

Aluminised Apron

Designed to protect the head and upper body in heavy duty furnace environments where protection from high radiant heat, sparks and slag is required.

Features

- Available in lined and unlined fabric systems
- Fitted with adjustable leather strap and buckle straps
- Available in 2 sizes:
 - 1070mm long x 610mm wide
 - 210mm long x 910mm wide



| Fabric System | Part Number: 1070mm x 610mm (Unlined) | Part Number: 1210mm x 910mm (Unlined) |
|---------------|---------------------------------------|---------------------------------------|
| CA340 | FCA340A106 | FCA340A129 |
| PR720 | FPR720A106 | FPR720A129 |
| AR530 | FAR530A106 | FAR530A129 |
| Fabric System | Part Number: 1070mm x 610mm (Lined) | Part Number: 1210mm x 910mm (Lined) |
| CA340L | FCA340AL106 | FCA340AL129 |
| PR720L | FPR720AL106 | FPR720AL129 |
| AR530L | FAR530AL106 | FAR530AL129 |

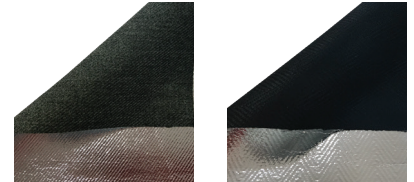
Product Data Sheet

Aluminised Fabrics

Unlined

Single layer Aluminised Fabric only.

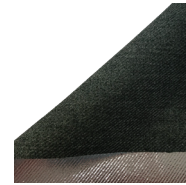
| Series | Fabric | Aluminised Technology | Weight |
|--------|---|-----------------------|---------|
| CA340 | Aluminised carbon / Aramid | Reflespace | 340 gsm |
| AR530 | Aluminised Aramid | TBA | 530 gsm |
| PR720 | Aluminised Preox (Pre-oxidised acrylic) | TBA | 720 gsm |



Lined

Aluminised Fabric with T-Gard® P190 thermal liner.

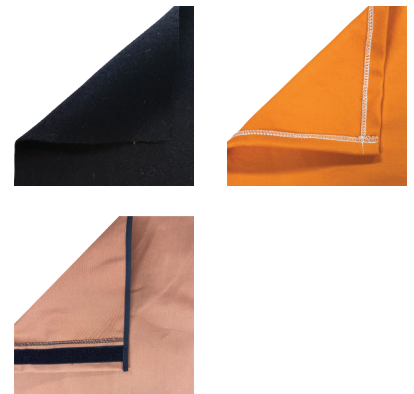
| Series | Fabric | Weight |
|--------|-------------------------------|------------------------------|
| CA340L | Aluminised CA340/ T-Gard P190 | 340 gsm + 430 gsm = 770 gsm |
| AR530L | Aluminised AR530/ T-Gard P190 | 530 gsm + 430 gsm = 960 gsm |
| PR720L | Aluminised PR720/ T-Gard P190 | 720 gsm + 430 gsm = 1150 gsm |



Non Aluminised Fabrics

Single layer Aluminised Fabric only.

| Series | Fabric | Weight |
|----------|-----------------------------|---------|
| WELDWOOL | 100% Wool | 780 gsm |
| PR97 | Merino wool and Lenzing FR® | 380 gsm |
| PROBAN | PROBAN® FR | 340 gsm |

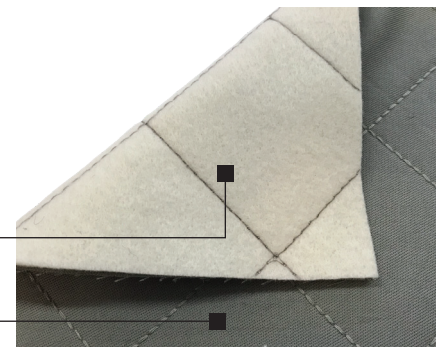


Liner Fabric

The T-Gard® P190 Thermal Liner has been specifically designed for Furnace PPE and is exclusive to Elliotts. T-Gard® P190 is light weight and offers excellent thermal protection. The face fabric is a Proban FR 100% Cotton which provides a comfortable FR material against the body that can easily wick away moisture. The thermal batting is a 100% Nomex.

100% Nomex

Proban FR 100% Cotton



Product Data Sheet

Fabric Performance

Unlined

| Series | Limited Flame Spread Face Ignition Code A1 (Outer Fabric) | Limited Flame Spread Edge Ignition Code A2 | Convective Heat Code B | Radiant Heat Code C | Molten Aluminium Splash Code D | Molten Iron Splash Code E | Contact Heat Code F |
|--------|---|--|------------------------|---------------------|--------------------------------|---------------------------|---------------------|
| CA340 | A1 | NT | B1 7.4s | C3 54.4s | D3 >350g | E3 >200g | F0 4.9s |
| AR530 | NT | NT | NT | NT | NT | NT | NT |
| PR720 | A1 | NT | B1 6.9s | C3 66.0s | D3 >350g | E3 >200g | F1 8.8s |

NT - No test data available on AR530

Lined

| Series | Limited Flame Spread Face Ignition Code A1 (Outer Fabric) | Limited Flame Spread Face Ignition Code A1 (Lining Fabric) | Limited Flame Spread Edge Ignition Code A2 | Convective Heat Code B | Radiant Heat Code C | Molten Aluminium Splash Code D | Molten Iron Splash Code E | Contact Heat Code F |
|--------|---|--|--|------------------------|---------------------|--------------------------------|---------------------------|---------------------|
| CA340L | A1 Pass | A1 Pass | A2 Pass | B2 15.2s | C4 165.7s | D3 >350g | E3 >200g | F3 16.7s |
| AR530L | A1 Pass | A1 Pass | A2 Pass | B3 21.3s | C4 215.9s | NT | NT | F3 20.1s |
| PR720L | A1 Pass | A1 Pass | A2 Pass | B2 15.8s | C4 186.2s | D3 >350g | E3 >200g | F3 15.4s |

NT - No test data available on AR530

Fabric System Evaluation

Heat Protection

| | | HIGHEST | | LOWEST |
|-----------------|---------|---------|--------|------------|
| Convective Heat | Unlined | CA340 | PR720 | AR530 (NT) |
| | Lined | AR530L | PR720L | CA340L |
| Radiant Heat | Unlined | | PR720 | CA340 |
| | Lined | AR530L | PR720L | CA340L |
| Contact Heat | Unlined | PR720 | CA340 | AR530 (NT) |
| | Lined | AR530L | CA340L | PR720L |

Molten Aluminum and Iron Splash

Molten Aluminum Splash All Fabrics achieved the highest possible rating of D3 and are suitable for Molten Aluminium Splash

Molten Iron Splash All Fabrics achieved the highest possible rating of E3 and are suitable for Molten Iron Splash

NT - No test data available on AR530 and AR530L

Comfort - Weight

| | | LIGHTEST | | HEAVIEST |
|--------|---------|----------|-------|----------|
| Weight | Unlined | CA340 | AR530 | PR720 |
| | Lined | CA340 | AR530 | PR720 |

Comfort - Flexibility

| | | MOST FLEXIBLE | | LEAST FLEXIBLE |
|-------------|---------|---------------|-------|----------------|
| Flexibility | Unlined | CA340 | PR720 | AR530 |
| | Lined | CA340 | PR720 | AR530 |

Certifications and Standards

The international standard most commonly used around the world for protective clothing for furnace operators is ISO 11612 Protective clothing – Clothing to protect against heat and flame.

This International Standard specifies performance requirements for protective clothing made from materials, which are designed to protect the wearer's body, except the hands, from heat and/or flame. For protection of the wearer's head and feet, the only items of protective clothing falling within the scope of this International Standard are gaiters, leggings, hoods, and overboots. However, concerning hoods, requirements for visors and respiratory equipment are not given.

The performance requirements set out in this International Standard are applicable to protective clothing which could be worn for a wide range of end uses, where there is a need for clothing with limited flame spread properties and where the user can be exposed to radiant, convective, contact heat and/or to molten metal splashes.

ISO 11612: 2015



A1 or A1 + A2, B(x), C(x), D(x), E(x), F(x)

This Standard defines the minimum requirements for clothing for protection against heat and flames.

- Clothing must be supplied with user information from the manufacturer.
- Code A must be complied with, and at least one of the heat transmission performance codes B–F must be met.

| Code | Test Method | Protection Against | Performance Level | Minimum Requirement |
|------|--|--|-------------------|---------------------|
| A | ISO 15025 Procedure A ISO 15025 Procedure B | Limited Flame Spread – Face Ignition Limited Flame Spread – Edge Ignition | A1 OR (A1 AND A2) | Pass |
| B | ISO 9151 | Convective Heat | B1 to B3 | B1 |
| C | ISO 6942 | Radiant Heat | C1 to C4 | C1 |
| D | ISO 9185 | Molten Aluminium Splash | D1 to D3 | D1 |
| E | ISO 9185 | Molten Iron Splash | E1 to E3 | E1 |
| F | ISO 12127-1 | Contact Heat | F1 to F3 | F1 |

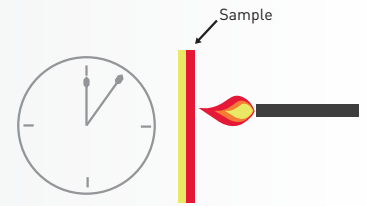
Physical requirements including Tensile Strength, Tear Strength, and Seam strength must also be tested independently.

Product Data Sheet

CODE A. Flame propagation (ISO 15025 method A)

Sample is exposed to flame for 10 seconds then removed

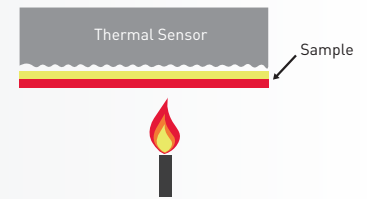
| | WORST | GOOD | BEST |
|---|------------|--------|--------|
| Performance level | X | A1 | A2 |
| Average value of flame persistence < 2 s | Test | Test | Test |
| Average value of residual incandescence < 2 s | Not passed | Passed | Passed |



CODE B. Convective heat (ISO 9151)

Temperature increase behind sample is measured

| | WORST | GOOD | BEST | |
|---|-------|------|------|----|
| Performance level | B1 | B2 | B3 | |
| Heat Transmission Index - HTI (seconds) | min | 4 | 10 | 20 |
| | max | <10 | <20 | |

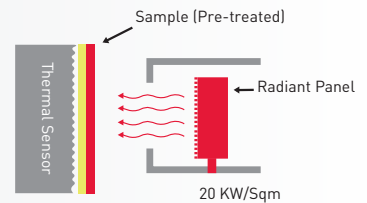


HTI = Average of HTI12 and HTI2 HTI = Time to increase temperature by 24°C HTI = Time to increase temperature by 12°C

CODE C. Radiant heat (ISO 6942 method B)

Temperature increase behind sample is measured

| | WORST | GOOD | BEST | | |
|--|-------|------|------|-----|----|
| Performance level | C1 | C2 | C3 | C4 | |
| Heat transfer t_{24} (seconds) T = Time to increase temperature by 24°C | min | 7 | 20 | 50 | 95 |
| | max | <20 | <50 | <95 | |

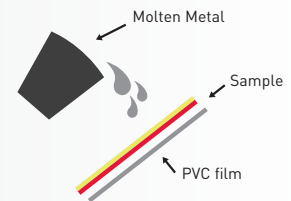


CODE D. Splashes of molten aluminum (ISO 9185)

Quantity necessary to damage PVC film is measured

| | WORST | GOOD | BEST | |
|-----------------------------|-------|------|------|-----|
| Performance level | D1 | D2 | D3 | |
| Molten metal weight (grams) | min | 100 | 200 | 350 |
| | max | <200 | <350 | |

Molten Aluminum at 780°C (+/- 20°C) (1436°F) PVC film simulates human skin

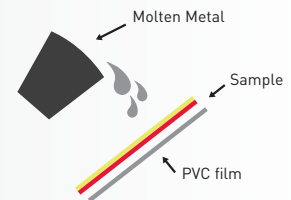


CODE E. Splashes of molten cast-iron (ISO 9185)

Quantity necessary to damage PVC film is measured

| | WORST | GOOD | BEST | |
|-----------------------------|-------|------|------|-----|
| Performance level | E1 | E2 | E3 | |
| Molten metal weight (grams) | min | 60 | 120 | 200 |
| | max | <120 | <200 | |

Molten Cast-Iron at 1400°C (+/- 20°C) (2552°F) PVC film simulates human skin



CODE F. Contact heat (ISO 12127)

Heat transmission is measured

| | WORST | GOOD | BEST | |
|--------------------------|-------|------|------|----|
| Performance level | F1 | F2 | F3 | |
| Threshold time (seconds) | min | 5 | 10 | 15 |
| | max | <10 | <15 | |

Threshold time = time necessary to increase temperature by 1°C

