

# CALIBRE™ 301-19 HMR

## Trinseo - Polycarbonate Resin

### General Information

#### Product Description

CALIBRE™ 301 HMR Polycarbonate resin offers a good balance of impact resistance and processing, heat distortion resistance, and optical clarity. CALIBRE 301 HMR also has a mold release package designed to improve processing larger more complex injection molded parts. Material is transparent but can be custom colored.

Applications:

- Appliances
- Larger transparent parts

#### General

Additive	• Mold Release
Features	• Good Heat Resistance • Good Mold Release • High Clarity • High Flow
Uses	• Appliances • Business Equipment • Electrical/Electronic Applications • Housings • Household Goods • Transparent Parts
RoHS Compliance	• RoHS Compliant
Appearance	• Clear/Transparent
Forms	• Pellets
Processing Method	• Injection Molding

### Properties<sup>1</sup>

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	1.20		ASTM D792
Density	1.20	g/cm <sup>3</sup>	ISO 1183
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	19	g/10 min	ASTM D1238
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	19	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 <sup>2</sup>	334000	psi	ASTM D638
Tensile Modulus	334000	psi	ISO 527-1/1
Tensile Strength <sup>3</sup> (Yield)	8700	psi	ASTM D638
Tensile Stress (Yield)	8700	psi	ISO 527-2/50
Tensile Strength <sup>3</sup> (Break)	10300	psi	ASTM D638
Tensile Stress (Break)	10300	psi	ISO 527-2/50
Tensile Elongation <sup>3</sup> (Yield)	6.0	%	ASTM D638
Tensile Strain (Yield)	6.0	%	ISO 527-2/50
Tensile Elongation <sup>3</sup> (Break)	120	%	ASTM D638
Tensile Strain (Break)	120	%	ISO 527-2/50
Flexural Modulus	350000	psi	ASTM D790
Flexural Modulus <sup>4</sup>	348000	psi	ISO 178
Flexural Strength	14000	psi	ASTM D790
Flexural Stress <sup>4</sup>	14100	psi	ISO 178

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Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-22°F	5.2	ft·lb/in <sup>2</sup>	
73°F	9.5	ft·lb/in <sup>2</sup>	
Notched Izod Impact (73°F)	15	ft·lb/in	ASTM D256
Notched Izod Impact Strength (73°F)	38	ft·lb/in <sup>2</sup>	ISO 180/1A
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)	289	°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	255	°F	
Deflection Temperature Under Load (264 psi, Annealed)	282	°F	ASTM D648
Deflection Temperature Under Load (264 psi, Annealed)	284	°F	ISO 75-2/A
Vicat Softening Temperature	297	°F	ISO 306/B50
CLTE - Flow (-40 to 176°F)	3.8E-5	in/in/°F	ISO 11359-2
Flammability	Nominal Value	Unit	Test Method
Oxygen Index <sup>5</sup>	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

<sup>1</sup> Typical properties: these are not to be construed as specifications.

<sup>2</sup> 0.039 in/min

<sup>3</sup> 2.0 in/min

<sup>4</sup> 0.079 in/min

<sup>5</sup> This rating not intended to reflect hazards presented by this or any other material under actual fire conditions.