ERIKS

Solutions in Plastics

PETg Datasheet

Sheet Properties

- Excellent transparency and high gloss surface
- High impact resistance, similar to polycarbonate
- For impact sensitive applications the sheet thickness can often be reduced of PMMA sheet
- Ductile. Break elongation similar to polycarbonate
- **Easily thermo formable**
- Good chemical resistance
- Complies with FDA standard (21 CFR 177.1315) USA, **suitable for food contact**
- Reduces sound transmission
- Sterilisable
- Recyclable

Thermal stability

Articles manufactured with this product should not be exposed to continuous use at over 65ºC according to the application.

Fabrication

- Does not stress whiten when cold formed up to 2.5 mm
- Can be cut with a guillotine
- Easily saw cut routed and drilled without burrs
- Can be bonded with a solvent
- Easily welded, like PVC
- Surface scratches can easily be removed with a heat gun
- The same tools used for diamond polishing PMMA can be used for polishing PETg sheet

Weathering

- The ultraviolet component in solar radiation causes most plastics to degrade. This degradation depends on the exposure, i.e. the actual duration of the exposure, the angle of the sheet with respect to the incidence of the solar radiation, and the temperature, humidity and intensity of the radiation (geographical coordinates) Degradation is apparent by progressive yellowing, a decrease in light transmission and a loss of mechanical properties.
- PETg sheet is not protected against the effects of weathering, though the material itself does possess a certain resistance to weathering conditions and may thus be used for outdoor applications in which the sheet is not permanently exposed to such radiation.
- For external applications where the sheet is subject to ultraviolet light, a stabilised product, PETg-UV is recommended.
- In external applications, both protection films must be removed immediately because, if they are exposed to sunlight, they can be permanently bonded to the sheet.

Applications

- Displays, display cases and other Point of Purchase advertising applications
- Machine guards
- Chocolate and confectionary moulds
- Vending and recreation machines
- Signs

- Orthopaedic parts and components for medical equipment
- Protective shields (anti-riot shields)
- Security glazing
- Building components
- Street furniture (vandal-proof)
- Articles for food

Material Characteristics

	METHOD	UNITS	VALUE
PHYSICAL			
Density	ISO 1183	$g.cm^{-3}$	1,27
MECHANICAL			
Tensile Strength @ Yield	ISO 527	Mpa	53
Tensile Strength @ Break	ISO 527	Mpa	26
Elongation @ Break	ISO 527	%	>200
Tensile Modulus of Elasticity	ISO 527	Mpa	2200
Flexural Strength	ISO 178	Mpa	79
Charpy Notched Impact Strength	ISO 179	$kJ.m^{-2}$	10
Charpy Unnotched	ISO 179	$kJ.m^{-2}$	No break
Rockwell Hardness M / R scale			(*) / 115
Ball Indentation	ISO 2039	Mpa	(*)
OPTICAL			
Light Transmission		%	88
Refractive Index			1,57
THERMAL			
Max. service temperature		°C	65
Vicat Softening Point - 10N	ISO 306	°C	83
Vicat Softening Point - 50N	ISO 306	°C	78
HDT A @ 1.8 Mpa	ISO 75-1,2	°C	68
HDT B @ 0.45 Mpa	ISO 75-1,2	°C	72
Coefficient of Linear Thermal Expansion x10-5		$x10^{-5} . °C^{-1}$	6,8

*Not applicable

CHEMICAL RESISTANCE	BEHAVIOUR		
	GOOD	LIMITED	POOR
Mineral Oil (*)	X		
Vegetable Oil (*)	X		
Acetone (*)			X
Acetic Acid (*)		X	
Water	X		
Turpentine (*)	X		
Ammonia			X
Detergents (*)	X		
Ethanol (*)	X		
Petrol (*)	X		
Glycerine	X		
Methanol		X	
Toluene (*)			X

(*)Test conditions: Total immersion during 1 year at a temperature of 23°.

FIRE PERFORMANCE

COUNTRY	STANDARD	CLASSIFICATION
UK	BS 476: Part 7	1Y
GERMANY	DIN 4102-1	B1
FRANCE	NPF 92-507	M2