Using ANSI/ISEA105 Hand Safety Standards to Ensure Worker Safety

Overview

- Paper and packaging companies have recognized the need for higher levels of cut resistance and dexterity for workers using sharp tools and blades, prompting glove manufacturers to meet demand with new options.
- However, the ANSI/ISEA105 Cut standard is a voluntary standard
- Buyers must beware of false reporting
- HexArmor® has developed new technology with an innovatively engineered 13-gauge knit blend that truly meets ANSI/ISEA105 level A8 cut resistance, maximizing safety for your team.

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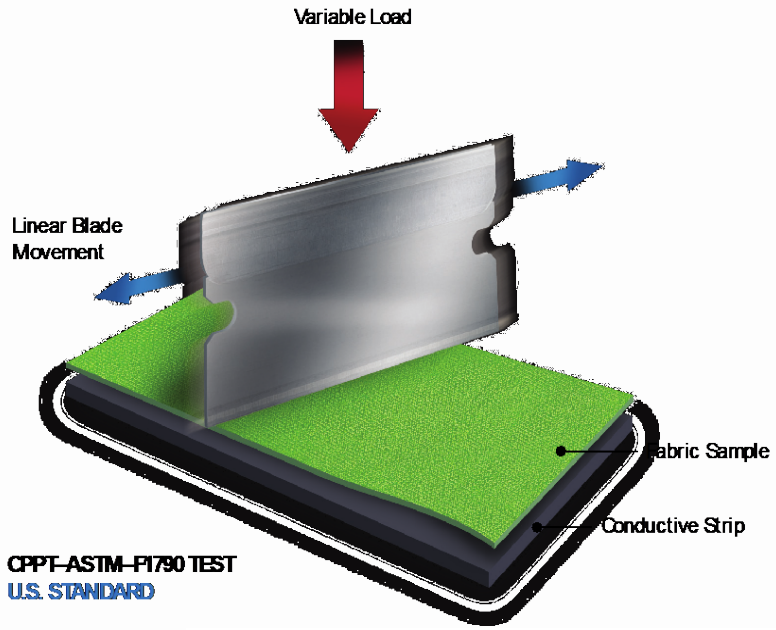
Organizations & Standards

ANSI 105-2016 Cut Standards Review

- One test method will mean more consistency
- Clear differentiation between the European and American cut standards
  - EN388 (CE) – A-F Scale
  - ANSI/ISEA 105 – A1-A9
- Less variance for high cut resistance PPE
  - The OLD Cut level 4 spans from 1500 grams to 3500 grams of cut resistance
- Levels for new technologies that far exceed cut 5

Cut Testing Explained

U.S. Standard: ASTM-F1790



How the Test Works

- ANSI/ISEA 105 uses a TDM machine that tests the amount of weight necessary for a blade to achieve cut-through of PPE material.
- All cuts are in the same direction and same length (20mm)
- After each cut, a new blade is used, and weight (in grams) is added until cut-through is achieved
- Cut-through measurements (weight + distance) are used to determine the gram score (weight required to achieve cut-

A1	A2 A3	A4 A5 A6	A7 A8 A9
Minimal Cut Hazards	Low Cut Hazards	Moderate Cut Hazards	High Cut Hazards
200 – 499 grams	500 – 1499 grams	1,500 - 3,999 grams	4000 - 6000 grams

ANSI/ISEA Cut Resistance Levels in Grams

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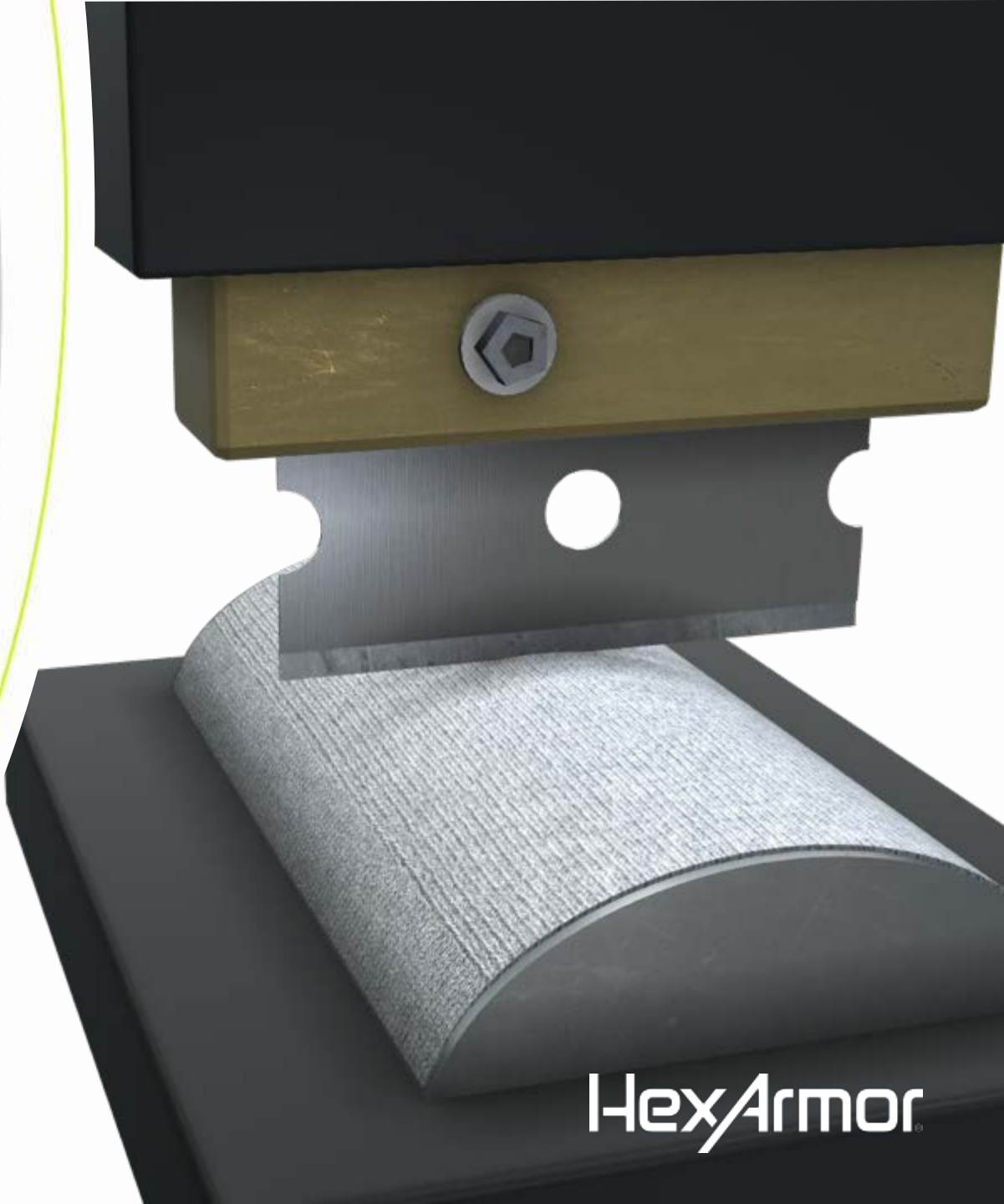

CE ANSI/ISEA Cut Levels

EN388-2016 Cut Index Performance Levels (Coupe Test)

Performance Level	1	2	3	4	5
Cut Index	1.2 - 2.4	2.5 - 4.9	5.0 - 9.9	10.0 - 19.9	≥ 20

EN388-2016/ISO 13997 Cut Resistant Levels in Newtons and Grams (TDM Test)

	A	B	C	D	E	F
Newtons	≥ 2	≥ 5	≥ 10	≥ 15	≥ 22	≥ 30
Grams	203.94	509.86	1019.72	1519.57	2243.38	3039.15

ASTM F2292-15 and ISO 13997 Now Allow for a More Accurate Comparison of a Glove's Cut Level

ANSI/ISEA 105-2016		EN388-2016		
Rating	**Weight (Grams)**	**Rating**	**Force (Newtons)**	**Converted to Grams**
A1	200 - 499	A	≥ 2	203.94
A2	500 - 999	B	≥ 5	509.86
A3	1000 - 1499	C	≥ 10	1019.72
A4	1500 - 2199	D	≥ 15	1529.57
A5	2200 - 2999	E	≥ 22	2243.38
A6	3000 - 3999	F	≥ 30	3059.15
A7	4000 - 4999			
A8	5000 - 5999			
A9	6000+			

Buyer Beware:
Do Your Due Diligence

- It’s a minor expense and inconvenience but worth it for worker safety!
- Reputable testing agencies you can use:
  - Groupe CTT Group
  - TRI Environmental Testing, Research, Consulting and Field Services
  - CTC

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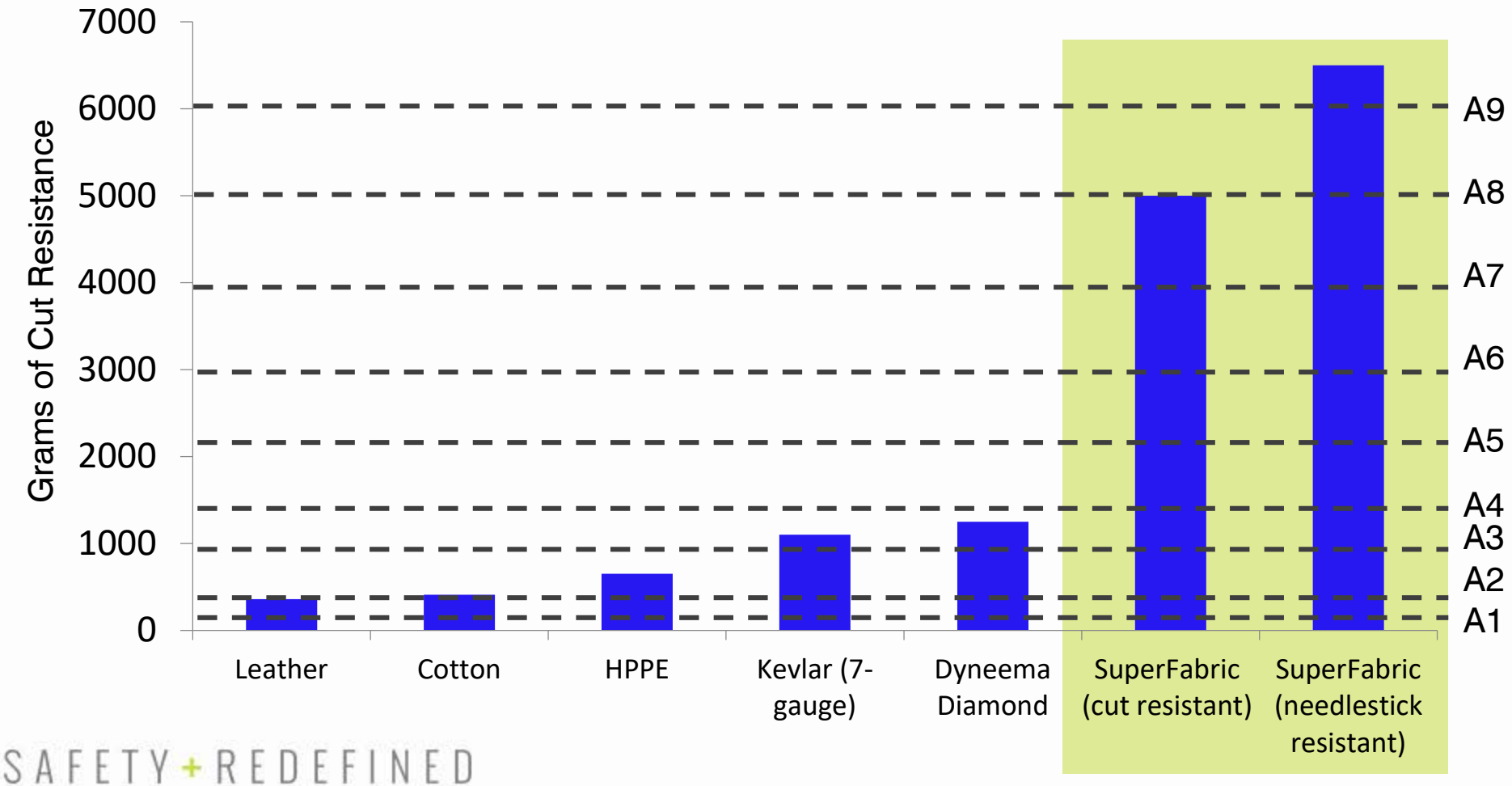
The Problem…

- Our customers have reported issues with the products made with the new fiber and knitting techniques:
  - **Inconsistent cut resistance**
  - **Inconsistent durability** of coatings
  - Scratchy and itchy experience as the gloves are worn. **Steel fibers break, poke and scratch users**.

Supplier	Product	Level Claim	3rd Party Lab Testing Level	3rd Party Lab Testing Grams	% short of minimum
		A7	A6	3586	10%
		A7	A6	3867	3%
		A8	A6	3643	27%
		A7	A5	2336	42%
		A9	A8	5069	16%
		A7	A6	3139	22%

Older Materials Used In Hand PPE



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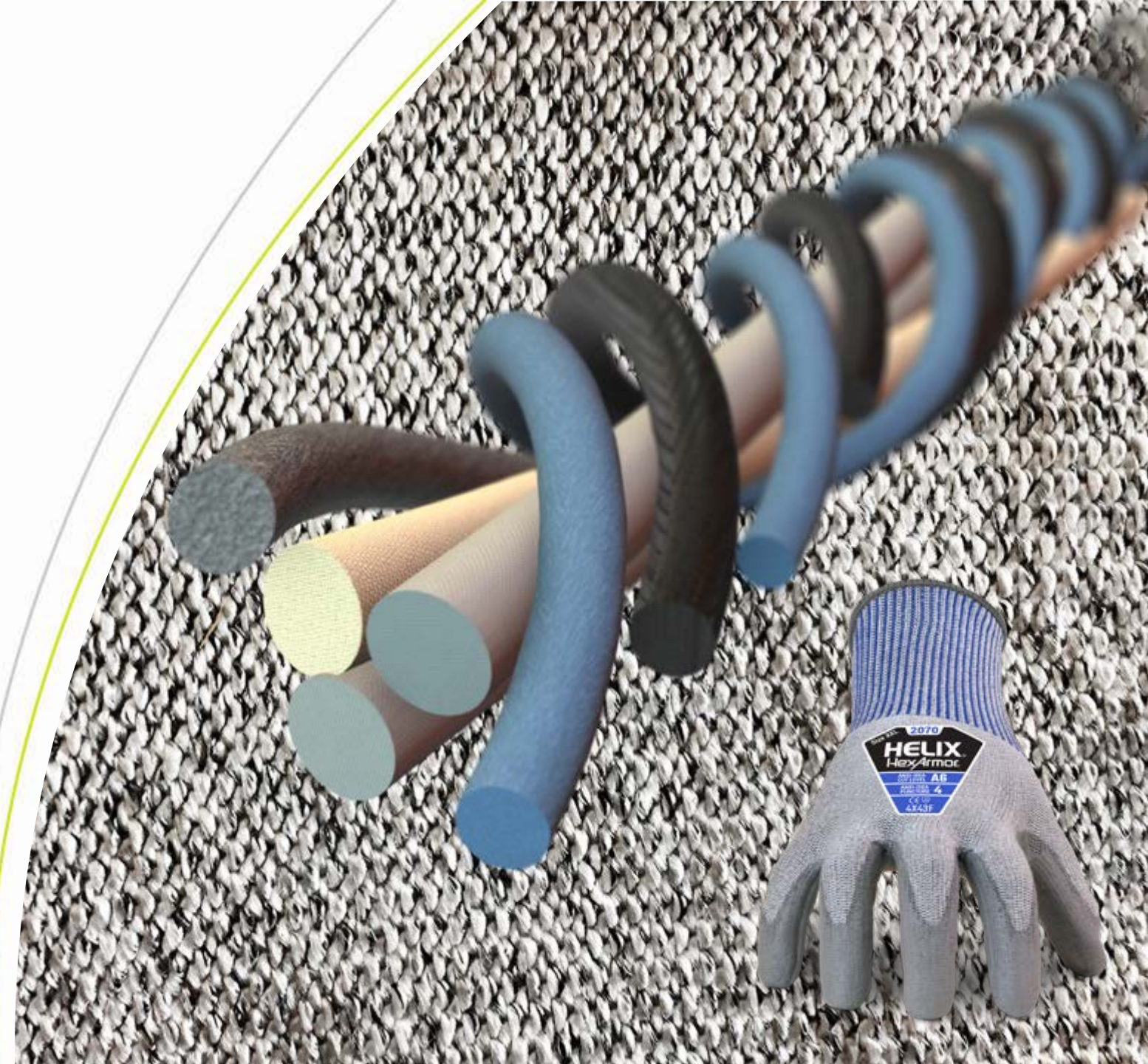
To Address the Gap…

- As technology improves, the industry is moving to higher cut and dexterity products: seamless coated gloves
- New fiber spinning and knitting techniques have been developed to combine materials such as HPPE, Fiberglass, Steel, Aramids or Kevlar
- This is great for the industry, however…



The HexArmor® Approach

- New fiber development and glove knitting process that provides for a safer, more pleasant user experience.
- Our plating process ensures the higher cut-resistant fibers are on the *outside* of the glove and the softer cut-resistant fibers with cooling effect are touching the skin
- Reported benefits are very high, consistent cut resistance and durability, very cool and comfortable user experience.
- Most importantly – we third party verify all our cut testing results!

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Shown: Helix® 2062 with Coretex™ 13-gauge HPPE, steel, and fiberglass blend shell for industry-leading 360-degree ANSI/ISEA level A8 cut protection

The Feedback

- “Very positive results from trial, not surprising. **I think overall you’ve hit a homerun with this glove.”**
- “The glove is more comfortable and not stiff like our current ones. After about 3-4 days the current gloves we wear have fibers that poke our hands making it hard to keep wearing, **these gloves have shown no signs of that issue**.”
- “These are gloves I would recommend to others … and **I would like to see more of them.”**

HELIX

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Remember:

The ISEA Standard is a **voluntary standard** so manufacturers can self report or not report at all…..there is not a required certified test for use in the U.S.

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Come See Us at Booth #20

- We can continue the conversation about the questions to ask when choosing gloves, such as:
  - “How are your gloves tested?”
  - “Are these gloves third party certified?”
- Learn more about our new ANSI/ISEA level A8 verified cut-resistant gloves (and try them on!).

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Thank You
Be Safe Out There.
HexArmor
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