

ABRASION LEVELS

ANSI/ISEA 105 Abrasion testing identifies the performance characteristics of hand and arm protection products against abrasive contact. The testing standards measure how quickly a hole is formed, in PPE products such as gloves and sleeves, after repetitive contact with abrasive material. Another important aspect of this testing is that it provides a way of measuring the length of wear or how long a glove will last before it wears out. An ANSI/ISEA 105 Abrasion Performance Level of 6 indicates that a glove would potentially last twice as long as an ANSI/ISEA 105 Abrasion Level 5 glove. The result is classified on levels 0-6.

Overview of Hand and Arm Injuries



of all preventable work injuries are to the hands and arms



ANSI/ISEA 105-2023

Abrasion Testing Process



- 1** Material to be tested is placed on the rotating base.
- 2** Abrasive wheels are lowered to contact testing material.
- 3** Rotating base turns. The counter tracks how many times the base turns before contact is made through the material.
- 4** Test is performed with a silver 500 or 1000 gram weight load.

[Click to watch video](#)

Abrasion Levels

Testing Results

ABRASION LEVEL 1	100-499 cycles 500g load
ABRASION LEVEL 2	500-999 cycles 500g load
ABRASION LEVEL 3	1,000-2,999 cycles 500g load
ABRASION LEVEL 4	3,000-9,999 cycles 1,000g load
ABRASION LEVEL 5	10,000-19,999 cycles 1,000g load
ABRASION LEVEL 6	≥ 20,000 cycles 1,000g load

Abrasion Levels

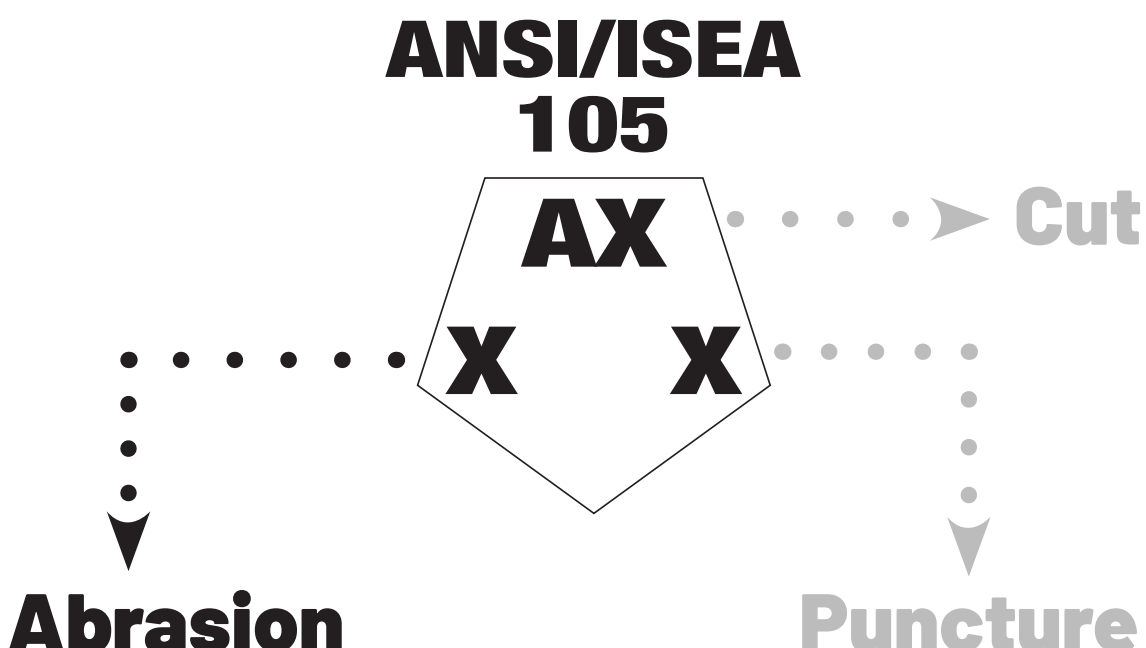
Common Industries

Common industries that may utilize the ANSI/ISEA 105 Abrasion levels are listed below. Keep in mind that these are not a complete list, but only examples of gloves and sleeves that may work for these applications. You should speak to a safety professional before purchasing PPE to identify appropriate hand and arm protection for the job.

- ABRASION LEVEL 1** Inspection, Painting, Food Processing
- ABRASION LEVEL 2** Electronic Assembly, Pharmaceutical Use
- ABRASION LEVEL 3** General Assembly, Small Parts Assembly, Automotive
- ABRASION LEVEL 4** Metal Fabrication, Carpentry, Construction
- ABRASION LEVEL 5** Landscaping, Brick, Stone Work, Warehouse, Mechanics
- ABRASION LEVEL 6** Oil and Gas, Heavy Equipment, Mining

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New Icon Designation



For more information please contact us.

GlobalGlove.com

Sales@GlobalGlove.com

763-450-0110

