on 3 mm thick test specimen
Flammability		R22 HL1 HL2, R23 HL3		EN 45545-2:2016	4) compliant, tested on 4 mm thick test specimen
Flammability	60 sec. Vertical Bunsen Burner test, 25.853 (a) and Appendix F, Part I, para. (a)(1)(i)	+		FAR 25.853	5) compliant, tested on 4 mm thick test specimen
Flammability	15 sec. Horizontal Bunsen Burner test, 25.853 (a) and Appendix F, Part I, para. (a)(1)(iv) and (v)	+		FAR 25.853	6) compliant, tested on 4 mm thick test specimen
Flammability	Heat Release, FAR Part 25, § 25.853 (d) and Appendix F, Part IV	+		FAR 25.853	7) compliant, tested on 4 mm thick test specimen
Flammability	Smoke density FAR Part 25, § 25.853 (d) and Appendix F, Part V	+		FAR 25.853	
Flammability	Gas Toxicity, as per Airbus directive ABD 0031	+		AITM 3.0005	

