

POLIMAXX GP110

IRPC Public Company Limited - General Purpose Polystyrene

General Information

Product Description

GP110 is a general purpose polystyrene (GPPS) with high melt strength, high stiffness and high transparency. It is designed for extrusion processing for thermoforming such as food packaging (XPS), appliance & electronic parts (refrigerator food tray).

Industry:

- Appliance & Electronic Parts
- Thermoforming Packaging

Product Feature:

- High Stiffness
- High Melt Strength
- High Transparency

Regulation Compliance:

- FDA US 21 CFR 177.1640
- Commission Regulation (EU) No. 10/2011
- RoHS Directive 2011/65/EU
- REACH Regulation (EC) No. 1907/2006
- UL Yellow Card: E132283

General

Material Status	• Commercial: Active		
Availability	• Asia Pacific	• Europe	• North America
Features	• Food Contact Acceptable • General Purpose	• High Clarity • High Melt Strength	• High Stiffness
Uses	• Appliance Components • Electrical/Electronic Applications	• Food Packaging • General Purpose	
Agency Ratings	• EC 1907/2006 (REACH) • EU 2011/65/EC	• EU No 10/2011 • FDA 21 CFR 177.1640	
RoHS Compliance	• RoHS Compliant		
Processing Method	• Sheet Extrusion	• Thermoforming	

Properties ¹

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity ²	1.05		ASTM D792
Melt Mass-Flow Rate (MFR) (200°C/5.0 kg)	2.0	g/10 min	ASTM D1238
Molding Shrinkage	0.40 to 0.60	%	Internal Method
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus ³ (0.126 in)	455000	psi	ASTM D638
Tensile Strength ⁴ (Yield, 0.126 in)	7750	psi	ASTM D638
Tensile Strength ⁴ (Break, 0.126 in)	7750	psi	ASTM D638
Tensile Elongation ⁴ (Break, 0.126 in)	2.0	%	ASTM D638
Flexural Modulus ^{5, 6} (0.126 in)	469000	psi	ASTM D790
Flexural Strength ⁵ (0.126 in)	14900	psi	ASTM D790
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (73°F, 0.126 in)	0.40	ft·lb/in	ASTM D256
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (M-Scale, 0.126 in)	80		ASTM D785
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (264 psi, Unannealed, 0.126 in)	201	°F	ASTM D648



Vicat Softening Temperature ⁷	217 °F	ASTM D1525 ⁸
Flammability	Nominal Value Unit	Test Method
Flame Rating (0.06 in)	HB	UL 94

Processing Information		
Extrusion	Nominal Value	Unit
Cylinder Zone 1 Temp.	356 to 428	°F
Cylinder Zone 2 Temp.	356 to 428	°F
Cylinder Zone 3 Temp.	356 to 428	°F
Cylinder Zone 4 Temp.	356 to 428	°F
Cylinder Zone 5 Temp.	356 to 428	°F
Die Temperature	374 to 464	°F

Notes		
¹ Typical properties: these are not to be construed as specifications.		
² 23°C		
³ 0.039 in/min		
⁴ 0.20 in/min		
⁵ 0.051 in/min		
⁶ E-Modulus		
⁷ 3.2mm		
⁸ Rate A (50°C/h), Loading 1 (10 N)		

