Gloves to Save the Skin You’re in

Choice of gloves very often is a matter of personal preference. To ensure that the proper hand protection is used, however, employers and employees must assess the type and severity of hazards in the workplace and choose the appropriate protection.

To protect your hands properly, gloves must fit in more ways than one. They not only have to be comfortable; they must also be effective in keeping you safe from the materials you’re working with and the environment you’re in.

Cotton is the most widely used glove material, primarily because of its low cost, perspiration absorption, reusability and versatility. Its disadvantages include limited cut protection and short lifetime.

Next on the popularity list is leather, which has good puncture and abrasion resistance, impact absorption and spark protection, but can have limited cut resistance and dexterity.

Natural rubber, nitrile and PVC are among many “elastomers” used for gloves. They’re best for general chemical resistance but offer limited cut resistance.

Metal mesh and relatively new fibers such as Kevlar are popular for being lightweight and resistant to cuts and heat transfer.

When welding, cutting or brazing, for example, you’d use elongated heavy gauntlet gloves. For handling pipe, coated gloves combining flexibility and grip could be preferred, especially in wet conditions.

Then there’s the whole raft of chemicals that can do serious damage to uncovered skin. An example is caustic soda, a drilling fluid additive. Contact with it can be extremely irritating to the skin. Gauntlet-type rubber gloves are recommended.

Here are some guidelines for matching hazards to protective glove material:

Abrasives
Severe hazard – reinforced heavy rubber, staple-reinforced heavy leather
Less severe hazard – rubber, plastic, leather, polyester, nylon, cotton

Sharp Edges
Severe hazard – metal mesh, staple-reinforced heavy leather, Kevlar/steel mesh
Less severe – leather, terry cloth (Aramid fiber)
Mild – Lightweight leather, polyester, nylon, cotton

Chemicals and Fluids
Risk varies according to the chemical, its concentration and time of contact, among other factors. Glove material is dependent upon the chemical, but examples include natural rubber, neoprene, nitrile rubber, PTFE, Teflon, Viton, polyvinyl chloride, polyvinyl alcohol, Saranex, 4H and Chemret.
With chemicals, it's important to remember that no one material is a barrier to all of them. Also, resistance can vary from product to product, even from lot to lot. If you are unsure about which glove to use for certain chemicals, ask your glove vendor for a chemical resistivity chart. This indicates the glove's ability to resist chemicals and the duty it is expected to endure.

The best way to match the protection you need to the hazardous substance at hand is through the material safety data sheet (MSDS) that must accompany it. Although the MSDS will sometimes describe recommended protective clothing or equipment in general terms, it's always a good start.

Cold
Whether the hazard is mild discomfort or severe frostbite, the best materials are leather, insulated plastic or rubber, wool and cotton.

Once you know which glove to use, it's important to make sure it fits properly. Sounds obvious, but a poor fit can create its own set of problems.

Hand protection should be checked for defects every time you use it. Holes in chemical gloves are a particular concern and can be identified by pressurizing the glove with air or water.

Gloves aren't the only way to protect your hands. They also need to be kept clean to prevent infection.

Barrier creams provide limited protection against alkalis and acids but are sometimes used in conjunction with gloves. If you use barrier creams, be sure to wash your hands before applying the cream and at the end of the workday.

Another popular hand protection item is the pre-moistened, heavy-duty hand towel. These can be used to remove heavy grease and grime at your workstation or a remote job location.

DO YOU KNOW...

- Which gloves are best for the job(s) you do?
- How to check for chemical resistivity?
- Where to get good advice on proper hand protection?

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Select the right glove for the job and inspect them prior to use.