

MECHANICAL EQUIPMENT

# Products

## Friction Linings

D3920

# Ferotec Friction Ltd

## D3920 Product Data Sheet

### General Description

**D3920** is a partially cured and hence more flexible version of D3921 which has been specially developed to allow customers the ability to undertake some degree of re-radiusing and "cure-out" for themselves. To help in the re-radiusing operation and to convert **D3920** into D3921, the material should firstly be warmed to between 120°C (248°F) and 150°C (302°F) before gently inducing a change of radius. However, care should be taken whilst carrying out this procedure to ensure that no one area is re-radiused more than another, otherwise cracking or possible distortion could occur. (392°F to 446°F) for a minimum of one hour, before being allowed to cool to approximately 100°C (212°F) and the formers removed. Some light scorching or discoloration may occur around the edges of the material but this is quite normal and will be found to be merely superficial.

N.B. This Data Sheet should be read in conjunction with the Data Sheet for **D3921**.

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 FEROTEC FRICTION LIMITED, it is suggested that this material be thoroughly tested in its intended application before being used for final acceptance.

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# Ferotec Friction Ltd

## D3921 Product Data Sheet

### General Description

D3921 is a rigid moulded friction material, light green in colour, and having a non-asbestos basis of short steel filaments in a random dispersion to enhance its heat dissipation properties and strength. It incorporates a blend of carefully selected friction modifiers and a binder which has been specially developed to enhance its properties. Whilst not affected physically by slight oil contamination, this material is not intended to operate in oil. D3921 is also available as semi-cured, semi-flexible roll although in this form it is known by the reference D3920. Information on how to convert D3920 into D3921 is available on request.

### Applications

Industrial drum and band-brake linings  
Crane and excavator brake and clutch linings  
Miscellaneous industrial devices

### Bonding

D3921 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.

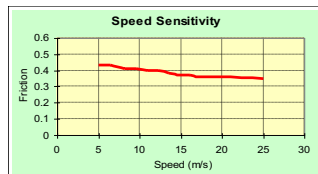
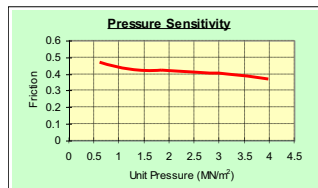
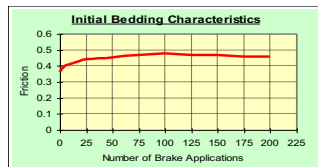
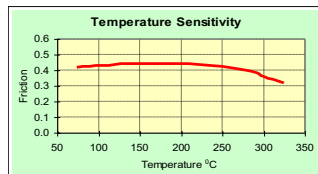
### Mating Surface

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

### Availability

- Roll
  - Length 5M
  - Width 20 to 330mm
  - Thickness range 3.2mm to 12.7mm
- Sheet size 660mm x 330mm x 3.2 up to 12.7mm thick
- Sheet size 660mm x 530mm x above 12.7mm to 32.0mm thick
- Special shapes and discs on request

### TECHNICAL DATA



### Friction

$\mu$  for design purposes :  
Static (cold) 0.38  
Dynamic 0.42

### Recommended Operating Range

Pressure  
Dynamic 70-860 kN/m<sup>2</sup>  
Static 70-2,410 kN/m<sup>2</sup>  
Max. rubbing speed 25 m/s  
Max. continuous temperature 175°C  
Max. intermittent temperature 225°C  
Max. temperature 300°C

### Test Conditions

Application Speed 15m/s  
Clamping pressure 0.61 MN/m<sup>2</sup> (88.5 ibf/in<sup>2</sup>)  
Average temperature Initial Bedding 140°C  
Average temperature Pressure Sensitivity / Speed Sensitivity 80°C

### PHYSICAL PROPERTIES

Density 2.30 g/cc  
Ultimate tensile strength 15.0 MN/m<sup>2</sup> (2,177 ibf/in<sup>2</sup>)  
Ultimate compressive strength 93.0 MN/m<sup>2</sup> (13,520 ibf/in<sup>2</sup>)  
Ultimate shear strength 12.0 MN/m<sup>2</sup> (1,750 ibf/in<sup>2</sup>)  
Rivet holding capacity 86.0 MN/m<sup>2</sup> (12,500 ibf/in<sup>2</sup>)  
Thermal Conductivity 1.034 W/m°C  
Hardness (Shore D) 75

(All physical properties shown above are all mean values)

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