

CALIBRE™ 30x-10

Trinseo - Polycarbonate Resin

General Information

Product Description

CALIBRE™ 30x-10 MFR are general purpose Polycarbonate resins that offer exceptional impact resistance, heat distortion resistance and optical clarity for use in injection moulding and extrusion processes. The CALIBRE 300-10 series products are available in 4 additive packages: CALIBRE 300: No mold release or UV Stabilizer. CALIBRE 301: Mold release. CALIBRE 302: UV stabilizer. CALIBRE 303: Mold release and UV stabilizer. Material is transparent but can be custom colored.

Govt. and Industry Standards:

- Underwriters Laboratory, Inc. (UL)

Applications:

- Appliances
- Business equipment
- Electrical & lighting components
- Transportation
- Automotive applications
- Houseware
- Recreation
- Packaging applications
- Power equipment

General

Features	• High Clarity	• High Impact Resistance	• Medium Flow
Uses	• Appliances • Automotive Applications • Business Equipment • Consumer Applications	• Containers • Displays • Electrical/Electronic Applications • Household Goods	• Lighting Applications • Profiles • Rigid Packaging • Transparent Parts
RoHS Compliance	• RoHS Compliant		
Appearance	• Clear/Transparent		
Forms	• Pellets		
Processing Method	• Film Extrusion • Injection Molding	• Profile Extrusion • Sheet Extrusion	• Thermoforming

Properties ¹

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	1.20		ASTM D792
Density	1.20	g/cm ³	ISO 1183
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	10	g/10 min	ASTM D1238
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	10	g/10 min	ISO 1133
Molding Shrinkage - Flow	0.50 to 0.70	%	ISO 294-4
Water Absorption (Saturation, 73°F)	0.32	%	ISO 62
Water Absorption (Equilibrium, 73°F, 50% RH)	0.12	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus ²	334000	psi	ASTM D638
Tensile Modulus	334000	psi	ISO 527-1/1
Tensile Strength ³ (Yield)	8700	psi	ASTM D638
Tensile Stress (Yield)	8700	psi	ISO 527-2/50

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Mechanical	Nominal Value	Unit	Test Method
Tensile Strength ³ (Break)	10300	psi	ASTM D638
Tensile Stress (Break)	10300	psi	ISO 527-2/50
Tensile Elongation ³ (Yield)	6.0	%	ASTM D638
Tensile Strain (Yield)	6.0	%	ISO 527-2/50
Tensile Elongation ³ (Break)	130	%	ASTM D638
Tensile Strain (Break)	140	%	ISO 527-2/50
Flexural Modulus	350000	psi	ASTM D790
Flexural Modulus ⁴	348000	psi	ISO 178
Flexural Strength	14000	psi	ASTM D790
Flexural Stress ⁴	14100	psi	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-22°F	6.2	ft·lb/in ²	
73°F	17	ft·lb/in ²	
Notched Izod Impact (73°F)	16	ft·lb/in	ASTM D256
Notched Izod Impact Strength (73°F)	43	ft·lb/in ²	ISO 180/1A
Instrumented Dart Impact ⁵ (73°F, Total Energy)	783	in·lb	ASTM D3763
Tensile Impact Strength	248	ft·lb/in ²	ASTM D1822
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness			ASTM D785
M-Scale	73		
R-Scale	118		
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (66 psi, Unannealed)	289	°F	ASTM D648
Deflection Temperature Under Load (66 psi, Annealed)	291	°F	ASTM D648
Deflection Temperature Under Load (66 psi, Annealed)	291	°F	ISO 75-2/B
Deflection Temperature Under Load			ASTM D648
264 psi, Unannealed	262	°F	
Deflection Temperature Under Load			ISO 75-2/A
264 psi, Unannealed	257	°F	
Deflection Temperature Under Load (264 psi, Annealed)	286	°F	ASTM D648
Deflection Temperature Under Load (264 psi, Annealed)	286	°F	ISO 75-2/A
Vicat Softening Temperature	300	°F	ASTM D1525 ⁶
Vicat Softening Temperature	300	°F	ISO 306/B50
Ball Indentation Temperature	> 257	°F	IEC 60335-1
CLTE - Flow (-40 to 176°F)	3.8E-5	in/in/°F	ISO 11359-2
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity	> 1.0E+15	ohms·cm	IEC 60093
Dielectric Strength	420	V/mil	ASTM D149
Electric Strength	430	V/mil	IEC 60243-1
Relative Permittivity			IEC 60250
100 Hz	3.00		
1 MHz	3.00		
Dissipation Factor			ASTM D150
50 Hz	1.0E-3		
1 MHz	2.0E-3		
Comparative Tracking Index (0.0787 in, Solution A)	250	V	IEC 60112

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Flammability	Nominal Value	Unit	Test Method
Flame Rating ⁷			UL 94
0.06 in		HB	
0.12 in		HB	
0.12 in, Calibre 301		HB	
0.030 in, Calibre 301		V-2	
0.06 in, Calibre 301		V-2	
Glow Wire Flammability Index ⁷			IEC 60695-2-12
0.04 in	1650	°F	
0.08 in	1610	°F	
0.12 in	1610	°F	
Glow Wire Ignition Temperature ⁷			IEC 60695-2-13
0.04 in	1470	°F	
0.08 in	1430	°F	
0.12 in	1430	°F	
Oxygen Index ⁷	26	%	ISO 4589-2
Optical	Nominal Value	Unit	Test Method
Refractive Index	1.586		ISO 489
Light Transmittance (118.1 mil)	87.0 to 91.0	%	ASTM D1003
Haze	< 1.00	%	ASTM D1003

Processing Information

Injection	Nominal Value	Unit
Drying Temperature	248	°F
Drying Time	4.0	hr

Notes

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

² 0.039 in/min

³ 2.0 in/min

⁴ 0.079 in/min

⁵ 10.9 ft/sec

⁶ Rate A (50°C/h), Loading 2 (50 N)

⁷ This rating not intended to reflect hazards presented by this or any other material under actual fire conditions.