



CASE STUDY

FIRE CURTAIN SYSTEM UPGRADE

AT THE CAPE TOWN INTERNATIONAL
CONVENTION CENTRE (CTICC)



coopers APEX

SMOKE AND FIRE CURTAINS

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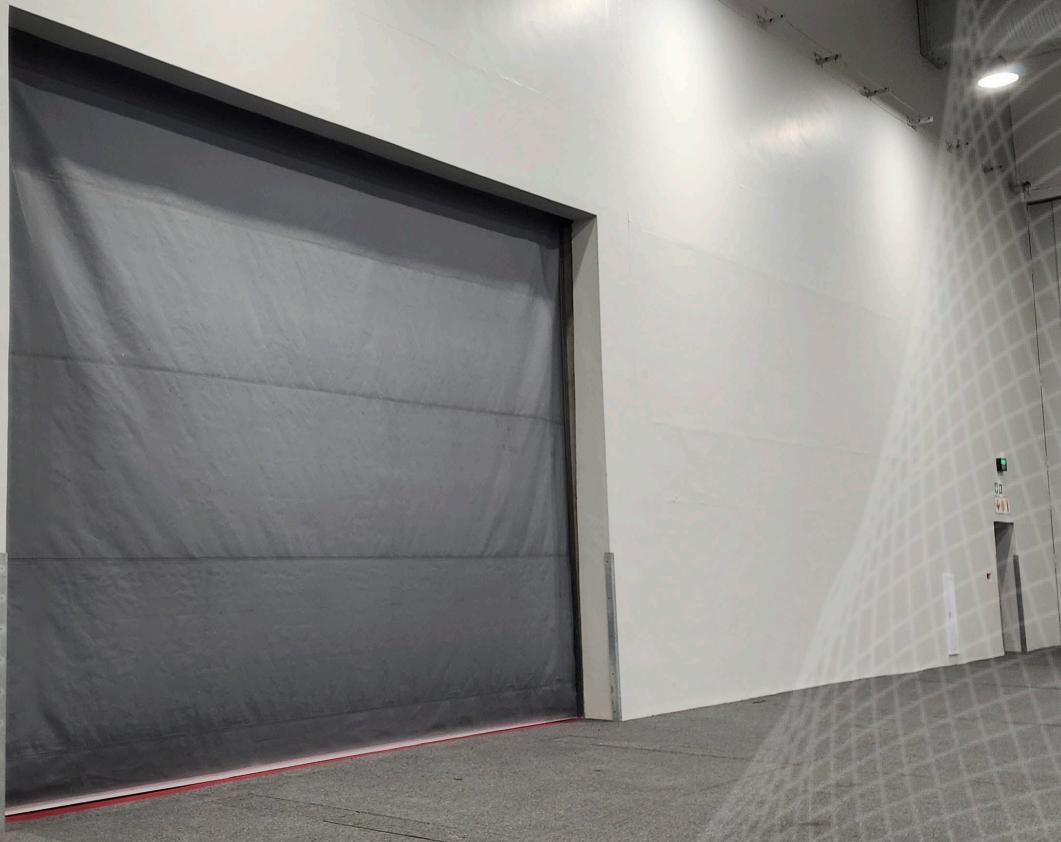


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PROJECT OVERVIEW

The Cape Town International Convention Centre (**CTICC**) is one of Africa's leading venues for **large-scale conferences and exhibitions**. Its expansive layout—divided into **CTICC 1** and **CTICC 2**—demands rigorous life safety systems, including **fire containment and safe egress pathways**. Apex Engineering, in collaboration with Solution Station Consulting Engineers (Pty) Ltd, led the **replacement of three large-scale vertical fire curtains using Coopers FireMaster® Plus2**. The aim was to **upgrade fire resilience infrastructure** and align it with **modern international safety standards**.

CLIENT	CTICC
LOCATION	CAPE TOWN, SOUTH AFRICA
PRODUCT INSTALLED	COOPERS FIREMASTER® PLUS2
QUANTITY	3 UNITS
CURTAIN SIZE	8200MM X 6800MM (DROP)
FIRE RATING	120 MINUTES INTEGRITY (E) 60 MINUTES RADIATION CONTROL (EW)
STANDARD COMPLIANCE	BS 8524-1
CONSULTING ENGINEERS	SOLUTION STATION (PTY) LTD
FIRE ENGINEER	REYNIER OEOFSEN, PR.ENG



solutionstation

Consulting Engineers: Solution Station (PTY) Ltd
Fire Engineer: Rey Oelofson, Pr Eng | B Eng (Mech)

SAIRAC | SAQCC | IOR (UK) | SFPE (USA)

FIRE STRATEGY

“The fire strategy implemented at CTICC2 is designed around the **Progressive Horizontal Evacuation** model—an approach that emphasizes compartmentalised movement of occupants away from fire-affected areas into zones of relative safety. This strategy is especially critical in high-density public facilities where immediate vertical evacuation is not always feasible. **”**

FIRE CURTAINS APPLICATIONS:

- Create **fire-rated separations** between fire compartments and across corridors.
- Protect critical escape paths until final discharge.
- Support phased evacuation logic where safe areas must remain tenable while fires are being managed.

TO EFFECTIVELY SUPPORT THIS EVACUATION MODEL, THE FIRE CURTAINS MUST:

- Deploy rapidly upon alarm activation, using fail-safe motors that remain operational during power failures.
- Maintain **integrity** for 120 minutes (E120) to prevent fire breakthrough.
- Limit **radiant heat** to $<10\text{kW/m}^2$ for at least 60 minutes (EW60), ensuring people can pass safely in proximity.
- Contain **smoke** to protect visibility and breathable air in escape paths.

“The selected FireMaster® Plus2 system meets these requirements through BS 8524-1 certification and performance-tested materials specifically engineered for large-scale, public-use environments. **”**

APPLICATION AND FUNCTION

1 MAINTAINING COMPARTMENTATION:

Large curtain barriers restore passive fire compartmentation, limiting fire propagation across function areas.

2 PROTECTING ESCAPE ROUTES:

Curtains shield designated escape corridors, enhancing the survivability of these paths during active fire scenarios.

3 SEPARATING ADJOINING ROUTES:

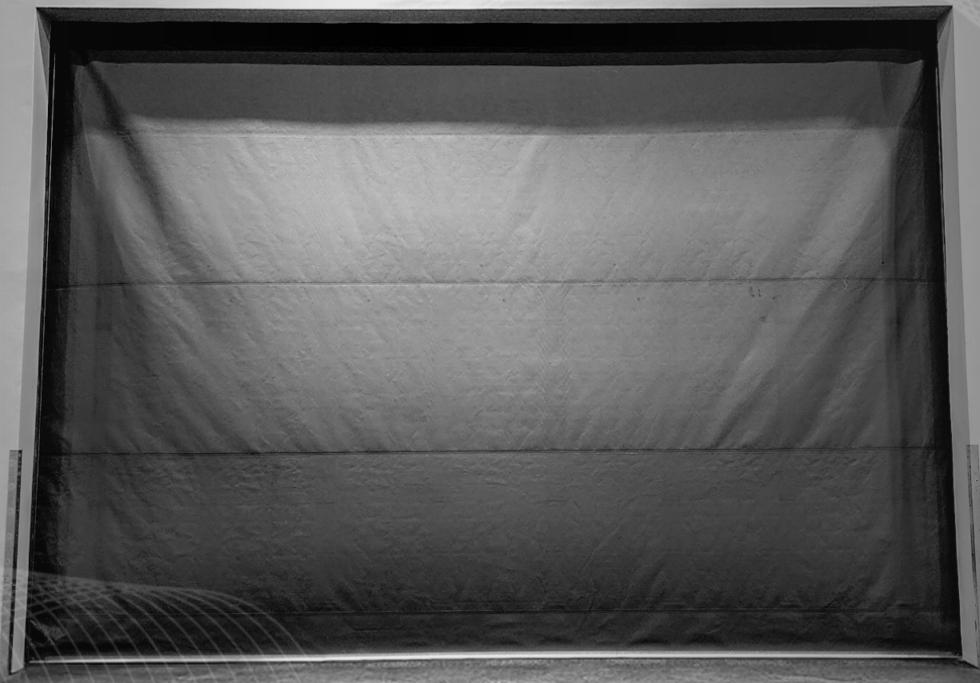
Barriers isolate separate means of egress, preventing cascading failure of multiple escape systems.

4 SAFEGUARDING FIREFIGHTING ACCESS:

Curtains protect access for emergency services, maintaining integrity and visibility in response zones.

5 PROTECTING FIREFIGHTING LIFT LOBBIES:

Key firefighting infrastructure, including dual-entry lifts, is protected from radiant heat and smoke ingress.



TECHNICAL PERFORMANCE

COOPERS FIREMASTER® PLUS2 IS A HIGH-PERFORMANCE FIRE CURTAIN SYSTEM OFFERING:

- BS 8524-1 compliance for active fire curtains
- 180 minutes integrity (E180) & 60–90 minutes radiation control (EW)
- Total Gravity Fail-Safe (TGFS) for secure deployment during system or power failure
- Tenable Zones, reducing radiant heat below safe exposure thresholds

Each fire curtain measures **8.2 meters wide** with a **6.8 meter drop**, deployed in a Wide Single Roller configuration—an engineering feat in itself due to the scale and uniformity required for operation under fire conditions.

PROJECT OUTCOME

- ✓ Improved fire compartmentation integrity
- ✓ Evacuation safety aligned with fire engineering strategy
- ✓ Life safety maintained under extreme fire conditions
- ✓ System certified to BS and EN standards
- ✓ Reduced long-term liability and increased fire resilience

“Fire strategy is not only about code compliance—it’s about protecting lives in real emergencies. Our integration of the FireMaster® Plus2 into the CTICC’s life safety design helps ensure that, in the event of a fire, occupants can evacuate progressively, safely, and efficiently.”

Reynier Oelofsen, Solution Station Consulting Engineers

Partner with Apex Engineering & Coopers Fire for Architectural Fire Safety.

Whether you're designing a landmark building, refurbishing a historic building or configuring a contemporary space, Coopers Fire provides fire curtain solutions that prioritise safety without sacrificing design.

CONTACT US

Apex Engineering is the Sole Distributing Partner for Coopers Fire Products for Southern Africa

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