Makrolon® AX2675 RE

Covestro - Polycarbonates - *Polycarbonate*

General Information

Product Description

MVR (300 °C/1.2 kg) 12 cm³/10 min; medium viscosity; easy release; injection molding - melt temperature 280 - 320 °C; available in black colors only; automotive exterior roof trim + pillar appliques; developed for high-gloss surfaces with highest requirements; for the use in combination with hard coatings

Partially bio-circular grade / Attributed via mass balance (according to ISCC PLUS Standard).

General			
Material Status	• Commercial: Active		
Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Features	• Good Mold Release	• High Gloss	• Medium Viscosity
Uses	• Automotive Applications	• Automotive Exterior Parts	• Automotive Exterior Trim
Agency Ratings	• ISCC PLUS		
RoHS Compliance	• RoHS Compliant		
Appearance	• Black	• Colors Available	
Processing Method	• Injection Molding		
ISO Designation	• PC		

Properties [1]

Physical	Nominal Value	Unit	Test Method
Density (73°F)	1.20	g/cm³	ISO 1183
Apparent (Bulk) Density [2]	0.66	g/cm³	ISO 60
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	13	g/10 min	ISO 1133
Melt Volume-Flow Rate (MVR) (300°C/1.2 kg)	12	cm³/10min	ISO 1133
Molding Shrinkage			
Across Flow	0.60 to 0.80	%	ISO 2577
Flow	0.60 to 0.80	%	ISO 2577
Across Flow : 536°F, 0.0787 in [3]	0.75	%	ISO 294-4
Flow : 0.0787 in [3]	0.70	%	ISO 294-4
Water Absorption (Saturation, 73°F)	0.30	%	ISO 62
Water Absorption (Equilibrium, 73°F, 50% RH)	0.12	%	ISO 62
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus (73°F)	348000	psi	ISO 527-1/1
Tensile Stress (Yield, 73°F)	9430	psi	ISO 527-2/50
Tensile Stress (Break, 73°F)	10000	psi	ISO 527-2/50
Tensile Strain (Yield, 73°F)	6.0	%	ISO 527-2/50
Tensile Strain (Break, 73°F)	120	%	ISO 527-2/50
Nominal Tensile Strain at Break (73°F)	> 50	%	ISO 527-2/50
Flexural Modulus [4] (73°F)	348000	psi	ISO 178
Flexural Stress [4]			ISO 178
73°F	14200	psi	
3.5% Strain, 73°F	10700	psi	
Flexural Strain at Flexural Strength [5] (73°F)	7.1	%	ISO 178
Films	**Nominal Value**	**Unit**	**Test Method**
Water Vapor Transmission Rate (73°F, 85% RH, 3.9 mil)	0.97	g/100 in²/24 hr	ISO 15106-1
Impact	**Nominal Value**	**Unit**	**Test Method**
Charpy Notched Impact Strength [6]			ISO 179/1eA

-22°F, Complete Break	7.6	ft·lb/in²	
73°F, Partial Break	33	ft·lb/in²	
Charpy Unnotched Impact Strength			ISO 179/1eU
-76°F	No Break		
-22°F	No Break		
73°F	No Break		
Notched Izod Impact Strength [6]			ISO 180/A
-22°F, Complete Break	6.7	ft·lb/in²	
73°F, Partial Break	33	ft·lb/in²	
Multi-Axial Instrumented Impact Energy			ISO 6603-2
-22°F	44.3	ft·lb	
73°F	40.6	ft·lb	
Multi-Axial Instrumented Impact Peak Force			ISO 6603-2
-22°F	1370	lbf	
73°F	1170	lbf	
Hardness	**Nominal Value**	**Unit**	**Test Method**
Ball Indentation Hardness	16700	psi	ISO 2039-1
Thermal	**Nominal Value**	**Unit**	**Test Method**
Deflection Temperature Under Load (66 psi, Unannealed)	277	°F	ISO 75-2/B
Deflection Temperature Under Load (264 psi, Unannealed)	255	°F	ISO 75-2/A
Glass Transition Temperature [7]	289	°F	ISO 11357-2
Vicat Softening Temperature			
--	291	°F	ISO 306/B120
--	289	°F	ISO 306/B50
Ball Pressure Test (275°F)	Pass		IEC 60695-10-2
CLTE - Flow (73 to 131°F)	3.6E-5	in/in/°F	ISO 11359-2
CLTE - Transverse (73 to 131°F)	3.6E-5	in/in/°F	ISO 11359-2
Thermal Conductivity [8] (73°F)	1.4	Btu·in/hr/ft²/°F	ISO 8302
RTI Elec (0.06 in)	257	°F	UL 746B
RTI Imp (0.06 in)	239	°F	UL 746B
RTI Str (0.06 in)	257	°F	UL 746B
Electrical	**Nominal Value**	**Unit**	**Test Method**
Surface Resistivity	1.0E+16	ohms	IEC 60093
Volume Resistivity (73°F)	1.0E+16	ohms·cm	IEC 60093
Electric Strength (73°F, 0.0394 in)	860	V/mil	IEC 60243-1
Relative Permittivity			IEC 60250
73°F, 100 Hz	3.10		
73°F, 1 MHz	3.00		
Dissipation Factor			IEC 60250
73°F, 100 Hz	5.0E-4		
73°F, 1 MHz	9.0E-3		
Comparative Tracking Index			IEC 60112
Solution A	250	V	
Solution B	125	V	
Electrolytic Corrosion (73°F)	A1		IEC 60426
Flammability	**Nominal Value**	**Unit**	**Test Method**
Application of Flame from Small Burner [9] (78.7 mil)	K1, F1		DIN 53438-1, -3
Burning Rate [10] (> 39.4 mil)	passed		ISO 3795
Flash Ignition Temperature	896	°F	ASTM D1929
Self Ignition Temperature	1022	°F	ASTM D1929

Processing Information

Injection	**Nominal Value**	**Unit**
Drying Temperature - Dry Air Dryer	248	°F
Drying Time - Dry Air Dryer	2.0 to 3.0	hr
Suggested Max Moisture	< 0.020	%
Suggested Shot Size	30 to 70	%
ature	482 to 50	
erature	518 to 53	
rature	536 to 55	
erature	554 to 57	

Processing (Melt) Temp	536 to 608 °F
Mold Temperature	176 to 248 °F
Back Pressure	725 to 2180 psi
Vent Depth	9.8E-4 to 3.0E-3 in

Injection Notes

Standard Melt Temperature: 300°C
Peripheral Screw Speed: 0.05 - 0.2 m/s
Hold Pressure (% of Injection Pressure): 50 - 75%

Notes

[1] Typical properties: these are not to be construed as specifications.

[2] Pellets

[3] 60x60x2mm, 500 bar

[4] 0.079 in/min

[5] 2.0 mm/min

[6] 3.0 mm

[7] 10°C/min

[8] Across Flow

[9] Method K and F

[10] US-FMVSS