

# Dry Friction Product Specifications\*

## BRAKETEX® P-42

**Description** 100% KEVLAR® fiber composite material is a non-molded and non-asbestos, textile-reinforced polymer for industrial clutch and brake applications. Offers uniquely high wear resistance and low opposing surface wear. Available bonded to carrier plates in thicknesses as required (often laminated over a cork nitrile butyl substrate), or as a flexible laminate lining up to 10 mm (3/8") thick.

### Physical and mechanical properties

Composition	100% long KEVLAR® fibers and proprietary polymer binders. Includes no metal, no abrasives, no cotton, and no fillers.
Density	0.91 g/cu. cm (0.033 lb./cu.in.)
Thermal conductivity	Extremely low
Shock resistance	Excellent (does not crack, or break)
Lubricant contaminant resistance	Does not degrade
Abrasiveness	Non-abrasive to opposing iron, steel, and copper surfaces such as rotors, drums and flywheels

### Operating conditions

Static pressure	Up to 6900 kPa (1,000 p.s.i.), (or as limited by substrate)
Dynamic pressure	140 - 3100 kPa (20-450 p.s.i.)
Temperature	Ambient to 315° C (600° F)
Surface speed	Static to 40 m/s (8,000 ft./min.)
Opposing surface	Machined and unfractured surface required, no fine finishing necessary

Surface speed, temperature, and pressure are interdependent energy parameters. Values represent typical conditions and are not the ultimate limits of the material. Burnish time to achieve full mating surface contact can be three to five times longer than conventional friction materials.

### Approximate dry friction properties (after extended burnish)

Wear rate	1/5 to 1/10 that of asbestos materials 1/2 to 1/3 that of sintered bronze materials
Dynamic coefficient of friction	0.36 $\mu$ $\pm$ 0.1 in the 95 - 345° C range (200° F - 650° F) Approximately 25% higher than molded asbestos, glass - fibered, and graphitic materials
Static to dynamic ratio	1.05
Fade	Significant fade at 260° C (500° F), accelerating at 370° C (700° F)

\*All values shown are approximations derived from a variety of tests and field applications. No warranty or implied liability assumed herein. Friction values shown are for guide purposes only, as actual values can deviate with individual design and operating conditions.

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