



SPECIAL APPLICATOR BULLETIN

SPRAY-IN-PLACE FOAM ROOFING EDGE DETAILS

Roof edge details have always been of concern to spray foam applicators. When roofs were sprayed at 1-inch thickness, metal edge details needed priming and caulking to avoid foam pull-back at the edge. These precautions are necessary because the reaction of the foam chemical components A & R generate heat. As the cured foam cools, the gas volume within the cells reduces, resulting in a slight contraction of the foam.

Frequently, roofs are sprayed at greater thicknesses than 1-inch to enhance water tightness, insulation, and drainage. Some roofs have as thick as 4-inches at the edges; some roofs have foam as thick as 6-inches at the bases of parapets.

Problems have been noted at roof edges and parapets when one or more of the following factors are present:

1. Edge details or parapets are poorly secured; for example, metal edge details fastened into rotted nailers or edges secured to poorly mortared masonry.
2. Roof substrates which are loose laid within 2-feet of the edge or parapet; for example, an existing built-up roof where spot mopping or strip mopping was omitted near the edge.
3. Foam is applied in thickness greater than 1-inch within 2-feet of the roof edge or parapet; for example, an internally drained foam roof sprayed thick at an edge or at the base of a parapet to enhance drainage when the substrate is loose as stated in 1 & 2 above.

When foam is applied under these conditions, the effects of the slight contraction of foam during cooling can be magnified and resultant forces can cause structural damage to roof edges. The thicker the foam, the more leverage this contraction can have on the edge.

To avoid these problems, it is extremely important to verify substrate security when:

- Applying foam greater than 1-inch thick within 2-feet of an edge, or
- Applying foam greater than 4-inches thick at the base of a parapet wall.

If the nature of the roofing project requires greater thicknesses than these, additional core cuts or a larger test cut may be required to determine the condition and structure of the roof in the vicinity of the edge or parapet. This information can be useful to determine the best method to assure a secure and stable substrate.

NCFI Roofing Specification, under SURFACE PREPERATION, state: "Loose, damaged, and deteriorated flashings, details, and equipment must be repaired, secured, or removed." NCFI will be glad to assist you in suggesting substrate preparation and spray techniques to satisfy these requirements.