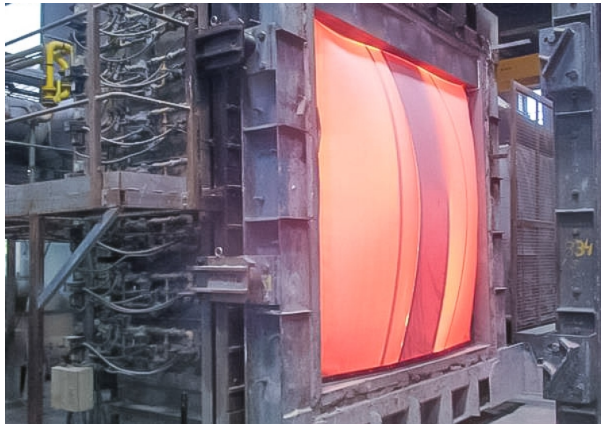# Fire Testing of textile curtains

Ensure fire-resistant curtains and smoke-control curtains are fit-for-purpose and adhere to regulations.

Fire and smoke curtains, whether roll-up or folding, are an important tool for mitigating against the dangers caused by the outbreak of fires in buildings. They take up little space but can effectively stop the spread of fire and smoke, containing it between specific sectors and leaving evacuation routes safe. However, to ensure they work as they should, it is vital to conduct fire resistance and durability tests and have them certified for use.

Our Methodology

To verify that fire-resistant curtains will function correctly in the event of a fire, Applus+ Laboratories carries out fire resistance tests in accordance with the applicable test standard EN 1634-1: "Fire resistance tests for doors, operable windows and opening and closing elements

The results obtained from the fire resistance tests are used to classify these curtains into different groups according to their fire behaviour:

- Integrity (Classification "E").
- Integrity and thermal insulation ("EI" classification).
- Integrity and reduced thermal radiation ("EW" classification).

In case the manufacturer wishes to make changes to the tested product, whether to its material, its construction, or anything beyond what is directly applicable to test standard EN 1634-1, it can apply EXAP standards. These would be applied under EN 15269-11: "Fire resistance for operable fabric curtains".

Smoke control testing

Applus+ Laboratories also tests and certifies smoke control curtains under part one of the EN 12101-1 test standard: "Smoke and heat control systems. Part 1: Specification for smoke control barriers."
Smoke curtains are barriers classified according to their function (Static or Automatic) or their positioning (Vertical or Horizontal).

Durability testing

Before fire and smoke curtains can finish the testing procedures and move on to certification for the Spanish market, durability tests of the pre-test specimens are also required. For fire-resistant curtains, this test requires a minimum of 500 complete cycles. These cycles must be performed on a curtain with similar dimensions to the maximum size allowed for adherence with the fire performance properties.As for smoke control curtains, test standard EN 12101-01 requires 1000 cycles to be performed on a 3 m wide pre-test specimen, as well an additional 10 m wide specimen. In both cases, the height of the specimen must be the highest that the manufacturer wishes to certify.

CE Marking

As of the year 2019, CE marking has been mandatory for textile fire curtains used in fire doors, under the standard EN 16034: "Pedestrian doors, industrial, commercial, garage and functional windows. Product standard, performance characteristics - fire resistance and/or smoke control characteristics". Once the fire tests and tests for other characteristics have been successfully passed, an annual factory inspection is carried out in order to obtain the CE certificate for the range of curtains. This certificate provides access to the European Union market.

Certificate of performance and CTE registration

Fire curtains, for the purposes of the Technical Building Code, are considered to be a complex and nonconventional fire protection system. As established in the Basic Fire

Safety Document, the use of these systems on site requires the issue of a Performance Certificate and Certification Report. The CTE (Código Técnico de la Edificación) has a voluntary register for all these systems. Under this certificate of performance and registration of the CTE, doors with water irrigation can also be included, in order to comply with the classification of integrity and thermal insulation (EI2 - XX) required by the CTE in the partitioning or closing elements of openings.

A+ Fire Safety Certification

Applus+ has a voluntary certification mark for the fire curtains it has tested, based on all the testing standards. The Applus+ Fire Safety Certification mark is recognized by the Gulf Council Countries, allowing access to their markets. The Applus+ Fire Safety Certification quality mark acts as a differentiating factor in the markets where regulations do not require a testing and certification process. It allows manufacturers and distributors to demonstrate product quality to specifiers and end customers.

About Applus+ Laboratories

Applus+ is a world leader in fire testing, inspection and certification, with more than 18,700 employees operating in more than 70 countries.Our experts study each project to identify the most optimal route to product certification. This allows us to identify which models should be chosen as test samples to maximize the number of certified models with the lowest possible number of tests. Project study and sample selection.

- Tests in an accredited laboratory.
- Product classification.
- Inspection of the factory production control system.
- Certification and market access.