

# Friction Components and Systems Ltd

## Product Data Sheet

### Material Type: D3806

#### General Description

**D3806** is a closely woven, semi-flexible friction material. It is based on yarn spun from a blend of glass and synthetic fibres together with a fine copper wire to enhance its strength and heat dissipation properties. The impregnant has been specially developed to give it good frictional properties combined with a good degree of flexibility. It has a high coefficient of friction and performs well in wet and damp environments, which makes it particularly suited for marine applications.

To help during fitting to brake shoes and bands it can be softened and made more pliable by warming in a bonding oven to between 150 & 180°C for sufficient time for the heat to penetrate the fabric.

This material is not suited to operate in oil-immersed conditions.

#### Application

Industrial drum and band-brakes  
Industrial clutches  
Marine towing winches  
Miscellaneous industrial devices

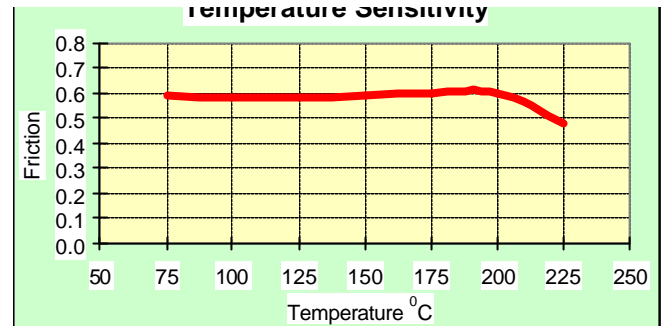
#### Bonding

**D3806** may be bonded using any of the established adhesives recommended for friction material. However, to obtain the best results it is necessary to use a thermosetting adhesive.

#### Mating Surface

A good quality, fine grained, pearlitic cast iron or cold rolled steel with a Brinell hardness of 180. Cast steels are not recommended.

#### TECHNICAL DATA



#### Friction

**III** for design purposes:

Static (cold) 0.45  
Dynamic (dry) 0.42

#### Recommended operating range

##### Pressure

Dynamic (dry) 70 - 860kN/m<sup>2</sup> (10 - 125 lbf/in<sup>2</sup>)  
Static 70 - 2410 kN/m<sup>2</sup> (10 - 350 lbf/in<sup>2</sup>)

Max. rubbing speed - 25 m/s (82 ft/s)  
Max. continuous temperature 110°C  
Max. intermittent temperature 180°C  
Max. temperature 225°C

#### Size range

##### Roll

Lengths: 10 metres (nominal) below 15mm thick  
7.5 metres (nominal) 15mm thick & above

Maximum width: 330mm below 15mm thick  
510mm 15mm thick and above

Thickness range: 3.2 to 20.0mm

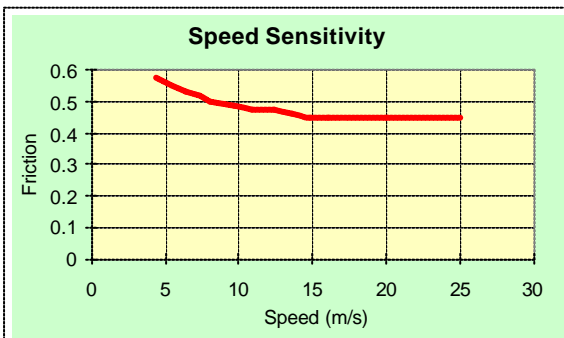
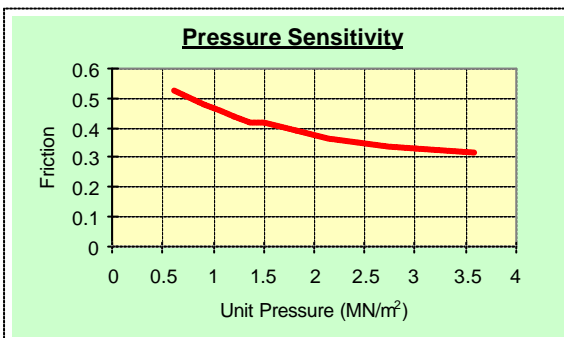
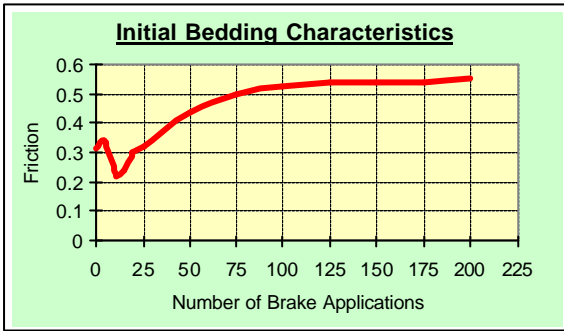
##### Sheets

1067 long x 660 mm wide  
Thickness range: 4.8 to 12.7mm

##### Linings & discs:

Sizes on application

MATERIAL DESCRIPTION					AVAILABILITY			
Non-Asbestos	Woven	Moulded	Metallic	Oil-Resistant	Roll	Sheet	Disc	Lining
*	*		*	*	*	*	*	*



**Test Conditions**

Temperature Sensitivity (see over)

Application speed 15 m/s  
Clamping pressure 0.61 MN/m<sup>2</sup> (88.5 lbf/in<sup>2</sup>)

Initial Bedding

Application speed 15 m/s  
Clamping pressure 0.61 MN/m<sup>2</sup> (88.5 lbf/in<sup>2</sup>)  
Average Temperature 140°C

Pressure Sensitivity

Application speed 15 m/s  
Average temperature 80°C

Speed Sensitivity

Clamping pressure 0.61 MN/m<sup>2</sup> (88.5 lbf/in<sup>2</sup>)  
Average temperature 80°C

**Physical Properties**

Density - 1.20 g/cc

Ultimate tensile strength - Longitudinal 24 MN/m<sup>2</sup> (3,500 lbf/in<sup>2</sup>)

Ultimate compressive strength - 100 MN/m<sup>2</sup> (14,500 lbf/in<sup>2</sup>)

Ultimate shear strength - Longitudinal 17.2 MN/m<sup>2</sup> (2,500 lbf/in<sup>2</sup>)

Rivet holding capacity - 61.8 MN/m<sup>2</sup> (9000 lbf/in<sup>2</sup>)

Thermal conductivity - 0.79 W/m °C

(All the figures shown above are based on mean values)

The information supplied in this data sheet is believed to be accurate and reliable, and was obtained by scientific and laboratory testing.

However, since actual conditions of use are largely outside the control of FRICTION COMPONENTS AND SYSTEMS LTD, it is suggested that this material be thoroughly tested and its suitability for use be determined before final acceptance

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*	*		*	*	*	*	*	*