

TECHNICAL ADVISORY BULLETIN



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From North America's
Largest Roofing Manufacturer!™

To: GAF Residential Sales, GAF Contractors, GAF Field Services

From: Technical Services Department

Subject: Acceptable Substrate For GAF Asphalt Shingle Applications

Date: 07/31/2014

No: TAB-R 2011-101-R1

Why Is The Substrate So Important?

A shingle roof substrate is the “foundation” for your roofing system. The substrate provides the smooth structural base on which asphalt shingles are installed. If the substrate is inferior, the integrity of the roofing system may be compromised.

What's Considered A “Standard Deck” For Shingles?

Standard decks include:

- **Plywood or OSB...** 3/8” minimum thickness, exterior grade as recommended by APA – The Engineered Wood Association
- **Wood planking...** Nominal 1” thick (min.) x 6” wide (max.) wood planking, with a maximum 1/8” spacing at the ends and sides

Note: For existing older installations, if spacing is $> 1/8" \leq 1/4"$, install a double layer of underlayment. If the spacing is greater than 1/4” install a layer of 3/8” minimum thickness APA labeled exterior grade plywood or OSB over the wood planking.

Can The Other Substrates Be Used Without Prior Approval?

When properly installed using the fasteners and construction design recommended by the deck manufacturer, the following substrates may be used:

- GAF Cornell ThermaCal® 1 Ventilating Roof Insulation Panels
- GAF Cornell ThermaCal® 2 Ventilating Roof Insulation Panels
- Loadmaster Shingle Deck
- Tech Shield or equivalent Radiant Barrier Decking systems with vapor permeable, perforated foil backing
- Ainsworth's Thermastrand Radiant Barrier
- 2” Minimum Homasote or Thermasote (Homasote Co.)
- 2” Minimum Span Rock Gypsum Plank (USG) – fasteners must have a minimum 40 lbs. of pullout
- Vented-R (Atlas)
- Vented Nail-Line (Apache)
- Hunter Vented Nail Base
- Foam-Control Nail Base (AFM Corp. Licensed Mfr.)
- Tectum III, Tectum E and Tectum NS (Tectum, Inc.)
- Huber Zip Deck System – A waterproof underlayment such as StormGuard® leak barrier must be used at eaves as required by code or for certain warranty considerations and additional underlayment may be needed on slopes less than 4:12 or on re-roofing projects.

Note: GAF shingles are **not** approved for applications directly over any insulation or fiberboard.

What About Structural Insulated Panels (SIP)?

SIP may be use when:

- Approved/rated by UL for use as a shingle roof deck
- With the minimum thickness of plywood or OSB as recommended above installed in accordance with the SIP panel manufacturers recommendations for use as a shingle roof deck

What About Codes?

Roof decks must meet local codes... and approval from the local building department should be obtained to confirm the deck construction and ventilation meets local code requirements.

Is The Substrate Or Workmanship Covered Under GAF Warranties?

Only GAF Cornell ThermaCal® 1 & 2 Ventilating Roof Insulation Panels are covered by GAF under the GAF Cornell ThermaCal® Nail Base Roof Insulation Limited Warranty. See this limited warranty for complete coverage and restrictions.

All substrates must be installed in accordance with the deck manufacturer's specifications. Roof deck installation instructions, including the need for a vapor retarder, for specific deck types must be obtained from the respective manufacturer. GAF does not warrant the installation method, the performance of the decking or problems with the shingles caused by the deck or substrate, including but not limited to: physical movement, thermal bridging and/or moisture migration at the joints.

Where Can I Get More Information?

GAF Technical Services can assist you... with these and other questions you may have regarding your new roof installation. GAF Technical Services can be contacted at **800-ROOF-411** (800-766-3411). Also, the GAF website is a great resource for just about any question you may have or for additional information you may require. Please visit: www.gaf.com.