

# ProGuard®

## How to choose proper chemical resistant gloves

- 1 identify the chemical you are working with.
- 2 consult the Material Safety Data Sheet (MSDS) on the chemical.
- 3 check the chemical resistance guide for gloves.
- 4 determine the physical factors involved in the glove application:
  - dexterity and flexibility
  - resistance to puncture and snags
  - abrasion resistance
- 5 determine the needed glove length.
- 6 test glove.

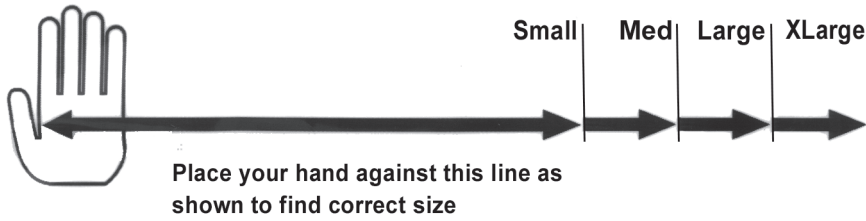
## Glove Millage Thickness

Due to manufacturing processes and industry standards, the actual millage of a glove can vary up to 10 % +/-.

## How to size chemical resistant gloves

Proper fitting gloves are important. Gloves too large are uncomfortable, hard to use and can be hazardous. Gloves too small are binding and cause hand fatigue. To determine size, place widest part of hand on size lines.

### Size Guide



### Glove size chart

|            |        |            |             |
|------------|--------|------------|-------------|
| hand size  | 7 - 8" | 8-1/2 - 9" | 9-1/2 - 10" |
| glove size | S      | M          | L           |

## Factors that can adversely affect the life of chemical resistant gloves

- permeation - rate at which a chemical passes through the glove material.
- breakthrough - the elapsed time from initial chemical contact on the glove surface to actual detection of chemical in the inside of the glove.
- degradation - change in glove properties due to chemical contact.  
Swelling, softening, hardening, drying and other undesirable effects are some examples of degradation.

## Physical performance chart for unsupported gloves

|                          | latex | nitrile | neoprene |
|--------------------------|-------|---------|----------|
| abrasion resistance      | E     | G       | G        |
| elongation - flexibility | G     | E       | E        |
| heat resistance          | E     | F       | E        |
| tear resistance          | G     | G       | G        |
| tensile strength         | E     | E       | E        |
| puncture resistance      | F     | E       | P        |

key      P = poor    F = fair      G = good      E = excellent

## Latex Allergen Information

**LATEX GLOVE CAUTION STATEMENT:** This statement appears on the packaging of all latex gloves.

**CAUTION:** This product contains natural rubber latex which may cause allergic reactions. Users with a known sensitivity to rubber or latex products should avoid contact. IF YOU EXPERIENCE A REACTION TO THIS PRODUCT, DISCONTINUE USE AND SEEK MEDICAL ATTENTION. Reactions may include such phenomena as watery eyes; wheezing, hives, a rash, welts, redness, dryness, tingling or other skin irritations; hay fever-like symptoms such as sneezing, runny nose, itching throat or nose; or, tightness of the chest.



This symbol appears on the packaging of glove styles that contain no latex. These gloves are 100% latex free. This symbol is shown throughout the glove section.

Work Glove Application Chart

|                                   | metal stamping | brick & block handling | warehouse | iron/steel work | assembly | pip fitting | foundry work | forklift operations | lumber handling | inspection | food precessing |
|-----------------------------------|----------------|------------------------|-----------|-----------------|----------|-------------|--------------|---------------------|-----------------|------------|-----------------|
| 8800 / 8810<br>cotton canvas      |                |                        | ●         |                 | ●        |             |              | ●                   | ●               |            |                 |
| 8825<br>brown jersey              |                | ●                      | ●         |                 | ●        | ●           |              | ●                   | ●               |            |                 |
| 8830<br>ferry cloth               | ●              |                        |           | ●               |          | ●           | ●            |                     |                 |            |                 |
| 8874 / 8875 / 8877<br>string knit |                |                        | ●         |                 | ●        |             |              | ●                   | ●               |            | ●               |
| 8090<br>inspectors'               |                |                        |           |                 |          |             |              |                     |                 | ●          | ●               |
| 8070<br>double leather palm       | ●              | ●                      |           | ●               |          | ●           |              |                     | ●               |            |                 |
| 8062 / 8050<br>leather palm       | ●              | ●                      | ●         | ●               |          | ●           |              | ●                   | ●               |            |                 |
| 8025<br>leather palm knit wrist   | ●              | ●                      | ●         | ●               | ●        |             |              | ●                   | ●               |            |                 |
| 8060<br>grain leather drivers'    |                |                        | ●         | ●               | ●        |             |              | ●                   | ●               |            |                 |
| 8850<br>cotton canvas w/dots      |                | ●                      | ●         |                 | ●        |             |              | ●                   | ●               |            |                 |
| 8890 / 8891<br>string knit w/dots |                |                        | ●         |                 | ●        |             |              | ●                   |                 |            |                 |
| 8894<br>rubber coated             | ●              | ●                      |           | ●               |          |             |              |                     | ●               |            |                 |
| 8895<br>steel mesh                |                |                        |           | ●               |          |             |              |                     |                 |            | ●               |

cotton —●—      leather —●—      coated —●—      specialty —●—

Disposable Glove Removal

You must follow a safe procedure for glove removal, being careful that no pathogens from the soiled gloves contact your hands:

- with both hands gloved, peel one glove off from top to bottom and hold it in the gloved hand.
- with the exposed hand, peel the second glove from the inside, tucking the first glove inside the second.
- dispose of the entire bundle promptly.
- remove gloves when they become contaminated, damaged, or before leaving the work area.
- wash hands thoroughly.



## Chemical Resistant Chart

| chemical                     | latex | nitrile | neoprene | pvc |
|------------------------------|-------|---------|----------|-----|
| Acetaldehyde                 | F     | P       | E        | NR  |
| Acetic Acid                  | G     | G       | E        | F   |
| Acetone                      | G     | NR      | G        | NR  |
| Acetonitrile                 | F     | NR      | F        | NR  |
| Ammonium Hydroxide <30%*     | G     | E       | E        | E   |
| Amyl Acetate                 | F     | E       | NR       | P   |
| Amyl Alcohol                 | G     | G       | P        | NR  |
| Aniline                      | P     | NR      | G        | F   |
| Animal Fats                  | P     | E       | E        | G   |
| Battery Acids                | G     | E       | E        | E   |
| Benzaldehyde                 | F     | NR      | NR       | NR  |
| Benzene                      | NR    | P       | NR       | NR  |
| Benzol Chloride              | P     | NR      | NR       | NR  |
| Butane                       | P     | E       | F        | P   |
| Butyl Acetate                | P     | F       | NR       | NR  |
| Butyl Alcohol                | E     | P       | E        | G   |
| Butyl Cellulosolve*          | E     | E       | E        | NR  |
| Carbolic Acid                | P     | P       | E        | G   |
| Carbon Disulfide             | NR    | NR      | NR       | NR  |
| Carbon Tetrachloride         | NR    | G       | P        | NR  |
| Castor Oil                   | E     | E       | E        | E   |
| Cellosolve Acetate           | G     | G       | F        | NR  |
| Cellosolve Solvent           | E     | G       | E        | NR  |
| Chlorobenzene                | NR    | NR      | NR       | NR  |
| Chloroform                   | NR    | F       | F        | NR  |
| Chloronaphalens              | NR    | F       | NR       | NR  |
| Chlorothene VG               | NR    | F       | NR       | P   |
| Chromic Acid                 | NR    | F       | F        | G   |
| Citric Acid                  | E     | E       | E        | E   |
| Cottonseed Oil               | P     | E       | E        | G   |
| Creasol                      | P     | G       | G        | F   |
| Cutting Oil                  | F     | E       | E        | P   |
| Cyclohexane                  | P     | E       | F        | P   |
| Cyclohexanol                 | P     | E       | E        | G   |
| Dibutyl Phthalate            | P     | G       | F        | G   |
| Diethylamine                 | NR    | F       | P        | NR  |
| Di-Isobutyl Ketone           | P     | E       | P        | P   |
| Dimethyl Formamide (DMF)     | E     | NR      | G        | NR  |
| Dimethyl Sulfoxide (DMSO)    | E     | E       | E        | NR  |
| Diocetyl Phthalate (DOP)     | P     | G       | G        | NR  |
| Dioxane                      | F     | NR      | NR       | NR  |
| Ethyl Acetate                | P     | NR      | F        | NR  |
| Ethyl Alcohol                | E     | E       | E        | G   |
| Ethylene Dichloride          | P     | NR      | NR       | NR  |
| Ethylene Glycol              | E     | E       | E        | E   |
| Ethyl Ether                  | NR    | E       | E        | NR  |
| Ethylene Trichloride         | P     | P       | P        | NR  |
| Formaldehyde                 | E     | E       | E        | E   |
| Formic Acid                  | E     | F       | E        | E   |
| Freon                        | NR    | F       | G        | NR  |
| Furfural                     | E     | NR      | G        | NR  |
| Gasoline                     | NR    | E       | P        | P   |
| Glycerine                    | E     | E       | E        | E   |
| Hexane                       | NR    | E       | E        | NR  |
| Hydraulic Fluid Petro. Based | P     | E       | F        | G   |
| Hydraulic Fluid Ester Based  | P     | P       | P        | P   |
| Hydrazine 65%                | G     | E       | E        | E   |
| Hydrochloric Acid*           | G     | E       | E        | E   |
| Hydrofluoric Acid            | G     | E       | E        | E   |
| Hydrogen Peroxide            | E     | E       | E        | E   |
| Hydroquinone                 | G     | E       | E        | E   |
| Isobutyl Alcohol             | E     | E       | E        | F   |
| Iso-Octane                   | NR    | E       | E        | P   |
| Isopropyl Alcohol*           | E     | E       | E        | G   |
| Kerosene                     | P     | E       | E        | F   |
| Lactic Acid                  | E     | E       | E        | E   |
| Lauric Acid                  | G     | E       | E        | F   |
| Linoleic Acid                | P     | E       | E        | G   |
| Linseed Oil                  | P     | E       | E        | E   |
| Maleic Acid                  | P     | E       | E        | G   |
| Methyl Acetate               | P     | P       | G        | NR  |
| Methyl Alcohol               | E     | E       | E        | G   |
| Methylamine                  | E     | E       | G        | E   |
| Methylene Bromide            | NR    | NR      | NR       | NR  |
| Methylene Chloride           | NR    | NR      | NR       | NR  |
| Methyl Cellosolve            | P     | F       | E        | -   |
| Methyl Ethyl Ketone (MEK)    | G     | NR      | G        | NR  |

| chemical                    | latex | nitrile | neoprene | pvc |
|-----------------------------|-------|---------|----------|-----|
| Methylisobutyl Ketone       | F     | P       | NR       | NR  |
| Methyl Methacrylate         | P     | P       | NR       | NR  |
| Mineral Oil                 | P     | E       | E        | F   |
| Mineral Spirits             | NR    | E       | G        | F   |
| Monoethanolamine            | G     | E       | E        | E   |
| Morpholine                  | G     | NR      | P        | NR  |
| Muriatic Acids              | G     | G       | E        | G   |
| Naptha V.M & P.             | NR    | E       | G        | P   |
| Nitric Acid <30%            | G     | P       | E        | G   |
| Nitric Acid 70%             | F     | NR      | G        | F   |
| Nitric Acid Red Fuming      | P     | NR      | NR       | P   |
| Nitric Acid White Fuming    | P     | NR      | NR       | P   |
| Nitrobenzene                | P     | NR      | NR       | NR  |
| Nitromethane                | G     | F       | E        | P   |
| Nitropropane                | E     | NR      | G        | NR  |
| Octyl Alcohol               | G     | E       | E        | F   |
| Oleic Acid                  | P     | E       | E        | F   |
| Paint Remover               | F     | G       | G        | P   |
| Palmitic Acid               | G     | G       | E        | G   |
| Pentachlorophenol           | P     | E       | E        | F   |
| Pentane                     | P     | E       | E        | NR  |
| Perchloric Acid 60%         | P     | E       | E        | E   |
| Potassium Hydroxide <50%*   | E     | G       | E        | E   |
| Printing Ink                | G     | E       | G        | F   |
| Propyl Acetate              | P     | F       | P        | NR  |
| Propyl Alcohol              | E     | E       | E        | F   |
| Perchloroethylene           | NR    | G       | NR       | NR  |
| Phenol                      | G     | NR      | E        | G   |
| Phosphoric Acid*            | G     | E       | E        | G   |
| Picric Acid                 | G     | E       | E        | E   |
| Propylene Oxide             | P     | NR      | NR       | NR  |
| Rubber Solvent              | NR    | E       | G        | NR  |
| Sodium Hydroxide <50%       | E     | G       | E        | G   |
| Stoddard Solvent            | P     | E       | E        | NR  |
| Styrene*                    | NR    | NR      | NR       | NR  |
| Sulfuric Acid 95%           | NR    | NR      | F        | G   |
| Tannic Acid                 | E     | E       | E        | E   |
| Tetrahydrofuran (THF)       | NR    | NR      | NR       | NR  |
| Toluene                     | NR    | G       | P        | NR  |
| Toluene Di-Isocyanate (TDI) | P     | NR      | NR       | P   |
| Trichlorethylene (TCE)      | NR    | G       | P        | NR  |
| Tricresyl Phosphate (TCP)   | G     | E       | F        | F   |
| Triethanolamine 85% (TEA)   | G     | E       | E        | E   |
| Tung Oil                    | NR    | E       | E        | F   |
| Turbine Oil                 | P     | G       | E        | F   |
| Turpentine                  | P     | E       | G        | P   |
| Vegetable Oil               | P     | E       | E        | F   |
| Xylene                      | NR    | G       | P        | NR  |

\* basic chemicals used for cleaning.

| KEY       |                 |
|-----------|-----------------|
| <b>P</b>  | Poor            |
| <b>F</b>  | Fair            |
| <b>G</b>  | Good            |
| <b>E</b>  | Excellent       |
| <b>NR</b> | Not Recommended |

**Note:** This chemical resistance chart is presented as a guide only. This does not consider the permeability of gloves, chemical combinations, temperature, length of time that the glove is in contact with the chemical and thickness of the glove. These factors will alter or effect the performance of the glove. Actual on the job testing of gloves is recommended.

**Always read Material Safety Data Sheets before using any chemicals.**

**Latex** = made from natural rubber from rubber trees  
**Vinyl** = form of plastic (latex free)  
**Nitrile** = form of plastic, more puncture and chemical resistant