



## Product Data Sheet & General Processing Conditions

### ZOVGOV® M20G3FR Nylon 6/6 (PA) Glass Fiber Flame Retardant UL94 V-0

The MOLAN series of flame retardant, glass fiber reinforced nylon materials are designed to provide the optimal balance of strength, electrical and ignition resistance properties while exhibiting excellent processing characteristics. MOLAN M20 FR possesses UL94

#### PROPERTIES & AVERAGE VALUES OF INJECTION MOLDED SPECIMENS

PERMANENCE	English	SI Metric	ASTM TEST
Primary Additive	15 %	15 %	
Specific Gravity	1.55	1.55	D 792
Molding Shrinkage			
1/8 in (3.2 mm) section	0.0025 - 0.0040 in/in	0.25 - 0.40 %	D 955
Water Absorption, 24 hrs @ 23°C	0.750 %	0.750 %	D 570

#### MECHANICAL

Impact Strength, Izod			
notched 1/8 in (3.2 mm) section	1.3 ft-lbs/in	69 J/m	D 256
unnotched 1/8 in (3.2 mm) section	10.0 ft-lbs/in	534 J/m	D 4812
Tensile Strength	15500 psi	107 MPa	D 638
Tensile Elongation	2.0 - 4.0 %	2.0 - 4.0 %	D 638
Tensile Modulus	1.10 x 10 <sup>6</sup> psi	7584 MPa	D 638
Flexural Strength	25000 psi	172 MPa	D 790
Flexural Modulus	0.90 x 10 <sup>6</sup> psi	6206 MPa	D 790
Hardness			
Rockwell, R	115	115	D 785

#### ELECTRICAL

Dielectric Strength, S/T, in oil	500 VPM	19.7 kV/mm	D 149
Dielectric Constant, 1 MHz, Dry	4.0	4.0	D 150
Dissipation Factor, 1 MHz, Dry	0.0160	0.0160	D 150
Volume Resistivity	> 1E14 ohm.cm	> 1E14 ohm.cm	D 257

#### THERMAL

Deflection Temperature			
@ 264 psi (1820 kPa)	430 °F	221 °C	D 648
@ 66 psi (455 kPa)	470 °F	243 °C	D 648
Ignition Resistance*			
Flammability	V-0 @ 1/32 in	V-0 @ 0.8 mm	UL94
Limiting Oxygen Index	34.0 %	34.00 %	D 2863

#### PROPERTY NOTES

Data herein is typical and not to be construed as specifications.

Unless otherwise specified, all data listed is for natural or black colored materials. Pigments can affect properties.

\* This rating is not intended to reflect hazards of this or any other material under actual fire conditions.

#### GENERAL PROCESSING FOR INJECTION MOLDING

	English	SI Metric
Injection Pressure	10000 - 18000 psi	69 - 124 MPa

Melt Temperature	530 - 570 °F	277 - 299 °C
Mold Temperature	150 - 225 °F	66 - 107 °C
Drying	4 hrs @ 175 °F	4 hrs @ 79 °C
Moisture Content	0.20 %	0.20 %
Dew Point	0 °F	-18 °C

#### **PROCESSING NOTES**

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Desiccant Type Dryer Required.

This information is intended to be used only as a guideline for designers and processors of modified thermoplastics. Because design and processing is complex, a set solution will not solve all problems. Observation on a "trial and error" basis may be required to achieve desired results.