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Heat Protection

protecting people

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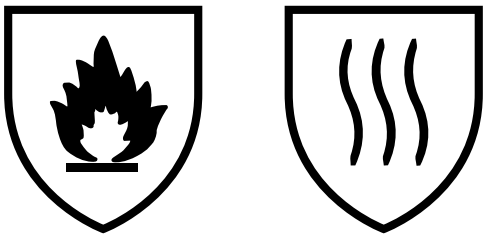
DIN EN 407
Protection From Thermal Hazards

The European standard DIN EN 407 regulates the requirements for safety gloves that provide protection against thermal risks in applications involving heat. Safety gloves certified according to this standard protect the wearer against contact heat, radiant heat and small splashes of molten metal, for example.

Attention change of standards
In the future, the new DIN EN 407: 2020 will show gloves that have not been tested for flammability with a new pictogram (see below right). Changes regarding the performance levels, however, do not exist.



Flammability	Contact Heat	Convective Heat	Radiant Heat	Small Drops of Molten Metal	Large quantities of Molten Metal
4	2	2	2	4	4
1-4	1-4	1-4	1-4	1-4	1-4

Resistance to Flammability

The presence of flames is inherently dangerous, so this test assesses how long the glove material glows or burns after being exposed to a flame.

How the test works
In a controlled chamber the glove is exposed to a flame for 10 seconds. The after-burn time and after-glow time is logged and the glove is checked for damage.

After-Burn Time (seconds)	After-Glow Time (seconds)	Rating
<=15	no requirement	1
<=10	≤ 120	2
>=3	≤ 25	3
<=2	≤ 5	4

Contact Heat Resistance

This tests how fast heat is transferred during conduction.

How the test works
Palm samples are placed on four plates heated from 100°C to 500°C. Performance is determined by how long it takes the temperature on the side opposite the sample to rise 10°C. This is known as the threshold time. Gloves need to withstand the increasing temperature of maximum 10°C for at least 15 seconds for a pass.

Contact temperature	Rating
100°C	1
250°C	2
350°C	3
500°C	4

Convective Heat Resistance

This test resembles the Resistance to Flammability test; however, the flame is more aggressive and different surfaces of the glove are tested.

How the test works
In a controlled chamber, the cuff, back and palm are exposed to the flame. The goal is to determine how long it takes to raise the inner temperature of the glove by 24°C.

Heat transfer (seconds)	Rating
>=4	1
>=7	2
>=10	3
>=18	4

Radiant Heat Resistance

This tests the back of the glove to ensure materials can resist extreme heat radiating through the glove's various materials.

How the test works
Glove samples are exposed to a radiant heat source. As with the test against convective heat, the goal is to determine how long it takes to raise the inner temperature of the glove by 24°C.

Heat transfer (seconds)	Rating
>=7	1
>=20	2
>=50	3
>=95	4

Resistance to Small Drops of Molten Metal

This test is designed to assess hand protection when working with small amounts of molten metal, e.g. welding.

How the test works
In a controlled chamber, two palm and two back-of-hand samples are exposed to small drops of molten metal, such a copper. Protective performance is based on the number of drops needed to raise the temperature by 40°C on the opposite side of the sample.

Number of Drops	Rating
>=10	1
>=15	2
>=20	3
>=25	4

Resistance to large quantities of Molten Metal

For this test, PVC foil is used to simulate how skin would be affected inside the glove.

How the test works
Molten metal, such as iron, is poured over a glove sample that, in turn, is placed over PVC foil. After three tests, the foil is assessed for changes. If a drop remains stuck to the sample, or the sample ignites or is punctured the result is a failure.

Molten iron (grams)	Rating
30	1
60	2
120	3
200	4

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EN 407 Rated Gloves

	Burning Behaviour	Contact Heat	Convective Heat	Radiant Heat	Small slashes of molten metal	Large splashes of molten metal	Hazard Risk Category ARC Flash Protection	EN388
uvex Bamboo TwinFlex® D xg		1						4X41D
uvex C500 wet		1						4X42C
uvex C500 wet plus		1						4X42C
uvex C500 foam		1						4X42C
uvex profi ergo ENB20A		1						2121X
uvex profi XG 20		1						3121X
uvex rubiflex XG 27B		1						3121X
uvex unilite 7710F		1						4121X
uvex u-chem 3500		1						3121X
uvex arc protect g1	4	1	1	1				1X21X
HexArmor Chrome SLT 4061	4	2	2	1	4	1	*	2X23E
HexArmor Chrome SLT 4062	4	2	2	1	4	1	*	2X23E
HexArmor Rig Lizard 2021X		2						4X43CP
HexArmor Rig Lizard 2025X		2						4X44FP
HexArmor Helix 2082	4	2	3	1	2		*	3X43D

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Tactical feel and cut protection perfectly combined

Cut protection never felt better:

The patented Bamboo TwinFlex® technology combines sustainable, natural Bamboo fibres with high-performance materials to provide impressive levels of protection against abrasion and cut (cut Level D) and comfort.

On the inside of the glove:
The soft, silky bamboo-viscose material delivers a smooth fit and high moisture (sweat) absorption properties. The adaptive fit, moulds precisely to the wearer's hand in minutes to achieve a customised, comfortable wearer experience.

On the outside of the glove:
In addition to the cut resistance, the uvex protexxion zone in the thumb crotch area provides double the abrasion resistance (200%) where it's needed, enhancing durability and increasing service life.

uvex Bamboo TwinFlex® D xg

Art. Nr. 60090

- Thin and flexible 18-gauge liner delivers high levels of cut protection thanks to the use of the finest steel fibres
- Cut level D protection
- Touchscreen capability
- A mix of 45% recycled and sustainable fibres: recycled polyamide and sustainable bamboo
- Long lasting and durable thanks to the uvex protexxion zone in the thumb crotch combined with premium quality Xtra-Grip coating technology

Available in sizes 6 through 12

EN 388 4X41D
EN 407 X1XXXX
DERMATOLOGICALLY APPROVED
MADE IN GERMANY

C 500 Series
Cut and heat protection combined

uvex C500 wet

Art. Nr. 60492

- Outstanding mechanical abrasion resistance
- Silicon-free according to imprint test
- Certified according to Oeko-Tex® Standard 100
- Very high cut protection (cut 5) patented uvex Bamboo TwinFlex®
- Innovative SoftGrip-coating for wet application areas

Available in sizes 7 through 11

EN 388 4X42C

EN 407 X1XXXX

OEKO-TEX® CONFIDENCE IN TEXTILES STANDARD 100 S02-0648 HOHENSTEIN HTTI Tested for harmful substances. www.oeko-tex.com/standard100

uvex C500 wet plus

Art. Nr. 60496

- Outstanding mechanical abrasion resistance
- Silicon-free according to imprint test
- Certified according to Oeko-Tex® Standard 100
- Very high cut protection (cut 5) patented uvex Bamboo TwinFlex®
- Innovative SoftGrip-coating for wet application areas
- Fingers fully coated

Available in sizes 7 through 11

EN 388 4X42C

EN 407 X1XXXX

OEKO-TEX® CONFIDENCE IN TEXTILES STANDARD 100 S02-0648 HOHENSTEIN HTTI Tested for harmful substances. www.oeko-tex.com/standard100

uvex C500 foam

Art. Nr. 60494

- Outstanding mechanical abrasion resistance
- Silicon-free according to imprint test
- Certified according to Oeko-Tex® Standard 100
- Very high cut protection (cut 5) patented uvex Bamboo TwinFlex®
- Innovative SoftGrip-foam-coating for dry to slightly wet application areas

Available in sizes 7 through 11

EN 388 4X42C

EN 407 X1XXXX

OEKO-TEX® CONFIDENCE IN TEXTILES STANDARD 100 S02-0648 HOHENSTEIN HTTI Tested for harmful substances. www.oeko-tex.com/standard100

uvex unilite 7710 F

Art. Nr. 60278

- Waterproof glove with grip
- Extremely abrasion-resistant for heavy duty activities
- Highly flexible
- Excellent oily/wet grip

Available in sizes 7 through 11

EN 388 4121X

EN 407:2004 X1XXXX

uvex rubiflex XG 27 B

Art. Nr. 60560

- Excellent ergonomic fit
- Good resistance to many chemicals
- Exceptional dry and wet grip
- Multilayer design for high resistance time
- High water vapour absorption due to the cotton lining

Available in sizes 7 through 11

EN ISO 374-1:2016/Type A JKNOPT

EN 388 3121X

EN 407 X1XXXX

uvex profi XG20

Art. Nr. 60208

- Excellent ergonomic fit
- Outstanding wearer comfort
- Exceptional dry and wet grip
- High flexibility
- Long wearer time due to multilayer coating
- High water vapour absorption due to the cotton lining
- Excellent dexterity
- Back of hand coating for high liquid protection

Available in sizes 6 through 11

EN 388 3121X

EN 407 X1XXXX

uvex profi ergo ENB20A

Art. Nr. 60147

- Excellent ergonomic fit
- High flexibility
- High water vapour absorption due to the cotton lining
- Proven high wearer acceptance
- Excellent dry/wet grip

Available in sizes 6 through 11

EN 388 2121X

EN 407 X1XXXX

uvex u-chem 3500

Art. Nr. 60188

- NBR/CR broadband chemical safety glove with good dexterity
- Very high wearing comfort
- Suitable for contact heat up to +100°C

Available in sizes 7 through 11

EN ISO 374-1:2016/Type A	EN 388	EN 407:2004	EN ISO 374-5:2016
ACJKLMNOPST	3121X	X1XXXX	VIRUS

uvex arc protect g1

Art. Nr. 60838

- Arc flash protection class 1 according to EN 61482-1-2 (box test)
- Ergonomic shape
- High dexterity
- Protection against thermal discharge certified acc. to Oeko-Tex® Standard 100

Available in sizes 7 through 11

EN 388	EN 407	EN 61482-1-2
1X21X	4111XX	Class 1

OEKO-TEX®
CONFIDENCE IN TEXTILES
STANDARD 100
S02-0648 HOHENSTEIN HTTI
Tested for harmful substances.
www.oeko-tex.com/standard100

Impact protection and grip

2021X

Art No. 60670

Rig Lizard®

- Back-of-hand IR-X® Impact Exoskeleton™ with high-flex design provides ANSI/ISEA 138 Level 1 protection on knuckles and fingers
- Additional IR-X® guard between thumb and index finger on knuckles and fingers
- Durable TP-X® palm with reinforced stitching
- Elastic cuff with pull tab

Available in sizes 6/XS through 12/3XL

TP-X® Technology
Impact Protection

ANSI/ISEA CUT A3
GRAM SCORE 1074
ANSI/ISEA PUNCTURE 4

EN 388 4343CP
EN 407 X2XXXX

2025X

Art No. 60649

Rig Lizard®

- SuperFabric® brand material palm provides industry-leading cut resistance (interior layer)
- Back-of-hand sewn-on IR-X® Impact Exoskeleton™ with high-flex design provides ANSI/ISEA 138 Level 2 protection on knuckles and fingers
- Durable TP-X+® palm with reinforced stitching
- Elastic cuff with pull tab and name tag

Available in sizes 6/XS through 12/3XL

SuperFabric® Protection Zone
Impact Protection

ANSI/ISEA CUT A6
GRAM SCORE 3702
ANSI/ISEA PUNCTURE 5

EN 388 4X44FP
EN 407 X2XXXX

4062

Art No. 60655

Chrome SLT®

- High flexibility
- Arc Flash Level 2 Rating: Lab tested in accordance with HRC ATPV at 23.6 Cal/cm²
- Full aramid liner for 360° cut protection
- SlipFit® cuff

Available in sizes 6/XS through 14/5XL

Aramid Liner

ANSI/ISEA CUT	GRAM SCORE	EN 388	EN 407
A5	2509	2X23E	422141
ANSI/ISEA PUNCTURE			
4			

4061

Art No. 60654

Chrome SLT®

- Arc Flash Level 4 Rating: Lab tested in accordance with HRC ATPV at 46 Cal/cm²
- Goatskin leather palm provides a traditional style of comfort and grip
- Full aramid liner for 360° cut protection
- SlipFit® cuff

Available in sizes 6/XS through 12/3XL

Aramid Liner

ANSI/ISEA CUT	GRAM SCORE	EN 388	EN 407
A5	2509	2X23E	422141
ANSI/ISEA PUNCTURE			
4			

2082

Art No. 60614

HELIX®

- 13-gauge flame-resistant aramid and wool blend shell*
- Flexible FR-compliant neoprene/nitrile blend palm coating

Available in sizes 6/XS through 11/ 2XL

*Hazard risk category HRC 1 arc flash protection (ATPV 7.7 cal/cm2, as per ASTM F2675/F2675M-13, determining arc flash rating of hand-protective devices)

Aramid Blend Shell

ANSI/ISEA CUT	GRAM SCORE	EN 388	EN 407	EN 61482-1-2
A3	1147	3X43D	42312X	Class 1
ANSI/ISEA PUNCTURE				
4				

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