CALIBRE™ 30xEP-22

Trinseo - Polycarbonate Resin

General Information

Product Description

CALIBRE™ 30xEP-22 MFR Polycarbonate is a high flow injection moulding resin that offers exceptional impact resistance, heat distortion resistance and optical clarity. The high melt flow rate allows complex, thin or long parts to be easily molded. The CALIBRE 300EP-22 series products are available in 2 additive packages: CALIBRE 301EP: Mold release. CALIBRE 303EP: Mold release and UV stabilizer. Material is transparent but can be custom colored.

Govt. and Industry Standards:

- Underwriters Laboratory, Inc. (UL)

Applications:

- Appliances
- Storage media housings
- Electrical & lighting components
- Light diffusers
- Transportation
- Automotive applications
- Houseware
- Recreation
- Packaging applications

General			
Features	• Excellent Processability	• High Clarity	• High Impact Resistance
Uses	• Appliances • Automotive Applications • Business Equipment • Consumer Applications	• Containers • Displays • Electrical/Electronic Applications • Household Goods	• Lighting Applications • Transparent Parts
RoHS Compliance	• RoHS Compliant		
Appearance	• Clear/Transparent		
Forms	• Pellets		
Processing Method	• Injection Molding		

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)	22	g/10 min	ASTM D1238
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	22	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
Tensile Strength [3] (Break)	9500	psi	ASTM D638

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Mechanical	Nominal Value	Unit	Test Method
Tensile Stress (Break)	9430	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)	120	%	ASTM D638
Tensile Strain (Break)	120	%	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	5.2	ft·lb/in²	
73°F	9.5	ft·lb/in²	
Notched Izod Impact (73°F)	14	ft·lb/in	ASTM D256
Notched Izod Impact Strength (73°F)	35	ft·lb/in²	ISO 180/1A
Instrumented Dart Impact [5] (73°F, Total Energy)	640	in·lb	ASTM D3763
Tensile Impact Strength	180	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)	280	°F	ASTM D648
Deflection Temperature Under Load (66 psi, Annealed)	288	°F	ASTM D648
Deflection Temperature Under Load (66 psi, Annealed)	288	°F	ISO 75-2/B
Deflection Temperature Under Load			ASTM D648
264 psi, Unannealed	259	°F	
Deflection Temperature Under Load			ISO 75-2/A
264 psi, Unannealed	252	°F	
Deflection Temperature Under Load (264 psi, Annealed)	282	°F	ASTM D648
Deflection Temperature Under Load (264 psi, Annealed)	282	°F	ISO 75-2/A
Vicat Softening Temperature	297	°F	ASTM D1525 [6]
Vicat Softening Temperature	297	°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	V-2		
0.12 in	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.