

# Specification

This material specification was copied by:

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Source of data:

E. I. DU PONT DE NEMOURS & CO  
POLYMER PRODUCTS DEPARTMENT  
WILMINGTON, DELEWARE 19898

## Nylon Connectors for 1 inch square tubing (PF series)

These connectors are cast "ZYTEL" ST 801 HS Super Tough Nylon Resin.

### DESCRIPTION:

"Zytel" ST 801 HS super tough nylon resin is a heat stabilized member of The Du Pont new family of tough nylon resins. "ZYTEL" ST 801 HS provides resistance to embrittlement at elevated service temperatures while maintaining the extremely high impact strength and the notch insensitivity associated with "Zytel" ST 801 HS. "Zytel" ST 801 HS retains its toughness even under adverse conditions such as low moisture content and low temperatures, while maintaining outstanding resistance to crack initiation and crack propagation.

### PROPERTIES:

Physical property data appear on the reverse side of this page. The toughness of "Zytel" ST 801 HS, measured by the Izod impact test, is dramatically higher than that of current and unmodified 66 nylon and 6 nylon under a variety of conditions. Heat aging data for "Zytel" ST 801 HS show excellent retention of properties following exposure at elevated temperatures.

### BENEFITS:

"Zytel" ST 801 HS offers s new combination of benefits to end users.

<u>Features</u>	<u>Benefits</u>
*Outstanding toughness	Increased : Design flexibility, Product reliability, Abuse resistance
*Chemical and heat resistance	Useful in hostile environments
*Good surface and color ability	Excellent appearance

### APPLICATIONS:

"Zytel" ST 801 HS is suitable for use in applications involving exposure to elevated temperatures and requiring the outstanding impact resistance of Super Tough nylon, especially where other engineering plastics are unacceptable due to notch sensitivity. The combination of strength, chemical and heat resistance, and lack of notch sensitivity makes "Zytel" ST 801 HS the material of choice in many demanding applications. "Zytel" ST 801 HS can be considered as a replacement for metals and for polycarbonate in applications not requiring transparency.

# NYLON CONNECTORS

## TYPICAL PROPERTIES<sup>(1)</sup>

<u>PROPERTIES</u>		<u>TEST</u>	<u>UNITS</u>	<u>VALUE<sup>(2)</sup></u>
Tensile Strength	Dry, 23°C(73°F)	ASTM D-638	psi	7,500
	50% RH, 23°C(73°F)			6,000
Elongation	Dry, 23°C(73°F)	ASTM D-638	%	60
	50% RH, 23°C(73°F)			210
Flexural Modulus	Dry, 23°C(73°F)	ASTM D-790	K psi	245
	50% RH, 23°C(73°F)			125
Rockwell Hardness	Dry, 23°C(73°F)	ASTM D-785	R Scale	112
Izod Impact Test	Dry, 23°C(73°F)	ASTM D-256 (10 mil notch)	ft.lb./ln.	17
	50% RH, 23°C(73°F)			20 <sup>(3)</sup>
Heat Deflection Temp (annealed)	0.5 MPa( 66 psi)	ASTM D-648	°F	421
	1.8 MPa(264 psi)			160
Melting Point		ASTM D-789	°F	491
Specific Gravity		ASTM D-792		1.06
Mold Shrinkage			in./in.	.015
Combustibility		UL-94		94HB
Water Absorption	100° RH	ASTM D570	%	6.7

(1) These values are for natural color (NC-10) resins only. Addition of colorants of any kind may alter some or all of these properties. The data listed here fall within the normal range of product properties: they are not intended to represent minimum values nor should they be used alone as a basis of design, or to establish specific limits.

(2) Based on Du Pont test results.

(3) Samples do not break into two parts, but break part way through the sample and then bend out of way of hammer

The proceeding data are presented as information only and in no way guarantees minimum or maximum data for the purposes of design by *Brunner Enterprises Inc.* or any of its suppliers

"ZYTEL" is a Du Pont trademark

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