CALIBRE™ 30x-6

Trinseo - Polycarbonate Resin

General Information

Product Description

CALIBRE™ 30x-6 MFR are general purpose Polycarbonate resins that offer exceptional impact resistance, heat distortion resistance and optical clarity as well as high melt strength for various extrusion processes. The CALIBRE 300-6 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:

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

General			
Features	• Good Melt Strength • High Clarity	• High Impact Resistance • High Viscosity	
Uses	• Automotive Applications • Displays • Electrical/Electronic Applications	• Lighting Applications • Profiles • Rigid Packaging	• Sheet • Transparent Parts
RoHS Compliance	• RoHS Compliant		
Appearance	• Clear/Transparent		
Forms	• Pellets		
Processing Method	• Film Extrusion • Profile Extrusion	• Sheet Extrusion • Thermoforming	

Properties [1]

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	1.20		ASTM D792
Density	1.20	g/cm³	ISO 1183
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	6.0	g/10 min	ASTM D1238
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	6.0	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)	10400	psi	ASTM D638
Tensile Stress (Break)	10400	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)	140	%	ASTM D638
Tensile Strain (Break)	150	%	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	6.7	ft·lb/in²	
73°F	26	ft·lb/in²	
Notched Izod Impact (73°F)	17	ft·lb/in	ASTM D256
Notched Izod Impact Strength (73°F)	44	ft·lb/in²	ISO 180/1A
Instrumented Dart Impact [5] (73°F, Total Energy)	800	in·lb	ASTM D3763
Tensile Impact Strength	280	ft·lb/in²	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)	293	°F	ASTM D648
Deflection Temperature Under Load (66 psi, Annealed)	293	°F	ASTM D648
Deflection Temperature Under Load (66 psi, Annealed)	295	°F	ISO 75-2/B
Deflection Temperature Under Load			ASTM D648
264 psi, Unannealed	265	°F	
Deflection Temperature Under Load			ISO 75-2/A
264 psi, Unannealed	259	°F	
Deflection Temperature Under Load (264 psi, Annealed)	288	°F	ASTM D648
Deflection Temperature Under Load (264 psi, Annealed)	289	°F	ISO 75-2/A
Vicat Softening Temperature	304	°F	ASTM D1525 [6]
Vicat Softening Temperature	304	°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.