

## ANSI/SPRI/FM 4435/ES-1-2022 FAQ's

**Question:** Does an edge system need to be a complete system to meet the requirements of ES-1 or can an ES-1 designed/tested component (such as a cleat) be added to an untested component (such as a cover) to produce an ES-1 compliant system?

**Answer:** ES-1 requires that fascia and coping systems be tested to RE-2 and RE-3 respectively. In both tests the load is applied to the metal component that provides the surface to the wind. Therefore, these systems need to be tested as a complete assembly.

**Question:** Does the International Building Code (IBC) requirement that perimeter edge metal be tested per ANSI/SPRI ES-1 or ANSI/SPRI/FM 4435/ ES-1 (ES-1) mean that I must use pre-engineered metal edge products?

**Answer:** There are several ways to assure edge metal meets IBC. Edge metal can be purchased from a manufacturer of pre-engineered products that has tested them per ES-1. Edge metal can be purchased from a local fabricator that has had their products ES-1 tested. A fabricator can have the edge metal products they fabricate ES-1 tested at an independent laboratory. A fabricator can sub-list with the NRCA, who has ES-1 tested some specific coping and fascia products. However, simply copying the NRCA products does not mean you have produced an ES-1 tested product. The sub-listed fabricators are provided with detailed fabrication information, and they are audited by the NRCA's testing agency to assure that the products they produce are equal to those that have been tested.

**Question:** Is ES-1 only a design standard, meaning that any organization can manufacture an ES-1 compliant edge simply by using an ES-1 design? Or is ES-1 a manufacturing standard, meaning that the organization which manufactures the edge system needs to demonstrate that the system meets ES-1 as tested by an independent agency?

**Answer:** Section 6.0 of the ES-1 standard states:

*"Edge details may be selected from manufacturers who certify certain minimum performance to meet design requirements, based upon testing. Other designs may be used, provided they are tested and certified by an independent testing laboratory to meet the wind and pullout resistance design standards in the ES-1 definition."*

It is the opinion of SPRI that a critical element in meeting a design standard is a fabricator's manufacturing capabilities. Therefore, ANSI/SPRI/FM 4435/ ES-1 testing should be performed on systems as manufactured by a given fabricator.

**Question:** Do all sizes and gauges of roof edge products need to be tested or can it be assumed that smaller sizes and heavier gauges of an identical product produced by the same fabricator will provide equal or better resistance ratings?

**Answer:** All sizes and gauges do not need to be tested. The generally accepted position of those doing ES-1 testing is that a product has an equal resistance to that of a tested product if all 5 of met:

- the **same design** and configuration
- produced by the **same fabricator**
- manufactured from the **same material**
- an equal or **heavier gauge**
- an equal or **smaller size**

**Question:** Is spray polyurethane foam (SPF) considered to be a membrane as the term is used in 1504.5 and does an edge system used with a SPF need to be tested according to ES-1?

**Answer:** It is SPRI's opinion that because SPF is not a ballasted or mechanically attached system there is no need for a RE-1 test to be performed on edges used with SPF. However, tests RE-2 and RE-3 are to determine the edge metal's resistance to the calculated wind load regardless of the roof system. Therefore, it is SPRI's opinion that meet ES-1 all perimeter edge metal for low slope roofs need to be tested according to either RE-2 or RE-3.