

TECAMID 66 GF15 FR black - Stock Shapes (rods, plates, tubes)

Chemical Designation

PA 66 (Polyamide 66)

Colour

black opaque

Density

1.31 g/cm³

Fillers

flame retardant (halogen free), glass fibres

Main features

- flame retardant as per FAR 25.853
- low smoke emissions
- resistant to many oils, greases and fuels
- high strength
- good mechanical properties

Target Industries

- Aircraft and Aerospace Interiors
- aircraft and aerospace technology
- mechanical engineering
- transportation

Mechanical properties	parameter	value	unit	norm	comment
Tensile strength	50mm/min	54	MPa	DIN EN ISO 527-2	(1) For tensile test: specimen type 1b
Modulus of elasticity (tensile test)	1mm/min	3700	MPa	DIN EN ISO 527-2	1) (2) For flexural test: support span 64mm, norm specimen.
Tensile strength at yield	50mm/min	54	MPa	DIN EN ISO 527-2	(3) Specimen 10x10x10mm
Elongation at yield	50mm/min	7	%	DIN EN ISO 527-2	(4) Specimen 10x10x50mm, modulus range between 0.5 and 1% compression.
Elongation at break	50mm/min	7	%	DIN EN ISO 527-2	(5) For Charpy test: support span 64mm, norm specimen.
Flexural strength	2mm/min, 10 N	103	MPa	DIN EN ISO 178	2) (6) Specimen in 4mm thickness
Modulus of elasticity (flexural test)	2mm/min, 10 N	3500	MPa	DIN EN ISO 178	
Compression strength	1% / 2% / 5%	23/42/90	%	EN ISO 604	3)
Compression modulus	5mm/min, 10 N	1600	MPa	EN ISO 604	4)
Impact strength (Charpy)	max. 7,5J	40	kJ/m ²	DIN EN ISO 179-1eU	5)
Impact strength (Charpy)	max. 7,5J	4	kJ/m ²	DIN EN ISO 179-1eA	
Ball indentation hardness		199	MPa	ISO 2039-1	6)
Thermal properties	parameter	value	unit	norm	comment
Melting temperature		261	°C	DIN EN ISO 11357	(1) Found in public sources. Individual testing regarding application conditions is mandatory.
Service temperature	short term	180	°C	-	1)
Service temperature	long term	110	°C	-	
Thermal expansion (CLTE)	23-60°C, longitudinal	5	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
Thermal expansion (CLTE)	23-100°C, longitudinal	5	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
Other properties	parameter	value	unit	norm	comment
Water absorption	24h / 96h (23°C)	0.36/0.76	%	DIN EN ISO 62	(1) 4 mm test specimen
Flammability	15 seconds Horizontal Bunsen Burner test	pass		AITM 2.0003	1) (2) 3 mm test specimen
Flammability	60 seconds Vertical Bunsen Burner test	pass		FAR 25.853	2) (3) 4 mm test specimen
Flammability	60 seconds Vertical Bunsen Burner test 25.853 (a) Amdt 25-116 App F Part 1(a)(1)(i)	pass		AITM 2.0002A	3) (4) 4 mm test specimen
Flammability	Specific Optical Smoke Density	pass		AITM 2.0007B	4) (5) 4 mm test specimen
Flammability	Gas Toxicity, as Per Airbus directive ABD0031	pass		AITM 3.0005	5)

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. 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.