

TF1600 is a high performance, high longevity, non-metallic composite material containing a significant percentage of Kevlar (aramid) fiber. It can be considered as an alternative for sintered metal materials, and offers many advantages. It will resist high energy inputs and is suitable for both dry and oil-immersed applications. It is not abrasive to the drum or rotor, is silent in operation, and resists high pressures. The material has a very consistent medium friction coefficient, with good high temperature and extended wear life. Additionally, due to our proprietary manufacturing process, we have eliminated the break-in requirement common to other high aramid materials on the market. No backing plate required for most clutch applications. TF1600 is available in thicknesses from 0.5mm to 7.5mm.

Friction Properties

Static Friction Coefficient (15bar, from box): $0.40 \pm 0.05 \mu$
 Static Friction Coefficient (15bar, 100°C): $0.45 \pm 0.05 \mu$
 Dynamic Friction Coefficient: $0.40 \pm 0.05 \mu$
 Wear Rate [mm^3/kWh]: 30 (at 150°C)
 T Fading: $>400^\circ\text{C}/752^\circ\text{F}$

Physical Properties

Hardness (DIN53505): 85 ± 5 ShoreD
 Specific Gravity (ASTMD792): $1.30 \pm 0.05 \text{ gr/cm}^3$
 Thermal Conductivity (ASTME1952): $0.25 \pm 0.01 \text{ Wm}^\circ\text{K}$
 Tensile Strength (ASTM D638): $70 \pm 5 \text{ N/mm}^2$
 Compressive Strength (ISO 844:2014): $306 \pm 5 \text{ N/mm}^2$
 Burst Resistant (200 x 137 x 3.5) 200°C: $18200 \pm 100 \text{ RPM}$
 Poisson Coefficient (ASTM D638): 0.27 ± 0.03
 Young's Modulus (ASTM D638): $7260 \pm 100 \text{ N/mm}^2$

Thermal Properties

Maximum Continuous Operating Temp: $360/680 \text{ C}^\circ/\text{F}^\circ$
 Maximum Intermittent Operating Temp: $400/750 \text{ C}^\circ/\text{F}^\circ$

Material Type: Paper Friction

Appearance/Formats:

Rings
Gears
Bonded Parts

Applications

High Performance Car & Motorcycle Clutches
 Clutch Buttons
 Heavy Vehicle Clutches
 Miscellaneous Industrial Brakes & Clutches
 Precision Robotics Brakes, Clutches, & Dampers
 Wet Friction High Performance Applications

Compliance: Reach(EC)1907/2023 & RoHS2015/863/EU

Additional

Recommended Mating Surfaces: Pearlitic Cast Iron with Hardness HB150-200.
 Recommended Adhesive: Thermosetting.
 Oil Resistant: Yes.

The above data is taken from specific test parameters, therefore results can vary in differing application conditions

