

Company Name: Changzhou Huisu Qinye Import & Export Co., Ltd
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Jiangsu Province, China
Manufacturer: Changzhou Jincal Polymer Materials Science And Technology Co., Ltd

PET Data sheet

Sheet Properties

- Excellent transparency and brilliance.
- **Outstanding chemical resistance.**
- Suitable for food contact applications. **Complies with FDA and BGA Regulations.**
- High impact and breakage resistance.
- Thermoformable. No pre-drying required.
- Excellent fire resistance. Low non-toxic smoke generation.
- Recyclable. Environment friendly. Burns without releasing dioxins into the atmosphere, or toxic substances which may contaminate landfills.
- Reduces sound transmission.

Thermal Stability

- Articles manufactured with this product should not be exposed to continuous use at over 65°C, according to the application.

Weathering

- The ultraviolet component in solar radiation causes most plastics to degrade. This degradation depends on the exposure conditions, 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.
- PET 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, PET-UV is recommended. PET-UV is protected on both sides of the sheet and has a limited warranty for 10 years.
- 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.

Chemical resistance

- PET is generally resistant to most acids, alcohols and salts as well as plasticizers.
- PET is also resistant to hydrocarbons such as xylene, mineral oil and petrol.
- The resistance to aliphatic hydrocarbons is limited.
- Similarly, PET is also resistant to chemical attack by acid rain, diesel exhaust fumes and salinated air. Aromatic compounds show a variety of reactions.

Food contact and medical use

- PET complies with the requirements of the FDA (Food and Drug Administration, USA) and the BGA (Bundesgesundheitsamt, Germany) standards for contact with foodstuffs.
- PET is odourless and neutral in taste.
- PET is suitable for use with foodstuffs and medical applications.
- PET can be sterilised with gamma rays or ethylene oxide.

Applications

- Security glazing
- Signs
- Machinery protection
- Articles for food and health use
- Vending machines
- Point of Purchase displays
- Street furniture (vandal-proof)
- Building parts

Material Characteristics

	METHOD	UNITS	VALUE
PHYSICAL			
Density	ISO 1183	g.cm ⁻³	1.35
MECHANICAL			
Tensile Strength @ Yield	ISO 527	Mpa	59
Tensile Strength @ Break	ISO 527	Mpa	No break
Elongation @ Break	ISO 527	%	>200
Tensile Modulus of Elasticity	ISO 527	Mpa	2420
Flexural Strength	ISO 178	Mpa	86
Charpy Notched Impact Strength	ISO 179	kJ.m ⁻²	(*)
Charpy Unnotched	ISO 179	kJ.m ⁻²	No break
Rockwell Hardness M / R scale			(*) / 111
Ball Indentation	ISO 2039	Mpa	117
OPTICAL			
Light Transmission		%	89*
Refractive Index			1,576
THERMAL			
Max. service temperature		°C	60
Vicat Softening Point - 10N	ISO 306	°C	79
Vicat Softening Point - 50N	ISO 306	°C	75
HDT A @ 1.8 Mpa	ISO 75-1,2	°C	69
HDT B @ 0.45 Mpa	ISO 75-1,2	°C	73
Coefficient of Linear Thermal Expansion x10 ⁻⁵		x10 ⁻⁵ . °C ⁻¹	<6

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
ITALY	UNI 9177	Class 1