DESCRIPTION

Heavy duty Nylon 66 for outdoor service and automotive/truck applications. Commonly used in automotive applications due to its resistance to impact, temperature, moisture, salt and petroleum products. The impact modifiers provide some increase in flexibility and maintain it through varying temperatures and moisture conditions.

***** Classified as "UV Stabilized" due to the uniform dispersion of Carbon Black or other UV absorbing additives that reduce deterioration of physical properties such as colors fading, surface chalking, loss of flexibility, brittleness and disintegration. This material has been proven to be UV resistant by a certified testing lab to withstand 5,000 hours of xenon arc (UV accelerated) exposure. The product tested was the WSR which retained up to 85% of its original loop tensile strength with no deterioration of physical properties.

Commercial Name:..... Nylon, Impact Modified, Heat Stabilized, UV Stabilized
Chemical Name: ..... Hexamethylene Dodecanamide (a.k.a. Polyamide)
Catalog Code:..... PA66HIRHSUV (may also appear as IMHSUV, HIHSUV on older products)
Used On:..... Cable ties, Automotive Parts and Mounts.

Recycling Symbol:

>PA66<
or

OTHER

GENERAL PERFORMANCE CHARACTERISTICS

Heat Stabilized	Very Good
High Impact	Very Good
Moisture Sensitivity	Will absorb and desorb moisture but not become brittle when dry.
UV Resistance	Excellent

PERFORMANCE ADDITIVES

Glass	None
Mineral	None
Olefin	Up to 20% (Impact Modifier) Olefin does not absorb moisture
Carbon Black	Contains significant amount of carbon black or other UV absorbing additives to be considered UV stabilized.
Halogens	None

PROCESS ADDITIVES

Fillers	None
Lubricants	External
Shrink Additives	None

CONDITIONING

None: Impact modifier helps maintain flexibility (material absorbs less moisture compared to standard Nylon 66).

CHEMICAL RESISTANCE

Acids	Limited, attacked by strong acids.
Bases	Attacked by strong bases at elevated temperatures.
Solvents	Good
Gasoline	Good
Oil	Good
Salt Water	Very Good
Zinc Chloride	Some attack or considerable absorption. Not suitable for contact for long duration.

MAJOR TOXIC ELEMENTS

All constituents are encapsulated within the polymer system and therefore present no likelihood of exposure under normal conditions of processing and handling.

APPROVALS

UL, Ford, GM, Chrysler, Federal FMVSS302

PROPERTIES CHART

	Dry	Units	Test Method
FLAMMABILITY			
Flammability	HB	-	UL 94
PHYSICAL			
Density	1.10-1.11 (0.039-0.040)	g/cm^3 (lb/in^3)	ISO 1183
MECHANICAL			
Tensile Strength at Yield	60-60.8 (8700-8818)	MPa (psi)	ISO 527
Tensile Strain at Yield	6-7	%	ISO 527
Tensile Modulus	2400-2779 (348-403)	MPa (kpsi)	ISO 527
Flexural Modulus	2200-2303 (319-334)	MPa (kpsi)	ISO 178
Charpy Notched Impact @ 23°C @ -40°C	17-19 (8.08-9.04) 10.9-12 (5.2-5.7)	kJ/m^2 ($ft\ lb/in^2$)	ISO 179
Izod Notched Impact @ 23°C	17-18.1 (8.1-8.6)	kJ/m^2 ($ft\ lb/in^2$)	ISO 180
THERMAL			
Continuous Operating Temp RTI Strength @ 1.5 mm	-40 to 105-115 (-40 to 221-239)	°C (°F)	UL 746B
RTI Electrical 0.75 mm & 3.0 mm	130-140 (266-284)	°C (°F)	UL 746B
RTI Impact, 0.75 mm 3.0 mm	65-105 (149-221) 75-105 (167-221)	°C (°F)	UL 746B
Heat Deflection Temperature 264 psi (1.8 MPa)	65-70 (149-158)	°C (°F)	ISO 75-2/A
Melting Temperature	260-262 (500-504)	°C (°F)	ISO 11357-1/-3, ISO 3146
PROCESSING			
Melt Temperature Range	260-305 (518-581)	°C (°F)	-