COMPLIANCE
OSHA 1910.138(a) General Requirements
Employers shall select and require employees to use appropriate hand protection when employees’ hands are exposed to hazards such as those from skin absorption of harmful substances, severe cuts or lacerations, severe abrasions, punctures, chemical burns, thermal burns, and harmful temperature extremes.

Glove Information

1910.138(b) Selection
Employers shall base the selection of the appropriate hand protection on an evaluation of the performance characteristics of the hand protection relative to the task(s) to be performed, conditions present, duration of use, and the hazards and potential hazards identified. For additional information on OSHA Standards please visit: www.osha.gov.

TYPES OF GLOVES

Impact
Protect against hand, finger, and arm fatigue by reducing vibration impact and shock hazards from tools and equipment.
Uses: Automotive assembly, construction, manufacturing, warehousing.

Chemical Resistant
Protect against a variety of chemicals with excellent abrasion, puncture, and tear resistance.
Uses: Aerospace, agriculture, automotive, chemical and food processing, general maintenance, mining, petrochemicals, refining.

Cut and Puncture Resistant
Available in a wide variety of materials that offer different levels of cut, abrasion, and puncture resistance against all types of sharp objects, including glass, metal, and needles.
Uses: Automotive assembly, construction, food industry, glass handling, metal fabrication, parts handling, wood handling.

Disposable
For one-time use applications; thin gauge thickness provides superior flexibility, sensitivity, and dexterity.
Uses: Food service, general maintenance, laboratories, medical, pharmaceutical.

General Purpose
Reduce hand injuries and fatigue while providing excellent grip, flexibility, comfort, and abrasion resistance.
Uses: Automotive and light assembly, food handling, maintenance, metal/steel industries, warehousing.

Leather Palm and Driver’s
Choose from a variety of cowhide, pigskin, goatskin, and deerskin gloves for comfort, durability, dexterity, and abrasion resistance.
Uses: Construction, contractors, gardening, general assembly and maintenance, welding.

Mechanic’s
Protect workers’ hands from impact, nicks, and abrasion without sacrificing dexterity or grip for handling tools and parts.
Uses: Assembly, maintenance, construction, contractors, mechanics, warehousing.

Palm Coated
Offer dexterity, grip, and comfort while protecting against snags, punctures, and abrasions. Appropriate for use in wet areas where grip and dexterity are critical. Substitute for leather work gloves.
Uses: Automotive and light assembly, construction, maintenance, shipping/receiving.

Temperature-Resistant
Protect from extreme hot and cold temperatures. Certain applications depend on weight of product handled and length of time handled.
Uses: Aluminum casting, automotive, cold storage, injection molding, steel manufacturing, stamping.

Call or visit your local branch or go to grainger.com/condor for complete product line information.
CHOOSE THE APPROPRIATE LEVELS OF CUT, PUNCTURE, AND ABRASION RESISTANCE FOR HAND AND ARM PROTECTION

OSHA REGULATIONS FOR HAND PROTECTION

1910.138(a) General Requirements
Employers shall select and require employees to use appropriate hand protection when employees’ hands are exposed to hazards such as those from skin absorption of harmful substances, severe cuts or lacerations, severe abrasions, punctures, chemical burns, thermal burns, and harmful temperature extremes.

1910.138(b) Selection
Employers shall base the selection of the appropriate hand protection on an evaluation of the performance characteristics of the hand protection relative to the task(s) to be performed, conditions present, duration of use, and the hazards and potential hazards identified.

GLOVE SIZING CHART
Wrap a tape measure around your palm to determine the circumference of your hand in inches. Refer to the sizing chart to determine your appropriate glove size.

<table>
<thead>
<tr>
<th>Palm Size (In.):</th>
<th>6 to 7</th>
<th>7 to 8</th>
<th>8 to 9</th>
<th>9 to 10</th>
<th>10 to 11</th>
<th>11 to 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size:</td>
<td>XS</td>
<td>S</td>
<td>M</td>
<td>L</td>
<td>XL</td>
<td>2XL</td>
</tr>
<tr>
<td>Other Sizes:</td>
<td>Ladies</td>
<td>Men’s</td>
<td></td>
<td>Universal</td>
<td>Jumbo</td>
<td></td>
</tr>
</tbody>
</table>

ANSI CUT, PUNCTURE AND ABRASION RESISTANCE GUIDE

CHOOSE THE APPROPRIATE LEVELS OF CUT, PUNCTURE, AND ABRASION RESISTANCE FOR HAND AND ARM PROTECTION

The ANSI Cut, Puncture, and Abrasion Resistance tables below, provided by ANSI, help identify the level of resistance needed in each area, enabling compliance with OSHA regulations 1910.138 (a) and 1910.138 (b), mitigating risk of injury, and increasing worker productivity. The ANSI/ISEA 105-2005 standard provides a consistent, numeric-scale method for manufacturers to rate their products in each of the designated areas. The “level of resistance” numbering has been incorporated into the catalog to help purchasers and users make informed decisions when choosing gloves and sleeves for each category of protection.

- **The ANSI/ISEA 105-2005 standard provides performance classification levels for many different materials based on standardized test methods.**

**Cut Resistance**

<table>
<thead>
<tr>
<th>Cut Resistance</th>
<th>Weight (grams) Needed to Cut Through Material with 25mm of Blade Travel</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>&lt; 200</td>
</tr>
<tr>
<td>1</td>
<td>≥ 200</td>
</tr>
<tr>
<td>2</td>
<td>≥ 500</td>
</tr>
<tr>
<td>3</td>
<td>≥ 1000</td>
</tr>
<tr>
<td>4</td>
<td>≥ 1500</td>
</tr>
<tr>
<td>5</td>
<td>≥ 3500</td>
</tr>
</tbody>
</table>

**Puncture Resistance**

<table>
<thead>
<tr>
<th>Puncture Resistance</th>
<th>Puncture (Newtons)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>&lt; 10</td>
</tr>
<tr>
<td>1</td>
<td>≥ 10</td>
</tr>
<tr>
<td>2</td>
<td>≥ 20</td>
</tr>
<tr>
<td>3</td>
<td>≥ 60</td>
</tr>
<tr>
<td>4</td>
<td>≥ 100</td>
</tr>
<tr>
<td>5</td>
<td>≥ 150</td>
</tr>
</tbody>
</table>

Note: When tested in accordance with ASTM F1790-97.

**Abrasion Resistance**

<table>
<thead>
<tr>
<th>Abrasion Resistance</th>
<th>Abrasion Cycles to Fail</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>&lt; 100</td>
</tr>
<tr>
<td>1</td>
<td>≥ 100</td>
</tr>
<tr>
<td>2</td>
<td>≥ 500</td>
</tr>
<tr>
<td>3</td>
<td>≥ 1000</td>
</tr>
</tbody>
</table>

LEVEL (TESTED AT 1000G LOAD)

<table>
<thead>
<tr>
<th>Abrasion Resistance</th>
<th>Abrasion Cycles to Fail</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>≥ 3000</td>
</tr>
<tr>
<td>5</td>
<td>≥ 10000</td>
</tr>
<tr>
<td>6</td>
<td>≥ 20000</td>
</tr>
</tbody>
</table>

Note: When tested in accordance with ASTM D3389-05.


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Leather Glove Information

**CUFF STYLES**

**Knit Wrist**
Seamless, stretchable rib knit is sewn onto glove to provide a comfortable, secure fit. Fits under clothing sleeves to keep cold air out.

**Safety**
Protects wrist and allows easy movement and removal of glove in emergency situations.

**Gauntlet**
Extended cuff provides greater protection of wrist and forearm.

**Slip-On**
Constructed without a cuff, these gloves slip on and off easily. Material extends over the wrist. Primarily used in a driver’s, mechanic’s, or general purpose gloves.

**THUMB STYLES**

**Keystone**
Specially designed 1-piece, inset thumb is double-sewn and has double thickness at this critical wear point. This construction provides extra comfort and allows extra wear.

**Wing**
Mirrors the natural shape of the hand and offers comfortable gripping and free thumb movement. Provides extended wear. The thumb pattern is easily identified: when the glove is laid flat, the thumb should extend to the side.

**Straight**
Cut as 1 piece with the palm, the thumb extends straight from the wrist. This style uses less material than the similar Wing thumb, reducing the cost of the glove.

**Gunn**
Seamless on back for greater comfort; the palm side of the middle 2 fingers is a separate glove pattern and is sewn into the palm at the base of the middle 2 fingers. In leather styles, the seam is reinforced with a welt increasing gloves’ durability and wear life.

**Clute**
Seamless palm made from a continuous piece of leather means greater ease of movement, comfortable gripping, and a roomy fit. Back of glove has parallel seams. Finger side seams are toward palm side of glove. Primarily used in fabric gloves and lightweight leathers.

**MATERIALS**

**Cowhide**
Excellent abrasion resistance, breathability, and thermal protection.

**Pigskin**
High abrasion resistance and heat protection. Material is flexible and won’t stiffen when wet. Suitable for jobs that are exposed to moisture.

**Goatskin**
Most abrasion resistance. Soft and pliable. Twice as durable as cowhide and pigskin materials. Suitable for jobs where optimal dexterity is important.

**Deerskin**
Features the highest tensile strength. Soft, flexible and long wearing. Suitable for jobs where optimal dexterity is important.

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Mechanic’s Glove Information

Choose from a variety of coating material and liner options.

**COATING MATERIALS:**

- **Polyurethane**
  Flexible, synthetic material helps protect hands from harmful residues and chemicals while providing grip and abrasion-resistance. Allows tactile sensitivity.

- **PVC**
  Synthetic thermoplastic polymer provides abrasion resistance, tactility, and dexterity combined with wet and dry grip. Ideal for applications where wear rates are moderate to high.

- **Nitrile**
  A synthetic rubber that resists snags, punctures, abrasions, and cuts. Nitrile is suitable for people with latex allergies and provides resistance to petroleum, acids, and aromatic and chlorinated solvents.

- **Nitrile Foam**
  Absorbs oils better than standard nitrile coating and provides grip in oily or greasy applications. Bi-polymer. Combination of nitrile and polyurethane that provides durability, abrasion resistance, softness, and dexterity.

- **Natural Rubber/Latex**
  A natural material with elasticity that provides resistance to cuts, punctures, and slashes with a safe, secure grip.

**LINERS:**

- **Nylon**
  Lightweight lining provides high tensile strength and dexterity.

- **Knit**
  Standard weight lining allows hands to breathe for cool and comfortable extended-wear protection.

- **Bamboo**
  Lighter, softer, and more absorbent than cotton or other synthetic materials. Breathable material wicks moisture away from the skin. 100% natural bamboo knit shells are inherently strong, antibacterial, biodegradable, and provides UV protection.

Gloves are available in a variety of styles to meet the demands of a broad range of applications. Choose gloves with single-layer palms for general tasks, padded palms for impact resistance, or patch palms for additional wear and abrasion resistance. PVC-coated palms offer increased grip. Insulated styles are available for hot or cold applications.

**High-Visibility Mechanic’s Gloves**
Bright colored mechanic’s gloves promote awareness and compliance.

**Abrasion-Resistant Mechanic’s Gloves**
Clarino® synthetic leather palms and PVC patches improve grip.

**Leather Mechanic’s Gloves**
Mechanic’s gloves made out of leather.

**Impact Mechanic’s Gloves**
Provide protection against impact and vibration. All brands feature synthetic leather padded palms, except Condor and Mechanix Wear® styles have Clarino® synthetic leather palms for excellent durability. All styles have hook and loop closure.

**Extrication Gloves**
Feature synthetic leather, sewn with Kevlar®, Armorex® patches on top and bottom, and gel-padded palm patches. Elastic wrist.

**Abrasion-Resistant Extrication Gloves**
Feature synthetic leather, sewn with Kevlar®, Armorex® patches on top and bottom, and gel-padded palm patches. Elastic wrist.

**Box-Handling Gloves**
Mechanic’s gloves designed for box-handling applications.

**Cold Conditions Gloves**
Mechanic’s gloves designed for colder climates.

**Natural Rubber/Latex**
A natural material with elasticity that provides resistance to cuts, punctures, and slashes with a safe, secure grip.

**Palm-Coated Glove and Liner Information**

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