

# Safety Gloves Buyers Guide

CHEMICAL RESISTANT GLOVES

CUT RESISTANT GLOVES

CUT RESISTANT SLEEVES

Chemmesol®  
Lakeland  
2427F 10  
Natural Rubber  
Neoprene  
FDA Accepted Materials

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Lakeland  
2427F 10  
Natural Rubber  
Neoprene  
FDA Accepted Materials

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## NITROSOL® NITRILE

### Outstanding Chemical Resistance:

Provides protection both physical and chemical when exposed to solvents... petroleum, aromatic, caustics and fatty acids in food service applications.

### Outstanding Physical Properties:

Excellent snag, puncture, abrasion and cut resistance. Case hardened to increase wear and chemical resistance.

### Sandpatch and Diamond Finishes:

Easier and safe handling of wet objects. Diamond pattern for superior wet grip.

### Widest Selection of Styles:

Choose from unlined or flocklined in various mil thicknesses and various lengths.



### FINISH OPTIONS



01- Raised Diamond Finish



02- Sand patch Finish



Flocklined

### AVAILABLE STYLES

Style	Description	Length	Sizes	Style	Description	Length	Sizes
7311	11 Mil, Unlined	13"	7-11	7315F	15 Mil, Flocklined	13"	7-11
7315	15 Mil, Unlined	13"	7-11	7319F	19 Mil, Flocklined	13"	7-11
7322	22 Mil, Unlined	15"	8-11	7326F	26 Mil, Flocklined	15"	8-11
7322L	22 Mil, Unlined	18"	8-11	7326LF	26 Mil, Flocklined	18"	8-11

This glove is made with materials acceptable for use in Food and Pharmaceutical applications. Components and materials comply with FDA regulations for food contact.



### APPLICATIONS

- Janitorial
- Degreasing
- Electronics
- Photo finishing
- Petrochemicals
- Refining
- Handling solvents, alcohols, acids and caustics

NEOSOL®

NEOPRENE

**Wide Spectrum Chemical Protection:**

Resists a broad range of chemicals. Acid, caustic, oil and solvent resistant.

**Improved Physical Properties:**

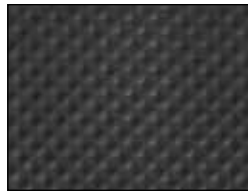
Gloves are case hardened increasing wear, abrasion resistance and chemical resistance over other ordinary neoprene gloves.

**Creature Comfort:**

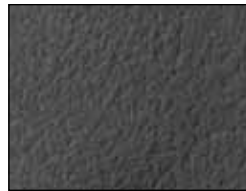
Contoured palm and ergonomically designed curved fingers make for a soft, comfortable fit.



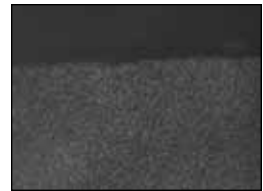
**FINISH OPTIONS**



01- Raised Diamond Finish



02- Sand patch Finish



Flocklined

**AVAILABLE STYLES**

Style	Description	Length	Sizes
9217	17 Mil, Unlined	13"	7-11
9218F	18 Mil, Flocklined	13"	7-11

*This glove is made with materials acceptable for use in Food and Pharmaceutical applications. Components and materials comply with FDA regulations for food contact.*



**APPLICATIONS**

- Printing: clean up, graphics arts
- Electronics: handling of printed circuit boards, semiconductor
- General Manufacturing: fabrication, cutting oils, caustics, dip tanks
- Aerospace: cleaning solvents, engine fan blades, metal fabrication
- Auto Industry
- Chemical Processing Industry
- Glass Manufacturing
- Janitorial



**NATRASOL® NATURAL RUBBER**

**Outstanding Chemical Resistance:**

Provides protection against caustics, detergents, acids, alcohols and many ketones.

**Physical Properties:**

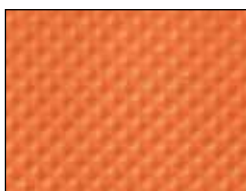
Case hardened for greater abrasion and chemical resistance than other ordinary natural rubber gloves

**Creature Comforts:**

- Contoured palm and ergonomically designed curved fingers for a soft comfortable fit.
- Soft flock lining which absorbs perspiration and feels comfortable while exposed to solvents.
- Various finishes for improved wet grip.



**FINISH OPTIONS**



01- Raised Diamond Finish



02- Sand patch Finish



Flocklined

**AVAILABLE STYLES**

Style	Description	Length	Sizes
6217	17 Mil, Unlined	13"	7-11
6218F	18 Mil, Flocklined	13"	7-11

*This glove is made with materials acceptable for use in Food and Pharmaceutical applications. Components and materials comply with FDA regulations for food contact.*



**APPLICATIONS**

- Electronics and Semi-conductor Industry
- Food Processing
- Tank Cleaning
- Handling acids, ketones, alkalies, caustics, epoxies
- Light assembly

**CHEMESOL®**

**NEOPRENE NATURAL RUBBER**

**Unique Process:**

Our 2 dip process allows for a blend of neoprene and natural rubber over natural rubber, increasing the level of protection in a broad range of chemicals.

**Versatility:**

Provides a level of versatile chemical resistance compared to conventional single dipped gloves.

**Longer Length:**

13" length is longer than most other gloves for added protection.

**Economical:**

An economical option- cost savings idea over other types of chemical resistant gloves.

**Creature Comforts:**

Contoured palm and ergonomically designed curved fingers for a soft, comfortable fit.

**Flock Lined:**

Soft flock lining absorbs perspiration and feels comfortable while exposed to solvents.

**Get a Grip:**

Raised diamond pattern provides a better grip while handling wet or dry areas.



**FINISH OPTIONS**



01- Raised Diamond Finish



Flocklined

**AVAILABLE STYLES**

Style	Description	Length	Sizes
2427F	Blue/yellow, 27 Mil Flocklined, raised diamond finish	13"	7-11



**APPLICATIONS**

- Pesticide Manufacturing
- Janitorial
- Chemical Processing
- Light Assembly
- Food Service



**Disposable** **DISPOSABLE GLOVES**

**For light duty applications requiring superior dexterity and touch.**

Lakeland disposable gloves come in 3 material types to meet a variety of needs. Nitrile, Natural Rubber (Latex) and Vinyl. All materials are available in lightly powdered and powder free versions.

**Features**

- Textured grip finger tips for better grip

*Convenient dispenser box for easy access. 100 ambidextrous gloves in each dispenser box.*

**Components and materials comply with FDA regulations for food contact.**

**APPLICATIONS**

- Manufacturing
- Light duty maintenance and cleanup
- Small parts handling
- Laboratory use
- Automotive

**AVAILABLE STYLES**

Style	Description	Sizes
8008	Disposable vinyl gloves, lightly powdered	S-XL
8008PF	Disposable vinyl gloves, powder free	S-XL
8204	Disposable latex gloves, lightly powdered, 4 mil	S-XL
8204PF	Disposable latex gloves, powder free, 4 mil	S-XL
8304	Disposable Nitrile gloves, lightly powdered, 4 mil	S-XL
8304PF	Disposable Nitrile gloves, powder free, 4 mil	S-XL



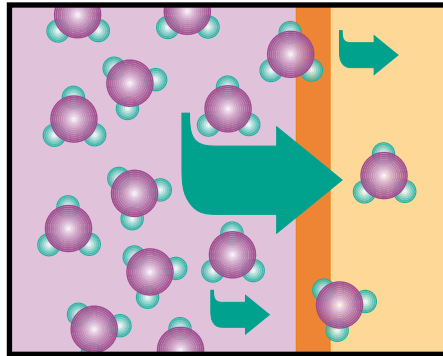
8008



8204



8304



*Permeation can occur with no visible effects. Chemical molecules can enter the glove and leave on the other side.*

**UNDERSTANDING THE EFFECTS HAZARDOUS CHEMICALS CAN HAVE ON PROTECTIVE GLOVES**

Hazardous chemicals can degradate and/or permeate glove materials. Here's the difference...

■ **Degradation** occurs when one or more physical properties of a glove is reduced due to its contact with a chemical. The glove could get harder, stiffer, brittle or softer and weaker. It might also swell to several times its original size.

■ **Permeation** can occur with no visible effect on a glove product. Molecules of the chemical can enter the glove, pass between the film molecules, and leave on the other side.

■ In considering gloves for a specific application involving chemicals, both permeation and degradation testing should be conducted. Remember, a glove may have acceptable degradation resistance to a chemical, yet may not be suitable for the application because of poor permeability. This means workers can be exposed to a chemical, even though the glove may show no visible effects.

**TESTS CONDUCTED IN A CONTROLLED LABORATORY MAY CARRY FROM ACTUAL WORKPLACE CONDITIONS. YOU MUST CONDUCT YOUR OWN EVALUATIONS TO DETERMINE HOW YOUR PARTICULAR APPLICATIONS AND CONDITIONS MAY EFFECT A GLOVE'S DEGRADATION AND PERMEATION RESISTANCE.**



**CHEMICAL GLOVES PERMEATION GUIDE**

- For each product, there is a corresponding chemical with data that covers; (1) its overall rating for degradation resistance; (2) the time of permeation breakthrough; (3) the rate or permeation, and (4) its performance index number.
- When testing for breakthrough time, the shortest times observed, from the start of the test to the first detection of the chemical on the other side of the sample, were recorded. This data provides a basis for determining how long a glove can

be expected to provide the most effective resistance against a hazardous solvent.

- Permeation rates were determined by recording the highest flow rates, during a six-hour test period, for the permeating chemicals through the protective glove films. The ratings are qualitative and reflect the comparisons of permeation rates to each other.

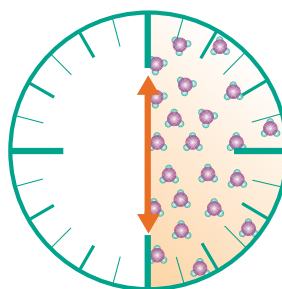
**KEY TO DEGRADATION RATINGS**

- E Excellent; fluid has very little degrading effect.
- G Good; fluid has minor degrading effect.
- F Fluid has moderate degrading effect.
- P Poor; fluid has pronounced degrading effect.
- NR Fluid is not recommended with this material.

*Note: Any test samples rate P (Poor) or NR (Not Recommended) in degradation testing were not tested for permeation resistance. A dash (-) appears in those cases.*

**KEY TO PERMEATION BREAKTHROUGHS**

- > Greater Than (time)
- < Less than (time)
- ND – None detected; no breakthrough in 6 hour test.



**KEY TO PERMEATION RATE**

- ND None detected during a 6-hour test
- MIN Minimal; permeation rate of less than 1.0 µg/cm<sup>2</sup>/min.
- VLow Very Low; permeation rate of 1.0 µg/cm<sup>2</sup>/min. to less than 10 µg/cm<sup>2</sup>/min.
- Low Low; permeation rate of 10 µg/cm<sup>2</sup>/min. to less than 100 µg/cm<sup>2</sup>/min.
- Mod Moderate; permeation rate of 100 µg/cm<sup>2</sup>/min. to less than 1,000 µg/cm<sup>2</sup>/min.
- High High; permeation rate of 1,000 µg/cm<sup>2</sup>/min. to less than 10,000 µg/cm<sup>2</sup>/min.
- VHigh Very High; permeation rate of 10,000 µg/cm<sup>2</sup>/min. and greater

**KEY TO PERFORMANCE INDEX NUMBERS**

- 0 The glove material is the most resistant for this specific chemical.
- 1 The glove material offers high resistance to this specific chemical.
- 2 The glove material is recommended for intermittent contact with this specific chemical.
- 3 The glove material is recommended for splash protection with careful control of its use with this specific chemical
- 4 The glove material is recommended for low-level exposure. Change gloves with each new exposure.
- 5 Not recommended.

*Note: The performance index numbers allow assessment of the relative performance of gloves against specific chemicals. The index used is based on that of Forsberg & Keith\*, and takes into consideration both breakthrough time and permeation rate.*

*\*Chemical Protective Clothing Performance Book, Forsberg & Keith, John Wiley and Sons, Inc.*

	NITROSOL				NEOSOL				NATRASOL				CHEMESOL			
	NITRILE NBR				NEOPRENE UNSUPPORTED				NATURAL RUBBER				NEOPRENE/ NATURAL RUBBER			
	Degradation Rating	Permeation Breakthrough	Permeation Rate	Performance Index #	Degradation Rating	Permeation Breakthrough	Permeation Rate	Performance Index #	Degradation Rating	Permeation Breakthrough	Permeation Rate	Performance Index #	Degradation Rating	Permeation Breakthrough	Permeation Rate	Performance Index #
1. Acetaldehyde	P	-	-	5	E	10 min.	High	5	E	7 min.	Mod	4	E	7 min.	Med	4
2. Acetic Acid, Glacial	G	4 ½ hr.	NA	NA	E	7 hr.	NA	NA	E	2 ¼ hr.	NA	NA	E	2 ¼ hr.	NA	NA
3. Acetone	NR	-	-	5	G	5 min.	Mod	4	E	10 min.	Mod	4	E	10 min.	Med	4
4. Acetonitrile	F	30 min.	Mod	3	E	30 min.	VLow	2	E	4 min.	VLow	3	E	5 min.	VLow	3
5. Ammonium Fluoride, 40%	E	ND	ND	0	E	ND	ND	0	E	ND	ND	0	E	ND	ND	0
6. Ammonium Hydroxide, Conc.	E	ND	ND	0	E	>6 hr.	ND	0	E	1 ¾ hr.	NA	NA	E	1 ¾ hr.	NA	NA
7. Aniline	NR	-	-	5	G	35 min.	VLow	2	G	30 min.	VLow	2	G	30 min.	VLow	2
8. Aqua Regia	F	ND	ND	0	G	45 min.	NA	NA	G	ND	ND	0	G	ND	ND	0
9. Benzaldehyde	NR	-	-	5	NR	-	-	5	F	14 min.	Low	4	F	14 min.	Low	4
10. Benzene	P	-	-	5	NR	-	-	5	NR	-	-	5	NR	-	-	5
11. Butyl Acetate	F	1 ¼ hr.	Mod	3	NR	-	-	5	P	-	-	5	P	-	-	5
12. Butyl Alcohol	E	ND	ND	0	E	4 hr.	VLow	1	E	15 min.	Low	3	E	15 min.	Low	3
13. Butyl Cellosolve®	E	1 ½ hr.	VLow	1	E	1 ½ hr.	VLow	1	E	45 min.	Low	3	E	50 min.	Low	3
14. Carbon Disulfide	G	30 min.	Mod	3	NR	-	-	5	NR	-	-	5	NR	-	-	5
15. Carbon Tetrachloride	G	2 ½ hr.	Low	2	NR	-	-	5	NR	-	-	5	NR	-	-	5
16. Cellosolve® Acetate	F	1 ½ hr.	Low	2	F	25 min.	Low	3	G	11 min.	Low	4	E	15 min.	Low	4
17. Cellosolve® Solvent	G	3 ½ hr.	Low	2	E	45 min.	Min	1	E	45 min.	Low	3	E	45 min.	Low	3
18. Chlorobenzene	NR	-	-	5	NR	-	-	5	NR	-	-	5	NR	-	-	5
19. Chloroform	NR	-	-	5	NR	-	-	5	NR	-	-	5	NR	-	-	5
20. Chloronapthalene	P	-	-	5	NR	-	-	5	NR	-	-	5	NR	-	-	5
21. Chromic Acid, 50%	F	4 hr.	NA	NA	NR	-	-	5	NR	-	-	5	NR	-	-	5
22. Citric Acid, 10%	E	ND	ND	0	E	ND	ND	0	E	ND	ND	0	E	ND	ND	0
23. Cyclohexanol	E	ND	ND	0	E	2 ½ hr.	VLow	1	E	15 min.	Low	3	E	15 min.	Low	3
24. Diacetone Alcohol	G	4 hr.	VLow	1	E	5 hr.	Min	0	E	20 min.	VLow	2	E	20 min.	Low	2
25. Dibutyl Phthalate	G	ND	ND	0	F	2 hr.	Min	1	G	17 min.	NA	NA	G	15 min.	NA	NA
26. Diethylamine	F	45 min.	Mod	3	P	-	-	5	NR	-	-	5	NR	-	-	5
27. Di-Isobutyl Ketone, DIBK	E	2 hr.	Mod	3	P	-	-	5	P	-	-	5	NR	-	-	5
28. Dimethyl Formamide, DMF	NR	-	-	5	G	10 min.	Low	4	E	30 min.	Mod	3	E	30 min.	Med	3
29. Dimethyl Sulfoxide, DMSO	E	>4 hr.	VLow	1	E	ND	ND	0	E	60 min.	VLow	1	E	60 min.	VLow	1
30. Dioctyl Phthalate, DOP	G	>6 hr.	ND	0	G	>6 hr.	Min	0	F	>6 hr.	Min	0	F	ND	Min	0
31. Dioxane	NR	-	-	5	NR	-	-	5	F	5 min.	Mod	4	F	5 min.	Mod	4
32. Ethyl Acetate	NR	-	-	5	F	15 min.	Low	3	G	5 min.	Low	4	G	5 min.	Low	4
33. Ethyl Alcohol	E	4 hr.	VLow	1	E	1 ½ hr.	VLow	1	E	30 min.	VLow	2	E	30 min.	VLow	2
34. Ethylene Dichloride	NR	-	-	5	NR	-	-	5	P	-	-	5	P	-	-	5
35. Ethylene Glycol	E	ND	ND	0	E	ND	ND	0	E	ND	ND	0	E	ND	ND	0
36. Ethyl Ether	E	2 hr.	Low	2	E	10 min.	Low	4	NR	-	-	5	NR	-	-	5
37. Formaldehyde	E	ND	ND	0	E	2hr.	Min	1	E	1 hr.	VLow	1	E	1 hr.	VLow	1
38. Formic Acid 90%	F	4 hr.	NA	NA	E	ND	ND	0	E	2 hr.	NA	NA	E	2 hr.	NA	NA
39. Freon® TMC	NA	10 min.	High	5	NA	3 min.	High	5	NA	3 min.	High	5	NA	-	-	-
40. Freon® TF	E	ND	ND	0	E	4 hr.	Min	0	NR	-	-	5	NA	-	-	-
41. Furfural	NR	-	-	5	G	20 min.	Low	3	E	15 min.	Low	3	E	15 min.	Low	3
42. Gasoline (White)	E	ND	ND	0	NR	-	-	5	NR	-	-	5	NR	-	-	5
43. Hexane	E	ND	ND	0	E	45 min.	Mod	3	NR	-	-	5	NR	-	-	5
44. Hydrazine 65%	E	ND	ND	0	E	ND	ND	0	G	ND	ND	0	G	ND	ND	0
45. Hydrochloric Acid, Conc.	E	ND	ND	0	E	ND	ND	0	G	>5 hr.	NA	NA	G	5 hr.	NA	NA
46. Hydrochloric Acid, 10%	E	ND	ND	0	E	ND	ND	0	E	ND	ND	0	F	ND	ND	0
47. Hydrofluoric Acid, 48%	E	2 hr.	NA	NA	E	1 hr.	NA	NA	G	3 ½ hr.	NA	NA	G	3.5 hr	NA	NA
48. Hydrogen Peroxide, 30%	E	ND	ND	0	E	5 min.	NA	NA	E	ND	ND	0	E	ND	ND	0
49. Hydroquinone, Saturated	E	ND	ND	0	E	ND	ND	0	G	ND	ND	0	G	ND	ND	0
50. Isobutyl Alcohol	E	ND	ND	0	E	10 min.	Min	3	E	25 min.	Low	3	E	25 min.	Low	3
51. Iso-Octane	E	6 hr.	VLow	0	E	1 hr.	Low	2	NR	-	-	5	NR	-	-	5
52. Isopropyl Alcohol	E	ND	ND	0	E	ND	ND	0	E	7 min.	Min	3	E	7 min.	Min	3

THIS DATA APPLIES ONLY TO GLOVES MANUFACTURED BY LAKELAND INDUSTRIES, INC.

Cellosolve® is a registered trademark of Union Carbide Corp., Freon® is a registered trademark of E. I. DuPont

Lakeland Industries, Inc. makes no guarantee of results and assumes no obligation or liability in regards to this information. Test data contained in this guide reflects laboratory performance and may not replicate conditions of end use. Anyone intending to use suggestions contained in this guide should first verify that the glove selected is suitable for the intended use and meets all appropriate health standards. Lakeland is glad to assist you in selecting the appropriate glove for your needs. Please call customer service at 1-800-645-9291. Note: NA = Data not available

	NITROSOL				NEOSOL				NATRASOL				CHEMESOL			
	NITRILE NBR				NEOPRENE UNSUPPORTED				NATURAL RUBBER				NEOPRENE/ NATURAL RUBBER			
	Degradation Rating	Permeation Breakthrough	Permeation Rate	Performance Index #	Degradation Rating	Permeation Breakthrough	Permeation Rate	Performance Index #	Degradation Rating	Permeation Breakthrough	Permeation Rate	Performance Index #	Degradation Rating	Permeation Breakthrough	Permeation Rate	Performance Index #
53. Kerosene	E	ND	ND	0	E	>6 hr.	MIn	0	F	30 min.	VLow	2	F	30 min.	VLow	2
54. Maleic Acid, Saturated	E	ND	ND	0	E	ND	ND	0	E	ND	ND	0	E	ND	ND	0
55. Methyl Alcohol	E	11 min.	Mod	4	E	1 hr.	Min	1	E	13 min	Min	3	E	15 min.	Min	3
56. Methylamine	E	ND	ND	0	G	4 1/2 hr.	Low	2	E	25 min.	Low	3	E	30 min.	Low	3
57. Methyl Cellusolve®	F	11 min.	Low	4	E	25 min.	Low	3	E	4 min	VLow	3	E	5 min.	VLow	3
58. Methylene Bromide	NR	-	-	5	NR	-	-	5	NR	-	-	5	NR	-	-	5
59. Methylene Chloride	NR	-	-	5	NR	-	-	5	NR	-	-	5	NR	-	-	5
60. Methyl Ethyl Ketone, MEK	NR	-	-	5	P	-	-	5	G	10 min.	High	5	G	10 min.	High	5
61. Methyl Isobutyl Ketone, MIBK	P	-	-	5	NR	-	-	5	F	6 min.	Mod	4	F	6 min.	Mod	4
62. Methyl Methacrylate	P	-	-	5	NR	-	-	5	P	-	-	5	P	-	-	5
63. Mineral Spirits, Rule 66	E	ND	ND	0	G	1 1/2 hr.	VLow	1	NR	-	-	5	NR	-	-	5
64. Monoethanolamine	E	ND	ND	0	E	ND	ND	0	E	3 1/2 hr.	VLow	1	E	3.5 hr.	VLow	1
65. Morpholine	NR	-	-	5	P	-	-	5	E	30 min.	VLow	2	E	30 min.	VLow	2
66. Naphtha VM & P	E	ND	ND	0	G	15 min	Mod	3	NR	-	-	5	NR	-	-	5
67. Nitric Acid, 10%	E	ND	ND	0	E	ND	ND	0	G	ND	ND	0	G	ND	ND	0
68. Nitric Acid, 70%	NR	-	-	5	G	2 1/3 hr.	NA	NA	NR	-	-	5	NR	-	-	5
69. Nitric Acid Red Fuming	NR	-	-	5	NR	-	-	5	P	-	-	5	NR	-	-	5
70. Nitrobenzene	NR	-	-	5	NR	-	-	5	F	5 min.	Low	4	F	5 min.	Low	4
71. Nitromethane 95.5%	F	30 min.	Mod	3	E	1 hr.	VLow	1	E	4 min.	Min	3	E	5 min.	Low	3
72. Nitropropane 95.5%	NR	-	-	5	G	5 min.	Mod	4	E	5 min.	Low	4	E	5 min.	Low	4
73. Octyl Alcohol	E	ND	ND	0	E	7 hr.	Min	0	E	1 hr.	Min	1	E	1 hr.	Low	1
74. Oleic Acid	E	ND	ND	0	E	1 hr	VLow	1	F	30 min.	VLow	2	F	30 min.	VLow	2
75. Oxalic Acid, Saturated	E	ND	ND	0	E	ND	ND	0	E	ND	ND	0	E	ND	ND	0
76. Pentachlorophenol	E	ND	ND	0	E	6 min	Min	3	NR	-	-	5	NR	-	-	5
77. Pentane	E	ND	ND	0	E	30 min.	Mod	3	P	-	-	5	P	-	-	5
78. Perchloric Acid, 60%	E	ND	ND	0	E	ND	ND	0	F	ND	ND	0	F	ND	ND	0
79. Perchloroethylene	G	5 hr.	VLow	1	NR	-	-	5	NR	-	-	5	NR	-	-	5
80. Phenol	NR	-	-	5	E	3 hr	Low	2	E	1 hr.	Low	2	E	1 hr.	Low	2
81. Phosphoric Acid, Conc.	E	ND	ND	0	E	ND	ND	0	G	ND	ND	0	G	ND	ND	0
82. Picric Acid, Sat/ETOH	E	2 2/3 hr.	VLow	1	E	2 1/2 hr.	VLow	1	G	3 min.	VLow	3	G	3 min.	VLow	3
83. Potassium Hydroxide KOH 50%	E	ND	ND	0	E	ND	ND	0	E	ND	ND	0	E	ND	ND	0
84. Propyl Acetate	F	20 min.	LOW	3	P	-	-	5	F	5 min.	Mod	4	P	-	-	5
85. Propyl Alcohol	E	ND	ND	0	E	2 1/2 hr.	Min	1	E	20 min.	VLow	2	E	20 min.	VLow	2
86. Propylene Oxide	NR	-	-	5	NR	-	-	5	P	-	-	5	P	-	-	5
87. Pyridine	NR	-	-	5	NR	-	-	5	F	5 min.	Mod	4	P	-	-	5
88. Rubber Solvent	E	ND	ND	0	G	30 min.	Low	3	NR	-	-	5	NR	-	-	5
89. Silicon Etch	NR	-	-	5	G	ND	ND	0	NR	-	-	5	P	-	-	5
90. Sodium Hydroxide NaOH 50%	E	ND	ND	0	E	ND	ND	0	E	ND	ND	0	E	ND	ND	0
91. Stoddard Solvent	E	ND	ND	0	E	3 hr.	VLow	1	NR	-	-	5	NR	-	-	5
92. Styrene	NR	-	-	5	NR	-	-	5	NR	-	-	5	NR	-	-	5
93. Sulfuric Acid, 95%	NR	-	-	5	F	3 hr.	NA	NA	NR	-	-	5	NR	-	-	5
94. Tetrahydrofuran, THF	NR	-	-	5	NR	-	-	5	NR	-	-	5	NR	-	-	5
95. Toluene	F	10 min.	Mod	4	NR	-	-	5	NR	-	-	5	NR	-	-	5
96. Toluene Di-Isocyanate, TDI	NR	-	-	5	NR	-	-	5	F	7 min.	Low	4	F	7 min.	Low	4
97. 1,1,1, - Trichloroethane	F	1 1/2 hr.	High	4	NR	-	-	5	NR	-	-	5	NR	-	-	5
98. Trichloroethylene, TCE	NR	-	-	5	NR	-	-	5	NR	-	-	5	NE	-	-	5
99. Tricresyl Phosphate, TCP	E	ND	ND	0	F	ND	ND	0	E	45 min.	Min	2	E	45 min.	Low	2
100. Triethanolamine 85%, TEA	E	ND	ND	0	E	ND	ND	0	G	1 hr.	Min	1	G	1 hr.	Low	1
101. Turpentine	E	30 min.	Min	2	NR	-	-	5	NR	-	-	5	NR	-	-	5
102. Xylene	G	1 1/4 hr.	Mod	3	NR	-	-	5	NR	-	-	5	NR	-	-	5

THIS DATA APPLIES ONLY TO GLOVES MANUFACTURED BY LAKELAND INDUSTRIES, INC.

IMPORTANT NOTE: Chemicals highlighted in yellow are experimental or suspected carcinogens according to the seventh addition of: Dangerous Properties of Industrial Materials, Sax and Lewis.

Note: NA = Data not available

## SpiderGrip®

## CUT RESISTANT GLOVES

**Job fitted for applications where dexterity, flexibility and comfort are desired!**

SpiderGrip® gloves will make slips a thing of the past! SpiderGrip® crinkle dip latex gloves have a textured palm to provide an excellent grip. The palm of the glove is liquid repellent, while the back provides excellent breathability to keep hands cool while on the job.

### Features

- Seamless Design
- Puncture resistant
- Ergonomic fit
- Long Wearing



### APPLICATIONS

- Light to medium fabrication
- Parts handling
- General warehousing
- Maintenance
- Corrugated Manufacturing
- General purpose handling where light liquids or oils are present

### AVAILABLE STYLES

Style	Description	Sizes
7-1506	Spidergrip® Polyester cotton latex dipped glove	S-XL
7-1301	Spidergrip® Plus, heavyweight acrylic latex dipped glove	S-XL
7-2506	SpriderGrip® lightweight polyester latex dipped glove	S-XL



7-1506



7-1301



7- 2506



**SpiderGrip® CUT RESISTANT GLOVES**

**For when the job calls for that extra level of cut and puncture protection!**

Knitted with either Kevlar® or High Performance Polyethylene (HPPE) these styles offer the same comfort, breathability and dexterity as our standard SpiderGrip® gloves BUT with the added protection of high performance fibers.

**Features**

- Seamless Design
- Ergonomic Fit
- Long Wearing
- Super Cut and Puncture Protection

**APPLICATIONS**

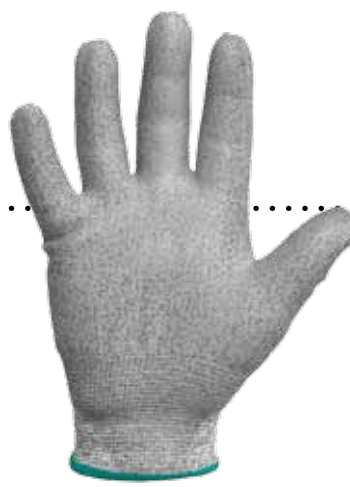
- Glass Handling
- Bottling
- Canning
- Sheet Metal
- Automotive
- Fabrication

**AVAILABLE STYLES**

Style	Description	Sizes
22-1507	SpiderGrip® KV Kevlar® knit Nitrile dipped glove	S-XL
96-5202	SpiderGrip® HPPE, HPPE polyurethane dipped glove	S-XL



22-1507



96-5202

## SpiderGrip®

## CUT RESISTANT GLOVES

### For Comfort and functionality in those lighter Duty Jobs!

Knitted with a lightweight polyester liner these styles provide the maximum in comfort and breathability for those light duty jobs.

#### Features

- Seamless Liner
- Ergonomic Fit
- Superior Breathability (open back)
- Comfort! Comfort! Comfort!



#### APPLICATIONS

- Light Fabrication
- Material Handling
- Automotive
- Small Parts Assembly

#### AVAILABLE STYLES

Style	Description	Sizes
7-2103	SpiderGrip® white polyester grey Nitrile dipped glove	S-XL
7-2205	SpiderGrip® black polyester Nitrile foam dipped glove	S-XL
7-2201	SpiderGrip® white polyester grey Nitrile foam dipped glove	S-XL



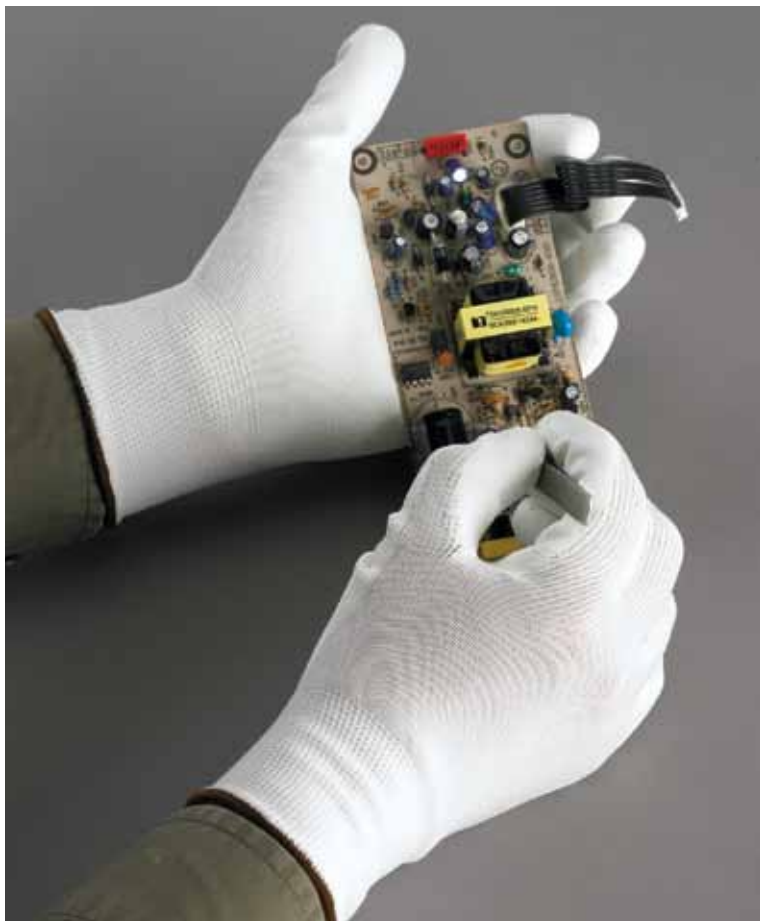
7-2103



7-2205



7-2201



**SpiderGrip® CUT RESISTANT GLOVES**

**When Dexterity Matters!**

For the handling of those small parts nothing beats a Polyurethane coated polyester knit liner glove.

**Features**

- Non-linting Polyester Seamless Liner
- Ergonomic Fit
- Superior tactile feel and touch
- Comfort PLUS

**APPLICATIONS**

- Intricate Parts Assembly
- Inspection
- Electronics
- Automotive
- Material Handling
- Light Fabrication

**AVAILABLE STYLES**

Style	Description	Sizes
7-3101	Spider Grip® P/U white polyester polyurethane dipped glove	S-XL
7-3104	SpiderGrip® P/U black polyester polyurethane dipped glove	S-XL



7-3101



7-3104

## NITROGARD

## NITRILE COATED

### Coated Supported Gloves for General Purpose Use

#### Nitrile Coated Glove

- Nitrile Heavy Duty Coating
- High level of abrasion resistance when handling rough surfaced objects
- Snag, puncture and cut resistant
- Outstanding dry grip
- Resists grease oil and liquids

#### Creature Comfort

- Soft jersey lining provides greater comfort
- Ergonomically designed to maximize fit and comfort.
- Is a good replacement for brown jersey, cotton, and leather (lite, medium and heavy duty)



#### AVAILABLE STYLES

Style	Description	Sizes
7200	Palm coated knitwrist	7-11
7202	Fully coated knitwrist	7-11
7207	Palm coated safety cuff	7-11
7208	Fully coated safety cuff	7-11

#### APPLICATIONS

- Fabricated Building Materials
- Stone/Brick Manufacturing
- General Maintenance
- Glass Handling
- Petrochemicals
- Fabricated Metals
- Heavy duty Castings







**NITROGARD LITE**

**NITRILE COATED**

**Durable-Flexible Nitrile Coating for Medium Duty Applications**

**Nitrile Coated Glove**

- Good abrasion resistance for handling rough surfaced objects
- Snag, puncture and cut resistant
- Outstanding dry grip
- Resists grease oil and liquids
- All the benefits of NitroGard for less severe jobs

**Creature Comfort**

- Inter-lock liner with curved fingers offers excellent flexibility and dexterity
- Ergonomically designed to maximize fit and comfort.
- Cooler to wear



**AVAILABLE STYLES**

Style	Description	Sizes
7400	Palm coated knitwrist	7-11
7402	Fully coated knitwrist	7-11

**APPLICATIONS**

- Medium duty material handling
- Medium to light fabrication
- General warehousing



MicroGard®

ANTIMICROBIAL TREATMENT

**If you are in the food service industry, microbes are a serious concern. Don't let contaminants create a problem.**

Turn to MicroGard®, a new glove *treatment* from Lakeland Industries that protects food service workers from a variety of dangers. Available as gloves and arm guards, this innovative solution keeps contaminants away from your employees and food products.

How does it work? A special solution has been developed so that Lakeland Industries can add antimicrobial properties to the composite yarns. Microbes are killed instantly upon contact. Wearing these gloves, workers are protected from many hazards such as fungi, yeast, algae and bacteria. Like any Lakeland glove, MicroGard® is extremely durable. It can withstand numerous washing while maintaining its anti-microbial properties. Resistant to chlorines and detergents, this solution is so advanced; it passes the rigorous tests of the ASTM E2149-1 and AATCC Test Method 100.



**APPLICATIONS**

- Passes ASTM E2149
- Passes AATCC Test Method 100
- Microbes Are Killed Instantly
- Withstands Up to 40 Washings
- Ionically bonds to fibers to last the life of every fiber in the product.



*In this magnified view, the positively charged surface of MicroGard® attracts the negative charged bacteria. Due to the electrical attraction, the bacteria is drawn into the molecular spikes which puncture the bacteria membrane, killing it.*



Enhand-CR®

ANTIMICROBIAL

**Enhand-CR, Your FIRST line of defense!**

**Cut Resistance**

Highest level on ASTM F1790 standard

**Dexterity**

Excellent flexibility, feel and dexterity

**Launderable**

Withstands over 40 washings

**Cost**

More economical than lesser cut resistant gloves without antimicrobial features.

**Other design features**

Improve areas of premature wear through a patented design process

**Features**

- Passes ASTM E2149
- Passes AATCC Test Method 100
- Microbes Are Killed Instantly
- Withstands Up to 40 Washings
- Ionically bonds to fibers to last the life of every fiber in the product.

**AVAILABLE STYLES**

Style	Description	Cut Level*	Sizes
96-1745	Natural Enhand-CR Glove	5	S-XL
96-1754	Blue Enhand-CR Glove	5	S-XL

\*ANSI/ISEA 105-2005 Cut Performance Ratings based on ASTM F1790-97 testing protocols



**APPLICATIONS**

- For all food service industries, poultry, chicken or beef processing
- Passes ASTM E2149
- Passes AATCC Test Method 100
- Can be washed with bleach

**DextraGard®**

**CUT RESISTANT GLOVES**

**Spectra® gloves are pound for pound 10x stronger than steel!**

Lakeland's glove designers know that very sharp edges call for very tough gloves. That's why our DextraGard® line of protective gloves and sleeves uses Spectra® high performance fibers that provide superior cut and abrasion resistance to a large cross section of the food processing industry.

Lakeland's DextraGard® gloves are for applications that are routinely exposed to extremely sharp blades and edges. DextraGard® gloves fiber surface lets the sharp cutting edges roll over the surface of the glove preventing serious injury. Both industrial manufacturing and food processors prefer DextraGard® gloves for being rugged and highly resistant to cut, as well as being soft and comfortable. DextraGard® reduces hand fatigue that often accompanies repetitive gripping and flexing.

**Features**

- FDA approved
- Outstanding Cut Resistance
- Soft, Comfortable, Flexible-reduces hand fatigue
- Low Moisture absorption (<2%)
- Breathable
- Washable



**AVAILABLE STYLES**

Style	Description	Cut Level*	Sizes
9600	Heavyweight Spectra® Knit glove with MicroGard®	5	S-XL
9200	13 gauge Lightweight Spectra® Knit glove with MicroGard®	3	S-XL
9500	13 gauge stretch Spectra®	2	S-XL
98-1717	10 gauge Spectra® insulated glove	4	S-XL

**Sleeves – See details on page 24!**

9412	DextraGard®, 5 1/4" width	5	12"
9414	DextraGard®, 5 1/4" width	5	14"
9416	DextraGard®, 5 1/4" width	5	16"
9418	DextraGard®, 5 1/4" width	5	18"

Other styles available. Contact Customer Service for details.

\*ANSI/ISEA 105-2005 Cut Performance Ratings based on ASTM F1790-97 testing protocols

**APPLICATIONS**

- Fishing Industry
- Razor Blade Manufacturing
- Food Processing
- Poultry Industry
- Meat Processing
- Boning
- Metal Handling
- Automotive
- Aerospace
- Plastic Extrusion
- Lumber and Paper
- Wire and Cable Industry
- HVAC Industry
- Glass



**ShurRite® CUT RESISTANT GLOVES**

**Modern Protective Armor!**

Lakeland ShurRite® safety gloves and sleeves made with DuPont® 100% Kevlar® aramid fiber provide excellent cut resistance for hand and arm protection products. ShurRite® offers outstanding cut resistance combined with intermittent heat resistance without affecting their wearers manual dexterity. These tough gloves and sleeves will outlast cotton, leather and coated gloves many times over. They greatly reduce potential injuries to workers hands and contribute to reducing accident claims and insurance costs. Available in various grip-enhancing coatings and patterns.

And, where additional protection from heat is required, ShurRite® Kevlar® Terry gloves are the answer. The terry loop construction provides a cushion of air that insulates against high temperature extremes, while Kevlar® adds the cut/slash protection.

**Features**

- Cut Resistant
- Heat Resistant
- Chemical Resistant (organic solvents; diluted acids)
- Lightweight
- Excellent dexterity and flexibility
- Breathable
- Washable

**AVAILABLE STYLES**



Style	Description	Cut Level*	Size
<b>ShurRite® Gloves</b>			
21-843	7 gauge 100% Kevlar® knit glove	2	S-L
21-290	7 Gauge 100% Kevlar Knit Glove, Heavyweight	4	S-XL
21-1634	7 gauge 100% Kevlar® knit glove, black PVC dots (2 sides)	2	S-XL
2200	13 gauge 100% Kevlar® knit glove	2	S-L
2300	100% Kevlar® Terry Seamless knit glove, drop cuff, loop in	3	S-L
<b>Sleeves - See page 24 for more sleeves and options!</b>			
41422	100% Kevlar®, 2 ply sleeve, 3" width	2	14"
41622	100% Kevlar®, 2 ply sleeve, 3" width	2	16"
41822	100% Kevlar®, 2 ply sleeve, 3" width	2	18"
42222	100% Kevlar®, 2 ply sleeve, 3" width	2	22"
42422	100% Kevlar®, 2 ply sleeve, 3" width	2	24"

\*ANSI/ISEA 105-2005 Cut Performance Ratings based on ASTM F1790-97 testing protocols

**APPLICATIONS**

- Metal Handling
- Automotive
- Aerospace
- Assembly
- Lumber and Paper
- Office Furniture Manufacturing
- Heating and Air Conditioning
- Manufacturing
- Wire and Cable Industries
- Glass Industry



## Blends

## CUT RESISTANT GLOVES

### Performance of Kevlar® with the economy of cotton!

Just as two heads are better than one, Lakeland's special blends of two or more yarns provide superior protection in the work place. Blends give a safety glove Kevlar®'s tough cut resistance and the flexible comfort and economics of cotton. The result is a rugged, low cost alternative to Kevlar® gloves.



### APPLICATIONS

- Fabricated Building Materials
- Stone/Brick Manufacturing
- General Maintenance
- Glass Handling
- Petrochemicals
- Fabricated Metals
- Heavy duty Castings



### AVAILABLE STYLES

Style	Description	Cut Level*	Sizes
26-516	7 gauge blended Kevlar® plated glove	2	S-XL
32100KCBKW	Kevlar® blended Terry loop-in glove	3	S-L

\*ANSI/ISEA 105-2005 Cut Performance Ratings based on ASTM F1790-97 testing protocols



**DESPRO® CUT RESISTANT GLOVES**

The DesPro® work gloves build protection exactly where it is needed. The balance of the glove is knitted utilizing a more economical cut resistant yarn where the protection is not as demanding. By using a combination of materials, the result is a product that protects yet costs less. DesPro® work gloves can be made from any combination of yarns for any industry. From food services, to industrial, to warehouse, Lakeland can spec knit a glove that suits your needs. Before you place your next order for a more costly glove, try a DesPro® on for size. It just may be the fit you need for your company.

**Features**

- Single or multiple fingers
- Palm area
- Thumb crotch
- Heel
- Wrist
- Front or back

**APPLICATIONS**

- Medium duty material handling
- Medium to light fabrication
- General warehousing

**AVAILABLE STYLES**

Style	Description	Sizes
D6F9L	100% Spectra® and Nylon Glove	S-XL
D6F7L	100% Spectra® and Cotton Glove	S-XL
D6F8L	100% Kevlar® and Nylon Glove	S-XL
D6C5L	100% Kevlar® and Grey Cotton Glove	S-XL
8-0605	DesPro® Plus	N/ A



**Grapolator®**

**CUT RESISTANT GLOVES**

**Grapolator® Gloves.  
They don't come any tougher!**

This Lakeland line of extraordinary Grapolator® gloves and sleeves offers hand and arm protection to the max. Stainless steel wire core is combined with high-strength man-made fibers to give workers an extremely effective protective glove. These gloves provide super protection from cuts, and for all their "muscle", lose no comfort or manual dexterity properties. Grapolator® gloves can be washed in hot water and hot-air dried. Use the Grapolator® around sheet metal, knives, sharp plastic edges and glass. Grapolator® gloves and sleeves are available in black, gray or blue.

**Features**

- High resistance to cuts
- Comfortable and lightweight
- Exceptional wet strength
- Excellent resistance to ultraviolet radiation
- Reversible for longer wear



**AVAILABLE STYLES**

Style	Description	Cut Level*	Sizes
93-100	Grey, steel reinforced, 10.75", cut resistant	4	S-XL
93-120	Black, , steel reinforced, 10.75", cut resistant	4	S-XL
93-125	Blue, steel reinforced, 10.75", cut resistant	4	S-XL

**Sleeves**

93-473	Grapolator® sleeve, steel reinforced 4" wide	4	10"
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*\*ANSI/ISEA 105-2005 Cut Performance Ratings based on ASTM F1790-97 testing protocols*

**APPLICATIONS**

- Steel Industry
- Glass Handling
- Food Processing
- Fishing Industries
- Printing
- Textiles
- Mining
- Construction
- Sugar Cane Industry





**Thermbar® HEAT RESISTANT GLOVES**

**Too hot to Handle? Not with Thermbar®!**

Lakeland's heat protective gloves made with proprietary Thermbar® yarns are the best solutions for problems associated with intermittent handling of hot objects. Thermbar® protective gloves are used throughout the glass and automotive industries, and extensively by laboratory workers in all situations where high heat protection is required. Black in color, these gloves are available in a full line of sizes. They may be custom-knit for various levels of heat, and are produced with various high-performance materials, including combinations with Kevlar®.

**Features**

- Glass Manufacturers
- Auto Industry
- Laboratories

**AVAILABLE STYLES**

Style	Description	Sizes
6100R	100% Thermbar® knit glove	10"
6110	100% Thermbar® knit glove	9"
61-1158	100% Thermbar® SPOT WELD glove	



**APPLICATIONS**

- Metal Handling
- Automotive
- Aerospace
- Assembly
- Lumber and Paper
- Office Furniture Manufacturing
- Heating and Air Conditioning
- Manufacturing
- Wire and Cable Industries
- Glass Industry



## Sleeves

## PROTECT WHAT'S UP YOUR SLEEVE

Lakeland knows the importance of people's arms, and offers its high-tech, proven line of protective sleeves to customers with confidence. Our wide-bodied DextraGard® sleeves provide superior cut resistance and flexible comfort to industrial and food industry applications, sheet metal, HVAC, pulp and paper mills and fish/meat processors. These sleeves offer less than 2% moisture absorption, so after laundering they maintain their neat, hygienic appearance longer than other sleeves. Their breathability, washability and economical cost-to-wear ratio make them a popular choice.

Lakeland's line of black sleeves includes products ranging from 4" to 32" in length. They are available in various materials: eg. high strength man-made fibers combined with a stainless steel core (like Grapolator® gloves); Thermbar® for excellent heat resistance, lightness and dexterity; and black Kevlar® fabrics. All of our black sleeves are ideal in situations where messy applications create unsightly residues.

Where good abrasion and cut resistance, thermal properties and durability are required, Lakeland sleeves of Kevlar® are recommended. These sleeves come in standard 3" widths and wide-body 4 1/4" styles. The wide-bodies are more comfortable for workers that need a larger width sleeve or when the wearer has large arms. The sleeves are also available as combinations of outer Kevlar® with inner cotton, affording the best protection and comfort at an economical price.

Style	Description	Cut Level*	Sizes
<b>Kevlar® Sleeves</b>			
41022	100% Kevlar®, 2 ply sleeve, 3" width	2	10"
41222	100% Kevlar®, 2 ply sleeve, 3" width	2	12"
41422	100% Kevlar®, 2 ply sleeve, 3" width	2	14"
41622	100% Kevlar®, 2 ply sleeve, 3" width	2	16"
41822	100% Kevlar®, 2 ply sleeve, 3" width	2	18"
42222	100% Kevlar®, 2 ply sleeve, 3" width	2	22"
42422	100% Kevlar®, 2 ply sleeve, 3" width	2	24"
<b>DextraGard® Sleeves</b>			
9410	DextraGard®, 5 1/4" width	5	10"
9412	DextraGard®, 5 1/4" width	5	12"
9414	DextraGard®, 5 1/4" width	5	14"
9416	DextraGard®, 5 1/4" width	5	16"
9418	DextraGard®, 5 1/4" width	5	18"
<b>Grapolator® Sleeves</b>			
93-473	Grapolator® sleeve, steel reinforced 4" wide	4	10"

Other sleeve widths and lengths are available; call for details

\*ANSI/ISEA 105-2005 Cut Performance Ratings based on ASTM F1790-97 testing protocols

### **Terms and Conditions**

#### **Cash Terms**

Net 30 from date of shipment. Late charge of 1.5% monthly of any balance more than 30 days old.

#### **Freight**

Freight prepaid on order of \$2500.00 or greater to the same location. Combined shipments of gloves, disposables (limited use) and chemical protective products can be made for freight prepaid orders of \$2500. (If gloves are shipped as a separate order, freight prepaid would be for \$2500 or greater.)

#### **Broken Cases**

Lakeland Industries Inc. reserves the right to adjust quantities to match standard case packing. In the event orders do not meet standard case sizing a 15% broken case charge will be assessed.

#### **Non-Stock Products**

For products that are deemed non-stock or outside the standard product offering of Lakeland Industries Inc. Hand & Arm Protection a \$1500.00 minimum order quantity will apply.

#### **Return Goods Policy**

Goods may be returned to Lakeland due to defects in quality or workmanship only. Return requests must be made within 30 days of invoice date. Returns by written authorization only, and may be subject to a 20% restocking fee. All returns must be made through customer service, 1-800-645-9291.



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Lakeland is a member of the International Glove Association (IGA)

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Spectra® is a registered trademark of Honeywell Performance Fibers

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