

DSM Akulon® XP32-C1 PA6

Category : Polymer , Thermoplastic , Nylon , Nylon 6 , Nylon 6 , Film Grade

Material Notes:

Film Extrusion, Medium Viscosity, Lubricated

Order this product through the following link:

http://www.lookpolymers.com/polymer_DSM-Akulon-XP32-C1-PA6.php

Physical Properties	Metric	English	Comments
Density	1.13 g/cc	0.0408 lb/in ³	ISO 1183
Water Vapor Transmission	35.0 g/m ² /day @Temperature 23.0 °C	2.25 g/100 in ² /day @Temperature 73.4 °F	at 85% r.h., Film; DIS 15106-1/-3
Oxygen Transmission	1.30 cc-mm/m ² -24hr-atm @Temperature 23.0 °C	3.30 cc-mil/100 in ² -24hr-atm @Temperature 73.4 °F	at 0% r.h., Film; DIS 15105-1/-2
	1.95 cc-mm/m ² -24hr-atm @Temperature 23.0 °C	4.95 cc-mil/100 in ² -24hr-atm @Temperature 73.4 °F	at 85% r.h., Film; DIS 15105-1/-2
Viscosity	1.13e+6 cP @Temperature 260 °C	1.13e+6 cP @Temperature 500 °F	Melt Viscosity; DSM Method
	200000 cP @Shear Rate 1000 1/s, Temperature 280 °C	200000 cP @Shear Rate 1000 1/s, Temperature 536 °F	
	250000 cP @Shear Rate 1000 1/s, Temperature 260 °C	250000 cP @Shear Rate 1000 1/s, Temperature 500 °F	
	300000 cP @Shear Rate 1000 1/s, Temperature 240 °C	300000 cP @Shear Rate 1000 1/s, Temperature 464 °F	
	1.00e+6 cP @Shear Rate 0.100 1/s, Temperature 280 °C	1.00e+6 cP @Shear Rate 0.100 1/s, Temperature 536 °F	
	2.00e+6 cP @Shear Rate 0.100 1/s, Temperature 260 °C	2.00e+6 cP @Shear Rate 0.100 1/s, Temperature 500 °F	
	3.00e+6 cP @Shear Rate 0.100 1/s,	3.00e+6 cP @Shear Rate 0.100 1/s,	

Physical Properties	Temperature 240 °C Metric	Temperature 464 °F English	Comments
Viscosity Measurement	2.8	2.8	RSV formic acid, 1g/100ml; DSM Method
Viscosity Test	177 cm³/g	177 cm³/g	Viscosity Number; ISO 307, 1157, 1628
Thickness	50.0 microns	1.97 mil	Film

Mechanical Properties	Metric	English	Comments
Film Tensile Strength at Yield, MD	33.0 MPa	4790 psi	parallel; ISO 527-3
Film Elongation at Break, MD	340 %	340 %	parallel; ISO 527-3
Modulus of Elasticity	0.490 GPa	71.1 ksi	Film; DSM-Method, 50mm/min
Coefficient of Friction, Dynamic	1.0	1.0	Film; ISO 8295
Coefficient of Friction, Static	1.2	1.2	Film; ISO 8295
Tear Strength Test	23	23	Trouser Tear Resistance, Parallel, Film; ISO 6383-1
Film Tensile Strength at Break, MD	85.0 MPa	12300 psi	parallel; ISO 527-3

Thermal Properties	Metric	English	Comments
CTE, linear	90.0 µm/m-°C	50.0 µin/in-°F	ISO 11359-1/-2
Specific Heat Capacity	1.55 J/g-°C	0.370 BTU/lb-°F	
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	2.25 J/g-°C	0.538 BTU/lb-°F	
	@Temperature 20.0 - 150 °C	@Temperature 68.0 - 302 °F	

Optical Properties	Metric	English	Comments
Transmission, Visible	83 %	83 %	Film; DSM Method

Processing Properties	Metric	English	Comments
Processing Temperature	270 °C	518 °F	Extruder Temperature
Die Temperature	270 °C	518 °F	
Roll Temperature	110 °C	230 °F	

Descriptive Properties	Value	Comments
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Extrusion Type Descriptive Properties	Cast Film Value	Comments
Puncture Resistance	1250 J/m	Film (DSM Method)

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