Nylon N66CF20L and N66CF20HSL

N66CF20L is a nylon 6.6 compound, reinforced with 20% carbon fiber which significantly improves strength and rigidity especially at high temperatures, while maintaining good practical toughness.

Typical of semi-crystalline polymers, glass fiber reinforced nylons exhibit outstanding resistance even at elevated temperatures to the effects of a wide range of chemicals, solvents, oils and greases and are therefore suitable for such harsh environments as automotive under-hood. For molded parts which are to be exposed to high temperature for extended periods of time, the use of **N66CF20HSL**, which contains an effective heat stabilizer package, is recommended.

These compounds are recommended for use in applications where high strength and high rigidity to weight ratios are required, especially if performance at high temperature is critical.

Both compounds are internally lubricated for improved mold release. Particular attention should be paid to processing conditions and mold design to minimize both the risk of glass fiber breakage to fully realize mechanical performance, and also abrasive wear to machine and mold. Due to the high temperature rigidity of these compounds, fast cycle times can be expected.

PRELIMINARY PROPERTIES
DRY AS MOLDED

	ASTM	ENGLISH		S.I.	
PROPERTY	**TEST METHOD**	**UNITS**	**VALUE**	**UNITS**	**VALUE**
Melting Point	D789	ºF	491	ºC	255
Specific Gravity	D792	-	1.23	-	1.23
Water Absorption (24 hours immersion)	D570	%	1.0	%	1.0
Heat Deflection Temperature at 264 lbs/in^2 (1.82 MPa)	D648	ºF	470	ºC	243
Mold Shrinkage Guideline* (Flow Direction)	1/8" section	%	0.2-0.4	%	0.2-0.4
Tensile Strength at Break	D638	lbs/in^2	30,000	MPa	207
Elongation at Break	D638	%	2-4	%	2-4
Flexural Strength	D790	lbs/in^2	46,000	MPa	317
Flexural Modulus	D790	lbs/in^2	1,900,000	MPa	13,100
Izod Impact Strength (Notched, 1/8" specimen)	D256	ft. lbs/in of notch	1.2	J/m	64
Rockwell Hardness	D785	M scale	M95	-	-

***Please review shrinkages projections for specific applications with an MDE Technical Representative.**

All data generated using test specimens injection molded from natural color material. Inclusion of color pigments or other additives may change some or all of these test results. Test specimens are stored in a moisture proof container immediately after molding and contain less than 0.2% moisture; tests are conducted at 23^{o}C and 50% relative humidity unless otherwise stated.

These mechanical property test data have been developed using injection molded specimens tested under standardized conditions; furthermore, many of the mechanical properties of thermoplastic materials can be influenced by changes in processing conditions, environmental factors such as temperature and humidity, and rate of application of stress. Therefore, these test results, which characterize typical production material, should not be used either to establish specification limits or alone as the basis for engineering design.