

HYDEX® 301 - Stock Shapes (rods, plates, tubes)

Chemical Designation

PU (Polyurethane)

Colour

yellow transparent

Density

1.2 %

Main features

- broad chemical compatibility
- very good dimensional stability
- good impact strength
- good mechanical properties
- high toughness

Target Industries

- medical technology
- chemical plant engineering
- oil and gas industry
- pharmaceutical industry
- cleanroom technology

Mechanical properties	condition	value	test method	comment
Modulus of elasticity (tensile test)	@ 73 °F	310,000 psi	ASTM D 638	(1) publicly sourced data (2) publicly sourced data
Tensile strength at yield	@ 73 °F	10,000 psi	ASTM D 638	(3) publicly sourced data (4) publicly sourced data
Tensile strength at break	@ 73 °F	9,000 psi	ASTM D 638	(5) publicly sourced data
Elongation at yield	@ 73 °F	7 %	ASTM D 638	
Elongation at break	@ 73 °F	150 %	ASTM D 638	
Flexural strength	@ 73 °F	14,500 psi	ASTM D 790	
Modulus of elasticity (flexural test)	@ 73 °F	320,000 psi	ASTM D 790	
Compression strength	@ 73 °F, 1% strain	1,200 psi	ASTM D 695	
Compression strength	@ 73 °F, 10% strain	11,700 psi	ASTM D 695	
Compression modulus	@ 73 °F	230,000 psi	ASTM D 695	
Impact strength (Izod)	@ 73 °F	1.10 ft-lbs/in	ASTM D 256	
Rockwell hardness	M	95	-	
Coefficient of friction	Dynamic (vs. steel)	0.21	ASTM D 3702	(1) publicly sourced data
Coefficient of friction	Static (vs. steel)	0.22	ASTM D 3702	(2) publicly sourced data
Thermal properties	condition	value	test method	comment
Vicat softening point		228 °F	ASTM D 1525	(3) publicly sourced data (4) publicly sourced data
Deflection temperature	@ 66 psi	220 °F	ASTM D 648	(5) publicly sourced data
Deflection temperature	@ 264 psi	170 °F	ASTM D 648	
Service temperature	Long Term	228 °F	-	
Thermal expansion (CLTE)		3.4*10 ⁻⁵ in/in/°F	ASTM D 696	
Other properties	condition	value	test method	comment
Moisture absorption	@ 24 hrs, 73 °F	0.10 %	ASTM D 570	

→ Resin specification:
Ensinger Internal Specification
Shapes specification:
NONE

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