

FIRE RESISTANCE

Local building codes for safe construction rely on two fire ratings to evaluate compliance: (1) Material Flame Spread/Smoke Developed Index Rating, and (2) Fire Resistance Assembly Rating. These ratings are based on ASTM standards, and compliance is determined by several independent, non-governmental testing services such as Underwriters Laboratories, Inc.

SELECTING THE RIGHT UL FIRE-RATED ASSEMBLY

Flame Spread Index (FSI)/Smoke Developed Index (SDI) ASTM E84; UL 723; CAN/ULC - S102M

This is a standard method of testing for surface-burning characteristics of building products. FSI is the relative rate at which a flame will spread over the surface of the material. This index is compared against a rating of 0 for inorganic reinforced cement board, and an index of 100 for red oak. Class A (ASTM E1264) building products require a flame spread index of 25 or less – the required standard for most commercial applications. Class A building products require a smoke developed index of 50 or less.

Continuous Versus Open Plenum Ceilings

A continuous ceiling may allow sprinklers and smoke detectors to activate faster, providing added escape time for occupant evacuation. In buildings where a ceiling is not in place, the height of the space is normally greater and could delay the operation of the fire sprinkler or smoke detector systems.

Fire Resistance Rating of a Ceiling Assembly (ANSI/UL 263 – ASTM E119 and NFPA 251) (CAN/ULC - S101M)

The degree to which the entire assembly (measured in hours), not individual components, withstands fire and high temperatures.

Specifically, it is an assembly's ability to prevent the spread of fire between spaces while retaining structural integrity.

The resulting fire resistance rating relates to the assembly in its entirety and is published or classified in the UL Fire Resistance Directory.

Selecting the Right UL Fire-Rated Assembly

1. Establish the hourly rating needed to meet code requirements.
2. Determine the existing or planned building elements, including structural, mechanical, electrical, and finish materials, in the fire-rated assembly.
3. Refer to the Fire Resistance Rating Summary (armstrongceilings.com/ulfire) to determine the UL design numbers and ceiling system products that correspond to the fire-rated assemblies that meet your needs.
4. Refer to the Fire Resistance Selector information on our web site armstrongceilings.com/commercial.

Two types of fire-rated construction assemblies pertain to acoustical ceiling systems:

Roof/Ceiling Assemblies

Ceiling system, lighting, HVAC outlets, and other penetrants through the ceiling, the plenum, roof support structure, and roof assembly including deck, insulation, and roofing system.

Floor/Ceiling Assemblies

Ceiling system, lighting, HVAC outlets, and other penetrants through the ceiling, the plenum, structural system, subfloor, and finished floor.



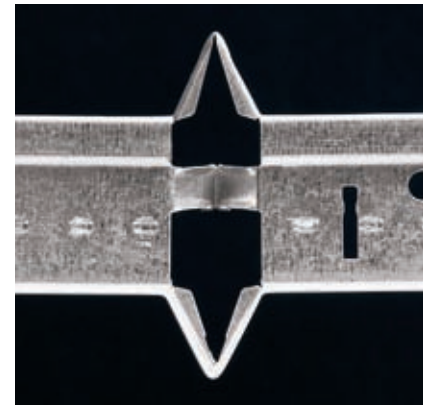
Armstrong® panels are UL listed and outperform requirements for ceilings.

For UL Fire Resistive Ceiling Assembly Details, see pages 483-485.

Look for this icon identifying product pages with Fire Guard® items. Use only Fire Guard™ products for fire-rated assemblies.



Armstrong® Fire Guard™ ceilings are specially formulated to provide enhanced resistance against structural failure. Fire Guard suspension systems have expansion relief to help maintain structural integrity of the ceiling.



Main beam expansion relief

Fire Guard™ products in this catalog are listed under the following ceiling product families:

Ceramaguard®	Pages 284-285
Ceramaguard® Fine Fissured™	Pages 284-285
Cirrus®	Pages 286-291
Clean Room™ VL	Pages 298-299
Cortega®	Pages 300-301
Cortega® Second Look®	Pages 300-301
Dune™	Pages 306-307
Fine Fissured™	Pages 312-319
Fine Fissured™ Second Look	Page 320
Fissured™	Page 321
Georgian™	Pages 322-323
Ultima®	Pages 376-383
VL	Pages 298-299