



DASMA TECHNICAL DATA SHEET

Door & Access Systems
Manufacturers Association
International

ROLLING DOOR DIVISION

#297

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Fire Related Standards and Rolling Steel Fire Door Ratings

This Technical Data Sheet outlines various fire related standards referenced in model building codes, and assesses their applicability to rolling steel fire doors from a ratings standpoint.

Applicable to Rolling Steel Fire Doors:

NFPA 80, Standard for Fire Doors and Other Opening Protectives

The standard addresses installation and maintenance of assemblies and devices used to protect openings in walls, floors and ceilings against the spread of fire and smoke within, into or out of buildings. This standard is directly applicable to rolling steel fire doors. Chapter 4 addresses general requirements, and Chapter 11 addresses installation.

NFPA 105, Standard for Smoke Door Assemblies and Other Opening Protectives

The standard prescribes minimum requirements for smoke door assemblies for use in providing safety to life and protection of property from smoke. The standard can be applicable to rolling steel fire doors where a manufacturer wishes to obtain an "S" rating.

NFPA 80A, Recommended Practice for Protection of Buildings from Exterior Fire Exposures

The document addresses separation distances between buildings to limit exterior fire spread based on exterior openings and other construction features. Because it is not a standard, it is not intended for use in obtaining ratings for any product.

UL 10B, Standard for Fire Tests of Door Assemblies

The standard contains methods of fire tests applicable to door assemblies of various materials and types of construction for use in wall openings to retard the passage of fire. This test is applicable to rolling steel fire doors for the purpose of obtaining ratings because it is within the scope of fire resistance.

Note: Technical Data Sheets are information tools only and should not be used as substitutes for instructions from individual manufacturers. Always consult with individual manufacturers for specific recommendations for their products and check the applicable local regulations.

This Technical Data Sheet was prepared by the members of DASMA's Rolling Door Division Technical Committee. DASMA is a trade association comprising manufacturers of rolling doors, fire doors, grilles, counter shutters, sheet doors, and related products; upward-acting residential and commercial garage doors; operating devices for garage doors and gates, sensing devices, and electronic remote controls for garage doors and gate operators; as well as companies that manufacture or supply either raw materials or significant components used in the manufacture and installation of the Active Members' products.

NFPA 252, Standard Methods of Fire Tests of Door Assemblies

This standard outlines methods of fire testing door assemblies that testing laboratories and manufacturers can use to determine the degree of fire protection provided by such assemblies and assess their suitability when fire resistance of a specific duration is required. This test is applicable to rolling steel fire doors for the purpose of obtaining ratings because it is within the scope of fire resistance.

UL 1784, Standard for Air Leakage Tests of Door Assemblies

These requirements cover the investigation of air leakage through door assemblies and other opening protectives installed in wall openings where air leakage is intended to be controlled. The purpose of the test is to determine only the resistance of a test sample, in the closed position, to air leakage resulting from a specified air pressure difference applied across the surface of the entire opening protective.

Not Applicable to Rolling Steel Fire Doors

ASTM E119, Standard Test Methods for Fire Tests of Building Construction and Materials

The standard contains test methods intended to evaluate the duration for which the types of building elements noted in the standard contain a fire, retain their structural integrity, or exhibit both properties during a predetermined test exposure. IBC Section 707.6 addresses applicability of the standard to wall openings. It states that openings in a fire barrier wall that exceed 156 square feet must comply with ASTM E119 standards unless both sides of the opening are sprinklered per IBC Section 903.1.1.1, including its exceptions. It also states that the aggregate width of openings in a fire barrier wall must not exceed 25% of the length of that wall, excepting opening protectives being tested to the standard with a fire resistance rating equivalent to that of the wall. There is no acceptance criteria in ASTM E119 to make it applicable for rolling steel fire door ratings.

UL 10C, Standard for Positive Pressure Fire Tests of Door Assemblies

The standard contains methods of fire tests applicable to swinging door assemblies, including door frames with lights and panels, of various materials and types of construction for use in wall openings to retard the passage of fire. The methods do not provide an evaluation of a swinging door assembly when that assembly is part of a larger assembly (e.g. sliding fire door assembly), or when it is intended to be used as an elevator entrance. Rolling steel fire doors are not tested for positive pressure since they serve a different purpose from swinging doors. Thus, rolling steel fire doors are left outside the scope of this standard which then is not applicable toward rolling steel fire door ratings.

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UL 10D, Standard for Fire Tests of Fire-Protective Curtain Assemblies

The standard covers the evaluation of fire-protective curtain assemblies intended to provide supplemental, passive fire protection as part of an engineered fire protection system. The provisions of UL 10D are not applicable to rolling steel fire door ratings since assemblies within the scope of the standard provide nonstructural separation only, and are not intended to be substituted for structural hourly rated partitions or opening protectives that have been tested for fire endurance and hose stream performance.

UL 263, Standard for Fire Tests of Building Construction and Materials

The standard contains fire tests applicable to assemblies of masonry units and to composite assemblies of structural materials for buildings, including bearing and other walls and partitions, columns, girders, beams, slabs, and composite slab and beam assemblies for floors and roofs. The tests are also applicable to other assemblies and structural units that constitute permanent integral parts of a finished building. UL 263 is included as an alternate to ASTM E119 in an IBC Section 707.6 Exception allowing opening protectives to be tested to obtain a fire resistance rating equivalent to that of the wall. Like ASTM E119, there is no acceptance criteria in UL 263 to make it applicable for rolling steel fire door ratings.

NFPA 72, National Fire Alarm and Signaling Code

The standard covers the application, installation, location, performance, inspection, testing, and maintenance of fire alarm systems, supervising station alarm systems, public emergency alarm reporting systems, fire warning equipment and emergency communications systems (ECS), and their components. Although a rolling steel fire door can be a component of a fire alarm system, the standard is not used for rating specific components.

NFPA 92, Standards for Smoke Control Systems

The standard addresses the design, installation, acceptance testing, operation and periodic testing of smoke control systems. This standard is not applicable to rolling steel fire doors since it applies to a system and not doors.

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