

POLYCASA® ACRYL KR 2010/1

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
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Physical	Nominal Value	Unit	Test Method
Density	1.14	g/cm ³	ISO 1183
Apparent Density	0.67	g/cm ³	DIN 53466
Melt Volume-Flow Rate (MVR) (230°C/3.8 kg)	2.40	cm ³ /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)	85.0	MPa	ISO 2039-1

Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	2100	MPa	ISO 527-2
Tensile Stress (Break)	45.0	MPa	ISO 527-2
Tensile Strain (Break)	35	%	ISO 527-2
Flexural Stress	70.0	MPa	ISO 178

Films	Nominal Value	Unit	Test Method
Water Vapor Permeability	1.0	g/m ² /24 hr	DIN 53122
Maximum Service Temperature - short cycle operation	85	°C	

Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength (23°C)	5.0	kJ/m ²	ISO 179/1e
Charpy Unnotched Impact Strength (23°C)	65	kJ/m ²	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	97.0	°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	210 to 250	°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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