MATERIAL DATASHEET

ZX-610 3D FILAMENT

ZEDEX®
3D TRIBO FILAMENT

Description

ZX-610 (ETFE) filament is the printable PTFE alternative. It has approximately the same chemical resistance in comparison to PTFE, but has the advantage of better mechanical properties. The radiation resistance is very good in comparison to PTFE. ZX-610 offers significant advantages, particularly in cryogenic applications, in combination with UV rays in which tensile stresses have to be transmitted and a good wear resistance is required.

Properties

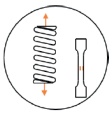
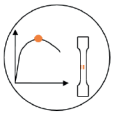
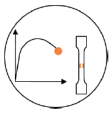
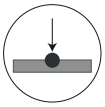
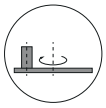
- Wide temperature range (especially at low temperatures)
- Excellent tensile strength and low creep among fluoropolymers
- High chemical resistance
- Very good weathering and aging resistance
- Good radiation resistance
- Good weldability - weld joint factor (> 90%)for the production of pipelines
- Excellent dielectric properties
- Good abrasion resistance
- Low density among fluoropolymer
- High adhesion to steel, copper and aluminum

Conformities

- RoHS / WEEE

Properties	Symbol | Unit		Standard	Value
Filament data				
Material code	-	-	-	695
Diameter	-	mm	-	1,75
Tolerance of the diameter	-	mm	-	±0,05
Weight per metre (theoretical)	-	g/m	-	-

Values determined on printed test specimens.
Filament undried – Alignment: horizontal/upright – slicing 45°

	Properties	Symbol | Unit		Standard	Value (horizontal)
	Material properties				
	Filament moisture content during printing	w	%	DIN EN ISO 15512	0,007
	Thermal post-treatment (annealing)	-	-	-	no
	3D printing orientation	-	-	-	XY
	Tensile modulus	E_t	MPa	DIN EN ISO 527-2/1B/1	-
	Tensile strength at yield	σ_y	MPa	DIN EN ISO 527-2/1B/5	7,28
	Tensile strain at yield	ε_y	%	DIN EN ISO 527-2/1B/5	0,97
	Tensile strength	σ_m	MPa	DIN EN ISO 527-2/1B/5	18,57
	Elongation at tensile strength	ε_m	%	DIN EN ISO 527-2/1B/5	69,92
	Tensile strength at break	σ_b	MPa	DIN EN ISO 527-2/1B/5	11,24
	Elongation at break	ε_b	%	DIN EN ISO 527-2/1B/5	134,23
	Impact resistance notched Charpy	α_{cN}	kJ/m²	DIN EN ISO 179	-
	Impact resistance un-notched Charpy	α_{cU}	kJ/m²	DIN EN ISO 179	-
	Ball indentation hardness	HB	N/mm²	DIN 2039 H358/30	-
	Specific wear rate p = 1N / mm²; v = 100m / min; 100Cr6, dry-running	K	mm³/km * 10-7	ASTM G99:2000	-
	Specific wear rate p = 10N / mm²; v = 4 m / min; 100Cr6, dry-running	K	mm³/km * 10-7	ASTM G99:2000	-
	Annealing shrinkage 125 ° C, length	-	%	-	-
	Annealing shrinkage 125 ° C, width	-	%	-	-
	Annealing shrinkage 125 ° C, thickness	-	%	-	-