



Wind Uplift Resistance Testing of Newly Installed Roof Assemblies – 14-2017

- TITLE:** Wind Uplift Resistance Testing of Newly Installed Roof Assemblies
- DESIGNATION:** RCI-TA-014-2017
- OBJECTIVE:** To provide RCI's position pertaining to the use of field uplift testing of newly installed roof assemblies

A. BACKGROUND

An industry statement in June 2015 from the National Roofing Contractors Association (NRCA) discusses two published standards, FM 1-52 and ASTM E907, on field uplift testing of newly installed roof assemblies and “perceived issues” associated with them.

B. INFORMATION

- Over the past several years, there have been differences of opinions concerning the application and use of field uplift testing of newly installed roof systems in accordance with FM 1-52, *Field Verification of Roof Wind Uplift Resistance*, and ASTM E907, *Standard Test Method for Field Testing Uplift Resistance of Adhered Membrane Roofing Systems*. Although ASTM E907 was withdrawn in 2013, it is sometimes still specified. For Factory Mutual-insured buildings, compliance with FM 1-52 is required. For other roof projects, the specifications or other owner or designer criteria may dictate requirements for testing by ASTM E907 and/or FM 1-52 of the newly installed roof.
- The subject testing is traditionally performed after the roof has already been installed. Therefore, the test results are not evident at a time during construction when changes and/or modifications can be made to the installation. However, post-installation modifications to the system may be considered. Also, it is possible that there are product and installation variables in a roof that will not be known if the specimen passes the uplift test (especially at locations that are not tested), even though additional tests can be performed in adjacent areas to determine if an unsatisfactory test result is an anomaly or a systemic issue.

DISCLAIMER

This Technical Advisory is intended to serve only as a general resource and to identify potential issues for consideration by industry professionals. Each person using this Technical Advisory is solely responsible for the evaluation of the Technical Advisory in light of the unique circumstances of any particular situation, must independently determine the applicability of such information, and assumes all risks in connection with the use of such information. The materials contained in this Technical Advisory do not supersede any code, rule, regulation, or legislation and are not intended to represent the standard of care in any jurisdiction.

- FM 1-52 allows full-time quality assurance by an RCI Registered Roof Consultant (RRC) or RCI Registered Roof Observer (RRO) as an alternative to testing. Rather than obtaining test results for a limited number of 5- by 5-ft. (1.5- by 1.5-m) test areas (the procedure provides guidelines for a minimum number of tests to be performed, based on the size of roof, while more tests can be performed if construction is suspect), continuous installation monitoring allows for observing the entire assembly process and for corrective action of observed deficiencies as the roof is being installed.
- When qualified individuals perform these uplift tests, they can provide constructive information about a newly installed roof. RCI recognizes the validity of these uplift tests, especially when full-time quality assurance by an RRO or RRC has not been included as part of the roof installation process. To assist with concerns for testing requirements, it may be wise to consider performing one or more tests early in the installation process to help confirm the resultant finished roof will pass a full testing protocol. These wind uplift resistance tests are not intended to replace the need for quality assurance monitoring during a roof installation.

C. SUPPORTING DOCUMENTATION

“Field Uplift Testing: ASTM E907 and FM 1-52 Tests Continue to be Problematic,” NRCA Industry Issue Update, June 2015.

D. REFERENCES

ASTM E907 – 1996 (Reapproved 2004)

FM 1-52 – July 2012