POLYCASA® ACRYL KR 2006/1

Polymethyl Methacrylate Acrylic

Polycasa

Message:

Polycasa Acryl is the trade name for thermoplastic moulding compounds from Polycasa.
Polycasa Acryl is a highly transparent, amorphous thermoplastic based on polymethylmethacrylate (PMMA), whilst Polycasa Acryl KR products are high-impact modified products with a range of melt viscosities.
CHARACTERISTICS
Available in many transparent and opaque shades.
Excellent transparency and brilliance.
Unsurpassed resistance to ageing.
High surface hardness.
Scratch resistance.
Good recyclability.
High optical quality.
Glass-clear appearance.
Good outdoor performance.
Meets all current European food contact legislation and can be used in contact with foodstuffs.
APPLICATIONS
Automotive.
Building.
Lighting.
Food.
Signs.
Electrical.
Sanitary.
Marine.
Medical.

General Information	
Additive	Impact Modifier
Features	Amorphous
	Food Contact Acceptable
	Good Weather Resistance
	High Clarity
	High Hardness
	High Impact Resistance
	High Scratch Resistance
	Impact Modified
	Opticals
	Outstanding Surface Finish
	Recyclable Material
Uses	Automotive Applications
	Building Materials
	Construction Applications
	Electrical/Electronic Applications
	Lighting Applications

	Marine Applications
	Medical/Healthcare Applications
	Non-specific Food Applications
	Sanitary Products
Agency Ratings	EU Food Contact, Unspecified Rating
Appearance	Clear/Transparent
	Colors Available
	Opaque
Processing Method	Coating
	Extrusion
	Injection Molding

Physical	Nominal Value	Unit	Test Method
Density	1.15	g/cm³	ISO 1183
Apparent Density	0.67	g/cm³	DIN 53466
Melt Volume-Flow Rate (MVR) (230°C/3.8 kg)	0.900	cm³/10min	ISO 1133
Molding Shrinkage	0.50 to 0.80	%	
Water Absorption (Equilibrium, 23°C, 50% RH)	0.40	%	
Hardness	**Nominal Value**	**Unit**	**Test Method**
Ball Indentation Hardness (H 358/30)	83.0	MPa	ISO 2039-1
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus	1800	MPa	ISO 527-2
Tensile Stress (Break)	40.0	MPa	ISO 527-2
Tensile Strain (Break)	45	%	ISO 527-2
Flexural Stress	65.0	MPa	ISO 178
Films	**Nominal Value**	**Unit**	**Test Method**
Water Vapor Permeability	1.0	g/m²/24 hr	DIN 53122
Maximum Service Temperature - short cycle operation	85	°C	
Impact	**Nominal Value**	**Unit**	**Test Method**
Charpy Notched Impact Strength (23°C)	7.0	kJ/m²	ISO 179/1e
Charpy Unnotched Impact Strength (23°C)	80	kJ/m²	ISO 179/1eU
Thermal	**Nominal Value**	**Unit**	**Test Method**
Heat Deflection Temperature (1.8 MPa, Unannealed)	90.0	°C	ISO 75-2/Af
Vicat Softening Temperature	98.0	°C	ISO 306/B50
CLTE - Flow (23 to 80°C)	1.1E-4	cm/cm/°C	DIN 53752
Specific Heat	1500	J/kg/°C	IEC 1006
Thermal Conductivity	0.18	W/m/K	DIN 52612

Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	1.0E+14	ohms	IEC 60093
Volume Resistivity	1.0E+14	ohms·cm	IEC 60093
Electric Strength [1]	60	kV/mm	IEC 60243-1
Dielectric Constant			IEC 60250
100 Hz	3.20		
1 MHz	2.90		
Dissipation Factor			IEC 60250
100 Hz	0.040		
1 MHz	0.030		
Comparative Tracking Index (Solution B)	600	V	IEC 60112
Optical	**Nominal Value**	**Unit**	**Test Method**
Refractive Index	1.492		ISO 489
Transmittance (3000 µm)	90.0	%	DIN 5036-3
Haze	< 2.0	%	DIN 5036-3
Injection	**Nominal Value**	**Unit**	
Processing (Melt) Temp	220 to 260	°C	
Mold Temperature	50.0 to 70.0	°C	
Extrusion	**Nominal Value**	**Unit**	
Melt Temperature	180 to 250	°C	
NOTE			
1.	K20/P50		

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