

PRODUCT SPECIFICATION

Vii® Fire Cabin

1 GENERAL

1.1 Scope

Coopers Vii® Fire Cabin active fire curtain barrier assemblies (“Fire Curtains”) are to be designed, fabricated, delivered, installed and commissioned with all required components as outlined in this specification.

1.2 Design Criteria

The designer must consider the following:

- Fire resistance requirements
- Activation requirements for the fire barriers
- Maintaining the area underneath the curtain as clear from obstructions

1.3 Related Works

Co-ordination is required with the following trades:

- Structure – Steel or formwork
- Headbox must be installed level to 2mm tolerance across the entire width of the headbox

1.4 Submittals

Shop drawings detailing the location, size, requirements ‘by others’ and design of the Coopers Vii® Fire Cabin Fire Curtains shall be submitted to the Principal Contractor and the drawings approved prior to the commencement of the manufacture process.

If required in the architectural specification, samples of the fabric and components will be delivered to the Principal Contractor on request.

1.5 Quality Assurance

Materials and work shall conform to the latest edition of reference specifications and the manufacturer shall implement and operate an approved Quality Assurance system for the product, complying with the requirements of ISO 9001: 2008.

1.6 Relevant Standards

Coopers Vii® Fire Cabin automatic fire barriers have been tested by an approved industrial research and testing organisations registered by the National Association of Testing Laboratories (NATA) to the following Standards:

- AS/NZS 1530.3: 1999 : Methods for fire tests on building materials, components and structures - Simultaneous determination of ignitability, flame propagation, heat release and smoke release
- AS 1530.4: 2005 : Methods for fire tests on building materials, components and structures - Fire-resistance test of elements of construction
- AS1905.2: 2005 : Components for the protection of openings in fire-resistant walls - Fire-resistant roller shutters
- ISO 9001: 2008: Quality management systems

1.7 Warranty

Coopers Fire Pty Limited warrants that its Vii® Fire Cabin Fire Curtains are free from manufacturing defects for a period of not less than five (5) years when installed, maintained and used in accordance with Coopers specifications and operational manuals.

2 Product

2.1 Approved Manufacturer

Coopers Fire Pty Limited
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Email: info@coopersfire.com, Web: www.coopersfire.com

2.2 Location

Coopers Vii® Fire Cabin fire curtains are to be installed in the locations shown on the Architectural drawings.

2.3 Proprietary Item

Coopers Vii® Fire Cabin Fire Curtains including

- Galvanised mild steel headbox, galvanised mild steel drum, fire resistant fabric, galvanised mild steel bottom bar, galvanised mild steel side guide and fusible link
- Complete product testing and certification to AS 1530.4(2005) to an FRL of -/120/- clearly showing the maximum allowable size for the curtain and this maximum size shall not be less than the installed sizes required.
- Maximum size of the product is 3m wide x 3m high
- Complete product testing and certification to AS/NZ 1530.3(1999) with an index rating not greater than:
Ignitability – 0 Spread of Flame – 0 Heat Evolved – 0 Smoke Developed – 3

2.4 System Components

2.4.1 Headbox

The fire curtain is concealed in a galvanised mild steel headbox of not less than 1.2mm thickness which provides protection for the barrier (curtain) and acts as a fixing element to the building structure. This can be powder coated to a standard DULUX colour.

2.4.2 Fabric – Coopers EFP™ 4/1000

The curtain material is a satin weave fibreglass fabric with a silver polyurethane coating on both sides and integral stainless wire. It is 0.54mm thick, and weighs approximately 690g/m² in its finished form. The fabric is manufactured in widths of approximately 1.9m and is tested in the vertical orientation including the sewing yarns.

2.4.3 Barrel Assembly

As a single barrel construction where maximum dimensions are assessed by a NATA accredited laboratory as 3m width x 3m height for FRL -/120/- All barrels are fabricated of structural quality ERW galvanized steel seamless roller tube of minimum 70mm diameter with a wall thickness of not less than 1.5mm.

2.4.4 Bottom Bar

The bottom bar assembly is attached to the lower edge of the fabric, and acts to keep the fabric hanging vertical and taut when the curtain is in the lowered position, minimising deflection due to air currents. The bottom bar must form one continuous bar when installed. The bottom bar is galvanised mild steel and can be powder coated to a standard DULUX colour. It is tested up to 10kg/m.

2.4.5 Side Guides

The fabric is withheld in a galvanised mild steel guide section, one either end of the fire curtain, of not less than 2mm thickness. The side guide needs to be tested as part of the complete system and provide the required fire separation. The side guide can be powder coated to a standard DULUX colour.

2.4.6 Fusible Link

The fusible link is a mechanical heat activated device which will release at 74°C. The fusible link is attached to the barrel assembly and stops the barrel assembly from uncoiling until the fusible link is activated.

2.5 Product Performance:

The complete Vii® Fire Cabin product inclusive of headbox, fabric, bottom bar and side guide is to be tested or assessed to AS1530.4 (2005) and AS1905.2 (2005) achieving an FRL of -/120/- clearly showing the maximum allowable size for the curtain and this maximum size shall not be less than the installed sizes required.

The fabric must be tested to AS/NZ 1530.3(1999) with an index rating not greater than:
Ignitability – 0 Spread of Flame – 0 Heat Evolved – 0 Smoke Developed – 3

The complete system is to be designed to operate for a minimum 1,000 cycles at normal ambient temperatures in the range from 0°C to 60°C, and to withstand fire at temperatures up to 1000 °C for over 120 minutes once only.

2.6 Operation

The fire curtain will remain retracted within its headbox until it is activated by heat exceeding 74°C in the vicinity of the fusible link. Upon activation the fire curtain will deploy by gravity to its fire operation position, completely closing the opening and creating a fire compartment. The speed of descent will be within the range of 0.15m/s to 0.3m/s.

To restore the Vii® Fire Cabin Fire Curtain the barrel assembly is required to be manually wound to its top position and a new fusible link installed.

2.7 Labelling

The Coopers Vii® Fire Cabin Fire Curtain must be labelled in accordance with AS1905.2 (2005) with a metal tag riveted to the bottom bar clearing showing the curtain details, manufacturer, installation date and FRL.

3 EXECUTION

3.1 Installation

Coopers Vii® Fire Cabin Fire Curtains shall be installed by Approved Installers in strict adherence with the manufacturer's guidelines and the advice (if required) of their official representative.

Ensure that the structure being fixed to is suitably fire rated and to the manufacturer's specifications.

All Coopers Vii® Fire Cabin Fire Curtains shall be carefully located in the positions indicated on the approved Shop Drawings in perfect alignment, plumb, level, straight and true.

Adjust the active fire curtain barrier assemblies to provide uniform clearances and smooth non-binding operation.

3.2 Commissioning

The installer shall perform suitable tests to ensure that the Coopers Vii® Fire Cabin Fire Curtains operate in accordance with the Contract Documents and this specification.

3.3 Maintenance

The Coopers Vii® Fire Cabin Fire Curtains shall be included in the required Fire Safety Measures for the building and must be maintained in accordance with the manufacturer's recommendations. At a minimum the automatic fire barriers shall be inspected and maintained in accordance with AS1851 which requires 6 monthly intervals. Maintenance and inspections shall be performed by fully trained and competent technicians.