

A full-body protective suit made of a shiny, metallic material, likely aluminized fabric, is shown against a dramatic background of intense orange and red flames and molten metal. The suit includes a hood with a clear, reflective face shield and long gloves. The person wearing the suit is standing in front of a dark, industrial structure, possibly a furnace or a bridge under construction, with molten metal visible in the background.

Aluminized Clothing

Aluminized Clothing provides excellent protection against radiant heat and molten metal splashes.



HEAT AND FLAME PROTECTION

BLUE EAGLE aluminized clothing (heat protective clothing) offers excellent protection against radiant heat and molten metal splashes, and is suitable for use in steel mills, metal foundries, glass works, and other places with high levels of radiant heat.

When tested according to **EN 11612, Protective clothing - clothing to protect against heat and flame**, BLUE EAGLE aluminized clothing shows excellent performances.

Limited Flame Spread **A1**

It shows perfect performances :
no flame, no molten debris, no hole, no afterglow, no afterflame.

Convective Heat **B1**

★☆☆

Radiant Heat **C3**

★★★★☆

Molten Aluminium Splashes **D2**

★★★☆☆

Molten Iron Splashes **E3**

★★★★ Highest Level

Contact Heat **F2**

★★★☆☆



Model	Length	Type
AL145	35 cm (14 inches)	Gloves
AL165	40 cm (16 inches)	Gloves

Aluminized Gloves

The aluminized protective gloves provide excellent protections against radiant heat and molten metal splashes. Ideal for use in steel mills, casting shops, heat treating operations and foundries.

Standards

EN 407 - Protective gloves against thermal risks (heat and / or fire)

EN 388 - Protective gloves against mechanical risks

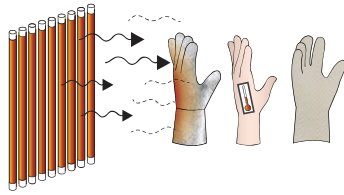
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HEAT REFLECTION PROTECTION



Thermal Risks

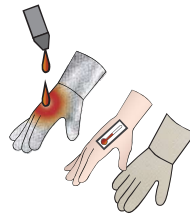
Test results of EN 407



Radiant Heat (highest level)

Position the glove in front of a 20 kW/m² radiant heat source. Measure and record how long it takes to increase the inner side temperature of the glove with 24°C.

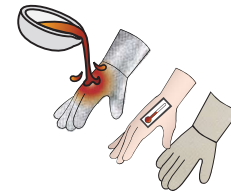
Performance Level	Heat Transfer Lever, t ₂₄ (second)
1	≥ 7
2	≥ 20
3	≥ 50
4	≥ 95



Small Splashes Molten Metal

The test is based on the number of drops of molten metal that generates a temperature increase between the glove material and the skin with 40°C.

Performance Level	Number of droplets
1	≥ 10
2	≥ 15
3	≥ 25
4	≥ 35



Large Quantities of Molten Metal

The PVC foil skin-simulant shall not exhibit any smoothness or other changes to the grained surface with the relevant quantities of molten iron used below.

Performance Level	Quantities of Molten Iron
1	30 g
2	60 g
3	120 g
4	200 g



Contact Heat

Place the glove on a calorimeter, and bring the heated metal into contact with the calorimeter with a standard force. Measure how long does it take for the inner side of the glove to become 10°C warmer than it was.

Performance Level	Temperature (°C)	Threshold Time (s)
1	100	≥ 15
2	250	≥ 15
3	350	≥ 15
4	500	≥ 15



Burning Behaviour (highest level)

Place a burner with standard flame below the glove. After 15 seconds, remove the burner. Measure and record the After flame time and After glow time.

Performance Level	After flame time (second)	After glow time (second)
1	≤ 20	N/A
2	≤ 10	≤ 120
3	≤ 3	≤ 25
4	≤ 2	≤ 5



Mechanical Risks

Test results of EN 388

Mechanical Risks

Test	Level 1	Level 2	Level 3	Level 4	Level 5
Abrasion Resistance (number of cycles)	100	500	2000	8000	-
Blade Cut Resistance (cut index)	1.2	2.5	5.0	10.0	20.0
Tear Resistance (N)	10	25	50	75	-
Puncture Resistance (N)	20	60	100	150	-

Convective Heat

Position the glove above a burner. Ignite the burner, measure and record how long it takes to increase the inner side temperature of the glove with 24°C.

Performance Level	Heat Transfer Index, HTI (second)
1	≥ 4
2	≥ 7
3	≥ 10
4	≥ 18



Heat Reflective Aluminized Hood

Model :

AL19

Features :

- Aluminized visor
- Aluminized FR fabric
- Reflect radiant heat away
- Face feels cooler
- More comfortable
- Block UV
- Lift-front design



Aluminized Hood

- Aluminized visor
- Aluminized FR fabric
- Reflect radiant heat
- Block UV
- Equipped safety cap

AL1



Aluminized Faceshield

- Aluminized visor
- Aluminized FR fabric
- Reflect radiant heat
- Block UV

ALBR3



Aluminized Visor / Bracket

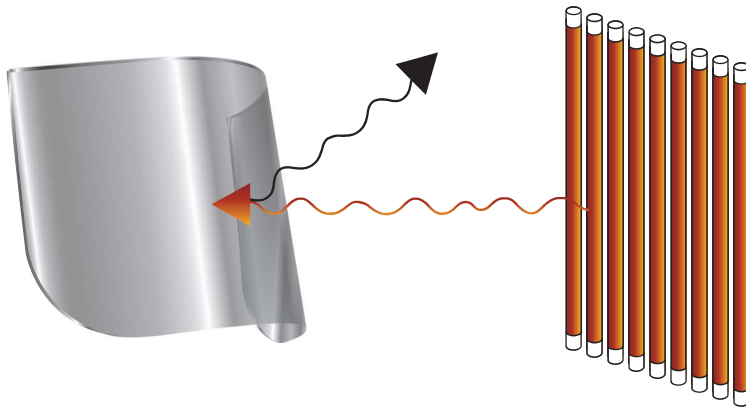
- Aluminized visor
- Aluminum bracket
- Reflect radiant heat
- Block UV

**A4
(Bracket)
FCR3
(Visor)**

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HEAT REFLECTION PROTECTION

Aluminized Visor



- Aluminized visor reflects most radiant heat, so user's face will feel more comfortable and cooler.
- IR-reflectance > 75 %
- RHTI24 > 95 seconds. Achieve the highest level of radiant heat performance level when tested according to EN 6942-Protection against heat and fire-Method of test : Evaluation of materials and material assemblies when exposed to a source of radiant heat.
- Block both UV and IR.

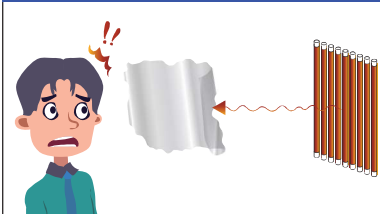
Radiant Heat

Radiant heat is a heat which radiates out from high temperature objects, such as melt iron and melt glass. The total amount of radiation increases steeply as the temperature rises; it grows as T^4 , where T is the absolute temperature of the body. The total radiative intensity of a black body rises as the fourth power of the absolute temperature, as expressed by the — Stefan Boltzmann law. In the plot, the area under each curve grows rapidly as the temperature increases. For example, molten iron at the temperature of 1800 K (1527 °C) radiates 1296 times as much energy as an object at room temperature 300 K (27 °C). In small doses, radiant heat can be warm and welcoming. However, the large amount of radiant heat generated by high mass, high temperature object, such as molten metal in steel mills, can be very dangerous and a serious threat of workers' safety.

Radiant heat travels in invisible waves through space. When radiant heat hit a person, it is absorbed, converted into heat, and would cause unbearable pain and followed by second-degree burns. That is why workers need to wear aluminized apparels and visors.

When radiant heat hit a clear or tinted faceshield, its temperature would be increased and would cause it to melt. Unlike clear or tinted faceshields, BLUE EAGLE aluminized apparels and faceshields can reflect radiant heat and limit a rise in temperature on the apparels and visors to protect users.

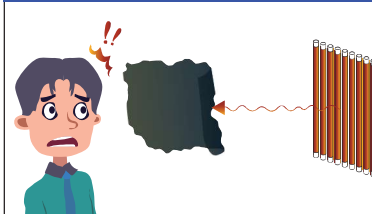
Clear Visor



Disadvantages

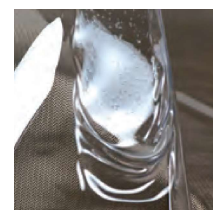
- A Clear visor only absorbs a little radiant heat, and most of the heat still transmits to user's face and eyes.
- User's face feels hot, and radiant heat harms user's face and eyes.
- Since the visor is clear, users are forced to look at the very bright objects, such as molten metal, directly.

Tinted Visor

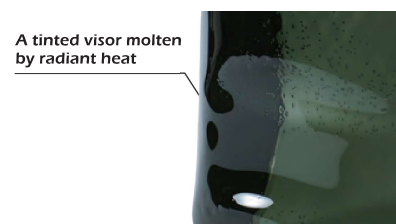


Disadvantages

- A Tinted visor only absorbs some radiant heat, and most of the heat still transmits to user's face and eyes.
- User's face feels hot, and radiant heat harms user's face and eyes.



A clear visor molten by radiant heat



A tinted visor molten by radiant heat



Coat

Trousers

Model :

AL2

Model :

AL3

Chest circle :
48 "

Waist circle :
34 "

Coat length :
29 "

Trouser length :
39 "

Features

- Excellent radiant heat protection
- Excellent molten metal splashes protection
- Flame Resistance (FR)
- Contact heat protection
- Convective heat protection
- Coat and trouser styles



Robe

Model :

AL29

Chest circle :
57 "

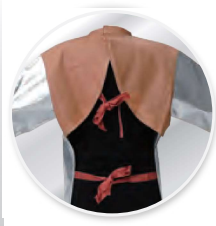
Length :
51 "

Features

- Excellent radiant heat protection
- Excellent molten metal splashes protection
- Flame Resistance (FR)
- Contact heat protection
- Convective heat protection
- Robe style
- Easily put on and take off

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HEAT REFLECTION PROTECTION



Apron with sleeves

Model :

AL6

Chest width :

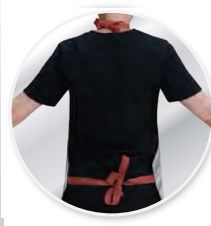
27 "

Length :

49 "

Features

- Excellent radiant heat protection
- Excellent molten metal splashes protection
- Flame Resistance (FR)
- Contact heat protection
- Convective heat protection
- Apron with sleeves style
- Light weight
- Front protection only
- Easily put on and take off



Apron

Model :

AL7

Width :

27 "

Length :

39 "

Features

- Excellent radiant heat protection
- Excellent molten metal splashes protection
- Flame Resistance (FR)
- Contact heat protection
- Convective heat protection
- Apron with sleeves style
- Light weight
- Front protection only
- Easily put on and take off



HEAT REFLECTION PROTECTION

BLUE EAGLE SAFETY



Boots

- Aluminized FR fabric
- Radiant heat protection
- Molten metal splashes protection
- Reflect radiant heat
- Steel toe, boots height : 8"

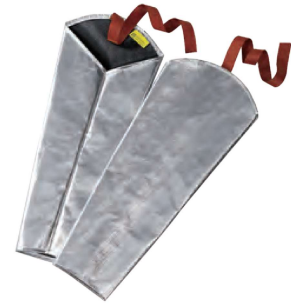
AL4



Gaiters

- Aluminized FR fabric
- Radiant heat protection
- Molten metal splashes protection
- Reflect radiant heat
- Height : 9"

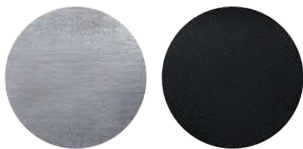
AL5



Sleeves

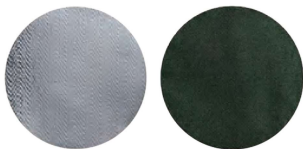
- Aluminized FR fabric
- Radiant heat protection
- Molten metal splashes protection
- Reflect radiant heat
- Length : 22"

AL8



Aluminized Fire Resistant Rayon Fabric

Providing excellent protection against radiant heat and molten metal splashes. Rayon fabric offer outstanding soft texture and sweat absorption. No fiberglass is added to prevent users from skin redness & itchiness.



Aluminized Aramid/Oxidized Pan Fiber Fabric

Providing the best molten metal splashes protection. In addition, it is soft and lightweight. Comfortable to wear.



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HEAT REFLECTION PROTECTION

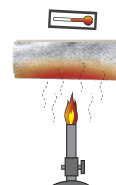
★ EN 11612 : Protective clothing-Clothing to protect against heat and flame



Limited Flame Spread

Following the test method (A1). No specimen shall suffer flaming to the top or either side edge; No specimen shall suffer hole formation; No specimen shall melt or suffer flaming or molten debris; the mean value of after flame time shall be under 2 s; the mean value of afterglow time shall be under 2 s.

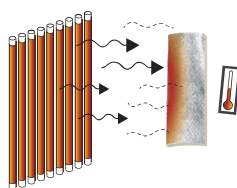
Performance Level	A1	Afterflame time 0 second	Afterglow time 0 second
Afterflame time		0 second	
Afterglow time		0 second	



Convective Heat

Position the clothing above a standard burner. Ignite the burner, measure and record how long it takes to increase the other side temperature of the clothing with 24°C.

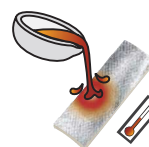
Performance Level	Heat transfer index HTI 24 (s)	
	min.	max.
B1	4	< 10.0
B2	10.0	< 20.0
B3	20.0	



Radiant Heat

Position the clothing in front of a 20 kW/m² radiant heat source, measure and record how long it takes to increase the other side temperature of the clothing with 24°C.

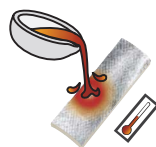
Performance Level	Heat transfer index RHTI 24 (second)	
	min.	max.
C1	7.0	< 20.0
C2	20.0	< 50.0
C3	50.0	< 95.0
C4	95.0	



Molten Aluminum Splashes

Pouring certain grams of molten aluminum onto the clothing and exam the sign of damage on the other side.

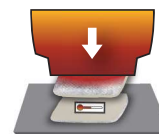
Performance Level	Grams	
	min.	max.
D1	100	< 200
D2	200	< 350
D3	350	



Molten Iron Splashes

Pouring certain grams of molten iron onto the clothing and exam the sign of damage on the other side.

Performance Level	Grams	
	min.	max.
E1	60	< 120
E2	120	< 200
E3	200	



Contact Heat

Place clothing on a calorimeter, and bring a 250°C heated metal into contact with the calorimeter with a standard force. Measure how long does it take for the other side of the clothing to become 10°C warmer than it was.

Performance Level	Threshold Time (s)	
	min.	max.
F1	5.0	< 10.0
F2	10.0	< 15.0
F3	15.0	