

PLASTIC MATERIALS

PA 6 GF 30

DESCRIPTION

PA 6 GF 30 reinforced with the addition of 30% glass fibre and graphite. The glass charge makes the material highly resistant to abrasion, compression and flexing. This product is particularly suitable for gears and mechanical parts where excellent wear resistance is required.

FEATURES

- Very high wear resistance, this inherent polyamide feature is further increased by the addition of glass. Glass filled nylon is one of the wear resistant plastic materials available.
- High compression strength and tensile stress, the fatigue resistance is excellent as are the general mechanical properties.
- Even though the electrical properties change with the moisture content, this nylon is still used where good mechanical features as well as weatherproof performance are required.
- It is resistant to alkali, inorganic compounds and solvents

WEAK POINT

- If used in combination with moving parts, the glass filler causes abrasion of the steel parts in contact with the plastic.
- It cannot be used in contact with food.

APPLICATION:

Very high compressive strength and wear resistance, in fact one of the best of all the engineering plastics. This material is particularly suitable for gears and high performance mechanical components which need to operate in demanding.

PHISICAL PROPERTIES			
DESCRIPTION	STANDARDS	U.M	VALUE
SPECIFIC GRAVITY	ISO 1183	g/cm ³	1.3
WATER ABSORPTION AT SATURATION	ISO 62	%	5.2
MOISTURE ABSORPTION AT 23° C-50% RH	ISO 62	%	2
MECHANICAL PROPERTIS			
YIELD STRENGTH	ISO 527	N/mm ²	-
ELONGATION AT YIELD	ISO 527	%	-
TENSILE STRENGTH AT BREAK	ISO 527	N/mm ²	130*
ELONGATION AT BREAK	ISO 527	%	20*
TENSILE MODULUS	ISO 527	MPa	6500*
UN-NOTCHED IMPACT STRENGTH	ISO 179	KJ/m ²	25
NOTCH IMPACT STRENGTH	ISO 179	KJ/m ²	N.A
ROCKWELL HARDNESS M	ISO 2039-2	-	M95
SHORE D HARDNESS	DIN 53505	SHORE D	-
FLEXURAL STRENGTH AL 3.5%	ISO 178	N/mm ²	-
FLEXURAL MODULUS	ISO 178	N/mm ²	-
COMPRESSIVE STRESS (1%-23° C)	ISO 604	N/mm ²	28
COMPRESSIVE MODULUS	ISO604	N/mm ²	-
DEFORMATION UNDER LOAD 100 Mpa -24 hr-RT	-	%	-
PAISSON' S RATIO	Abs	-	-
TERMAL PROPERTIES			
MAXIMUM OPERATING TEMPERATURE	-	° C	120
MINIMUM OPERATING TEMPERATURE	-	° C	-30
VICAT SAFTENING TEMPERATURE VST/B/50	ISO 306	° C	-
HEAT DEFLECTION TEMPERATURE AT 0.45 Mpa	ISO 75	° C	180
HEAT DEFLECTION TEMPERATURE -1.8 MPa	ISO 75	° C	150
THERMAL CONDUCTIVITY	DIN 52612	W/(K*m)	0.25
COEF. OF LINEAR THERMAL EXPANSION (23 A 60° C)	ASTM D696	Pm/(m*° K)	50
COEF. OF LINEAR THERMAL EXPANSION (23° C)	ASTM D696	Pm/(m*° K)	-
TIBOLOGICAL PROPERTIES			
STATIC COEF. OF FRICTION ON POLISHED STEEL	MPC TEST	abs	0.23
DYNAMIC COEF. OF FRICTION ON POLISHED STEEL	MPC TEST	abs	0.24
PV LIMITWITHOUT LUBRICATION	MPC TEST V=0.5 m/s	N/mm ²	0.33
WEAR COEFFICIENT ON HARDENED POLISHED STEEL	MPC TEST PV=0.1 MPa m/s	Pm/s	3.8
MAXIMUM PRESSURE	MPC TEST	N/mm ²	28
ELECTRICAL PROPERTIES			
VOLUME RESISTANCE	IEC 60093	Ω* m	>10 ¹²
SURFACE RESISTANCE	IEC 60094	Ω	>10 ¹²
DIELECTRIC CONSTANT AT 1 MHz	IEC 60250	Abs	3.6
DIELECTRIC LOSS FACTOR- 1 MHz	IEC 60250	tan	0.06
DIELECTRIC STREGTH	IEC 60243	KV/mm	25
ULTERIORI CARATTERISTICHE			
BONDABILITY	-		N
FOOD CONTACT SAFETY (FDA COMPILACE)	DM 21/3/73		N
FLAMMABILITY	UL 94		V2
OXYGEN LIMIT INDEX	ISO 4589	%	24
UV RESISTANCE	-		N/Y