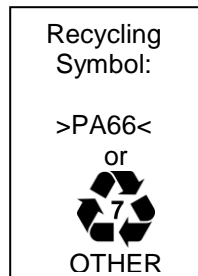
 TYPICAL MATERIAL PROPERTIES	 NYLON 66 General Purpose	SPECIFICATION NUMBER MTS1001CSU		
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DESCRIPTION

This material is a non-Halogenated, non-corrosive injection molding grade nylon. It is lubricated to facilitate machine feed and mold release.

Commercial Name: Nylon 66
Catalog Code: PA66
Chemical Name: Polyamide 66
Used On: Cable ties



GENERAL PERFORMANCE CHARACTERISTICS

Heat Stabilized None
Impact Lower resistance to impact.
Moisture Sensitivity Tensile strength and flexibility will change with change in moisture
UV Resistance Black ties have good resistance due to the percentage of carbon black
Other colors or natural are poor

PERFORMANCE ADDITIVES

Glass None
Mineral None
Carbon Yes (black only)
Halogens None in colors or natural. Black has a small amount of iodine for stabilization

PROCESS ADDITIVES

Fillers None
Lubricants Internal
Shrink Additives None

CONDITIONING: Follow standard cable tie conditioning practice


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 Good
Oil Good
Salt Water Very Good
Sodium Chloride Very Good
Zinc Chloride Some attack or considerable absorption at 73°F (23°C), material not suitable for contact unless limited product life is acceptable
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.
This product is slightly toxic based on toxicity studies. No adverse health effects are expected to develop if only small amounts (less than a mouthful) are swallowed. No adverse effects were reported following studies with rats and dogs fed a similar nylon resin material in their diet for three months.

Latex, Natural Rubber, Natural Rubber Latex, Dry Natural Rubber, Natural Latex, Isoprene, and Polyisoprene are not used in the manufacture of this material and therefore, should not be present at detectable levels.

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APPROVALS (Check with factory for specific automotive approval if not shown)

GM	GMP.PA66.005
Ford	WSK-M4D647-A
Chrysler	MSDB41 CPN1938
ASTM	D4066 PA0111

PROPERTIES CHART

	Dry	Units	Test Method
FLAMMABILITY			
Flammability – Thickness: (0.7, 1.5 & 3.0 mm)	V-2	-	UL 94
PHYSICAL			
Density	1.14 (0.041)	g/cm ³ (lb/in ³)	ISO 1183
Water Absorption – 24 hrs Immersion Equilibrium @ 50% RH	1.3-1.4 2.4-2.6	%	ISO 62
Mold Shrinkage – 2.0 mm Parallel 2.0 mm Normal	1.4-1.9 1.4-2.1	%	ISO 294-4
MECHANICAL			
Tensile Strength @ Yield	82-85 (11.9-12.3)	MPa (kpsi)	ISO 527
Elongation @ Yield	4.2-4.5	%	ISO 527
Elongation @ Break	25-50	%	ISO 527
Tensile Modulus	3100-3400 (450-493)	MPa (kpsi)	ISO 527
Flexural Modulus	2800-3000 (410-435)	MPa (kpsi)	ISO 178
Notched Charpy Impact - @23°C (73°F) @-30°C (-22°F)	4.6-6.1 (2.19-2.90)	KJ/m ² (ft-lb/in ²)	ISO 179
THERMAL			
Continuous Operating Temp RTI Strength @ 1.5 mm	-40 to 85 (-40 to 185)	°C (°F)	UL 746
RTI Electrical @ 0.71, 1.5 & 3.0 mm	130 (266)	°C (°F)	UL 746
RTI Impact @ 0.71, 1.5 & 3.0 mm	75 (167)	°C (°F)	UL 746
Heat Deflection Temp @ 0.45 MPa (65 psi) @ 1.80 MPa (261 psi)	200-205 (392-401) 66-74 (151-165)	°C (°F)	ISO 75
CLTE @ 2mm, Normal 23-55°C (73-130°F) @ 2mm, Parallel 23-55°C (73-130°F)	0.8-1.2 1.0-1.1	10 ⁻⁴ /°C	ISO 11359 / ASTM E381

This document is intended as a general guide, in the material selection for a product, but does not guarantee satisfactory performance. All materials selected must be thoroughly tested in its intended application to determine its suitability. Consult a HellermannTyton Representative for assistance in the final material selection.

The information contained herein is believed to be accurate at the time of printing. However, this information has been obtained from a variety of sources and has not been independently verified by HellermannTyton Corporation; therefore, we cannot warrant fitness for a particular application. Furthermore, HellermannTyton Corporation reserves the right to make changes to this document, at any time, without notice to our customers.