CALIBRE™ 621-2

Polycarbonate Resin

Trinseo

Message:

CALIBRE[™]621-2 branched polycarbonate is mainly used in large-scale extrusion blow molding or injection molding-stretch blow molding water bottle processing, which can make other applicable applications include electrical appliances and sheet products. CALIBRE[™]621-2 The special rheology can make it have excellent processing performance in blow molding. Excellent processability, toughness, optical properties and compliance with food contact regulations make CALIBRE[™]621-2 can be successfully applied in many fields.

Main features:

Excellent appearance Excellent impact resistance and heat resistance Excellent processing performance in the blow molding process CALIBRE™621-2 complies with the following regulations: U.S. Food and Drug Administration Regulation 21 CFR 177.1580

Please check the regulations for complete details.

Application field:

blow-molded water bottle

electrical appliance industry

General Information			
Features	Optical		
	Workability, good		
	Heat resistance, high		
	Good toughness		
	Compliance of Food Exposure		
Uses	Blow molding applications		
	Electrical appliances		
	Sheet		
	Bottle		
Agency Ratings	FDA 21 CFR 177.1580		
	European 2002/72/EC		
Forms	Particle		
Processing Method	Blow molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.20	g/cm³	ASTM D792, ISO 1183/B
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	2.0	g/10 min	ASTM D1238, ISO 1133
Molding Shrinkage			
Flow	0.50 - 0.70	%	ASTM D955
Flow direction	0.50 - 0.70	%	ISO 294-4
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			

¹	2280	MPa	ASTM D638
	2280	MPa	ISO 527-2/1
Tensile Strength			
Yield ²	63.0	MPa	ASTM D638
Yield	63.0	MPa	ISO 527-2/50
Fracture ³	60.0	MPa	ASTM D638
Fracture	60.0	MPa	ISO 527-2/50
Tensile Elongation			
Yield ⁴	6.0	%	ASTM D638
Yield	6.0	%	ISO 527-2/50
Fracture ⁵	90	%	ASTM D638
Fracture	90	%	ISO 527-2/50
Flexural Modulus ⁶	2410	MPa	ASTM D790, ISO 178
Flexural Strength ⁷	96.0	MPa	ASTM D790, ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength	42	kJ/m²	ISO 179/1eA
Notched Izod Impact	92	kJ/m²	ISO 180/A
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, annealed	142	°C	ASTM D648, ISO 75-2/B
1.8 MPa, not annealed	128	°C	ASTM D648, ISO 75-2/A
1.8 MPa, annealed	137	°C	ASTM D648, ISO 75-2/A
Vicat Softening Temperature	146	°C	ISO 306/B50, ASTM D1525 8
Extrusion instructions			

Screw Diameter: 70 to 100 mmDie Diameter: 90 to 100 mmExtruder Temperature: 250 to 270°CAccumulator Temperature: 245 to 255°CDie Temperature: 245 to 255°CMould Temperature, Bottom: 65 to 80°CMould Temperature, Body: 65 to 80°CMould Temperature, Neck: 55 to 65°CScrew Speed: 10 to 60 rpmParison Length: 600 to 700 mmGross Weight: 940 to 1400 gPressure of Support Air: 0.5 to 1 barBlowing Pressure: 6 to 10 barBlowing Time: 25 to 35 secCycle Time: 40 to 60 secProduction Capacity: 60 to 80 parts/hThe above figures are intended for guidance. The optimum conditions need to be determined experimentally on the particular machine.

NOTE	
1.	1.0 mm/min
2.	50 mm/min
3.	50 mm/min
4.	50 mm/min
5.	50 mm/min
6.	1.0 mm/min
7.	1.0 mm/min
8.	速率 A (50°C/h), 载荷2 (50N)

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