



# Synthetic Field Underlayments Installation Instructions

***SECURE START<sup>®</sup> LITE***

***SECURE START<sup>®</sup> SG***

***SECURE START<sup>®</sup> PLUS***

***SECURE START<sup>®</sup> PERMEABLE***

# Directions for Applying Malarkey Secure Start® Synthetic Field Underlayments

## GENERAL INSTRUCTIONS

Install Malarkey's 1029 *Secure Start® Lite*, 1030 *Secure Start® SG*, 1031 *Secure Start® Plus*, and 1035 *Secure Start® Permeable* synthetic, field underlayments according to adopted building code and local amendments. To qualify for warranty protection and obtain stated coverage, the installation instructions detailed here must be followed. Contact Malarkey Technical Services or check our website at [WWW.MALARKEYROOFING.COM](http://WWW.MALARKEYROOFING.COM) for the most current version.

For current warranty information, visit: [WWW.MALARKEYROOFING.COM/warranties](http://WWW.MALARKEYROOFING.COM/warranties).

We assume no responsibility for damage to the underlayments or water damage to the roof deck prior to installation of the finished roofing system, or for leaks due to improper application or failure to properly prepare the surface.

## IMPORTANT

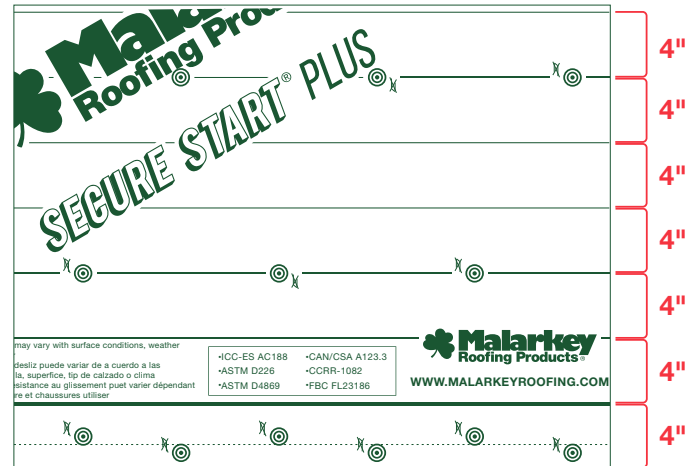
- ALWAYS wear fall protection when working on a roof.
- Underlayments can be slippery, particularly when wet or covered with frost, dust, or debris. Be careful when walking on them.
- All material loaded on the surface of *Secure Start®* underlayments should be blocked to prevent slippage.

## PRODUCT DESCRIPTION

**Product Use:** *Secure Start®* field underlayments are light-weight, *mechanically-attached*, synthetic membranes suitable for use as steep slope underlayments or dry-in sheets in roofing applications with metal roofing, wood shakes and asphalt shingles, or mechanically-fastened roof tiles. SG features smooth surfaces, top and bottom, which can help speed installation by lessening shingle drag. *Secure Start®* underlayments are also preferred for installation over vented nail base.

**Composition and Materials:** *Secure Start®* underlayments are manufactured of 100% recyclable polypropylene and engineered with multiple layers for long-term strength and durability. They meet or exceed the physical requirements of ASTM D226, ASTM D4869, and ASTM D8257, and are engineered to perform in temperatures from -40°F to 240°F (-40°C to 116°C).

The sheets have *course lap guide lines* (lay lines) imprinted on the material every 4" (102 mm), all the way across the width of the sheet. (See **Figure 1**)



**Figure 1 - *Secure Start®* Underlayments Have Course Lap Guide Lines Every 4" (102 mm)**

**Precautions:** *Secure Start®* underlayments require dry, well-ventilated storage and protection from the weather.

Roof decks should be sound, smooth (free of protrusions), and meet adopted building code requirements. Sweep dirt and debris from the surface.

Minimum approved slope is 2" (51 mm) per 12" (305 mm).

Install *Secure Start®* underlayments with the printed-side up, and lay underlayment courses parallel to the eaves. Cut the material with straight edge blades or scissors; do not use hook blades.

In the state of Florida, underlayment shall be attached as per Florida Building Code (FBC) Section 1507.1.1, Table 1507.1.1.1., and Section 1518.

*Secure Start® Lite*, *SG*, and *Plus* underlayments are considered Class I vapor retarders. To prevent harmful condensation beneath the roof sheathing, roof structures must be provided with thorough ventilation. Ventilation provisions must meet or exceed current FHA or HUD requirements and adopted building code.

As its name suggests, *Secure Start® Permeable* is highly permeable and not a vapor retarder; in fact, it is designed to help the release of trapped moisture from poor attic ventilation.

*Secure Start®* underlayments are not intended as a permanently-exposed roofing surface but can be left uncovered for up to 90 days if necessary before the primary roof covering is installed. However, good roofing practice dictates the finished roofing material be installed over underlayment as quickly as possible to minimize the chance of blow-off and/or leaks.

## APPLICATION

**Drip Edge Flashing:** In accordance with current International Building Code, Section 1507.2.8.3, and International Residential (Building) Code, Section R905.2.8.5, *drip edge flashing* (drip edge, eave or rake metal) is required on the eave and rake edges of shingle roofs.

Install drip edge first along the eaves, and later on the rakes once the field underlayment has been applied.

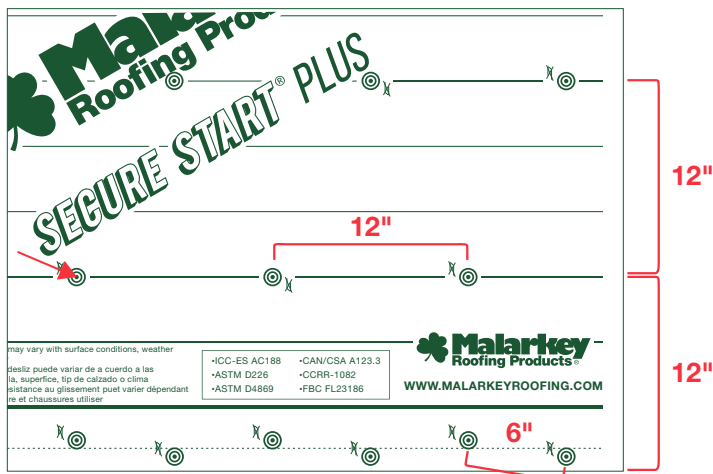
## UNDERLAYMENT FASTENING INSTRUCTIONS

The extent to which Secure Start® underlayments must be fastened is determined by several factors, and our instructions address these:

- Your climate region and related wind speeds
- Performance expected of the underlayment should a blow-off of the primary roof covering occur
- Degree of roof slope
- How long the underlayment will remain exposed before the primary roof covering is applied
- Safety

Malarkey recommends *plastic or metal cap fasteners* with a nominal cap diameter of 1" (25 mm). Do not use staples without caps.

Circular/bullseye imprints on the material act as guides to aid fastening. Designated fastener spacing on side laps is staggered, 6" O.C. (152 mm), and 12" O.C. (305 mm) in each of three rows on the field of the sheet. The field rows of fasteners correspond with marked lay lines and are 12" (305 mm) apart. (See Figure 2)



**Figure 2 - Secure Start® Underlayments Have Bullseye Imprints That Guide Fastener Placement**

**Limited Exposure:** In temperate weather conditions with expectation Secure Start® underlayments will only have limited exposure prior to same or next day application of the primary roof covering, install enough fasteners to hold the underlayments firmly in place in order to work safely (or per adopted building code) until shingles can be applied.

Malarkey recommends this be accomplished by fastening at *every other* imprint on the sheet, meaning side laps with fasteners 12" O.C. (305 mm) and the field fastened in staggered rows, 24" O.C. (610 mm).

**Extended Exposure:** For added leak protection in coastal regions, other areas of wind-driven rain or when Secure Start®

underlayments are left exposed for an extended period of time (days or weeks) prior to application of the finished roofing materials, *drive fasteners in each of the imprints*.

**Optional High Wind Installation:** For additional protection along with *Extended Exposure* fastening, it is recommended laps be taped or sealed with approved sealants.

**In all instances, in every application of Secure Start® underlayments,** vertical end laps in the same course should be minimum 6" (152 mm)<sup>1</sup>, fastened every 6" (152 mm), and staggered 6' (1.8 m) apart in subsequent courses.

Extend Secure Start® underlayments a minimum of 6" (152 mm) past hips, ridges and valleys. At roof-to-wall transitions, lap the membranes a minimum of 3" (76 mm) up the vertical wall and fasten.

Once an expanse of roof is covered by underlayment up to the ridge, apply drip edge flashing to the rakes, over the ends of underlayment.

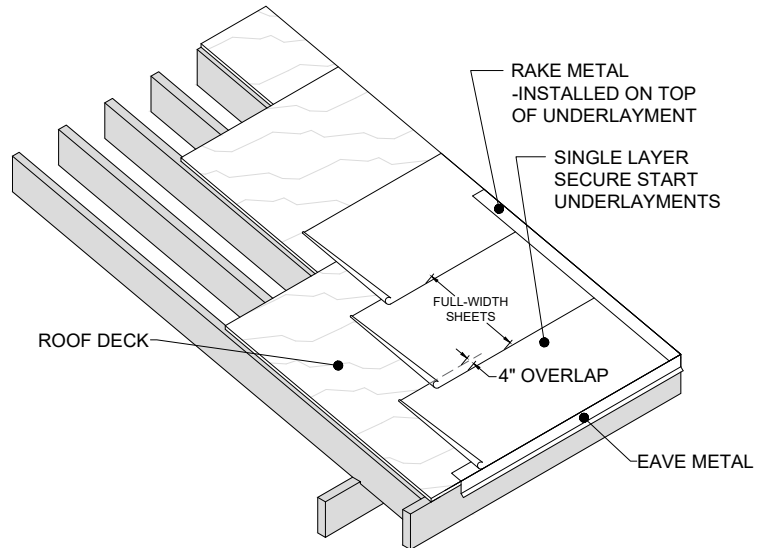
## INSTALLATION IN NON-ICE DAM REGIONS

### Roof Slopes 4:12 and Greater

A single layer of Secure Start® underlayment is all that's required for slopes 4:12 (4" [102 mm] per 12" [305 mm]) and greater.

Install the initial, full-width course at the lowest point of the roof deck, flush to the eave, and trim at the rake.

Continue working up the roof, subsequent courses overlapping at side laps 4" (102 mm). (See Figure 3)



**Figure 3 - Application of Secure Start® Underlayments on Roof Slopes 4:12 and Greater (Non-Ice Dam Regions)**

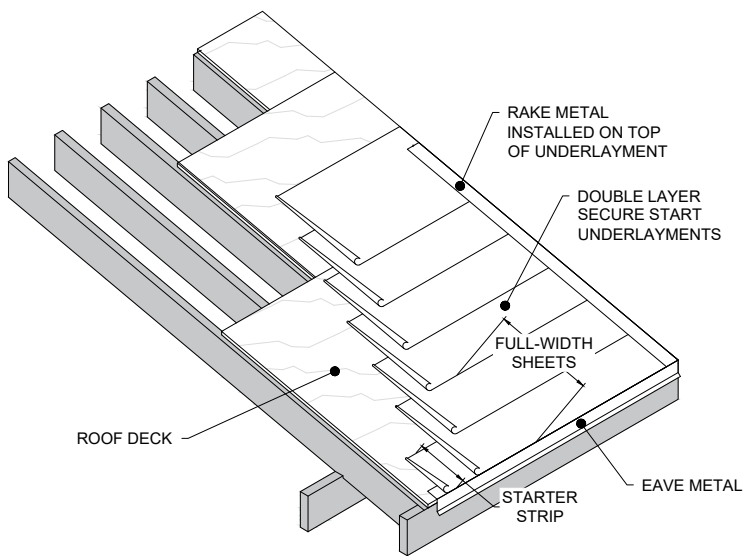
### Roof Slopes 2:12 Up to 4:12

Secure Start® underlayments are installed in a *double layer* for slopes 2:12 (2" [51 mm] per 12" [305 mm]) up to 4:12 (4" [102 mm] per 12" [305 mm]).

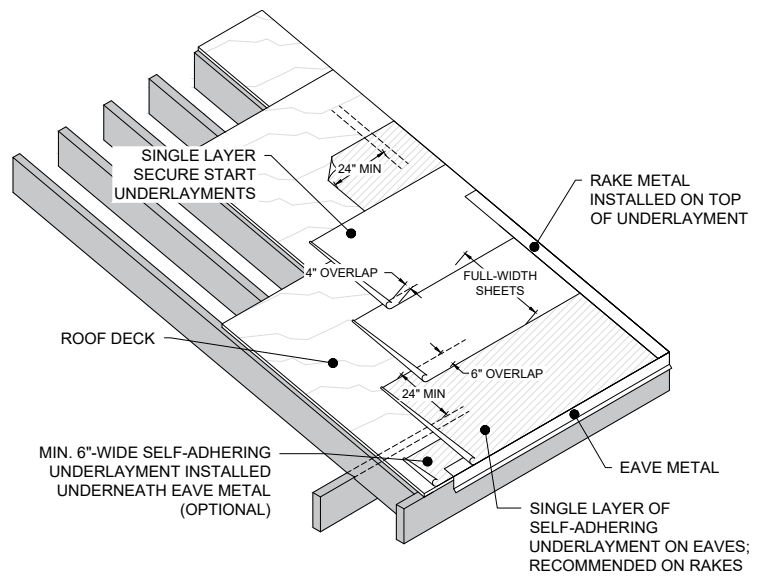
Begin by fastening a half-width *starter strip* of Secure Start® underlayment directly to the roof deck along the eaves.

Courses to follow are all full-width, the first course completely overlapping the starter strip, and followed by courses half-lapped over preceding courses, on up the roof. (See Figure 4)

<sup>1</sup> For extended exposure, increase end laps to 12" (305 mm) and 12" (305 mm) past hips, ridges, and valleys.



**Figure 4 - Application of Secure Start® Underlayments on Roof Slopes 2:12 Up to 4:12 (Non-Ice Dam Regions)**



**Figure 5 - Application of Self-Adhering Underlayment and Secure Start® Underlayments on Roof Slopes 4:12 and Greater (Ice Dam Regions)**

### INSTALLATION IN ICE DAM REGIONS

In cold weather climates that produce ice dams, Secure Start® field underlayments should be used in combination with *self-adhering underlayments*, Malarkey's *Arctic Seal®* or *Secure Start® HT* products (or equivalent conforming to ASTM D1970), to provide maximum *ice and water protection*<sup>2</sup>. Their use is subject to local building codes so installation could be required.

Installation instructions for both product lines can be found at [WWW.MALARKEYROOFING.COM](http://WWW.MALARKEYROOFING.COM).

#### Roof Slopes 4:12 and Greater

Instead of Secure Start® underlayment along the eaves, install a full-width sheet of *self-adhering underlayment*.

Continue installation up and out onto the roof as necessary to a point not less than 24" (610 mm) past the interior warm inside wall of the house or above the expected level of ice dams or according to building code requirements.

If additional courses of self-adhering underlayment are necessary to reach that point, *course lap guide lines* (lay lines) on the sheets show how far to lap the material. Firmly hand-roll these overlaps to ensure a complete, watertight bond.

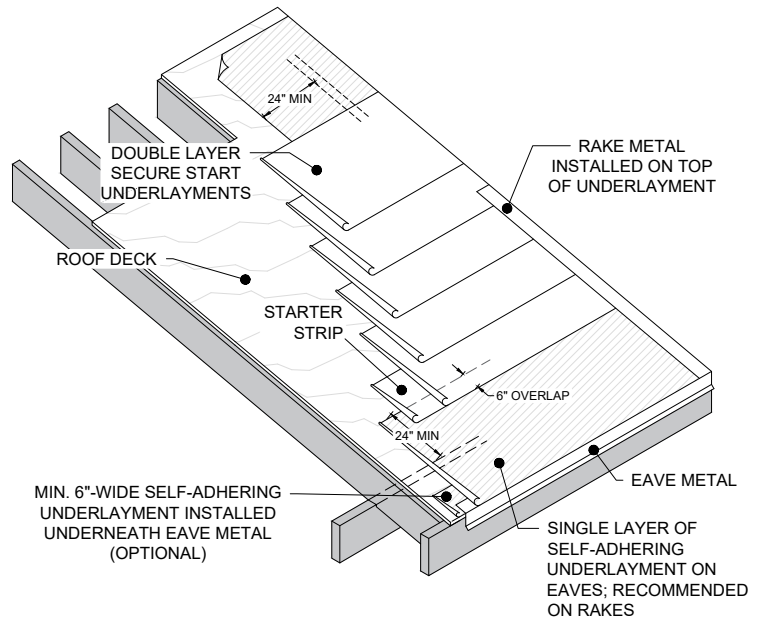
Once past 24" (610 mm), follow with full-width courses of Secure Start® underlayment, the first lapped a minimum of 6" (152 mm) over the termination of self-adhering underlayment, and the rest with 4" (102 mm) side laps, on up the roof. (See **Figure 5**)

#### Roof Slopes 2:12 Up to 4:12

At the eave, install a full-width sheet of self-adhering underlayment. Continue installation up and out onto the roof as necessary to a point not less than 24" (610 mm) past the interior warm inside wall of the house or above the expected level of ice dams or according to building code requirements.

Once that point is reached, switch to *double layers* of Secure Start® underlayment, the first course a half-width *starter strip* lapped a minimum of 6" (152 mm) over the termination of self-adhering underlayment.

Succeeding courses are full-width, the first course completely overlapping the starter strip, and followed by courses half-lapped over preceding courses, on up the roof. (See **Figure 6**)



**Figure 6 - Application of Self-Adhering Underlayment and Secure Start® Underlayments on Roof Slopes 2:12 Up to 4:12 (Ice Dam Regions)**

<sup>2</sup> For ice and water protection under *metal* roofing, use Secure Start HT® rather than Arctic Seal®. It is high-temp tolerant and made for those conditions.

**Roof Valleys:** Following the installation of a self-adhering membrane *valley liner* like Arctic Seal® or Secure Start® HT, Secure Start® field underlayments can be laced across roof valleys and up the adjacent roof a minimum of 12" (305 mm) or lapped 6" (152 mm) over each edge of the valley liner.

Do not fasten closer than 6" (152 mm) from the valley centerline.

Secure Start® field underlayments can help waterproof a valley but should not be the sole underlayment. Valley liners of self-adhering membranes or strips of roll roofing should be applied to the roof deck first, whether or not an open metal valley is also constructed.

#### **FINAL NOTE**

These instructions are meant to act as a general guide. If you have questions about this installation or any Malarkey roofing product, please contact our Technical Services Department weekdays at (800) 545-1191 or (503) 283-1191, 7:00 am to 5:00 pm, Pacific Time. You can also email us at: [malarkey.technicalinquiries@holcim.com](mailto:malarkey.technicalinquiries@holcim.com). Thank you.



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