

## Technical Datasheet

### DESCRIPTION

Novodur P2MC is an injection molding grade especially suitable for electroplating, providing high flow ability.

### FEATURES

- Electroplating grade
- High flow ability
- Good impact resistance

### APPLICATIONS

- Household appliances
- Sanitary shower heads
- Tea pots

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	25
<b>Mechanical Properties</b>			
Izod Notched Impact Strength, 4mm bar, 0.25mm Notch Radius, 23 °C	ISO 180/A	kJ/m <sup>2</sup>	23
Izod Notched Impact Strength, 4mm bar, 0.25mm Notch Radius, -30 °C	ISO 180/A	kJ/m <sup>2</sup>	12
Charpy Notched Impact Strength, 23° C	ISO 179	kJ/m <sup>2</sup>	24
Charpy Notched Impact Strength, -30° C	ISO 179	kJ/m <sup>2</sup>	14
Charpy Unnotched, 23° C	ISO 179	kJ/m <sup>2</sup>	N
Charpy Unnotched, -30° C	ISO 179	kJ/m <sup>2</sup>	150
Tensile stress at yield, 23° C	ISO 527	MPa	40
Tensile strain at yield, 23° C	ISO 527	%	2.4
Tensile Modulus	ISO 527	MPa	2200
Flexural Strength	ISO 178	MPa	62
Flexural Modulus	ISO 178	MPa	2100
Ball Indentation Hardness	ISO 2039-1	MPa	90
<b>Thermal Properties</b>			
Vicat Softening Temperature VST/B/50 (50°C/h, 50N)	ISO 306	°C	95
Heat Deflection Temperature A; (annealed, 1.8 MPa)	ISO 75	°C	94
Heat Deflection Temperature B; (annealed, 0.45 MPa)	ISO 75	°C	96
Linear Mold Shrinkage	ISO 294-4	%	0.4 - 0.7

Property, Test Condition	Standard	Unit	Values
Coefficient of Linear Thermal Expansion	ISO 11359	10-6/°C	100
<b>Electrical Properties</b>			
Dielectric Constant (100 Hz)	IEC 60250	-	3
Dissipation Factor (100 Hz)	IEC 60250	-	50
Dissipation Factor (1 MHz)	IEC 60250	-	80
Volume Resistivity	IEC 60093	Ohm*m	>1E13
Surface Resistivity	IEC 60093	Ohm	>1E15
Comparative Tracking Index	IEC 60112		600
<b>Other Properties</b>			
Density	ISO 1183	kg/m3	1030
<b>Processing</b>			
Processing (Melt) Temperature	ISO 294	°C	220 - 260
Mold Temperature	ISO 294	°C	70
Injection velocity	ISO 294	mm/s	240
Drying Temperature		°C	80
Drying Time		hr	2 - 4

Typical values for uncolored products

## SUPPLY FORM

Novodur® is delivered in the form of cylindrical or spherical pellets. The bulk density of the pellets is from 0.55 to 0.65 g/cm<sup>3</sup>. Values may differ for special grades. Standard Packaging unit: 25 kg PE-bag on palette, shrunk or wrapped with PE film. In addition, delivery in larger units of up to 1000 kg (IBC = Intermediate Bulk Container) or silo trucks can be arranged. In dry areas with normal temperature control, Novodur pellets can be stored for relatively long periods of time without any change in mechanical properties. With unstable colors, however, storage over a number of years can give rise to some change in color. Under poor storage conditions, Novodur absorbs moisture, but this can be removed by drying.

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## PRODUCT SAFETY

No adverse effects on the health of processing personnel have been observed where the products are correctly processed and the production areas are suitably ventilated. For styrene, alpha-methylstyrene, acrylonitrile, and butyl acrylate the maximum allowable workplace concentrations must be observed according to the pertaining national regulations. In Germany, the following limit values are valid TRGS 900 (Aug. 2004): styrene, MAK-value: 20 ml/m<sup>3</sup>; alpha-methylstyrene, MAK-value: 100 ml/m<sup>3</sup>; acrylonitrile, TRK-value: 3 ml/m<sup>3</sup>, and butyl acrylate, MAK-value: 2 ml/m<sup>3</sup> (1.7.2004). According to EU directive 67/548/EEC, Annex I (2001), acrylonitrile is classified as carcinogenic, category 2 ('substances which should be regarded as if they are carcinogenic to man'). Experience has shown that when Novodur® is processed correctly with appropriate ventilation, the levels are far below the limits mentioned above. Inhalation of the vapors of degradation products which can arise on severe overheating of the materials or during purging out should be avoided. Further information can be found in the Novodur safety data sheets.

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