



## Product Data Sheet & General Processing Conditions

### ZOVGOV® M20FR Nylon 6/6 (PA) Unreinforced Flame Retardant UL94 V-0

ZOVGOV® M20 FR is a flame retardant, unreinforced nylon material possessing UL94 V-0 certification, as well as a complete range of UL94 electrical ratings and RTI assignment required for many electronics applications.

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

PERMANENCE	English	SI Metric	ASTM TEST
Specific Gravity	1.36	1.36	D 792
Molding Shrinkage 1/8 in (3.2 mm) section	0.0110 - 0.0170 in/in	1.10 - 1.70 %	D 955
Water Absorption, 24 hrs @ 23°C	0.900 %	0.900 %	D 570

#### MECHANICAL

Impact Strength, Izod notched 1/8 in (3.2 mm) section	0.7 ft-lbs/in	37 J/m	D 256
unnotched 1/8 in (3.2 mm) section	10.0 ft-lbs/in	534 J/m	D 4812
Tensile Strength	10000 psi	69 MPa	D 638
Tensile Elongation	4.0 - 6.0 %	4.0 - 6.0 %	D 638
Tensile Modulus	0.55 x 10 <sup>6</sup> psi	3792 MPa	D 638
Flexural Strength	16500 psi	114 MPa	D 790
Flexural Modulus	0.50 x 10 <sup>6</sup> psi	3448 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	3.7	3.7	D 150
Dissipation Factor, 1 MHz, Dry	0.0200	0.0200	D 150
Volume Resistivity	> 1E15 ohm.cm	> 1E15 ohm.cm	D 257

#### THERMAL

Deflection Temperature @ 264 psi (1820 kPa)	165 °F	74 °C	D 648
@ 66 psi (455 kPa)	410 °F	210 °C	D 648
Ignition Resistance*			
Flammability	V-0 @ 1/32 in	V-0 @ 0.8 mm	UL94
Limiting Oxygen Index	33.0 %	33.00 %	D 2863
Glow Wire Ignitability Temperature	775 °C @ 1/8 in	775 °C @ 3.0 mm	IEC 60695-2-13
Glow Wire Flammability Index	960 °C @ 1/8 in	960 °C @ 3.0 mm	IEC 60695-2-12

#### 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.