

CALIBRE™ 201-22

Trinseo - Polycarbonate Resin

General Information

Product Description

CALIBRE™ 201-22 polycarbonate resins are produced in compliance with the US Food and Drug Administration (FDA) and EU food contact regulations. This material is a high flow injection moulding grade that offers excellent impact resistance, heat distortion resistance and optical clarity for injection molded processes. Material is transparent but can be custom colored.

Govt. and Industry Standards:

- Europe Commission Regulation (EU) No 10/2011
- U.S. FDA 21 CFR 177.1580 (with Restrictions)
- Underwriters Laboratory, Inc. (UL)

Applications:

- Appliances and food processors
- Housewares and food utensils
- Beverage containers
- Packaging applications

General

Additive	• Mold Release		
Features	• Food Contact Acceptable • High Clarity	• High Flow • High Impact Resistance	
Uses	• Appliances • Automotive Applications • Containers	• Food Service Applications • Household Goods • Kitchenware	• Packaging • Transparent Parts
Agency Ratings	• CSA	• EU 2002/72/EC	• FDA 21 CFR 177.1580
RoHS Compliance	• RoHS Compliant		
Appearance	• Clear/Transparent		
Forms	• Pellets		
Processing Method	• Injection Molding		

Properties¹

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)	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
Tensile Stress (Break)	9430	psi	ISO 527-2/50

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Mechanical	Nominal Value	Unit	Test Method
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/in ²	
73°F	9.5	ft·lb/in ²	
Notched Izod Impact (73°F)	14	ft·lb/in	ASTM D256
Notched Izod Impact Strength (73°F)	35	ft·lb/in ²	ISO 180/1A
Instrumented Dart Impact ⁵ (73°F, Total Energy)	640	in·lb	ASTM D3763
Tensile Impact Strength	180	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, 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	258	°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
CLTE - Flow (-40 to 176°F)	3.8E-5	in/in/°F	ISO 11359-2
Electrical	Nominal Value	Unit	Test Method
Dielectric Strength	420	V/mil	ASTM D149
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
Flammability	Nominal Value	Unit	Test Method
Flame Rating ⁷			UL 94
0.06 in	HB		
0.12 in	HB		
Oxygen Index ⁷	26	%	ISO 4589-2
Optical	Nominal Value	Unit	Test Method
Refractive Index	1.586		ISO 489
Light Transmittance	87.0 to 91.0	%	ASTM D1003
Haze	< 1.00	%	ASTM D1003

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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 11.1 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.