SABIC Innovative Plastics™

Noryl* Resin FE8000S

Americas: COMMERCIAL

Noryl* FE8000S resin is an unfilled modified polyphenylene ether resin designed for fluid handling applications. This resin is suitable for multiple conversion routes and will be available in custom colors.

Property

TYPICAL PROPERTIES (1)			
MECHANICAL	Value	Unit	Standard
Tensile Stress, yld, Type I, 50 mm/min	75	MPa	ASTM D 638
Tensile Stress, brk, Type I, 50 mm/min	56	MPa	ASTM D 638
Tensile Strain, yld, Type I, 50 mm/min	6	%	ASTM D 638
Tensile Strain, brk, Type I, 50 mm/min	11	%	ASTM D 638
Tensile Modulus, 5 mm/min	2500	MPa	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	102	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	2600	MPa	ASTM D 790
Tensile Stress, yield, 50 mm/min	73	MPa	ISO 527
Tensile Stress, break, 50 mm/min	56	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	6	%	ISO 527
Tensile Strain, break, 50 mm/min	11	%	ISO 527
Tensile Modulus, 1 mm/min	2450	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	107	MPa	ISO 178
Flexural Modulus, 2 mm/min	2560	MPa	ISO 178
IMPACT	Value	Unit	Standard
Izod Impact, notched, 23°C	290	J/m	ASTM D 256
Izod Impact, notched, -30°C	240	J/m	ASTM D 256
Instrumented Impact Total Energy, 23°C	50	J	ASTM D 3763
Izod Impact, notched 80*10*4 +23°C	23	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	13	kJ/m²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	22	kJ/m²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm	13	kJ/m²	ISO 179/1eA
THERMAL	Value	Unit	Standard
Vicat Softening Temp, Rate B/50	167	°C	ASTM D 1525
HDT, 0.45 MPa, 3.2 mm, unannealed	163	°C	ASTM D 648
HDT, 1.82 MPa, 3.2mm, unannealed	149	°C	ASTM D 648
CTE, -40°C to 40°C, flow	8.7E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, xflow	9.3E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, flow	8.7E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	9.3E-05	1/°C	ISO 11359-2
Vicat Softening Temp, Rate B/50	168	°C	ISO 306
Vicat Softening Temp, Rate B/120	172	°C	ISO 306
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	151	°C	ISO 75/Af
PHYSICAL	Value	Unit	Standard
Specific Gravity	1.08	-	ASTM D 792
Mold Shrinkage, flow, 3.2 mm	0.6 - 0.8	%	SABIC Method
Melt Flow Rate, 300°C/5.0 kgf	6	g/10 min	ASTM D 1238
Density	1.08	g/cm³	ISO 1183

Water Absorption, (23°C/sat)	0.23	%	ISO 62
Moisture Absorption (23°C / 50% RH)	0.06	%	ISO 62
Melt Volume Rate, MVR at 300°C/10.0 kg	10	cm³/10 min	ISO 1133

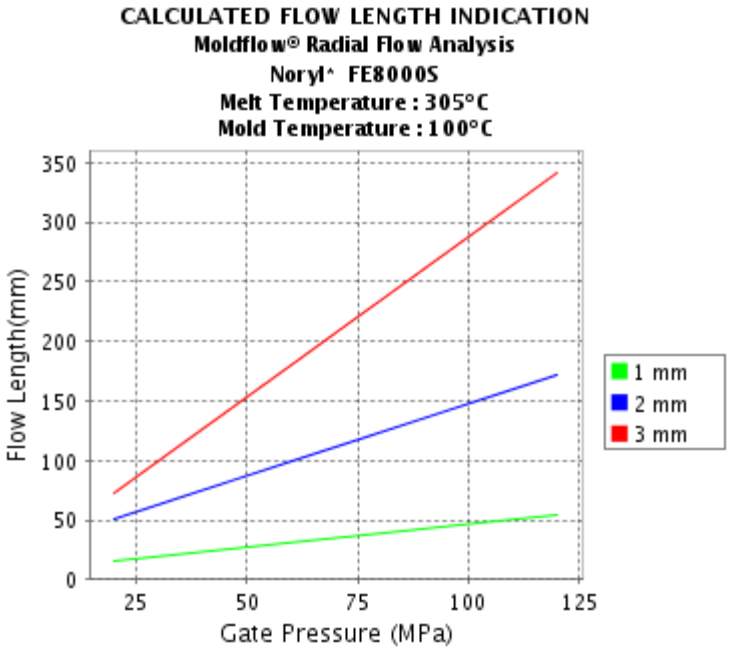
Source GMD, last updated:12/21/2007

Processing

Parameter Injection Molding	Value	Unit
Drying Temperature	110 - 120	°C
Drying Time	2 - 3	hrs
Melt Temperature	300 - 320	°C
Nozzle Temperature	280 - 300	°C
Front - Zone 3 Temperature	300 - 320	°C
Middle - Zone 2 Temperature	280 - 300	°C
Rear - Zone 1 Temperature	260 - 280	°C
Hopper Temperature	80 - 100	°C
Mold Temperature	100 - 130	°C

Parameter Profile Extrusion	Value	Unit
Drying Temperature	100 - 120	°C
Drying Time	2 - 4	hrs
Melt Temperature	270 - 290	°C
Barrel - Zone 1 Temperature	250 - 270	°C
Barrel - Zone 2 Temperature	260 - 280	°C
Barrel - Zone 3 Temperature	270 - 290	°C
Barrel - Zone 4 Temperature	270 - 290	°C
Hopper Temperature	40 - 60	°C
Adapter Temperature	270 - 290	°C
Die Temperature	270 - 290	°C
Calibrator Temperature	60 - 90	°C

Source GMD, last updated:12/21/2007



Note: Technical support is recommended if Gate Pressure is greater than 80 MPa. Contact your local representative.

THESE PROPERTY VALUES ARE NOT INTENDED FOR SPECIFICATION PURPOSES.

PLEASE CHECK WITH YOUR (LOCAL SALES OFFICE) FOR AVAILABILITY IN YOUR REGION

(1) Typical values only. Variations within normal tolerances are possible for various colors. All values are measured after at least 48 hours storage at 23°C/50% relative humidity. All properties, except the melt volume and melt flow rates, are measured on injection molded samples. All samples tested under ISO test standards are prepared according to ISO 294.
(2) Only typical data for selection purposes. Not to be used for part or tool design.
(3) This rating is not intended to reflect hazards presented by this or any other material under actual fire conditions.
(4) Internal measurements according to UL standards.