Technical data sheet

AWT 8/96 001/003

FRISETTA POLYMER

FRIANYL A63 CV40

Nylon 6.6 for injection moulding, 40% carbon fibres reinforced (good conductive and electrostatical properties).

	Testing Standard	Unit	Values
Product Features			
Abbreviation	ISO 1043	--	----
Density	ISO 1183	g/cm^3	1,30
Viscosity index	ISO 307	ml/g	145
Water absorption at saturation (+23 °C)	ISO 62	%	5-7
Water absorption (+23 °C)	ISO 62	%	1,3-2,0
Shrinkage longitudinal	ISO 294-4 **	%	0,1-0,5
Shrinkage transvers	ISO 294-4 **	%	0,4-1,1
Material Constants for Flammability			
Flammability	UL-94	HB-V0	----
Automobile interior fittings: thickness =1mm	FMVSS 302	----	----
Glow Wire GWFI	DIN EN 60695-2-12	----	----
Glow Wire GWIT	DIN EN 60695-2-13	----	----
Mechanical features			
Tensile modulus	ISO 527	N/mm^2	27000
Tensile strength	ISO 527	N/mm^2	210
Tensile elongation at break	ISO 527	%	1
Flexural strength	ISO 178	N/mm^2	----
Charpy impact (+23 °C)	ISO 179/1eU	kJ/m^2	33
Charpy impact (-30 °C)	ISO 179/1eU	kJ/m^2	30
Charpy impact, notched (+23 °C)	ISO 179/1eA	kJ/m^2	5,5
Charpy impact, notched (-30 °C)	ISO 179/1eA	kJ/m^2	5,2
Surface hardness	ISO 2039-1	N/mm^2	228
Thermal features			
Melting point	ISO 11357-1	°C	256
Distorsion temp. under load (Meth. A)	ISO 75	°C	250
Distorsion temp. under load (Meth. B)	ISO 75	°C	250
Temp. index applied to 50% falling of tensile strength after 20 000h	IEC 216-1	°C	140
Electrical features			
Volume resistivity	IEC 60093	OHM cm	75
Surface resistivity	IEC 60093	OHM	----
Dissipation factor (1MHz)	IEC 250	----	0,02
Comparative figure of tracking CTI 50 drops	IEC 60112	----	----
Tracking index (CTI 100)	IEC 112	----	----
Comparative figure of tracking CTI-M 50 drops	IEC 60112	----	----
Tracking index (CTI-M 100)	IEC 112	----	---

* All values freshly molded, for variations please look in the product description

** Plate 60x60x2mm

Revision : 03.07.2006

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Product

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Applications

Machine elements and cases with a high stiffness, temperature stability, dimensional stability as well as low warpage and electrical conduction ability.

Processing Guidelines

Recommended material temperature 270-290°C, mold temperature 60-80°C, granular clamp <0,1%. Build-up pressure about 5-10bar hydraulic pressure. Please read our brochure "Processing guidelines of injection molding" for further information.

Pre-Treatment and Drying

The moisture proof and vacuum packed PA-granular can usually be processed without any special pre-treatment, except for large packages. The drying time depends on the humidity. We recommend at about 0,2% humidity a drying time of 4-8 hours at 80°C. The maximum humidity for injection molding should be less than 0,15%, of sensitive parts less than 0,1%. FRIANYL-granulars are packed with a residual moisture content of <0,15%.

Post-Treatment and conditioning

Our PA-types must be annealed to achieve their specific characteristics. The conditions should be the same as of the surroundings of the end product. Usually the humidity at standard conditioning atmosphere is about 1,5-2,5%, at immersion in water 7-9%. There might be slight changes like a volume- or longitudinal increase of about 0,1-0,3%/ per weight percentage of type and process. Attention to the changing shrinkage at an additional heat treatment.

Revision : 03.07.2006