Accidents at metalworking lathes using emery cloth

Danger: Even with long strips of cloth there is a danger of trapping as illustrated here

Hazards

A high proportion of all accidents at metalworking lathes involve the use of emery cloth and result in injuries such as broken and, occasionally, amputated fingers.
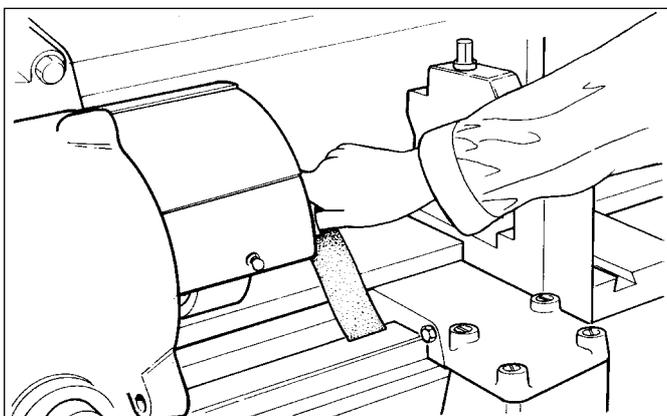
Emery cloth is used to deburr, polish or size a wide range of cylindrical, tapered and threaded metal components while they are rotating in lathes.

Danger: Emery cloth should never be held loose in the hand

Most accidents happen when each end of a strip of emery cloth is held in separate hands and passed around the back of the component being linished. If the cloth is wrapped around the fingers and/or becomes snagged on the component while it is tightly gripped, then a serious injury is the likely result.

Precautions

Emery cloth should NEVER be used at NC lathes. Employers should assess the need to use emery cloth on components rotating in a lathe. Such operations may not be necessary if:

(a)   the finish being sought is only cosmetic. For such finishes the component may be held in one hand and polished by emery cloth held in the other. Alternatively a linishing belt or machine may be used;

(b)   a sizing operation can be successfully performed either by turning or by further operations in a dedicated polishing, linishing or grinding machine.

If the required tolerance is only achievable by the use of emery cloth against rotating components, then the emery cloth should be applied using either:

(a) backing board of good quality wood; or

(b) a tool post onto which the emery cloth may be placed; or

(c) a 'nutcracker' consisting of two backing boards which are lined with emery cloth and joined at one end and shaped so that they may encompass the surface to be linished; or

(d) hand-held, abrasive-impregnated wire brushes.

Where none of the above methods is reasonably practicable and it is necessary to use emery cloth for polishing the outside diameters of components, the emery cloth should be used in long strips with one end passed beneath the component. Force should be applied by pulling both ends of the cloth upwards, never allowing the cloth to go slack or to wrap around either the operator's finger or the components.

For polishing the ends of components, only very short lengths or pads of cloth, which are incapable of causing entanglements, should be used. Overall sleeves should be tight-fitting and gloves should never be worn.

Useful reading

Health and safety in engineering workshops HSG129 (Second edition) HSE Books 1999 ISBN 0 7176 1717 3
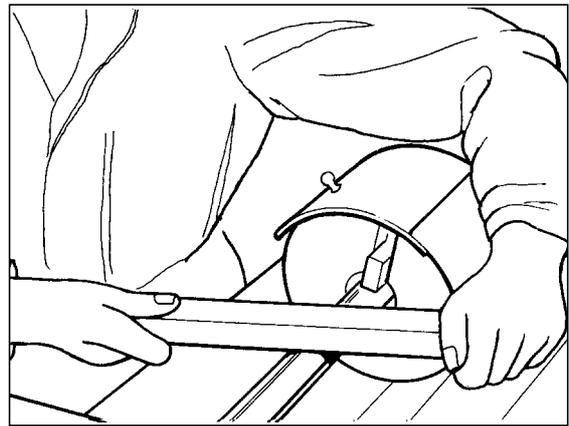
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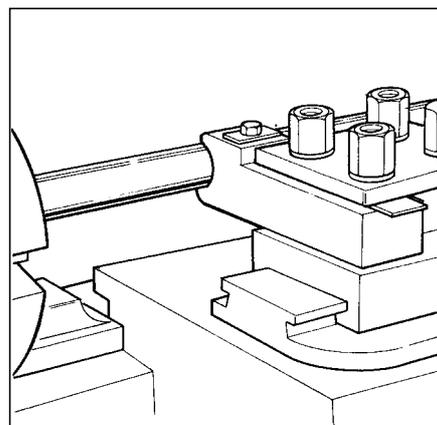
For information about health and safety ring HSE's Infoline Tel: 08701 545500 Fax: 02920 859260 e-mail: hseinformationservices@natbrit.com or write to HSE Information Services, Caerphilly Business Park, Caerphilly CF83 3GG.

This leaflet contains notes on good practice which are not compulsory but which you may find helpful in considering what you need to do.
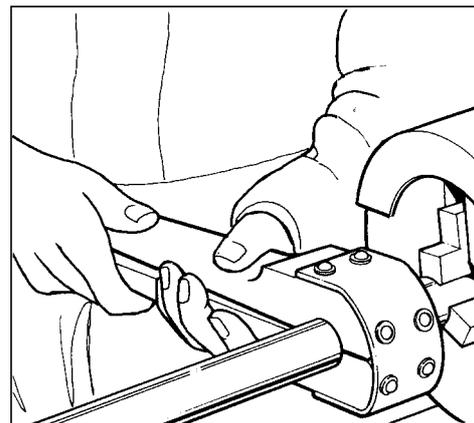
Good practice: Sticks used in this way must be strong and of good material

Good practice: The use of a tool post completely removes all risk of injury to the hands

Good practice: Using the 'nutcracker' method - a much better way of polishing