

# NAS 30

Styrene Methyl Methacrylate (SMMA)

## TECHNICAL DATASHEET

### DESCRIPTION

NAS® 30 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 stability.

### FEATURES

- Sparkling clarity
- Low density
- Ease of processing
- Gamma & ETO sterilizable
- Meets USP XXIII specifications for Class VI plastics

### APPLICATIONS

- Cosmetic jars and lids
- Reusable drinkware
- Medical devices
- Toys
- Office accessories

Property, Test Condition	Standard	Unit	Values
<b>Rheological Properties</b>			
Melt Volume Rate 220 °C/10 kg	ISO 1133	cm <sup>3</sup> /10 min	30
<b>Mechanical Properties</b>			
Izod Notched Impact Strength, 23 °C	ISO 180/A	kJ/m <sup>2</sup>	2.5
Izod Unnotched Impact Strength	ISO 180	kJ/m <sup>2</sup>	12
Charpy Notched Impact Strength, 23° C	ISO 179	kJ/m <sup>2</sup>	1.5
Charpy Unnotched, 23° C	ISO 179	kJ/m <sup>2</sup>	12
Tensile Stress at Yield, 23° C	ISO 527	MPa	60
Tensile Strain at Break, 23° C	ISO 527	%	2.5
Tensile Modulus	ISO 527	MPa	3300
Flexural Strength	ISO 178	MPa	100
Flexural Modulus	ISO 178	MPa	3400
Hardness, Rockwell		M scale	75
Hardness, Ball Indentation	ISO 2039-1	MPa	169
<b>Thermal Properties</b>			
Vicat Softening Temperature VST/B/50 (50N, 50°C/h)	ISO 306	°C	98
Vicat Softening Temperature, B/1 ( 120°C/h, 10N)	ASTM D 1525	°C	102

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Property, Test Condition	Standard	Unit	Values
Heat Distortion Temperature, B (0.45 MPa)	ISO 75	°C	90
Heat Deflection Temperature A; (annealed 4 h/80 °C; 1.8 MPa)	ISO 75	°C	80
<b>Optical Properties</b>			
Refractive Index, Sodium D Line	ISO 489	-	1.56
Light Transmission at 550 nm	ASTM D 1003	%	91.4
Haze	ASTM D 1003	%	0.3
<b>Other Properties</b>			
Density	ISO 1183	kg/m <sup>3</sup>	1090
Moisture Absorption, Equilibrium 23°C/50% RH	ISO 62	%	0.15
<b>Processing</b>			
Linear Mold Shrinkage	ISO 294-4	%	0.2 to 0.6
Melt Temperature Range	ISO 294	°C	200 - 240
Mold Temperature Range	ISO 294	°C	30 - 60
Rear Temperature Range		°C	180 - 210
Middle Temperature Range		°C	200 - 230
Front Temperature Range		°C	210 - 240
Injection Velocity	ISO 294	mm/s	Slow to Moderate
Drying Temperature		°C	80
Drying Time		h	2
Max Service Temperature		°C	260