



TECHNICAL BULLETIN

Cedar Roof Underlayment, Interlayment and Eave Protection

Overview

These products are used as part of cedar roofing and wall systems. They enhance a system's water shedding ability and help prevent the intrusion of wind driven rain, and snow which can cause ice damming. Sheathing and roofing systems are separate systems; both systems are required by building code and need to be properly designed and installed.

Three main types of products need to be considered:

- 1) Underlayment; 2) Interlayment; and 3) Eave protection.

Correct Specifications

The CSSB's New Roof Construction Manual as well as Exterior and Interior Wall Manual show how to install these products:

Underlayment/Interlayment

Many of the segments in the market use a general term when ordering or specifying a particular type of product. Asphalt-Saturated Organic Felt Underlayment ("felt") is most commonly stated as '30 pound felt'. This 'term' may allow for inappropriate or substandard products to be used; further definitions are necessary to follow current industry developments. Ensure the most detailed specifications are used to maintain the integrity of a project and compliance with local building codes.

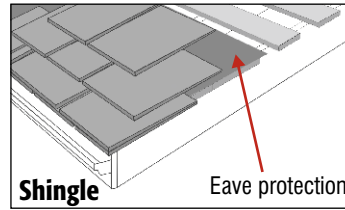
The American Society for Testing Materials Standards ("ASTM") for Asphalt-Saturated Organic Felt Definitions:

ASTM D226 is the "Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing"

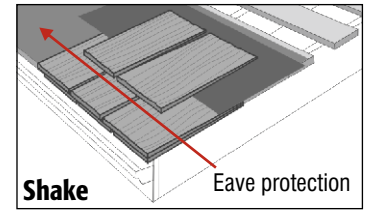
ASTM D4869 is the "Standard Specification for Asphalt-Saturated Organic Felt Underlayment Used in Steep Slope Roofing"

- 1) No. 30 felt is more of a name today than a weight reference.
- 2) The specification for jobs would be "ASTM D226 Type II" or "ASTM D4869 Type IV". Check www.astm.org for the most current information.

There are differences in the asphalt content and composition of the felt within ASTM Standards. It is important to check with local building code requirements when specifying the ASTM Classification as some codes require the use of a specific ASTM Classification for roof and sidewall application.



Underlayment



Interlaid/Interwoven Felt

Manufacturers of these products still use various identifiers such as "No. 30" and "Type 30" on the product identification bands. When the product meets ASTM standards, the standard and classification will also be stated on the band. The CSSB recommends specifiers always state a **No. 30 ASTM D226 Type II or No. 30 ASTM D4869 Type IV** felt underlayment as stated in the CSSB's New Roof Construction Manual and the CSSB's Exterior and Interior Wall Manual rather than just "No. 30 or Type 30".

Self-Adhesive Eave Protection (ASTM D1970)

Self-adhesive eave protection is a non-permeable type of asphalt material, sometimes used at the bottom of the roof near the gutter area. It is put in place to prevent water intrusion, originating from ice dams at the eaves, in areas where high snow load is common. It may be used at the eaves and valleys in geographical areas prone to ice damming, on both cedar shake and cedar shingle roofs, when required by local building code. Always consult with Building Code Officials for specifics.



Self-adhesive eave protection (do not confuse with No. 30 ASTM D226 Type II felt nor with ASTM D4869 Type IV felt).

18" Roll

36" Roll

No. 30 ASTM Felt

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Caution Areas

- **DO NOT COVER THE ENTIRE ROOF DECK WITH NON-PERMEABLE UNDERLAYMENT. This includes both non-permeable synthetic felt-mimicking products as well as self-adhesive products.**
- The CSSB recommends only applying non-permeable eave protection at the eaves and valleys, and as per local building code.
- Interlay shakes with 18" wide No. 30 ASTM Standard felt. Never interlay shingles with felt (it is already a 3-ply system).
- Do not position the felt lower than double the exposure of the shake. If the felt does extend below this line it is commonly referred to as 'rot felting' since the felt is susceptible to deterioration from the sun's UV rays. Rot felting can also prevent proper drying of shakes and shingles, thus shortening their life.
- Check with the local building official and a building envelope specialist, regarding any modifications to, or the addition of a vapor barrier system.
- **No. 30 ASTM D226 Type II and No. 30 ASTM D4869 Type IV** are the only two underlayments recommended by the CSSB for steep slope cedar roof applications.
- There are over 80 different types of synthetic underlayments, none of which are tested by the CSSB. However, there are a few synthetic underlayment brands that claim their brand of underlayment is permeable. Check with the manufacturer for the "Perm Rating", application and specifications.
- Rot felting occurs when the felt is dropped into the keyway and



Rot felting of tapersawn shakes

is exposed to the sun, thus causing degradation of the felt with UV exposure over time. The felt interlay should not be visible in the space (keyway) between each shake.

Frequently Asked Questions:

Must I use a continuous ventilation product on my installation?

No. Continuous ventilation products are an option, especially in high humidity areas. Consult the CSSB's New Roof Construction Manual for information about roof system ventilation options and applications.

When I hear "30 pound felt" does it mean the same thing as "No. 30 felt"?

No. One must use the correct ASTM designation and classification in your detailed specification to guarantee that you are obtaining quality materials.

The information in this bulletin is not intended to supersede local building codes. Check with your local building official for final approval. The CSSB assumes no liability for any application non-conformance.

This bulletin only provides a short overview of this technical topic. For additional details consult: 1) CSSB's New Roof Construction Manual & 2) CSSB's Exterior and Interior Wall

For additional industry information:

Cedar Shake & Shingle Bureau	www.cedarbureau.org
American Forest and Paper Association	www.afandpa.org
American Society for Testing and Materials	www.astm.org
American Wood Council	www.awc.org
Canadian Wood Council	www.cwc.ca
American Coatings Association	www.paint.org
FP Innovations	www.fpinnovations.ca
International Staple, Nail & Tool Association	www.isanta.org
University of Massachusetts	www.umass.edu
USDA Forest Products Laboratory	www.fpl.fs.fed.us

Known as the recognized industry authority since 1915, the Cedar Shake and Shingle Bureau ("CSSB") is a successful, integrated and global trade association, offering a full range of services including technical assistance, building code updates, and weather resistant product details. Contact the CSSB for more information.

