MESLEKİ YABANCI DİL-I FİNAL SINAVI (08/01/2002)----- Süre: 100 Dakika

Friction and Lubrication

Whenever one surface moves over another, a force which resists the movement takes place. This force, which we call friction, always opposes motion and exists in every machine. It can be reduced by lubrication but never completely removed. In general, the friction force opposing motion is slightly greater before movements starts than after movement has started. This slightly greater force is called static friction. The force which must be overcome to keep one surface moving over another is known as sliding friction. Static friction is thus greater than sliding friction. The value of sliding friction depends on the nature of the two surfaces which touch each other. Thus friction between two rough planks can be lessened if they are made smooth. Sliding friction is independent of the area of surface in contact.

When one block slides over another the two surfaces scrape against each other, breaking off tiny pieces from each other. However, if we lubricate the two surfaces, oil fills the tiny valleys. One block can now move easily over the other. Lubrication thus reduces friction and wear on the material because the surfaces do not scrape against each other. The selection of the correct lubricant is extremely important. depends on many factors. If the oil is, for example, too thick the lubricant itself will cause some resistance to the motion. In selection of lubricants, many factors such as the operating speeds and operating temperature ranges of the machinery which is lubricated must be considered.

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