# Adflex KS021P

## Thermoplastic Polyolefin Elastomer

### LyondellBasell Industries

#### Message:

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.

General Information				
Features	Good Chemical Resistance			
	Good Flexibility			
	High ESCR (Stress Crack Resist.)			
	Low Temperature Impact Resistance	ē		
Uses	Automotive Interior Trim			
	Film			
	Plastics Modification			
	Sporting Goods			
	Toys			
Appearance	Natural Color			
Forms	Pellets			
Processing Method	Blown Film			
	Calendering			
	Film Extrusion			
	Sheet Extrusion			
Physical	Nominal Value	Unit	Test Method	
Density	0.880	g/cm³	ISO 1183/A	
Melt Mass-Flow Rate (MFR) (230°C/2.16				
kg)	0.90	g/10 min	ISO 1133	
Hardness	Nominal Value	Unit	Test Method	
Shore Hardness (Shore D, 15 sec)	38		ISO 868	
Mechanical	Nominal Value	Unit	Test Method	
Tensile Stress			ISO 527-2/50	
Yield, 23°C	8.00	MPa		
Break, 23°C	13.0	MPa		
Tensile Strain			ISO 527-2/50	
Yield, 23°C	38	%		

Break, 23°C	> 800	%	
Flexural Modulus - Chord <sup>1</sup> (23°C)	300	MPa	ISO 178
Elastomers	Nominal Value	Unit	Test Method
Tear Strength <sup>2</sup>	85.0	kN/m	ASTM D624
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact Strength			ISO 180/1A
-40°C, Partial Break	86	kJ/m²	
23°C, Partial Break	52	kJ/m²	
Instrumented Dart Impact <sup>3</sup>			ASTM D3763
-40°C, 3.20 mm, Energy at Peak Load, Brittle Failure	23.0	J	
22% 2.20 5 1.0			
Ductile Failure	17.0	J	
Ductile Failure	17.0 Nominal Value	J Unit	Test Method
Ductile Failure Thermal Heat Deflection Temperature	17.0 Nominal Value	J Unit	Test Method
Ductile Failure Thermal Heat Deflection Temperature 0.45 MPa, Unannealed	17.0 Nominal Value 48.0	J Unit ℃	Test Method ISO 75-2/B
23°C, 3.20 mm, Energy at Peak Load,         Ductile Failure         Thermal         Heat Deflection Temperature         0.45 MPa, Unannealed         1.8 MPa, Unannealed	17.0 Nominal Value 48.0 38.0	J Unit ℃ ℃	Test Method ISO 75-2/B ISO 75-2/A
23°C, 3.20 mm, Energy at Peak Load,         Ductile Failure         Thermal         Heat Deflection Temperature         0.45 MPa, Unannealed         1.8 MPa, Unannealed         Vicat Softening Temperature	17.0 Nominal Value 48.0 38.0 67.0	J Unit ℃ ℃ ℃	Test Method ISO 75-2/B ISO 75-2/A ISO 306/A50
23°C, 3.20 mm, Energy at Peak Load,         Ductile Failure         Thermal         Heat Deflection Temperature         0.45 MPa, Unannealed         1.8 MPa, Unannealed         Vicat Softening Temperature         Melting Temperature	17.0 Nominal Value 48.0 38.0 67.0 161	J Unit °C °C °C	Test Method ISO 75-2/B ISO 75-2/A ISO 306/A50 ISO 11357-3
23°C, 3.20 mm, Energy at Peak Load,         Ductile Failure         Thermal         Heat Deflection Temperature         0.45 MPa, Unannealed         1.8 MPa, Unannealed         Vicat Softening Temperature         Melting Temperature         NOTE	17.0 Nominal Value 48.0 38.0 67.0 161	J Unit ℃ ℃ ℃	Test Method ISO 75-2/B ISO 75-2/A ISO 306/A50 ISO 11357-3
23°C, 3.20 mm, Energy at Peak Load,         Ductile Failure         Thermal         Heat Deflection Temperature         0.45 MPa, Unannealed         1.8 MPa, Unannealed         Vicat Softening Temperature         Melting Temperature         NOTE         1.	17.0 Nominal Value 48.0 38.0 67.0 161 2.0 mm/min	J Unit ℃ ℃ ℃ ℃	Test Method ISO 75-2/B ISO 75-2/A ISO 306/A50 ISO 11357-3
23°C, 3.20 mm, Energy at Peak Load,         Ductile Failure         Thermal         Heat Deflection Temperature         0.45 MPa, Unannealed         1.8 MPa, Unannealed         Vicat Softening Temperature         Melting Temperature         NOTE         1.         2.	17.0 Nominal Value 48.0 38.0 67.0 161 2.0 mm/min Die C, 50 mm/min	J Unit ℃ ℃ ℃ ℃	Test Method ISO 75-2/B ISO 75-2/A ISO 306/A50 ISO 11357-3

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