

CALIFORNIA COUNCIL OF TESTING & INSPECTION AGENCIES

FAQ_{10.037}

HOW MANY THICKNESS MEASUREMENT FOR SFRM ON FLUTED DECK?

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Q When measuring thickness of SFRM on fluted decks IBC 1704.10.3.1 now references ASTM E605, while in the past we have used Technical Manual 12A. While the wording in the manual seemed confusing, an appendix clarified that 12 thickness measurements should be taken. Upon reading E605 it seems to indicate that we should “take four random symmetrical measurements”. With such a significant discrepancy between the two can you explain the right procedure?

A The new IBC replaces the Technical Manual 12A, *Standard Practice for the Testing and Inspection of Field Applied Sprayed Fire-Resistive Materials* with ASTM E605 as a reference standard. However the user should be cautious as to the extent of the reference. The IBC uses E605 for **thickness determination** but has wording that supersedes E605 on the **rate of testing**. E605 conducts thickness testing at a Rate of one bay per floor or one bay for each 10,000 sq. ft., whichever provides the greater number of tests. On the other hand, IBC 1704.10.3.1 would have the inspector take the average of "not less than four measurements for each 1000 sq. ft. of sprayed area on each floor or part thereof". With such a conflict we refer to IBC 102.4 “Where differences occur between provisions of this code and referenced codes and standards, the provisions of this code shall apply”. So, when writing an SOP for performing thickness determination the following could be adopted:

“Layout a 12 inch square every 1000 square ft of sprayed floor area and take four random symmetrical measurements within that square, one each of the following: valley, crest, and sides, and report as an average”.

NOTE: This change has drastically increased the amount of testing on fluted decks.