

SECTION 07 30 00 - STEEP SLOPE ROOFING

ROOF UNDERLAYMENT MEMBRANE

This guide specification has been prepared by Polyguard Products Inc., in printed and electronic media, as an aid to specifiers in preparing written construction documents for self-adhering roofing underlayment. Polyguard® Deckguard™ HT is a high-heat premium membrane composed of a high-strength, slip-resistant, spider web backing laminated to a high-performance, high-heat asphalt compound with a film release for ease of application. The release liner is removed, leaving a strong asphalt compound that bonds to the roof deck. Polyguard Deckguard™ HT is a waterproofing underlayment manufactured for use on sloped roof decks and is suitable under most traditional roof coverings such as shingles for both commercial and residential and metal roofs.

Edit entire master document to suit project requirements. Modify or add items as necessary. Delete items which are not applicable. Words and sentences may contain choices to be made regarding inclusion or exclusion of a particular item or statement. This section may include performance-, proprietary-, and/or descriptive-type specifications. Edit to avoid conflicting requirements. Editor notes to guide the specifier are included between lines of asterisks to assist in choices to be made. Remove these editor notes before final printing of specification.

This guide specification is written around the Construction Specifications Institute (CSI) Section Format standards.

For specification assistance on specific product applications, please contact our offices or any of our local product representatives throughout the country.

Polyguard Products Inc. reserves the right to modify these guide specifications at any time. Updates for this guide specification will be posted on the manufacturer's web site and/or in printed media as they occur. Manufacturer makes no expressed or implied warranties regarding content, errors, or omissions in the information presented.

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Surface preparation.
- B. Application of self-adhering roofing underlayment system.

1.02 RELATED SECTIONS

Specifier Notes: Edit the list of related sections as required for the project. List other sections dealing with work directly related to this section.

- A. Section 06 10 00 - Rough Carpentry.
- B. Section 07 22 00 - Roof and Deck Insulation
- C. Section 07 30 00 – Steep Slope Roofing
- D. Section 07 32 00 - Roof Tiles
- E. Section 07 60 00 - Flashing and Sheet Metal.
- F. Section 07 61 00 - Sheet Metal Roofing

1.03 REFERENCES

- A. ASTM D 36 (06) - Standard Test Method for Softening Point of Bitumen (Ring and Ball Apparatus).
- B. ASTM D 146 - Standard Test Methods for Sampling and Testing Bitumen-Saturated Felts and Fabrics Used in Roofing and Waterproofing.
- C. ASTM D 1970 - Standard Specification for Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection.
- D. ASTM D 412 - Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers-Tension.

- E. ASTM E 96 (Method B) - Standard Test Methods for Water Vapor Transmission of Materials.
- F. ASTM E 154 – Standard Test Methods for Water Vapor Retarders Used in Contact with Earth Under Concrete Slabs, on Walls, or as Ground Cover.

1.04 SUBMITTALS

- A. Product Data: Submit manufacturer's product data, installation instructions, use limitations and recommendations.
- B. Samples: Submit representative samples of the following for approval:
 - 1. 1 sq. ft. of underlayment

1.05 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Sheet Membrane must be manufactured by a company with a minimum of ten (10) years of experience in the production and sales of membrane waterproofing materials.
- B. Applicator Qualifications: A firm having at least three (3) years of experience in applying these types of specified materials and specifically accepted in writing by the membrane system manufacturer.
- C. Materials: For each type of material required to complete the work of this section, provide primary materials which are the products of a single manufacturer.
- D. Pre-Application Conference: A pre-application conference shall be held to establish procedures and to review conditions, installation procedures and coordination with other related work. Meeting agenda shall include review of special details and flashing.
- E. Manufacturer's Representative: Arrange to have trained representative of the manufacturer on site periodically to review installation procedures.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name and manufacturer.
- B. Store materials in a clean, dry area in accordance with manufacturer's instructions.
- C. Store adhesives at temperatures of 40° F (5° C) and above to facilitate handling.
- D. Store membrane cartons on pallets.
- E. Keep away from sparks and flames.
- F. Completely cover when stored outside. Protect from rain.
- G. Protect materials during handling and application to prevent damage or contamination.

1.07 PROJECT CONDITIONS

- A. Underlayment is best applied at temperatures of 35°F (2°C) and above. Adhesion of underlayment should be field tested before application. If adhesion is marginal, test again using liquid adhesive. Liquid adhesive is necessary in all instances where dust is present or where a test patch shows that adhesion is inadequate.
- B. Surfaces to receive the underlayment must be smooth, dry, and free of dust, dirt, or other foreign materials. Proceed with installation only when substrate construction and preparation work is complete.
- C. Warn personnel against breathing of vapors and contact with skin and eyes; wear appropriate protective clothing and respiratory equipment.
- D. Keep flammable products away from spark or flame. Post "No Smoking" signs. Do not allow use of spark-producing equipment during application and until all vapors have dissipated.
- E. Maintain work area in a neat and workmanlike condition. Remove empty cartons and rubbish from the site daily.

1.08 WARRANTY

- A. Product will be replaced, at no charge, proven defective product within twelve (12) months of purchase, provided it has been applied in accordance with manufacturer written directions for uses recommended as suitable for this product. Proof of purchase must be provided. A five (5) year material or system warranty may be available upon request. Contact Polyguard Products, Inc. for further details.

PART 2 PRODUCTS

2.01 MANUFACTURER

- A. Polyguard Products Inc. P.O. Box 755 Ennis, TX 75120-0755; Phone: (214) 515-5000 Fax: (972) 875-9425 Email: info@polyguard.com

2.02 SYSTEM MATERIALS

- A. Roof Underlayment Membrane shall be: Polyguard® Deckguard™ HT, a high-heat premium membrane composed of a high-strength, slip-resistant spider web backing laminated to a high-performance, high-heat asphalt compound with a film release that bonds to the roof deck for ease of application, meeting or exceeding the following requirements:

PHYSICAL PROPERTIES

PROPERTY	TEST METHOD	TYPICAL VALUE
FILM COLOR		Blue/White
TOTAL UNDERLAYMENT THICKNESS		40 mils
SOFTENING POINT	ASTM D 36	260°F
ELONGATION - ULTIMATE FAILURE OF RUBBERIZED ASPHALT COMPOUND	ASTM D 412 Modified Die C	> 184%
TENSILE STRENGTH	ASTM D 412 Modified Die C	338 PSI
PUNCTURE RESISTANCE	ASTM E 154	> 22 lb _f
LOW TEMPERATURE PLIABILITY	ASTM D 146	No effect
PERMEANCE	ASTM E 96	0.01
NAIL SEALABILITY	ASTM D 1970	PASS
THERMAL STABILITY	ASTM D 1970	PASS
PEEL ADHESION	ASTM D 1970	> 15 lb./in width
LAP ADHESION	ASTM D 1970	> 10 lb./in width

2.03 SYSTEM ACCESSORIES

- A. Surface Primer Roller-grade Adhesive:
1. Polyguard® 650 LT Liquid Adhesive: A rubber-based, tacky adhesive which is specifically formulated to provide excellent adhesion.
 2. Polyguard® 650 WB Liquid Adhesive: A water-based, rubber-based adhesive which is specifically formulated to provide excellent adhesion.
 3. Polyguard® California Sealant: A rubber-based sealant which is specifically formulated to provide excellent adhesion. The VOC (Volatile Organic Compound) content meets the South Coast Air Quality Management District regulations established under the February 1, 1991 version of Rule 1168 © (2) Adhesion and Sealant Applications. California Sealant is classified as an Architectural Sealant Primer Porous, with VOC of 527 g/L. Current SCAQMD regulations for this type sealant primer are 775 g/L.
- B. Detail Sealant:
1. Polyguard® Detail Sealant PW™: A single-component, STPE, 100% solid moisture-cured, elastomeric sealant. It is an environmentally-friendly, non-isocyanate product that replaces silicone and urethane sealants. It is also a low VOC / HAPS-free, cold-applied, self-adhesive, elastomeric sealant.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Examine surfaces to receive self-adhering membrane. Notify General Contractor if surfaces are not acceptable. Do not begin surface preparation or application until unacceptable conditions have been corrected.

3.02 SURFACE PREPARATION

- A. Clean and prepare surfaces to receive waterproofing in accordance with manufacturer's instructions. Install the membrane directly on a clean, dry, continuous structural deck. Some suitable deck materials include plywood, wood composition, wood plank, metal, concrete, or gypsum sheathing. Remove dust, dirt, loose nails, and old roofing materials. Protrusions from the deck area must be removed. Decks shall have no voids, damaged, or unsupported areas. Repair deck areas before installing the membrane.

3.03 APPLICATION

A. Priming:

1. If liquid adhesive is required never apply liquid adhesives to wet or frozen surfaces. If surface temperatures are 32°F (0°C) and rising, 650 LT Liquid Adhesive or California Sealant (both solvent-based) may be used to promote adhesion. If surface temperatures are 40°F (0°C) and rising, 650 WB Liquid Adhesive (water-based) may be used to promote adhesion. The underlayment should be kept warm until needed if cold temperatures exist. Allow liquid adhesive to dry for one (1) hour or until tack-free. Prime only the area which can be covered with underlayment in the same working day. Areas primed and not covered within twenty-four (24) hours should be recoated. Do not apply liquid adhesive at heavier rates than recommended. Excessive material build-up will delay drying and underlayment application.
2. Test OSB for direct Polyguard® Deckguard™ HT adhesion. Use liquid adhesive if necessary.
3. When substrate is ready, apply liquid adhesive to a cleaned, dust free surface. Apply by short nap roller or brush, Polyguard® 650 WB Liquid Adhesive at a rate of 350-400 sq. ft. per gallon or Polyguard® 650 LT Liquid Adhesive or California Sealant at a rate of 250-300 sq. ft. per gallon depending on porosity of the substrate. Allow to dry per manufacturer directions.

B. Membrane Installation:

1. Install in strict accordance with manufacturer's application procedures, precautions and limitations.
2. On standing seam metal roofs, the underlayment will be applied on insulation board.
3. Underlayment should be applied with a 6" minimum end and a 3" side overlap. Cut underlayment into 10-15 foot lengths and reroll. Starting at the base, or lower edge of the roof, apply underlayment with the long edge parallel to the edge of the roof. Unroll the underlayment by pulling the release sheet from under the underlayment.
4. Roll the surface with a small hand type roller or hand pressure during application to eliminate minor wrinkles and air pockets.
5. Most local buildings codes and the National Roofing Contractors Association recommend underlayment application from roof edge to 24" within the interior wall line of the building.
6. Since snow loads vary by area, local conditions should be considered during specification. In mountainous areas with considerable snow, it may be necessary to apply underlayment on the entire roof area. The consideration as to whether this is done will depend upon how far melted water under the shingles would reach a given climatic location with a given roof pitch.
7. Apply underlayment to ridges or valleys, slit to proper width and with approximately half of the underlayment width applied on either side of the ridge or valley. Cut the underlayment into approximately 6-foot lengths for placing on irregular contoured surfaces for ease of application. Install roofing valleys from the low point to the high point shingling the underlayment. Overlap all ridge and valley underlayment by 6".

END OF SECTION