HellermannTyton TYPICAL MATERIAL PROPERTIES	NYLON 66 Impact Modified Heat Stabilized UV Resistant*	SPECIFICATION NUMBER **MTS1011CSU**		
		Issued By: GGG 11/10/98	REVISION Level:...07 Date:..06/05/18 By:..LG ECN#:..014480	Page 1 Of 2
		Checked By: KAC 06/05/18		

DESCRIPTION

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 Resistant" due to the uniform dispersion of Carbon Black (less than 2%) 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 SDCT312 which retained up to 85% of its original loop tensile strength with no deterioration of physical properties.

Commercial Name: ..... Nylon 66, Impact Modified, Heat Stabilized, UV Resistant.
Catalog Code: ..... PA66HIRHS UV Resistant (may also appear as HIRHS or IMHS on older products)
Chemical Name: ..... Polyamide 66
Used On: ..... Cable ties, clamps and automotive parts

Recycling Symbol:

>PA66<
or
7
OTHER

GENERAL PERFORMANCE CHARACTERISTICS

Heat Stabilized	Very good
High Impact	Very good
Moisture Sensitivity	Low, will absorb moisture but not become brittle when dry
UV Resistance	Very good

PERFROMANCE ADDITIVES

Glass	None
Mineral	None
Olefin	Up to 20% (Impact Modifier) Olefin does not absorb moisture
Carbon Black	Yes, contains less than 2%
Halogens	None

PROCESS ADDITIVES

Fillers	None
Lubricants	Internal
Shrink Additives	None

PROCESSING Heat stabilized modifier has aided in the mold filling of thin hinge like sections, reducing brittleness and signs of burning

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	Excellent at room temp.; attacked by strong bases at elevated temps.
Solvents	Generally excellent; some absorption causing plasticization and dimension changes.
Gasoline	Very good
Oil	Good
Salt Water	Very good
Sodium Chloride	Very good
Zinc Chloride	Some attack or considerable absorption possible, not suitable for long term contact
Calcium Chloride	Little or no attack, little to some absorption, little to some reduction in mechanical properties.

MAJOR TOXIC ELEMENTS

No significant hazard associated with this material

APPROVALS

Ford, Chrysler, GM & ASTM

PROPERTIES CHART

	Dry	Units	Test Method
FLAMMABILITY			
Flammability @ 0.81, 1.5 & 3.0 mm	HB	-	UL 94
Oxygen index	22	$\%O_2$	ASTM D2863
PHYSICAL			
Specific Gravity	1.1	-(1)	ASTM D792
Water Absorption – 24 hrs	0.9	%	ASTM D570
MECHANICAL			
Tensile Strength	62.1 (9000)	MPa (psi)	ASTM D638
Elongation @Yield	5.0	%	ASTM D638
Elongation @Break	35.0	%	ASTM D638
Flex Modulus	2275.3 (330000)	MPa (psi)	ASTM D790
Flex Strength	72.4 (10500)	MPa (psi)	ASTM D790
Notched Izod Impact @ -40°C (-40°F) @ 23°C (73°F)	138.8 (2.6) 240.3 (4.5)	J/m (ft-lbf/in)	ASTM D256
THERMAL			
Continuous Operating Temp	-40 to 110 (-40 to 230)	°C (°F)	(2)
RTI Strength @ 1.5 mm	65 (149)	°C (°F)	UL 746
Deflection Temp. @ 0.455 MPa (66 psi) @1.82 MPa (264 psi)	213 (415) 79 (175)	°C (°F)	ASTM D648

(1) Quantity is unitless. Use g/cm^3 to convert to other units.

(2) Values based on similar medium impact heat stabilized PA66 materials.