Technical Specification Sheets

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Chemical Designation
PA 6 (Polyamide 6)

Colour
black opaque

Density
1.36 g/cm^3 (*2)

Fillers
glass fibres, 30% glass fibres

Main features
- high strength
- high dimensional stability
- good weldable and bondable
- good heat deflection temperature
- resistant to many oils, greases and fuels

Target Industries
- electronics
- automotive industry
- mechanical engineering

General material information	parameter	value	unit	norm		comment
Diameter		2,85 +/- 0,05	mm	-		(1) standard spool body (2) do not dry spool >120°C (3) Ø 2,85mm
Spool measurements	outer diameter	Ø 200	mm	-	1)	
Spool measurements	holder	Ø 52	mm	-		
Spool measurements	width	55	mm	-		
Spool Material		Polycarbonate		-	2)	
Filament Load per Spool		750	g	-		
Filament Length per Spool		83	m	-	3)	

Mechanical properties	parameter	value	unit	norm		comment
Tensile strength	5mm/min, Orientation XY	71,7	MPa	DIN EN ISO 527-2	1)	(1) (*5) , (*6) (2) (*5) , (*6) (3) (*5) , (*6) (4) (*5) , (*6) (5) (*5) , (*6) (6) (*5) , (*6) (7) (*5) , (*6) (8) (*5) , (*6) (9) (*5) , (*6) (10) (*5) , (*6) (11) (*5) , (*6) (12) (*5) , (*6) (13) (*5) , (*6) (14) (*5) , (*6) (15) (*5) , (*6)
Tensile strength	5mm/min, Orientation XZ	84,1	MPa	DIN EN ISO 527-2	2)	
Tensile strength	5mm/min, Orientation ZX	22,3	MPa	DIN EN ISO 527-2	3)	
Modulus of elasticity (tensile test)	5mm/min, Orientation XY	5215,0	MPa	DIN EN ISO 527-2	4)	
Modulus of elasticity (tensile test)	5mm/min, Orientation XZ	6114,0	MPa	DIN EN ISO 527-2	5)	
Modulus of elasticity (tensile test)	5mm/min, Orientation ZX	1435,8	MPa	DIN EN ISO 527-2	6)	
Elongation at yield (tensile test)	5mm/min, Orientation XY	4,1	%	DIN EN ISO 527-2	7)	
Elongation at yield (tensile test)	5mm/min, Orientation XZ	3,6	%	DIN EN ISO 527-2	8)	
Elongation at yield (tensile test)	5mm/min, Orientation ZX	3,2	%	DIN EN ISO 527-2	9)	
Elongation at break (tensile test)	5mm/min, Orientation XY	5,0	%	DIN EN ISO 527-2	10)	
Elongation at break (tensile test)	5mm/min, Orientation XZ	4,0	%	DIN EN ISO 527-2	11)	
Elongation at break (tensile test)	5mm/min, Orientation ZX	3,3	%	DIN EN ISO 527-2	12)	
Flexural strength	2mm/min, Orientation XY	115,0	MPa	DIN EN ISO 178	13)	
Modulus of elasticity (flexural test)	2mm/min, Orientation XY	4460,0	MPa	DIN EN ISO 178	14)	
Elongation at break (flexural test)	2mm/min, Orientation XY	6,0	%	DIN EN ISO 178	15)	

Thermal properties	parameter	value	unit	norm		comment
Glass transition temperature		60	°C	ASTM D 3418	1)	(1) (*2) (2) (*2) (3) (*2) (4) (*2) (5) (*2) (6) (*2)
Melting temperature		220	°C	DIN EN ISO 11357	2)	
Deflection temperature	HDT-A	200	°C	ISO-R 75 Method A	3)	
Service temperature	short term	180	°C	-	4)	
Service temperature	long term	100	°C	-	5)	
Thermal expansion (CLTE)		6	10^{-5} K^{-1}	DIN EN ISO 11359-1;2	6)	

Other properties	parameter	value	unit	norm		comment
Moisture absorption		0,3	%	DIN EN ISO 62	1)	(1) (*2) (2) (*2)
Melt flow index (MFI)		-	g/10 min	DIN EN ISO 1133	2)	

Processing parameter	parameter	value	unit	norm		comment
Nozzle temperature		260 - 290	°C	-		(1) not required
Max. melt temperature		300	°C	-		
Print bed temperature		80 - 140	°C	-		
Build chamber temperature		80 - 100	°C	-	1)	
Nozzle diameter		0,4 - 0,6	mm	-		
Print speed		30 - 50	mm/s	-		
Fan speed		0	%	-		

Predrying	parameter	value	unit	norm		comment
Drying temperature		80	°C	-	1)	(1) (*4)
Drying time		8	h	-		