Glove Selection: Hazards and Solutions

Proper & Disposal Methods. Protective gloves must be worn while using any hazardous materials, exposure to potentially infectious bodily fluids, objects that pose a risk of thermal burns, items having physical hazards, or equipment that may cause hand injury. These gloves must be appropriate for the material or process being used and must not interfere with the ability of the worker to work safely. The Safety Data Sheet (SDS) for the material and the manufacturer-specific glove selection guide should be referenced to determine appropriate glove type.

Introduction
When a hazard assessment identifies a need for hand protection, it is the responsibility of the employer to determine the best glove for the task at hand. No matter the type (anti-vibration, chemical resistant, cut resistant, etc.), once the glove is selected, and then proper sizing comes into play.

Glove Selection
Different kinds of gloves provide different kinds of protection. You may need several types of gloves to provide protection against the hazardous substances in your workplace. To ascertain which glove material is most suitable for a particular hazardous exposure, always check with the chemical Safety Data Sheet, the glove manufacturer, and always follow the applicable Hazard Control Plan requirements.

Glove Characteristics:
- Degradation: A change in a glove’s physical characteristics (swelling, softening, cracking, change in color or texture)
- Permeation rate: The speed at which a hazardous substance penetrates the glove material.
- Breakthrough time: The time between initial contact and first detection of the hazardous substance inside the glove.

Hazardous Materials
Hazardous materials may be described using the following characteristics or regulatory definitions. This list is to be used as a guideline for some workplace, laboratory or technical areas. It does not supersede Cal/OSHA regulations or accepted safe work practices for specific materials. The container label and the Safety Data Sheet for the material should be consulted to determine the hazard classification(s) of a particular substance.

Safety Glove Size Chart
Ordering gloves too small or too large can result in job completion delays, as well as possible hand injuries. If too small, the gloves can be uncomfortable and cause hand fatigue. If the glove material is stretched beyond its capabilities, it could tear or rip easily when in use, which is wasteful, costly and increases the possibility of injury due to an unprotected hand. A glove that is too small can also compromise hand dexterity for the wearer, so the chances of the end user wearing the glove for the intended purpose is reduced. Then again, when you select hand protection that is too large it may literally be pulled off the hand.

How to Determine Glove Size
It is important to know how to measure the hand to get a proper fitting glove. Measuring the hand for correct fit will help to give the employee the best possible protection.

One method used to find the correct glove size is to measure around the dominant hand with a soft cloth tape measure as shown below. The dominant hand measurement is preferred (right if you are right-handed and left if you are left-handed).

Identifying the Proper Glove Length
Since many gloves are offered in different lengths, it is important to determine the length of the glove you will need based on the task. Typically, the ideal length of the glove can vary depending on depth of immersion in a solution or the level of splash protection required. To ensure the best protection of your hand, wrist and forearm, use this guide as a template for length measurement, and measure the length of your arm.

Taking the time to accurately measure and select the correct glove size for your employees is crucial in providing adequate hand protection. Without correct-fitting gloves, your employees

Donning, Doffing & Disposal
- Always check gloves for holes, punctures, tears, cracking and discoloration before each use.
- Replace gloves as soon as signs of degradation appear.
- Long-term exposure and damage to a glove’s surface can quickly reduce the protection offered.
Direct chemical contact, soiled or torn gloves should be removed immediately, the hands washed and gloves replaced with a new pair.

With disposable gloves, remove by peeling from the wrist and working toward your fingers.

Keep the working surface of the glove from contacting your skin during removal.

Place the discarded gloves in the designated container

Never wash or reuse disposable gloves.

Reusable gloves must be washed before removal, handled only by the cuff and then properly stored.

Wash your hands thoroughly with soap and water when changing into fresh gloves and after working with any hazardous materials.

**Latex Allergic Reaction**

Natural rubber or latex gloves **DO NOT** offer adequate protection against most hazardous materials and should only be used if recommended by a manufacturer for a particular chemical. Repeated exposure to latex and latex products may result in the development of latex allergies. To avoid latex sensitivity, switch to nitrile or another non-latex chemical appropriate disposable glove.

**Note:** Latex allergy is often associated with allergies to certain foods, especially avocados, potatoes, bananas, tomatoes, chestnuts, kiwi and papaya.

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**WHICH LEVEL DO I CHOOSE?**

These recommendations are of a general nature and are not specific to everyone’s needs. Always ensure your selected glove complies with the mandated safety standard recommended for your application.

- **EXTREME CUT HAZARDS**
  - Heavy metal stamping, sheet metal handling, meat and poultry, some pulp and paper applications

- **HIGH CUT HAZARDS**
  - Metal stamping, sheet metal handling, glass handling, food service

- **MODERATE CUT HAZARDS**
  - Light metal stamping, light-duty glass handling applications

- **LOW CUT HAZARDS**
  - Construction, automotive assembly, packaging, some masonry applications

- **NUISANCE CUT**
  - Paper cuts, automotive maintenance, parts assembly, material handling

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**ASTM Labeling Chart**

<table>
<thead>
<tr>
<th>Class Color</th>
<th>Voltage AC/DC</th>
<th>Insulating Rubber Glove Label</th>
</tr>
</thead>
<tbody>
<tr>
<td>00 Beige</td>
<td>2,500 / 10,000</td>
<td>10</td>
</tr>
<tr>
<td>0 Red</td>
<td>5,000 / 20,000</td>
<td>10</td>
</tr>
<tr>
<td>1 White</td>
<td>10,000 / 40,000</td>
<td>10</td>
</tr>
<tr>
<td>2 Yellow</td>
<td>20,000 / 50,000</td>
<td>10</td>
</tr>
<tr>
<td>3 Green</td>
<td>30,000 / 60,000</td>
<td>10</td>
</tr>
<tr>
<td>4 Orange</td>
<td>40,000 / 70,000</td>
<td>10</td>
</tr>
</tbody>
</table>

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Refer to Personal Protection Equipment Program for the complete details located on the Department of Safety & Risk Management webpage.