PLASTIC MATERIALS

PA 6 G

DESCRIPTION

Polyamide shows both a high thermostability and high stiffness ,hardness and toughness .These are some of the main characteristics . Due to the fact, that the good mechanical characteristics will be achieved only after conditioning ,this material must be conditioned again after annealing. In addition ,this conditioning occurs whit a longer storage in air automatically . This is a very stress relieved and high —molecular PA6

FEATURES

- High impact strength and stiffness .
- High impact and notching impact strength
- High heat deflection temperature
- Good at dampening
- Good glide and limp home characters .
- Good chemical stability against organic solvents and fuels
- Size alteration by humidity absorption must be considered
- Dimension stability, electrical and mechanical properties may become affected by absorbing moisture of water

APPLICATION:

Applications include bearing parts ,gear wheels, pump parts ,sliding rails ,castors ,and fittings

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PHISICAL PROPERTIES			
DESCRIPTION	STANDARDS	U.M	VALUE
SPECIFIC GRAVITY	ISO 1183	g/cm3	1.14
WATER ABSORPTION AT SATURATION	ISO 62	%	8
MOISTURE ABSORPTION AT 23° C-50% RH	ISO 62	%	2.4
MECHANICAL PROPERTIS			
YIELD STRENGTH	ISO 527	N/mm^2	80
ELONGATION AT YIELD	ISO 527	%	-
TENSILE STRENGTH AT BREAK	ISO 527	N/mm^2	-
ELONGATION AT BREAK	ISO 527	%	40
TENSILE MODULUS	ISO 527	N/mm^2	3100
UN-NOTCHED IMPACT STRENGTH	ISO 179	KJ/m^2	NB
NOTCH IMPACT STRENGTH	ISO 179	KJ/m^2	4
ROCKWELL HARDNESS M	ISO 2039-2	-	88
SHORE D HARDNESS	DIN 53505	SHORE D	-
FLEXURAL STRENGTH AL 3.5%	ISO 178	N/mm^2	140
FLEXURAL MODULUS	ISO 178	N/mm^2	-
COMPRESSIVE STRESS (1%-23° C)	ISO 604	N/mm^2	26
COMPRESSIVE MODULUS	ISO604	N/mm^2	-
DEFORMATION UNDER LOAD 100 Mpa -24 hr-RT	-	%	-
PAISSON' S RATIO	Abs	-	-
TERMAL PROPERTIES			
MAXIMUM OPERATING TEMPERATURE	-	° C	105
MINIMUM OPERATING TEMPERATURE	-	° C	-40
VICAT SAFTENING TEMPERATURE VST/B/50	ISO 306	° C	-
HEAT DEFLECTION TEMPERATURE AT 0.45 Mpa	ISO 75	° C	-
HEAT DEFLECTION TEMPERATURE -1.8 MPa	ISO 75	° C	80
THERMAL CONDUCTITY	DIN 52612	W/(K*m)	0.29
COEF. OF LINEAR THERMAL EXPANSION (23 A 100° C)	ASTM D696	Pm/(m* ° K)	80
COEF. OF LINEAR THERMAL EXPANSION (23° C)	ASTM D696	Pm/(m* ° K)	-
TIBOLOGICAL PROPERTIES			
STATIC COEF. OF FRICTION ON POLISHED STEEL	MPC TEST	abs	0.21
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	-
WEAR COEFFICIENT ON HARDENED POLISHED STEEL	MPC TEST PV=0.1 MPa m/s	Pm/s	7.5
MAXIMUM PRESSURE	MPC TEST	N/mm^2	26
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	3.7
DIELECTRIC LOSS FACTOR- 1 MHz	IEC 60250	tan	0.05
DIELECTRIC STREGTH	IEC 60243	KV/mm	17
ULTERIORI CARATTERISTICHE			
BONDABILITY	-		N
FOOD CONTACT SAFETY (FDA COMPILACE)	DM 21/3/73		Y
FLAMMABILITY	UL 94		V3
OXYGEN LIMIT INDEX	ISO 4589	%	25
UV RESISTANCE	-		N/Y