

# MATERIAL GRADE: TA 300



## DESCRIPTION

Tribotech's high grade composite materials are manufactured from technical fabrics impregnated with polyester resin and dispersed solid lubricants. Offering superior dimensional stability, compression strength, and lifespan, these materials lend themselves to countless profiles and configurations. By varying the resin additives and fabric reinforcement, the resin matrix can be specifically designed to meet the demands of different environments and applications.

**TA 300 features fabric-reinforced polyester resin composite with molybdenum disulphide (MOS<sub>2</sub>) lubrication.** TA 300 offers ultra-low friction in static and dynamic applications, making it the ideal material for hydropower and marine uses, including underwater applications, and any application requiring very low-friction performance. Self-lubricating and maintenance-free, while also tough, durable, and extremely versatile, TA 300 is an excellent alternative to bronze and thermoplastic materials.

## SAMPLE APPLICATIONS

- » Marine – on deck and underwater applications
- » Hydropower – bushing and wear pad applications
- » Offshore – FPSO applications
- » General – any applications requiring exceptionally low-friction performance

## MATERIAL BENEFITS

- » Self-lubricating
- » Low friction
- » Excellent load-bearing capability
- » No metallic scoring
- » Negligible water swell
- » Easily machined to precision tolerances
- » Wide range of sizes and profiles

## MECHANICAL PROPERTIES

<b>Temperature Range</b>	-40 to +250° F	-40 to +120° C
<b>Compression Strength [breaking point]</b>		
Normal to Laminate	45,000 psi	310 N/mm <sup>2</sup>
Parallel to Laminate	13,000 psi	90 N/mm <sup>2</sup>
<b>Tensile Strength</b>	14,000 psi	96 N/mm <sup>2</sup>
<b>Shear Strength</b>	9,000 psi	62 N/mm <sup>2</sup>
<b>Hardness – Rockwell M</b>	90	
<b>Density</b>	1.30g/cm <sup>3</sup>	
<b>Swell in Water % of wall thickness</b>	<0.15%	
<b>Thermal Expansion Coefficient</b>		
Normal to Laminate	68° F to 212° F	20° C to 100° C
Parallel to Laminate	5.0 to 5.5 x 10 <sup>-5</sup>	9.0 to 10.0 x 10 <sup>-5</sup>
Parallel to Laminate	2.7 to 3.3 x 10 <sup>-5</sup>	5.0 to 6.0 x 10 <sup>-5</sup>
<b>Coefficient of Friction</b>		
Static	0.12	
Dynamic	0.10	

## TUBE STOCK Available Sizes

Minimum ID	3/8"	9.5 mm
Maximum OD	25"	635 mm
Standard lengths	27, 32, 40"	685, 813, 1016 mm

## MACHINED PARTS Available Sizes

Minimum ID	1/2"	12.7 mm
Maximum OD	48"	1220 mm

## SHEET Available Sizes

Minimum Thickness	1/8"	0.125 mm
Maximum Thickness	4"	102 mm
Maximum Length	48"	1220 mm
Maximum Width	30"	762 mm