

MATERIAL GRADE: TA400

High-Temperature Vinyl Ester



DESCRIPTION

High-temperature, chemically resistant grade for harsh environments

TA400 uses a high-performance vinyl ester resin system to extend the operating temperature range beyond that of standard polyester-based grades. The resin offers excellent resistance to water, hydrolysis, and a broad range of chemicals, giving long-term dimensional stability in aggressive service. TA400 is well suited to hot hydraulic systems, water and wastewater treatment, hydropower, and process equipment exposed to chemicals or elevated temperatures. It retains its mechanical strength and wear performance at temperature, reducing the risk of swelling or softening. Choose TA400 when heat, chemicals, or long-term immersion rule out standard grades.

SAMPLE APPLICATIONS

- Hot hydraulic systems
- Water and wastewater treatment
- Hydropower
- Process equipment exposed to chemicals

MATERIAL BENEFITS

- Continuous service up to 349 °F (176 °C)
- Resists thermal softening under sustained load
- Dimensionally stable at high temperature
- High hardness (Rockwell M 107)
- Negligible water swell
- Easily machined to precision tolerances

MECHANICAL PROPERTIES

Operating temperature	up to 349 °F	up to 176 °C
Compressive strength		
Normal to laminate	47,900–52,000 psi	330–358 N/mm ²
Parallel to laminate	14,950–15,950 psi	103–110 N/mm ²
Tensile strength	8,410–8,700 psi	58–60 N/mm ²
Modulus of elasticity	522,000 psi	3,600 N/mm ²
Hardness, Rockwell M	107	
Density	1.25 g/cm ³	
Swell in water	<0.1% of wall thickness	
Coefficient of friction	0.10–0.20	
Color	Yellow	

AVAILABLE SIZES

Tube stock		
Minimum ID	3/8"	9.5 mm
Maximum OD	48"	1220 mm
Available lengths	27, 32, 40"	686, 813, 1016 mm
Machined parts		
Minimum ID	3/8"	9.5 mm
Maximum OD	48"	1220 mm
Sheet		
Minimum thickness	1/8"	3.2 mm
Maximum thickness	4"	102 mm
Maximum length	48"	1220 mm
Maximum width	30"	762 mm

Values are typical and measured in laboratory conditions, primarily to DIN test standards; hardness is measured on the Rockwell M scale. Strength values are loads at failure. Performance in service may vary. For more about our test methods, please contact us.