POLYVANTIS

PRODUCT DATASHEET

GEPAX™ 7000 SHEET

DESCRIPTION

GEPAX™ 7000 sheet is an opaque polycarbonate sheet, specifically developed for a wide range of internal industrial applications previously dominated by metals and upgraded commodity plastics. GEPAX 7000 sheet combines extremely high impact performance with good stiffness over a wide temperature range (-30 to 110°C). 7000 sheet provides high impact performance, very good heat resistance and excellent formability.

TYPICAL PROPERTY VALUES*

PROPERTY	TEST METHOD	UNITS	VALUE
PHYSICAL			
Density	ISO 1183	g/cm³	1.20
Water absorption, 50% RH, 23 °C	ISO 62	%	0.15
Water absorption, saturation, 23°C	ISO 62	%	0.35
MECHANICAL			
Yield stress 50 mm/min	ISO 527	MPa	>60
Yield strain 50 mm/min	ISO 527	%	6
Nominal strain at break 50 mm/min	ISO 527	%	>100
Tensile modulus 1 mm/min	ISO 527	MPa	2300
Flexural strength 2 mm/min	ISO 178	MPa	90
Flexural modulus 2 mm/min	ISO 178	MPa	2300
IMPACT			
Charpy impact, notched 23°C, 3.0 mm	ISO 179/1eA	kJ/m²	75
Izod impact, unnotched 23°C, 3.0 mm	ISO 180/1U	kJ/m²	NB
Izod impact, notched 23°C, 3.0 mm	ISO 180/1A	kJ/m²	70
THERMAL			
Vicat softening temperature, B/120	ISO 306	°C	145
Temperature of deflection under load (type A), 1.8 MPa, flat	ISO 75-2	°C	127
Thermal conductivity	ISO 8302	W/m.°C	0.2
Coefficient of linear thermal expansion, 23-55°C	ISO 11359-2	1/°C	$7x10^{-5}$
Ball pressure test 125 ±2°C	IEC 60695-10-2	-	Pass
ELECTRICAL			
Volume resistivity	IEC 60093	Ohm.cm	$>10^{15}$
Dielectric strength, in oil, 3.2 mm	IEC 60243-1	kV/mm	18
FIRE RATINGS			
Glow Wire Flammability Index (GWFI) 3mm	IEC 60695-2-12	°C	Pass 850°C
UL LISTING			
UL FILE# E539252			

*These are typical properties and are not intended for specification purposes. If minimum certifiable properties are required, please contact your local POLYVANTIS representative or the POLYVANTIS Quality Services Department.

PROCESSING

GEPAX™ 7000 sheet is an excellent candidate for thermoforming. It offers high, deep draw ratios, equal wall thickness distribution, and it can be formed into complex shapes using standard thermoforming equipment. Sandwich type heating systems give the best results. GEPAX 7000 sheet has a forming temperature range of 180 - 220°C. When forming, a draft angle of at least 3° should be allowed, and post mold shrinkage of 0.5 - 0.9% taken into account.

PRE-DRYING

It is important to ensure that GEPAX 7000 sheet is kept free of moisture prior to thermoforming. A hot air circulating oven set 120°C is recommended. Pre-drying times vary from 4-24 hours, depending on sheet thickness.

ASSEMBLING

Parts made from GEPAX 7000 sheet can be assembled with plastics, metals, rubber and other materials using many types of adhesive bonding, welding and mechanical fastening techniques. Further information and advice is available on request.

PAINTING

For either functional or decorative reasons it may be necessary to apply finish to GEPAX 7000 sheets or vacuum formed parts. The product is ideally suited for use with a wide variety of modern decoration techniques. A list of approved paint systems and suppliers is available upon request.

CHEMICAL RESISTANCE

GEPAX 7000 sheet has sufficient resistance to most mineral oils, greases, aliphatic hydrocarbons and acids under low or moderate stress levels. In applications where the GEPAX 7000 sheet will come into contact with aggressive chemicals, specific (application related) testing is always advised. Effective painting systems can improve chemical resistance.

SAFETY

The processing guidance given in this documentation is given in good faith and the trust that in all cases you wear the correct Personal Protective Equipment (PPE), e.g. helmet, proper gloves, safety goggles etc. to safely fabricate, e.g. (but not limited to) sawing, cutting, forming our sheets and films. In all cases you should follow local and national regulations around the wear of PPE's prescribed or mandatory to perform these tasks in a safely manor.

PRODUCT AVAILABILITY

Product code:	GEPAX™ 7000 Sheet
Standard width:	Grade 7000: 1250 & 2050mm
	Grade 7005 & 7006: 1300 & 2050mm
Gauges:	2-8mm
Textures:	Polished/Polished (7000), Polished/Matt (7005), Polished/Suede (7006)
Colors:	Black 78927 (only available in 7006), Light Gray 78944, Off White 78943

Other colors/sizes are available by special request.

POLYVANTIS

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LEXAN™ POLYCARBONATE FILM & SHEET Tough, Virtually Unbreakable

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