

Envalior Akulon® F130-C

Film Extrusion, Medium Viscosity, Lubricated
Former DSM Engineering Plastics product line is now with Envalior.

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
	1.90 cc-mm/m ² -24hr-atm @Temperature 23.0 °C	4.83 cc-mil/100 in ² -24hr-atm @Temperature 73.4 °F	at 85% r.h., film; DIS 15105-1/-2
Viscosity	810000 cP @Temperature 260 °C	810000 cP @Temperature 500 °F	Melt Viscosity; DSM method
	300000 cP @Shear Rate 1000 1/s, Temperature 280 °C	300000 cP @Shear Rate 1000 1/s, Temperature 536 °F	
	350000 cP @Shear Rate 1000 1/s, Temperature 260 °C	350000 cP @Shear Rate 1000 1/s, Temperature 500 °F	
	400000 cP @Shear Rate 1000 1/s, Temperature 240 °C	400000 cP @Shear Rate 1000 1/s, Temperature 464 °F	
	600000 cP @Shear Rate 0.1 1/s, Temperature 280 °C	600000 cP @Shear Rate 0.1 1/s, Temperature 536 °F	
	800000 cP @Shear Rate 0.1 1/s, Temperature 260 °C	800000 cP @Shear Rate 0.1 1/s, Temperature 500 °F	
	1.05e+6 cP @Shear Rate 0.1 1/s, Temperature 240 °C	1.05e+6 cP @Shear Rate 0.1 1/s, Temperature 464 °F	
Viscosity Measurement	3.03	3.03	RSV formic acid, 1g/100ml; DSM method
Viscosity Number	196 cm ³ /g	1.96 dl/g	ISO 307, 1157, 1628
Thickness	50.0 microns	1.97 mil	film

Mechanical Properties	Metric	English	Comments
Film Tensile Strength at Yield, MD	31.0 MPa	4500 psi	parallel; ISO 527-3
Film Elongation at Break, MD	350 %	350 %	parallel; ISO 527-3
Modulus of Elasticity	0.455 GPa	66.0 ksi	film; DSM-Method, 50 mm/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	32	32	Trouser tear resistance, parallel, film; ISO 6383-1
Film Tensile Strength at Break, MD	82.0 MPa	11900 psi	parallel; ISO 527-3

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	90.0 $\mu\text{m}/\text{m}^{\circ}\text{C}$	50.0 $\mu\text{in}/\text{in}^{\circ}\text{F}$	ISO 11359-1/-2

Optical Properties	Metric	English	Comments
Transmission, Visible	83 %	83 %	film; DSM method

Processing Properties	Metric	English	Comments
Processing Temperature	270 $^{\circ}\text{C}$	518 $^{\circ}\text{F}$	Extruder Temperature
Die Temperature	270 $^{\circ}\text{C}$	518 $^{\circ}\text{F}$	
Roll Temperature	110 $^{\circ}\text{C}$	230 $^{\circ}\text{F}$	

Descriptive Properties			
Extrusion Type		Cast Film	
Puncture Resistance		1300 J/m	Film (DSM Method)