

STANDARD

# EN 388:2016

European Standard for Protective Gloves Against Mechanical Risks



## ABRASION RESISTANT

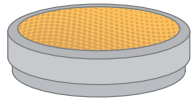
**EN 388:2016 establishes performance levels, testing and classification for fabric or layers of fabric for their ability to resist abrasion.**

The standard test use a Martindale Abrasion Tester to measure the number of cycles required to abrade through the sample glove over 180 grit abrasive material. The glove material, cut from the palm, is fitted to a rubbing head of fixed size and weight. This head is then moved in an elliptical motion over a table covered with abrasive material until a hole appears. Each rotation across the surface is considered a cycle. The total number of cycles completed before a hole is present creates the rating. These results are represented by levels 1 to 4, with 4 being the highest level of abrasion resistance. If a glove is made up of multiple unbonded layers, each layer is subjected to the test, and the level is based on the lowest individual result of the most resistant material.

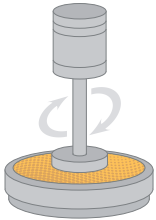
EN 388 <b>1</b>	≥ 100 Cycles <b>LIGHT</b>
EN 388 <b>2</b>	≥ 500 Cycles <b>MEDIUM</b>
EN 388 <b>3</b>	≥ 2000 Cycles <b>MEDIUM - HEAVY</b>
EN 388 <b>4</b>	≥ 8000 Cycles <b>HEAVY</b>




**Martindale Abrasion Tester**  
Using 180 grit abrasion material.



**Glove Material Sample**  
Sample taken from glove palm and secured to a rubbing head of a fixed size and weight.




**Rubbing Head**  
The rubbing head is then moved in an elliptical motion over a table covered with 180 grit abrasive material.



**Cycles**  
Each rotation across the surface is considered a cycle. The total number of cycles completed before a hole appears in the material creates the rating.

**EN 388:2016**

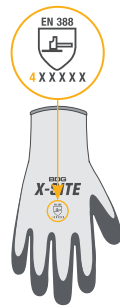
**ABRASION TEST METHOD:** EN 388  
Based on the number of cycles required to abrade through a sample glove when rotating a flat cylindrical surface over 180 grit abrasive material.



**4 X 4 4 D X**

**Abrasion Resistance** 0-4 Rating  
**Cut (Coup Test)** 0-5 Rating  
**Tear Resistance** 0-4 Rating  
**Puncture Resistance** 0-4 Rating  
**Cut (TDM Cut Test)** A-F Rating  
**Impact Protection** P/F/X  
Pass / Fail / X = Not Tested

When a glove is comprised of multiple unbonded layers, each layer is subjected to the test. The level is based on the lowest individual result of the most resistant material



**Abrasion Resistant Gloves**  
Test results are represented by levels 1 to 4, as depicted on the gloves.  
**Level 4** is the highest level of protection.

 Tests are verified by an accredited third party laboratory.