



NAS® 36

INEOS Styrolution - Styrene Methyl Methacrylate Acrylic Copolymer

Sunday, November 3, 2019

General Information

Product Description

NAS® 36 is a styrene acrylic copolymer that can be used in a variety of applications demanding a strong, stiff water-clear plastic resin with excellent thermal and indoor UV light stability.

FEATURES

- Sparkling clarity
- Indoor UV light stability
- Low density
- Ease of processing
- Enhanced mold release
- UL 94 HB approved

APPLICATIONS

- Point of purchase displays
- Office accessories
- Appliances
- Toys
- Appliances
- Cosmetic jars and lids

General

Material Status	• Commercial: Active		
Availability	• Asia Pacific	• Latin America	• North America
Features	• Copolymer • Good Mold Release • Good Processability	• Good Stiffness • Good Strength • Good Thermal Stability	• High Clarity • Low Density • UV Resistant
Uses	• Appliances • Cosmetics	• Displays • Toys	
Appearance	• Clear/Transparent		
Forms	• Pellets		
Processing Method	• Injection Molding		

ASTM & ISO Properties ¹

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	1.09		ASTM D792
Density	1.09	g/cm ³	ISO 1183
Melt Mass-Flow Rate (200°C/5.0 kg)	2.2	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (220°C/10.0 kg)	30	cm ³ /10min	ISO 1133
Molding Shrinkage - Flow	2.0E-3 to 6.0E-3	in/in	ASTM D955
Molding Shrinkage	0.20 to 0.60	%	ISO 294-4
Water Absorption (Saturation, 73°F)	0.15	%	ASTM D570
Water Absorption (Equilibrium, 73°F, 50% RH)	0.15	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	470000	psi	ASTM D638
Tensile Modulus	479000	psi	ISO 527-2

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Mechanical	Nominal Value	Unit	Test Method
Tensile Strength (Yield, 73°F)	8800	psi	ASTM D638
Tensile Stress (Yield, 73°F)	8700	psi	ISO 527-2
Tensile Elongation (Break)	2.3	%	ASTM D638
Tensile Strain (Break, 73°F)	2.5	%	ISO 527-2
Flexural Modulus (73°F)	460000	psi	ASTM D790
Flexural Modulus (73°F)	493000	psi	ISO 178
Flexural Strength (73°F)	14600	psi	ASTM D790
Flexural Stress (73°F)	14500	psi	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength (73°F)	0.71	ft-lb/in ²	ISO 179/1eA
Charpy Unnotched Impact Strength (73°F)	5.7	ft-lb/in ²	ISO 179/1eU
Notched Izod Impact (73°F)	0.40	ft-lb/in	ASTM D256
Notched Izod Impact Strength (73°F)	1.2	ft-lb/in ²	ISO 180/A
Unnotched Izod Impact Strength	5.7	ft-lb/in ²	ISO 180
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (M-Scale)	75		ASTM D785
Ball Indentation Hardness	24500	psi	ISO 2039-1
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature (66 psi, Unannealed)	194	°F	ISO 75-2/B
Heat Deflection Temperature ² (264 psi, Annealed)	176	°F	ISO 75-2/A
Vicat Softening Temperature	216	°F	ASTM D1525 ³
Vicat Softening Temperature	208	°F	ISO 306/B50
Maximum Service Temperature	500	°F	
Flammability	Nominal Value	Unit	Test Method
Flame Rating	HB		UL 94
Optical	Nominal Value	Unit	Test Method
Refractive Index ⁴	1.560		ASTM D542
Refractive Index	1.560		ISO 489
Transmittance (550 nm)	91.4	%	ASTM D1003
Haze	0.300	%	ASTM D1003

Processing Information

Injection	Nominal Value	Unit
Drying Temperature	180	°F
Drying Time	2.0	hr
Rear Temperature	360 to 420	°F
Middle Temperature	390 to 450	°F
Front Temperature	410 to 470	°F
Processing (Melt) Temp	410 to 470	°F
Mold Temperature	90 to 140	°F

Notes

¹ Typical properties: these are not to be construed as specifications.

² 4h/80°C

³ Rate B (120°C/h), Loading 1 (10 N)

⁴ Sodium D Line