



Adflex KS021P

Advanced Polyolefin

Product Description

Adflex KS021P is a reactor TPO (thermoplastic polyolefin) manufactured using LyondellBasell's proprietary *Catalloy* process technology. It is suitable for the extrusion and calendering of soft film and sheet, for the impact modification of polypropylene, as well as monolayer and multilayer air quenched blown films.

It is also used by our customers as high cold impact resistance material for automotive color-matched interior trim applications. Key characteristics are flexibility and low temperature impact resistance.

The grade is available in natural pellet form.

For regulatory compliance information see *Adflex* KS021P Product Stewardship Bulletin (PSB).

Product Characteristics

Status	Commercial: Active
Test Method used	ISO
Availability	North America, Asia-Pacific, Australia/NZ, Africa-Middle East, Latin America
Processing Methods	Extrusion Flat-die, Blown Film, Calendering, Extrusion Thermoforming
Features	Good Chemical Resistance, High ESCR (Environmental Stress Cracking Resistance), Good Flexibility, Low Temperature Impact Resistance, Good shape retention
Typical Customer Applications	Film, Interior Applications, Sports, Leisure and Toys

Typical Properties	Method	Value	Unit
Physical			
Density (Method A %)	ISO 1183	0.88	g/cm ³
Melt flow rate (MFR) (230 °C/ 2.16 kg)	ISO 1133	0.9	g/10 min
Mechanical			
Tear Strength	ASTM D 624	85 N/mm	
<i>Note: (Graves, Die C, 50mm/min) - Load/Width @ Max Load</i>			
Tensile Stress at Break (23 °C, 50 mm/min)	ISO 527-1, -2	13	MPa
Tensile Stress at Yield (23 °C, 50 mm/min)	ISO 527-1, -2	8	MPa
Tensile Strain at Break (23 °C, 50 mm/min)	ISO 527-1, -2	>800	%
Tensile Strain at Yield (23 °C, 50 mm/min)	ISO 527-1, -2	38	%
Flexural modulus (23 °C, 2 mm/min, Chord)	ISO 178	300	MPa
Impact			
Notched izod impact strength (23 °C, Type 1, Notch A)	ISO 180	52	kJ/m ²
<i>Note: Failure Mode: Partial</i>			
(-40 °C, Type 1, Notch A)		86	kJ/m ²
<i>Note: Failure Mode: Partial</i>			
Multiaxial Impact Strength (Energy@ Max Load +23°C, 6.6m/s, 3.2mm plq; Failure Mode: Ductile)	ASTM D3763	17	J
(Energy@ Max Load -40°C, 6.6m/s, 3.2mm plq; Failure Mode: Ductile)		23	J

Hardness

Shore hardness (Shore D)	ISO 868	38
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Note: 15 seconds

Thermal

Melting temperature		161	°C
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Note: (ISO 11357-3)

Heat deflection temperature B (0.45 MPa) Unannealed	ISO 75B-1, -2	48	°C
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Heat deflection temperature A (1.80 MPa) Unannealed	ISO 75A-1, -2	38	°C
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Vicat softening temperature (A50 (50°C/h 10N))	ISO 306	67	°C
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Additional Information

Mold shrinkage	ISO 294-4
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Note: Please contact Equistar for shrinkage recommendations

Additional Properties

AUTOMOTIVE SPECIFICATIONS:

Chrysler MS-DB590 CPN 3900

Ford WSS M4D777-A8

GM GMW15072-170020

Notes

Typical properties; not to be construed as specifications.