

# Secure Built-Up and Single-Ply Roofs

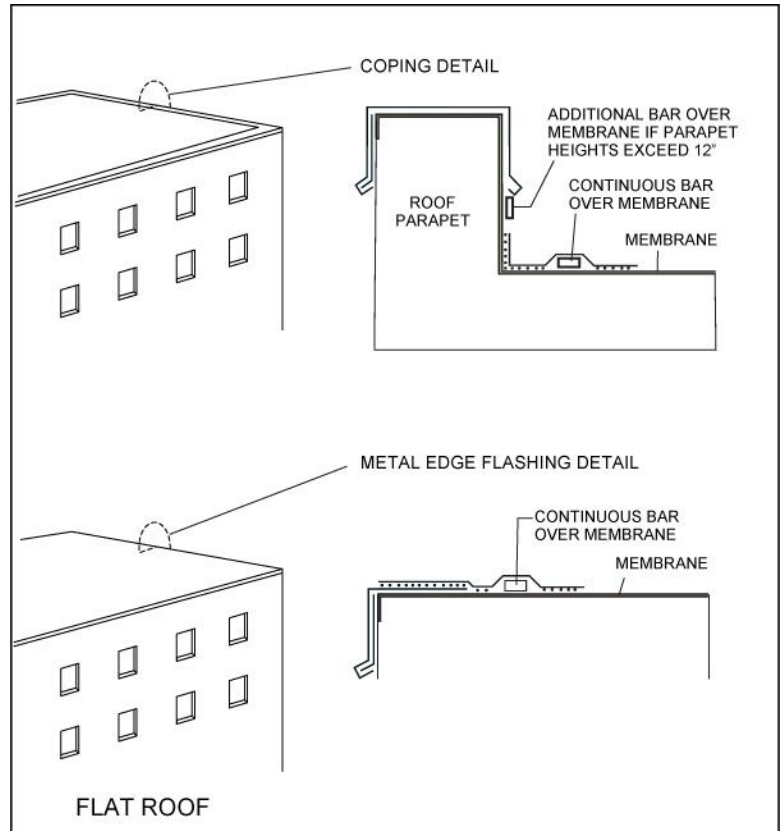


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## PROTECTING YOUR PROPERTY FROM HIGH WINDS

Built-up and single-ply roofs are common on commercial buildings. Built-up roofs consist of multiple layers of felt and asphalt; single-ply roofs consist of one waterproof membrane. These roofs are often damaged when high winds tear away the metal edge flashing or coping around the perimeter of the roof. Once the flashing or coping is gone, the wind can peel back the roofing material and expose the interior of the building to the elements. The major building codes do not address the wind resistance of flashings and copings.

Whenever your built-up or single-ply roof is repaired or replaced, your roof designer or roofing contractor should ensure that the flashing and coping are made of a corrosion-resistant metal, such as aluminum, and are securely attached to the building with screws, concrete spikes, or a continuous cleat. Using a supplementary attachment method to provide additional strength is recommended. For single-ply roofs, a continuous bar placed over the membrane (see detail figures) is an effective means of strengthening the attachment.



## BENEFITS OF UTILIZING THIS MITIGATION STRATEGY

- Helps to prevent damage to a structure and its contents
- Helps to prevent injuries to occupants

## TIPS

Keep these points in mind when you have your built-up or single-ply roof repaired or replaced:

- ✓ Single-ply membranes that are fully adhered are less susceptible to damage than mechanically attached or loose-laid air-pressure-equalized membranes.
- ✓ Some local building codes may require that roofs meet design standards for resisting uplift forces (an example is the American Society of Civil Engineers Standard ASCE 7-05). Ask your local building official whether any special requirements apply in your area.
- ✓ Your local building official may be able to inspect your roof and recommend changes that will help protect it from high winds.

- ✓ If you add stone ballast or pavers to your roof, make sure the roof parapet is high enough and that the pavers or individual stones are large enough to resist being picked up and carried by the wind (refer to *Wind Design Standard for Ballasted Single-Ply Roofing Systems*).
- ✓ Roof warranties typically will not cover damage caused by strong storms.

## ESTIMATED COST

A roofing contractor will charge approximately \$1 to \$2 per linear foot to replace aluminum fascia cap when the roof is being replaced. The cost would be much higher if the fascia is replaced separately.

## OTHER SOURCES OF INFORMATION

FEMA 488, *Hurricane Charley in Florida: Mitigation Assessment Team Report, Observations, Recommendations and Technical Guidance*, Chapter 8.5, "Architectural, Mechanical, and Electrical," April 2005, <http://www.fema.gov/library/viewRecord.do?id=1444>.

FEMA 489, *Hurricane Ivan in Alabama and Florida: Mitigation Assessment Team Report, Observations, Recommendations and Technical Guidance*, August 2005, <http://www.fema.gov/library/viewRecord.do?id=1569>.

FEMA 549, *Hurricane Katrina in the Gulf Coast: Mitigation Assessment Team Report, Building Performance Observations, Recommendations, and Technical Guidance*, July 2006, <http://www.fema.gov/library/viewRecord.do?id=1857>.

Single Ply Roofing Industry (SPRI), <http://www.spri.org>.

*Wind Design Standard for Ballasted Single-Ply Roofing Systems*, ANSI/SPRI RP-4-2002. (Available from SPRI, <http://www.spri.org>, [info@spri.org](mailto:info@spri.org), tel: (781) 647-7026).

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