



Metric Felt Company

Wool Felt Products and Industrial Textile Conversion Manufacturing

Felt Spacers and Seals

The leading properties of felt in washers and gaskets in sealing and spacing applications include high liquid absorption capacity, a low coefficient of friction, and excellent resilience.

Felt maintains a constant sealing pressure regardless of wear, minor misalignment or possible out-of-round conditions of metal assemblies. The coefficient of friction, averaging 0.22 for dry felt against steel is reduced to at least 0.18 when pre-saturated with oil.

The capacity of felt to absorb oil is largely a function of its density.

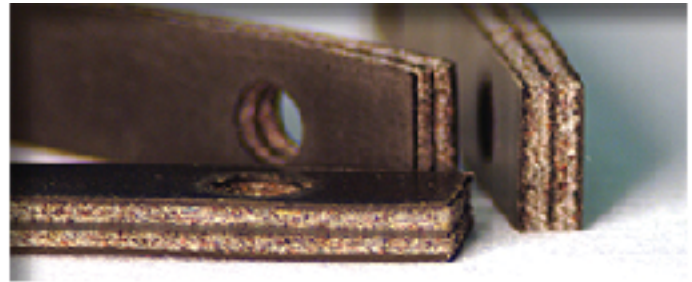
Felt washers used in oil or grease retention and dust exclusion are typically one of the following three types: plain, impregnated, or laminated. Impregnated felt seals are typically used to reduce friction and exclude humidity and water. They can be plain or laminated as required by conditions of use and the severity of the application.



Bearing Seal Application

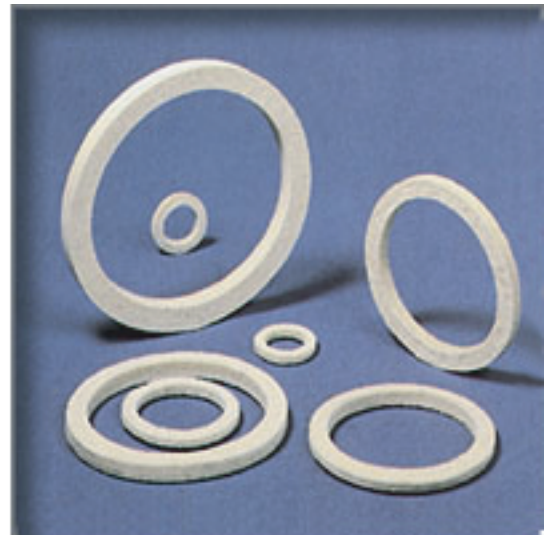
Felt seals are precision cut washers fabricated from specified standard grades of SAE felts. They are normally pre-saturated with lubricants of slightly greater viscosity than those used in the bearing. Felt seals provide bearing protection and also act as a reservoir for excess lubricant. If they run dry, they tend to polish rather than score a shaft. They will not become brittle nor will they disintegrate under normal bearing temperatures and operating conditions.

Felt seals are highly economical and require replacement only when the machine they support is completely overhauled.



When laminated, with synthetic rubber, felt seals also serve as a positive barrier in retaining low-viscosity lubricants, lubricants under pressure, and in preventing the entrance of water. In each case, the impervious layer of oil-resistant material functions as a positive dam against the leakage of low-viscosity lubricant.

For felt shaft seals, a speed of 2000 rpm is usually considered maximum, but some seals can be used at speeds to 4000 rpm provided that the shaft is hard and smooth and ample lubricant is present. In general, the higher the peripheral speed or the shaft, the higher the recommended felt density. Both the recommended negative clearance and taper angle decrease with increasing felt density.



Typical Ring Seals