2.3.1 ASTM Publications.

ASTM International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428-2959.


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Committee Statement

Committee Statement: Reference update.
Response Message:

Public Comment No. 2-NFPA 555-2015 [Section No. 2.3.1]
Second Revision No. 7-NFPA 555-2015 [ New Section after 2.3.2 ]

2.3.3  FM Global Publications.
FM Global, 270 Central Avenue, P.O. Box 7500, Johnston, RI 02919-4923.

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Second Revision No. 6-NFPA 555-2015 [ Section No. 2.3.4 ]

2.3.5 UL Publications.
Underwriters Laboratories Inc., 333 Pfingsten Road, Northbrook, IL 60062-2096.
UL 1685, Standard for Vertical-Tray Fire-Propagation and Smoke-Release Test for Electrical and Optical-Fiber Cables, 2015.

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2.3.6 Other Publications.


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Response Message:
9.4.6 Electrical and Optical Fiber Cables.

9.4.6.1 Heat release of electrical or optical fiber cables is often assessed by conducting vertical cable tray fire tests.

9.4.6.2 It has been shown that when vertical cable tray fire tests are conducted on electrical and optical fiber cables using test methods such as ASTM D5537, Standard Test Method for Heat Release, Flame Spread, Smoke Obscuration, and Mass Loss Testing of Insulating Materials Contained in Electrical or Optical Fiber Cables When Burning in a Vertical Cable Tray Configuration; UL 1685, Standard for Vertical-Tray Fire-Propagation and Smoke-Release Test for Electrical and Optical-Fiber Cables; or BS EN 50399, “Common test methods for cables under fire conditions. Heat release and smoke production measurement on cables during flame spread test. Test apparatus, procedures, results,” all of which assess heat and smoke release of bunched cables, the heat release rate results give adequate indications of the fire performance of such cables in realistic scenarios (Grayson et al., 2000; Hirschler, 1992a and 1992b; Hirschler, 1996; Hirschler, 1997; Van Hees et al., 1999 and 2000).

9.4.6.3 It also has been shown that the heat release rate results from these vertical cable tray tests can be, to some extent, predicted from tests using the cone calorimeter test as applied to electrical cables, namely ASTM D6113, Standard Test Method for Using a Cone Calorimeter to Determine Fire-Test-Response Characteristics of Insulating Materials Contained in Electrical or Optical Fiber Cables, when testing is conducted at the appropriate initial test heat flux, which is often considered to be in the range of 20–40 kW/m² (Grayson et al., 2000; Hirschler, 1994).

9.4.6.4 Moreover, heat release results of cable fire tests conducted in accordance with ASTM D6113 can often be predicted also from heat release results on the materials contained in the cables when conducted in the generic cone calorimeter test method, ASTM E1354, Standard Test Method for Heat and Visible Smoke Release Rates for Materials and Products Using an Oxygen Consumption Calorimeter (Barnes et al., 1996a and 1996b).

9.4.6.5 An alternate approach to predicting the vertical fire propagation of vertical cables is the use of FM fire propagation apparatus in ASTM E2058, Standard Test Methods for Measurement of Material Flammability Using a Fire Propagation Apparatus (FPA), or FM 3972, Test Standard for Cable Fire Propagation (Tewarson and Kahn, 1989).

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Committee Statement: This new sections addresses a product not previously included in NFPA 555. The concept is that electrical and optical fiber cables can be tested for heat release using vertical cable tray fire tests and that these tests can predict the results of full scale fires. Moreover, the results of the vertical cable tray tests (either ASTM D5537, UL 1685 or EN 50399, known as the FIPEC test) can, in turn, be predicted from results of cone calorimeter tests on cables (using ASTM D6311) and these can (to some extent) be predicted from results of cone calorimeter tests on the component materials (ASTM E1354). FM 3972 is an alternate approach to predicting the vertical fire propagation of vertical cables. Several references are being added also.

Response Message:

Public Comment No. 1-NFPA 555-2015 [New Section after 9.4.5]
C.1.2.1 ASTM Publications.

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Response Message:

Public Comment No. 3-NFPA 555-2015 [Section No. C.1.2.1]
C.1.2.2  ICC Publications.

International Code Council, 500 New Jersey Avenue, N.W., Sixth Floor, Washington, DC 20001.


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Response Message:
C.2 Informational References.

The following documents or portions thereof are listed here as informational resources only. They are not directly referenced in this guide.


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