
# HAND PROTECTION
# ANSI GLOVE STANDARDS

ANSI/ISEA 105 is a voluntary US standard that specifies test methods and provides performance ranges for many different properties including chemical resistance, cut resistance, puncture resistance and abrasion resistance.

# ANSI/ISEA CLASSIFICATIONS
# CUT RESISTANCE

| LEVEL | | | WEIGHT (GRAMS) | APPLICATIONS | EXAMPLES |
|---|---|---|---|---|---|
| CUT HAZARD | Light | ANSI A1 CUT | ≥ 200 | Maintenance, Material Handling, Small Parts Assembly, Warehouse |  **TUF-COR™ TOUCH** #6992 |
| | Light - Medium | ANSI A2 CUT | ≥ 500 | Assembly, Appliance Manufacturing, Auto Repair, Construction/Remodeling, Maintenance, Material Handling, Metal Fabrication |  **BLACK LABEL™ Red** #3705 |
| | | ANSI A3 CUT | ≥ 1000 | Assembly, Appliance Manufacturing, Auto Repair, Construction/Remodeling, Maintenance, Material Handling, Metal Fabrication |  **CALIBER™ TOUCH** #3716T |
| | Med - High | ANSI A4 CUT | ≥ 1500 | Aerospace, Appliance Manufacturing, Automotive, Construction/Remodeling, Glass Handling, HVAC, Machining, Metal Fabrication, Stamping, Paper/Pulp Production |  **MACHINIST™** #3734 |
| | | ANSI A5 CUT | ≥ 2200 | Aerospace, Appliance Manufacturing, Automotive, Bottling/Canning, Construction/Remodeling, Flooring Installation, Glass Handling, HVAC, Machining, Metal Fabrication, Stamping, Paper/Pulp Production |  **SABRE™** #3350 |
| | High | ANSI A6 CUT | ≥ 3000 | All of the Above Plus Meat Processing, Recycling, Window Manufacturing |  **POWER-COR™ ULTRA** #3051 |
| | High-Heavy | ANSI A7 CUT | ≥ 4000 | Automotive Demolition, High-Grip Applications, Sheet Metal Handling, Welding |  **COMMANDER™ FOAM** #3732F |
| | Heavy | ANSI A8 CUT | ≥ 5000 | Automotive Demolition, Heavy Equipment Maintenance, High-Grip Applications, Oil & Gas, Pulp & Saw Mills, Sheet Metal Handling, Welding | |
| | Extreme | ANSI A9 CUT | ≥ 6000 | Automotive Demolition, Heavy Equipment Maintenance, High-Grip Applications, Oil & Gas, Pulp & Saw Mills, Sheet Metal Handling, Welding | |

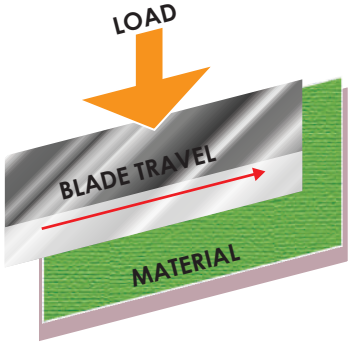


Fig 1. Testing for Cut Resistance with a Blade Under Load

**Cut Resistance (ANSI/ISEA 105):** To determine cut resistance, a test sample is cut by a straight-edge blade, under load, that moves along a straight path. The sample is cut five times, each under three different loads, and the data is used to determine the required load to cut through the test sample at a distance of 2mm (0.8 inches). Test scores are expressed in Levels and in the number of grams (load). The higher the number of grams, the more cut resistant the material.

ANSI/ISEA CLASSIFICATIONS

# ABRASION RESISTANCE

| LEVEL | | ABRASION RESISTANCE (CYCLES) | APPLICATIONS | EXAMPLES |
|---|---|---|---|---|
| Light | ANSI 1 ABR | 109-499 | Paper/Cardboard Cuts, Light Material Handling, Parts Assembly |  **CONTACT™ Foam Latex** #3991 |
| Light-Medium | ANSI 2 ABR | 500-999 | Paper/Cardboard Cuts, Light Material Handling, Parts Assembly |  **COR-GRIP PRO™ Crinkle Latex** #3986P |
| Medium | ANSI 3 ABR | 1,000-2,999 | Light Construction, Material Handling, Parts Assembly, Packaging |  **MACHINIST™ Nitrile Foam** #3734 |
| Medium-Heavy | ANSI 4 ABR | 3,000-9,999 | Construction, Light Metal Stamping, Light Glass Handling, Manufacturing |  **COMMANDER™ Foam** #3732F |
| Heavy | ANSI 5 ABR | 10,000-19,999 | Construction, Metal Stamping, Food Service, Glass Handling |  **THRESHOLD™** #3731 |
| Extreme | ANSI 6 ABR | 20,000+ | Oil & Gas, Mining, Heavy Duty Construction, Demolition, Manufacturing, Metal Fabrication |  **COMMANDER™ HV** #3732HV |

**Abrasion Resistance (ANSI/ISEA 105):** Abrasion Resistance is measured as number of rotations on a friction machine before abrasion occurs.

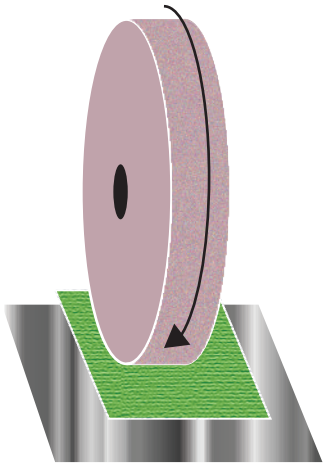

Fig 2. Testing for Abrasion on a Friction Machine

# ANSI/ISEA CLASSIFICATIONS
# PUNCTURE RESISTANCE

| LEVEL | | PUNCTURE RESISTANCE (NEWTONS) | APPLICATIONS | EXAMPLES |
|---|---|---|---|---|
| Light | ANSI 1 PUNC | 10-19 | Paper/Cardboard Cuts, Light Material Handling, Parts Assembly | |
| Light-Medium | ANSI 2 PUNC | 20-59 | Light Construction, Material Handling, Parts Assembly, Packaging |  **TACTYLE™** #6670 |
| Medium | ANSI 3 PUNC | 60-99 | Construction, Light Metal Stamping, Light Glass Handling, Manufacturing |  **COMMANDER™** #3732 |
| Medium-Heavy | ANSI 4 PUNC | 100-149 | Construction, Metal Stamping, Glass Handling, Recycling, Injection Molding |  **MACHINIST™ Sandy Nitrile** #3734TPR |
| Heavy | ANSI 5 PUNC | 150+ | Oil & Gas, Mining, Heavy Duty Construction, Demolition, Manufacturing, Metal Fabrication |  **iON™** #3702 |

**Puncture Resistance (ANSI/ISEA 105):** Puncture resistance is determined by the max force that it takes, exerted from a probe, to puncture the fabric.

# ANSI/ISEA CLASSIFICATIONS
# IMPACT PROTECTION

This standard specifically focuses on the back of the hand by measuring the dissipating impact from the knuckles and fingers.


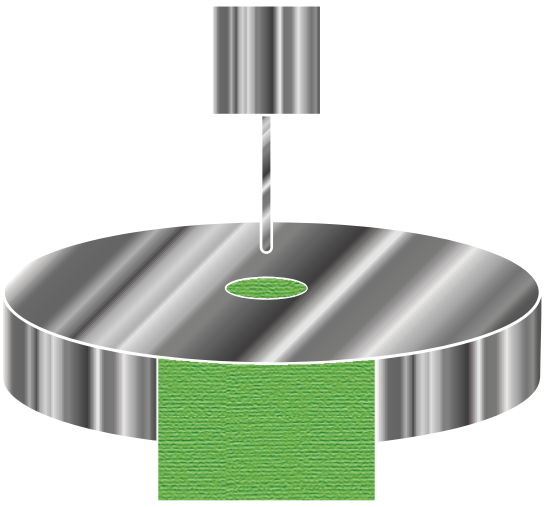

Fig 3. Testing for Puncture Resistance with a Probe

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