



TUFF-FELT™ PREMIUM ROOF UNDERLAYMENT DATA SHEET

COMPLIANCE: Exceeds performance requirements of ASTM D226 Type II, ASTM D 4869 Type IV and Meets CSA A123.3 Type III, Type 15. A saturated felt for roofing systems classified by Underwriters Laboratories, Inc. as to external fire exposure only #R11333.

DESCRIPTION: APOC® Tuff-Felt™ Premium Asphalt Saturated Underlayment's are designed and manufactured with our exclusive, heavy weight reinforcements that greatly increase tensile strength and prevent the tearing of felts during installation. Tuff-Felt™ products are made from a select combination of virgin and recycled wood pulp and are produced using a unique and specialized process. This unique process allows Tuff-Felt™ products to incorporate Tru-Breathe™ Technology, resulting in a vastly improved underlayment and have been "Tested Best" by leading roofing contractors.

Tru-Breathe™ Technology: Tru-Breathe™ Technology is designed and manufactured to allow the transmission of air vapor while keeping water out. Unlike "claims" by synthetic products, this creates a truly breathable membrane, which helps prevent the rotting of wood decks (caused by synthetic products) and helps roofing materials last longer.

Tuff-Felt™ products are faster to install, provide a stronger and more durable membrane and improve the overall performance of the roof system.

USES: APOC® Tuff-Felt™ products are excellent underlayments for steep-slope roofing such as shingles, wood shakes, and tiles. In addition, they can be installed under all types of building materials, flooring and siding, including stucco, aluminum, vinyl and wood. APOC® Tuff-Felt™ products are excellent secondary protection barriers against wind, moisture, and other environmental elements.

PREPARATION: Always ensure the roof deck is properly prepared. All decayed, rotting, rusted or broken materials must be removed and replaced before installing underlayments. Remove and replace all loose nails and secure deck to sound framing with the correct fasteners, clips and spacing as per local building codes and or shingle or roofing manufacturers published specifications. If using new OSB sheathing, a gap should be left between sheets to allow for expansion and contraction of new sheathing and prevent bulging and ridges from forming. Spacing should be approximately 1/8" at end joints and 3/16" at side joints; however, this must be verified with shingle or other roofing manufacturers specifications. To help alleviate expansion and contraction of new OSB, allow the material to be pre-conditioned prior to installation.

VENTILATION: Always ensure adequate ventilation exists under the roof deck. This can be in the form of ridge or other ventilation products. High or excessive humidity can result in wrinkling, ridging or buckling of roofing materials and decks or telegraphing of expansion joints through the roofing materials. Elimination of open spaces from the house to the attic will also help prevent excessive humidity build up. In hot and arid climates, ventilation is also helpful. Heat build-up can result in drying, cracking and premature aging of roofing materials. Proper ventilation will help alleviate these concerns.

APPLICATION: First and foremost, never walk on un-nailed felt. Always run felts horizontally and start at the bottom edge of the roof. In a kneeling position carefully set roll in place at edge of the roof and unroll 2 - 3 feet. Align the felt so the edge of the felt covers up to the edge of the rake and eaves but not over the sides of the building. When the felt is properly positioned, install approximately 5 nails into the top right hand corner of the felt to hold it in place. Fasten nails in a 2 inch square pattern with one nail in the corner. Next, roll out the felt approximately one half way across the roof, or about 20 - 25 feet. In windy conditions, work with approximately one half of this distance. Pick up the roll and pull until tight. Line up the edge of the roll with the eaves and eliminate any wrinkles or buckles.

Hammer a nail in the top corner next to the roll when the felt is aligned straight and is laying flat with no wrinkles. Install a nail ever 6 to 8 inches across the top of the felt. Next, install strips of nails at the center of the roll and at the bottom of the roll across the membrane. After nailing the first section, continue in the same manner across the roof. Make sure to leave yourself at least 3 feet from the edge of the roof to work. Repeat the process of straightening and fastening the felt while being cautious of roof edges. After the felt has been fully nailed, unwind the roll to the edge of the roof and cut the felt even with the rake. Excess can be easily trimmed and nailed in place.

TYPICAL PHYSICAL & PERFORMANCE CHARACTERISTICS:

Size	36" x 144'
Area	432 sq. ft. approx.
Net mass of saturated felt, min. lb/100 sf	11.5
Mass of saturant, min. lb/100 sf	6.2
Mass of desaturated felt, min. lb/100 sf	5.2
Ash, maximum percent:	10.0
% Saturation, % by wt., minimum	120
Breaking Strength, min. MD & CD, lbf/in.	30/15
Liquid Water Transmission Test	Pass

Moving up the roof, install the next layer of felt with a 2 inch overlap. Set the roll in place, straighten and fasten in the same manner as the first layer with approximately 5 nails in the upper right hand corner of the felt. Use the guidelines (printed on the felt) to align the roll, overlap the first layer properly and ensure the felt is straight. Note: The bottom of the upper layer is always on top of and overlaps the lower layer. When nailing the second and additional layers of felt, stand on the lower layer of felt that has been completely nailed in place. Nails will only need to be installed across the bottom and across the center. The same pattern of every 6-8 inches should be followed. The top will not need to be fastened as the 2" bottom overlap of additional layers of felt will serve to fasten the tops of the previous layers. Continue across the roof and then upward until the last layer overlaps the ridge at the top of the roof by approximately 8 inches. Nail the top layer in place and cut off extra material. If any wrinkles are present after the application, slit them with a utility knife and nail down flat. Then using a thin layer of APOC flashing cement, seal the slit to waterproof the cut areas. Repeat the process on the other side of the roof.

NOTE: NRCA recommends roofing nails be 11-gauge or 12-gauge galvanized steel or the equivalent corrosion-resistant roofing nails. Nail heads should be low-profile, smooth and flat. Shanks should be barbed or otherwise deformed for added pull-out strength. Nails should be long enough to penetrate through all layers of roofing materials and extend through the underside of the roof deck or penetrate at least 1 inch into wood plank or board decks.

HANDLING PRECAUTIONS: Product safety information required for safe use is not included. Before handling, read product safety data sheets and container labels for safe use and for physical and health hazard information. Safety data sheets are available on the APOC website at www.apoc.com. You can also obtain a copy from your local APOC Distributor or APOC sales representative.

LIMITED WARRANTY AND DISCLAIMER: To the best of our knowledge, the technical data contained herein is true and accurate at the date of issuance and is subject to change without prior notice. User must contact APOC to verify correctness before specifying or ordering. No guarantee of accuracy is given or implied.

For limited warranty and disclaimer information, visit our website at: www.apoc.com/productwarrantyinfo.

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See SDS for more info