

Field Uplift Performance Testing

Agency Approvals

SOPREMA® roof assemblies are tested by independent labs for uplift resistance in accordance with ANSI/FM 4474, FM 4450, FM 4470 and/or UL 1897. The results or ratings are published by the applicable testing lab or approval agency. Where the roof assembly must be “FM Approved,” refer to the SOPREMA roof assemblies listed on FM Global RoofNav.

Since the 1980's, the 5' x 5' negative pressure test and 2' x 2' bonded pull test have been used in the field to quantify uplift resistance of in situ roof assemblies. Currently there are three standards used to evaluate the field uplift performance of roofing systems. These include Florida Building Code TAS 124, ASTM E 907 and FM Global Loss Prevention Data Sheet (LPDS) 1-52. These three test standards vary significantly. Some differences among the standards include, test pressures/loads required, margin of safety, acceptable limits for roof deflection, and more.

Field uplift testing of roof assemblies has become increasingly common as a quality control measure. Some potential issues with in situ uplift testing include the following:

- Using testing as a means for accepting new roofs when the testing requirements are not known in advance by SOPREMA, the contractor, or the owner.
- Conducting testing without prior notification to SOPREMA on roofs that are to be warranted, or where a warranty is already in place.
- Testing conducted by personnel with insufficient training or credentials, and subsequent unauthorized repairs.
- Findings that are inconclusive and/or not reported in accordance with one of the applicable test standards (TAS 124, ASTM E 907 or FM LPDS 1-52).

Issues and concerns with field uplift testing have been documented in NRCA's Professional Roofing magazine and other industry publications. A roofing industry coalition and Factory Mutual have worked together to revise FM Loss Prevention Data Sheet 1-52 to include alternate quality control methods in lieu of field uplift testing.

The consistency and reliability of field uplift testing remains controversial, and thus field uplift testing for “quality assurance” is not endorsed by industry associations such as NRCA. SOPREMA does also not recommend field uplift testing for “quality assurance” purposes.

In the event field uplift testing is required for new or existing SOPREMA roofs, the field uplift test proposal must be submitted to SOPREMA prior to testing. Upon completion of field uplift testing, the field uplift test report must be submitted to SOPREMA within 30 days of completion.

Field Uplift Test Proposal

A written field uplift test proposal must be provided to SOPREMA not less than seven days prior to the proposed start of testing. This proposal must be submitted to the Technical Services Manager. The following information must be included in the field uplift test proposal:

- Proposed test schedule.
- Name of the testing company, names, credentials and contact information of those conducting the testing.
- Test standard and methods used: e.g., FM 1-52, ASTM E907 or TAS 124.
- The number of tests within each corresponding roof area to be tested.
- Proposed test pressures for the field, perimeter and corner areas with test pressures/calculations sealed by a design professional, or otherwise by the agency determining the test pressures.
- Copy of recommendations, reports and/or letters from FM (or other agency) detailing their test requirements.
- Contact information for the roofing contractor responsible for repairs.
- Proposed repair materials and methods.

Field Uplift Testing

A SOPREMA technical representative must be present during the testing unless this requirement is waived in writing by SOPREMA.

Field Uplift Test Reports

- Upon completion of testing, a written field uplift test report must be provided to SOPREMA, directed to the Technical Services Manager. The following information must be covered in the report:
- Reports must be in accordance with test standard's (FM 1-52, ASTM E907 or TAS 124) reporting requirements without deviation.
- Reports must clearly state the cause of each test failure.
- Drawing (roof plan) and photos of each test, failure mode, and test cut repairs.

Any field uplift testing and repairs not conducted in accordance with these requirements may impact the terms and conditions of the SOPREMA warranty.