HONEYWELL CORESHIELD™ GLOVES
PRODUCT OVERVIEW

Honeywell

WHAT ARE THE CORESHIELD GLOVES?

Range of cut-resistant mechanical gloves designed by Honeywell, having specific offering for light to heavy duty work.

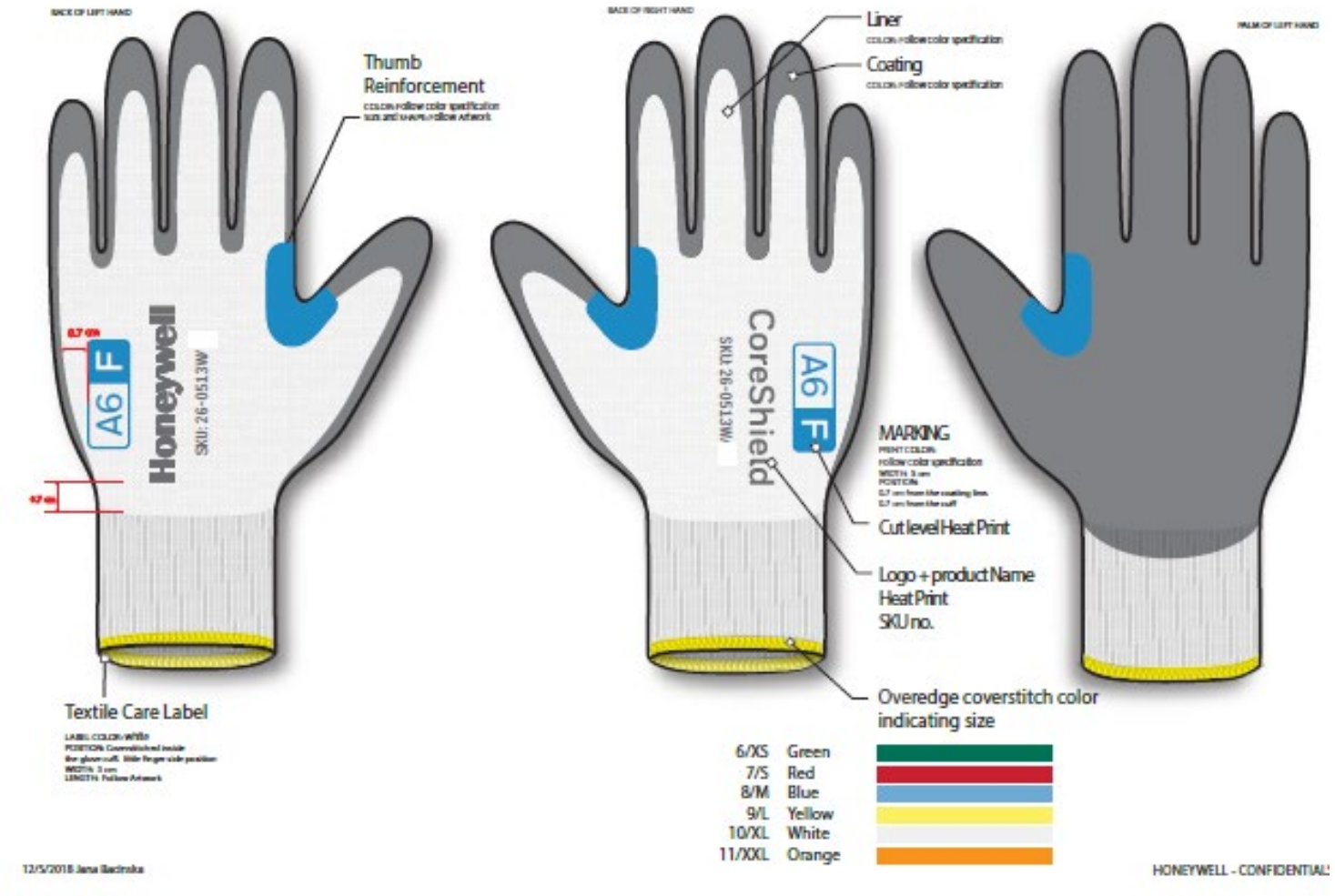
A range of 22 mechanical gloves, with cut level from A1/A to A9/F.

Nitrile micro-foam and flat coating.
Gauges range from 18 to 10 and global offering.

Making tough choices into easy decisions.

WHY IS IT DIFFERENT?

- Identify cut level by **color of cut level**
- **Thumb reinforcement** matching cut level color
- **Cut levels marked** on back of hand
- **Product number** on back of hand
- Left hand **marked** with Honeywell and Right hand marked Coreshield
- **Sizes identified** by overlocking color



PAIN POINTS AND CHALLENGES

Richard, H&S Manager

Help me understand the different cut levels from new standards for cut protection?

Education of cut risks and standards

- USA: ANSI—105-2016
- Europe: EN388:2016 ISO 13997

Which cut level do I need for my application?

Provide a simple selection of gloves to cater to my work environment

Oliver, Purchaser

I need a complete glove range offering with a high level of comfort, dexterity and technology

Innovation and comfort features: Thinner gloves, with higher cut levels and great comfort

David, Worker

I need to improve productivity and reduce injuries

Durable, lightweight, breathable, gloves with superior comfort, grip to reduce hand fatigue and touch screen capability so workers do not have to remove their gloves.

Needs to educate, nurture and support our target to get the best solution.

TARGET INDUSTRIES

APPLICATION SEGMENT (light to heavy-duty work):

High cut protection
- ANSI A1-A9 selection of dipped products

High level of dexterity
- Lightweight knit and coatings, improve tactile sensitivity

Ease of use
- Check & Go safety management, back of hand color-coded ANSI rating

Enhanced nitrile formulation
- Nitrile with improved grip formulation to help reduce hand fatigue

EXAMPLES
- Small oily parts assembly
- Gripping tools
- Working with sharp edges
- Tight spaces for hands
- Inspection – need light, white gloves

CORESHIELD VIDEO

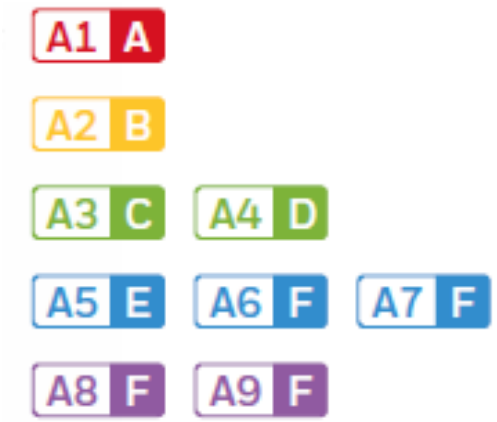
CORESHIELD TECHNOLOGY

**Choosing the right cut-protective glove can be tough.
With Honeywell CoreShield, there is no excuse
for getting it wrong.
Why? We have made cut protection simple.**

Honeywell

PROTECTION MADE SIMPLE

CORESHIELD TECHNOLOGY

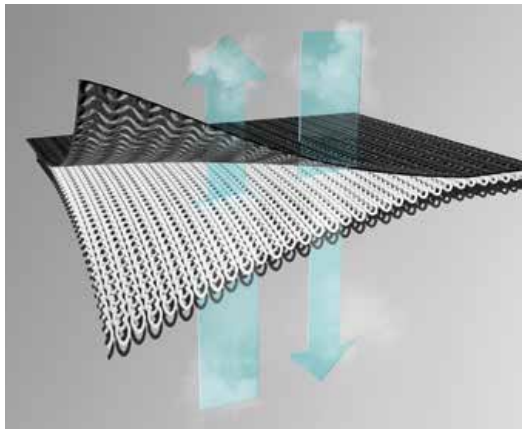


A1–A9 Cut Protection

- Full line of cut-resistant dipped gloves in levels A1-A9
- Lightweight knits and coatings, for better comfort and tactile sensitivity
- Silicone free material and construction

Durable Grip Coatings

- Specially formulated, nitrile coatings provides added durability
- ANSI level 6 abrasion ≥ 20,000 cycles
- Thumb reinforcements on the full line, for high-wear area



Breathability

- 360° breathability for better wearer comfort
- Microfoam nitrile coatings release moisture to allow gloves to feel cooler

TECHNOLOGY

CoreShield Yarn

- Skin friendly and comfortable material to shield the wearer from the cut-resistant yarn
- Produces more durable yarn for longer glove life
- Washable, without degrading yarn structure and protection

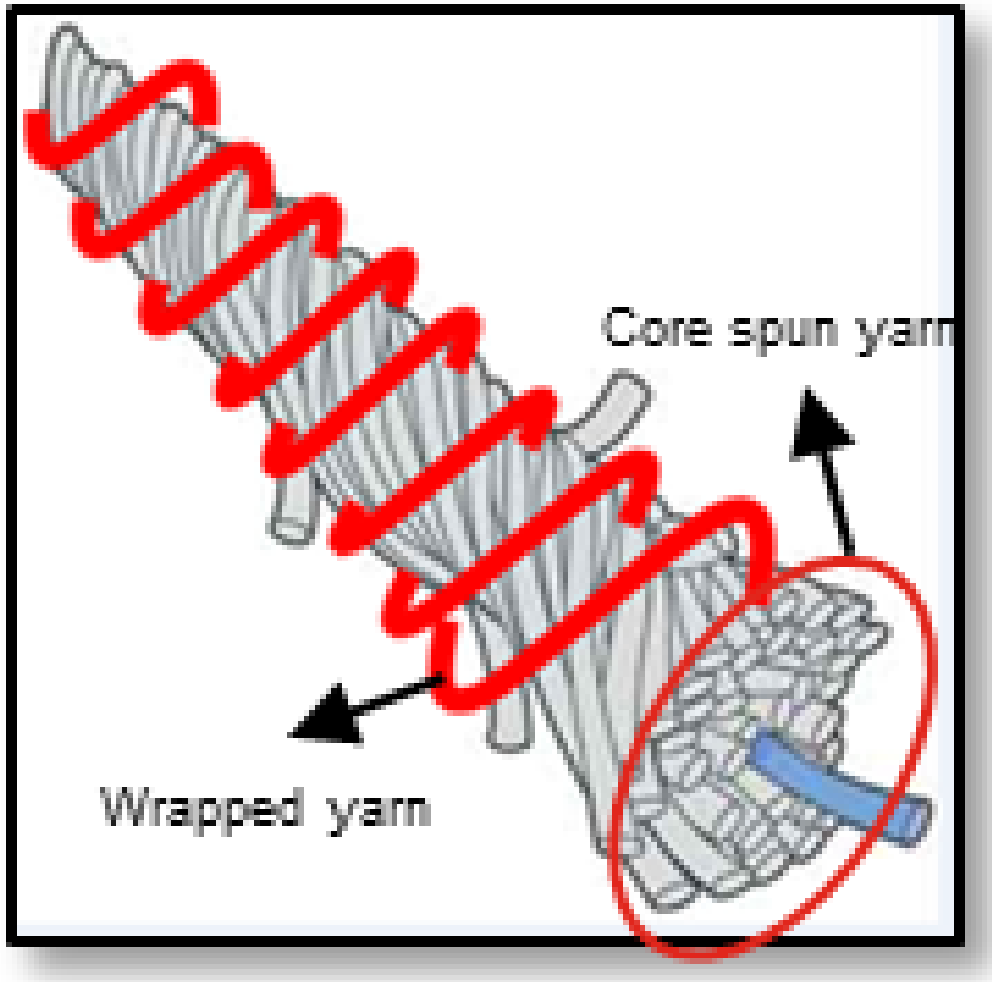
PROTECTION MADE SIMPLE

CORESHIELD TECHNOLOGY

- Check & Go! Identify cut level by color of the highlights on the glove
- Thumb reinforcement matching cut level color
- ANSI and ISO Cut levels marked on back of hand
- Product number on back of hand
- Left hand marked with Honeywell and right hand marked Coreshield
- Sizes identified by overlocking thread color for easy sorting

CORESHIELD YARN TECHNOLOGY

Knitting Structure
Softer, cooler HPPE fiber close to skin for comfort



Strengthened Engineering Yarn structure

SHIELD MATERIAL OVERVIEW

High performance fiber material to provide cut resistance

Material	Cut level	Advantages	Disadvantages
High-Performance Polyethylene HPPE	A2, A3, A4, A5, A6, A7, A8, A9	- Good mechanical and cut resistance - Lightweight - Cool and comfortable	- Low heat tolerance
Kevlar® aramid	A8, A9	- Good mechanical and cut resistance - Lightweight - Inherent heat properties	- Low resistance to UV rays and moisture
Alloy Metal	A6, A7	- Excellent cut resistance	- Heavyweight - Poor flexibility - Heat and electricity conductor
Basalt Inorganic fiber	A3, A4, A6	- Strong cut resistance - Inherent heat properties - Less breakage in washing	- Skin irritation may occur after the fiber is cracked
Stainless steel Metal	A4	- Great cut resistance	- Heavyweight - Poor flexibility - Heat and electricity conductor

SHIELD MATERIAL OVERVIEW

High performance fiber material to provide cut resistance

Material	Cut level	Advantages	Disadvantages
Nylon (oeko-tex 100 certificated) Synthetic fiber	A1, A2, A8	- Soft and comfortable - Good resistance to abrasion and fatigue (Better than polyester) - Many color types - Skin friendly	- Low resistance to heat - Low mechanical and cut resistance
Polyester (oeko-tex 100 certificated) Synthetic fiber	A3, A4, A6	- Soft and comfortable - Good Resistance to abrasion and fatigue - Many color types - Skin friendly	- Low resistance to heat - Low mechanical and cut resistance
Modal (oeko-tex 100 certificated) Regenerated cellulose fiber	A4, A5	- Soft and comfortable - Absorb sweat and moisture to decrease sweaty feeling.	- Low mechanical and cut resistance
Spandex (oeko-tex 100 certificated) Additive fiber	A1, A2, A3, A4, A5, A6, A7, A8, A9	- High degree of elasticity and comfort - Resistant to abrasion - Skin friendly	- Loses elastic properties with heat and wear
Elastane Additive fiber	A1, A2, A3, A4, A5, A6, A7, A8, A9	- High degree of elasticity and comfort - Resistant to abrasion	- Loses elastic properties with heat and wear

GRIP COATING TECHNOLOGY

ILLUSTRATION OF THREE TYPICAL GRIPPING MODES OF A WORKPIECE

Analysis of force to grip an object in different ways*

Gripping from side

Holding / Grasping a work piece

Lifting from below

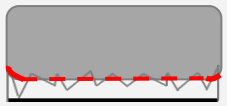
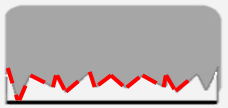
*Different gripping patterns were studied to find the right coating for better grip.

ELASTIC COATING TO HAVE BETTER GRIP

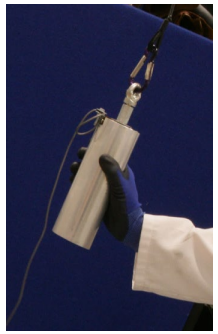
Guideline for Development

✓Deformation Level

✓Contact Surface

Dry	Oily/Wet	Powder
		
Deformation of Glove coating to provide higher CS	Drain away oil/water to provide higher CS	Rough surface to provide higher CS

Test Method

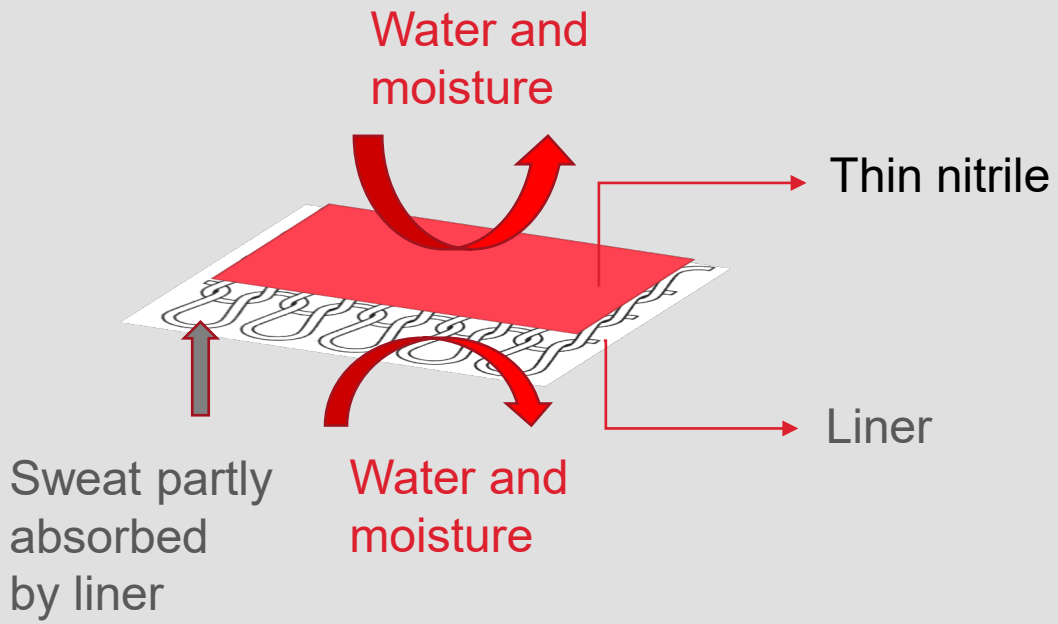


- Pressure Detector to measure the dynamic force of human hand on the workpiece; Use the maximum force to calculate the grip.
- Honeywell Grip Database:

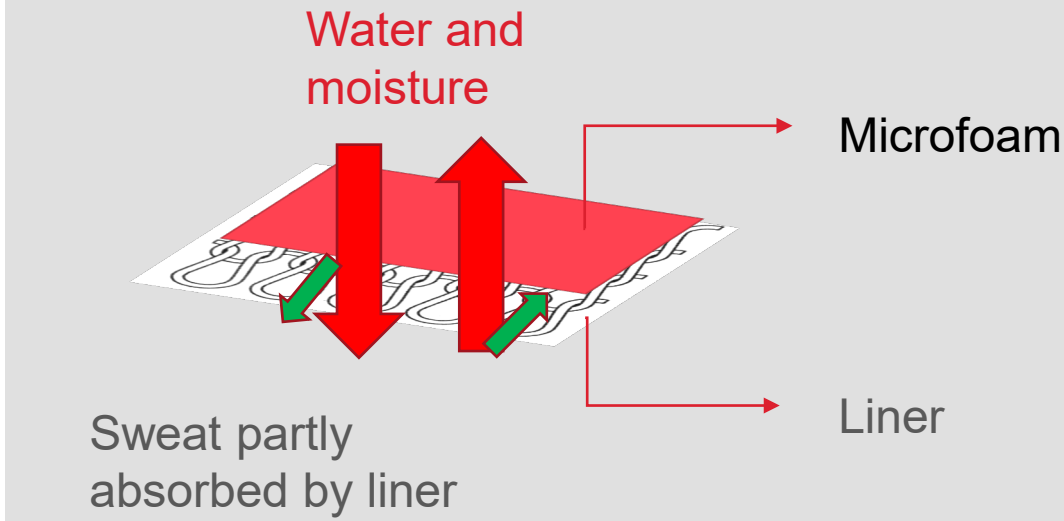
Grip	
<10kgf	Able to hold
10gf ~ 14kgf	Hard to hold
> 14kgf	Fail to hold

COATING TECHNOLOGY ILLUSTRATION

CORESHIELD COATED WITH THIN NITRILE



CORESHIELD COATED WITH MICROFOAM



CORESHIELD GLOVES PERFORMANCES AFTER 5 WASH CYCLES

Overview of dimension change after 5 wash cycles

Item	A1-15gg	A2-13gg	A3-13gg	A5-13gg	A1-18gg	A2-18gg
Glove SKUs	HON-A1-15GG	HON-A2-13GG	HON-A3-13GG	HON-A5-13GG	HON-A1-18GG	HON-A2-18GG
Size dimension	6’	6’	7’	6’	6’	6’
Length of glove before/cm	22.9	22.8	23.5	22.9	22.7	22.5
Length of glove after/cm	22.4	22.1	23	22.5	22.6	22
Size Stability	OK	OK	OK	OK	OK	OK

A LONGER LIFE OF THE GLOVES!

Mechanical performance after 5 wash cycles

13G A3	Cut	Abrasion
Before	1376/A3	>20,000 cycles
After	1333/A3	>20,000 cycles

THE SAME PERFORMANCE AFTER 5 WASH CYCLES!

After 5 wash cycles

CORESHIELD FEATURES AND BENEFITS

Best Grip

Special designed Microfoam coating, provides the best oil as well as dry grip performance

New family design

More simple and clear cut level indicator with both EN and ANSI
Consistent family design and color coding enhance Honeywell glove brand globally.

Thumb reinforcement

Thumb reinforcement was introduced into CoreShield family to further enhance product longevity.

No Glass Fiber

Replace Glass fiber with basalt with lower skin allergy risk and better product stability.

Touchscreen capability for resistive screen machines

Users can operate touch panels of industrial machines without taking their gloves off.

Silicone Free Manufacturing

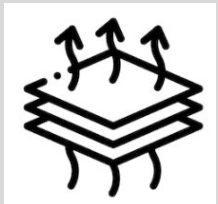
NO Silicone added anywhere in manufacturing, making the glove safe for painting applications

Wrist longer

Ratio of wrist to palm kept higher to reduce fatigue

360° Breathability

Microfoam coating with well-design open cell structure, providing the best breathability in competitors.



Washable

All products were tested with no change in performance, dimensions and color fasteners over 5 times of laundry = less replacement and lower cost to site.

Skin Friendly

All products passed the Oeko-tex 100 certification.

2X Durability

Due to Special Abrasion enhancement technology, the coating abrasion was improved over 2X.

Lightest product

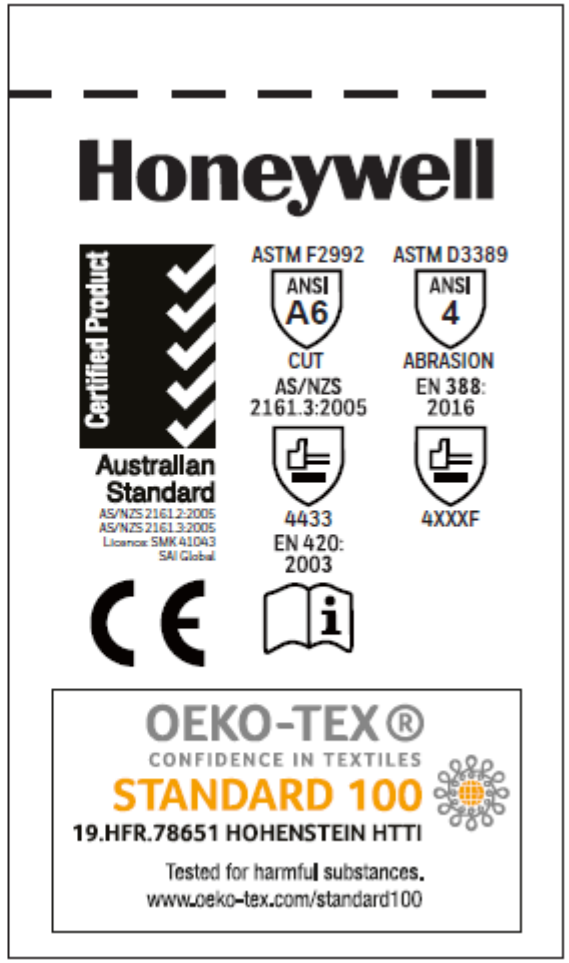
Due to patented microfoam technology and new designed manufacture process, offering the lightest weight product among competitors.

CERTIFICATIONS

EN 388:2016

EN 407

OEKOTEX



CORESHIELD OFFERING (SMOOTH NITRILE COATING)

SKU	PRODUCT NAME & DESCRIPTION	CUT LEVEL & COLOR CODING	EN388:2016 PERFORMANCES	ANSI/ISEA 105:2016 PERFORMANCES		EN407 PERFOR-MANCES
				CUT	ABRASION	
21-1818B	CoreShield, 18 gauge nylon black liner, nitrile super thin black coating, A1/A	A1 A	4X21A	A1	5	
22-7913B	CoreShield, 13 gauge HPPE black liner, smooth nitrile black coating, A2/B	A2 B	4X42B	A2	6	
23-0913B	CoreShield, 13 gauge HPPE/basalt black liner, smooth nitrile black coating, A3/C	A3 C	4X43C	A3	6	X1XXXX
24-0913B	CoreShield, 13 gauge, HPPE/basalt black liner, smooth nitrile black coating, A4/D	A4 D	4X44D	A4	6	
25-0913B	CoreShield, 13 gauge HPPE/stainless steel black liner, smooth nitrile black coating, A5/E	A5 E	4X42E	A5	6	
26-0913B	CoreShield, 13 gauge HPPE/alloy/basalt black liner, smooth nitrile black coating, A6/F	A6 F	4X44F	A6	6	
28-0910B	CoreShield, 10 gauge HPPE/Kevlar/alloy black liner, smooth nitrile black coating, A8/F	A8 F	4X44F	A8	6	
29-0910B	CoreShield, 10 gauge HPPE/Kevlar/alloy black liner, smooth nitrile black coating, A9/F	A9 F	4X44F	A9	6	

CORESHIELD OFFERING (MICRO-FOAM COATING)

SKU	PRODUCT NAME & DESCRIPTION	CUT LEVEL & COLOR CODING	EN388:2016 PERFORMANCES	ANSI/ISEA 105:2016 PERFORMANCES		EN407 PERFOR-MANCES
				CUT	ABRASION	
21-1515B	CoreShield, 15 gauge nylon black liner, nitrile micro-foam black coating, A1/A	A1 A	4X31A	A1	6	
21-1518B	CoreShield, 18 gauge nylon black liner, nitrile micro-foam black coating, A1/A	A1 A	4X21A	A1	6	
22-7513B	CoreShield, 13 gauge HPPE black liner, nitrile micro-foam black coating, A2/B	A2 B	4X42B	A2	6	
22-7513W	CoreShield, 13 gauge HPPE white liner, nitrile micro-foam grey coating, A2/B	A2 B	4X42B	A2	6	
22-7518B	CoreShield, 18 gauge HPPE grey liner, nitrile micro-foam black coating, A2/B	A2 B	4X31B	A2	6	
23-0513B	CoreShield, 13 gauge HPPE/basalt black liner, nitrile micro-foam black coating, A3/C	A3 C	4X43C	A3	6	X1XXXX
23-7518B	CoreShield, 18 gauge HPPE/basalt black liner, nitrile micro-foam black coating A3/C	A3 C	4X42C	A3	6	X1XXXX
24-0513B	CoreShield, 13 gauge HPPE/basalt black liner, nitrile micro-foam black coating, A4/D	A4 D	4X43D	A4	6	
24-0513W	CoreShield, 13 gauge HPPE/basalt white liner, nitrile micro-foam grey coating, A4/D	A4 D	4X43D	A4	6	
24-9518B	CoreShield, 18 gauge, HPPE/steel black liner, nitrile micro-foam black coating, A4/D	A4 D	4X31D	A4	6	
25-0513B	CoreShield, 13 gauge HPPE/stainless steel black liner, nitrile micro-foam black coating, A5/E	A5 E	4X42E	A5	6	
26-0513W	CoreShield, 13 gauge HPPE/alloy/basalt white liner, nitrile micro-foam grey coating, A6/F	A6 F	4X44F	A6	6	
26-0513B	CoreShield, 13 gauge HPPE/alloy/basalt black liner, nitrile micro-foam black coating, A6/F	A6 F	4X44F	A6	6	
27-0513B	CoreShield, 13 gauge HPPE/alloy black liner, nitrile micro-foam coating, A7/F	A7 F	4X44F	A7	6	

For more information:
www.sps.honeywell.com

THE
FUTURE
IS
WHAT
WE
MAKE IT

Honeywell