Ertacetal® H-TF Product Information

MAIN CHARACTERISTICS

- High mechanical strength, stiffness and hardness
- Excellent resilience
- Good creep resistance
- High impact strength, even at low temperatures
- Very good dimensional stability
- Good sliding properties
- Excellent machinability
- Physiologically inert (suitable for food contact)

ERTACETAL H - TF

Deep brown **POM_H**

ERTACETAL H_TF is a Delrin AF Blend, a combination of TEFLON fibres evenly dispersed in a DELRIN acetal resin. Much of the strength that is inherent in ERTACETAL H is retained. Some properties are changed due to the addition of TEFLON fibre which is softer, less stiff and slipperier than virgin acetal resin.

Compared with ERTACETAL C and H, this material offers superior sliding properties. Bearings made of ERTACETAL H_TF show low friction, long wear and are essentially free of stick-slip behaviour.

Applications

- Gear wheels with small modulus
- Cams
- Heavily loaded bearings and rollers
- Bearings and gears with small clearance
- Valve seats
- Snapfit assemblies
- Dimensionally stable precision parts for machine construction
- Insulating components for electrical engineering
- Parts which operate in water of 60-80°C (ERTACETAL C)

PR0PERTIES	UNITS	VALUE
Density	g/cm³	1.5
Water Absorption after 24/96 h in water of 23° C	%	16/32
at saturation in air of 23° C / 50% RH	%	0.17
at saturation in water of 23°C	%	0.72
THERMAL PRPOPERTIES		
Melting point	°C	175
Thermal Conductivity at 23°C	W(K.m)	.31
Coefficient of linear thermal expansion:		
Average value between 23 and 60°C	m/(m.K)	105 x 10-6
Average value between 23 and 100°C	m/(m.K)	120 x 10-6
Deflection temperature under flexural load: method A: 1.8N/mm²	°C	120
Max allowable surface temperature in air:		
Short periods, a few hrs at a low load	°C	150
Continuously: 5000/20000 hours	°C	105/90
Minimum service temperature	°C	-20
Flammability: ASTM (Oxygen index)	%	-
MECHANICAL PROPERTIES @ 23°C		
Tensile stress at yield dry test specimen	N/mm²	-/55
Test specimens standard atmosphere 23°C/50% RH	N/mm²	-/55
Tensile strain at break dry test specimen	%	8
Test specimens standard atmosphere 23°C/50% RH	%	8
Tensile modulus of elasticity dry test specimen	N/mm²	2900
Test specimens standard atmosphere 23°C/50% RH	N/mm²	2900
Compression test 1% offset yield strength dry test specimen	N/mm²	60
Creep test in tension; stress to produce 1% strain in 1000 hrs	N/mm²	13
Test specimens standard atmosphere 23°C/50% RH	N/mm²	13
Impact strength – Charpy dry test specimen	kJ/m²	30
Notched impact strength Charpy dry test specimen	kJ/m²	4
Test specimens standard atmosphere 23°C/50% RH	kJ/m²	4
- Izod dry test specimen	kJ/m²: J/m	3 ; 30
Test specimens standard atmosphere 23°C/50% RH	kJ/m²: J/m	3 ; 30
Ball indentation hardness H358/30 or H 961/30	N/mm²	140
Rockwell hardness		M85
ELECTRICAL PROPERTIES		
Dielectric strength dry test specimen	kV/mm	20
Test specimens standard atmosphere 23°C/50% RH	kV/mm	20
Volume resistivity dry test specimen	Ohm.cm	1014
Test specimens standard atmosphere 23°C/50% RH	Ohm.cm	1014
Surface resistivity dry test specimen	Ohm	1015
Test specimens standard atmosphere 23°C/50% RH	Ohm	1015
Dielectric constant: @ 50Hz dry test specimen	-	3.6
Test specimens standard atmosphere 23°C/50% RH	-	3.6
@ 1MHz dry test specimen	-	3.6
Test specimens standard atmosphere 23°C/50% RH	-	3.6
Dissipation factor tan @ 50Hz dry test specimen	-	0.003
Test specimens standard atmosphere 23°C/50% RH	-	0.003
@ 1 MHz dry test specimen	-	0.008
Test specimens standard atmosphere 23°C/50% RH	-	0.008
Resistance to racking dry test specimen	-	CTI 600
Test specimens standard atmosphere 23°C/50% RH	-	CTI 600

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