

ICC-ES Evaluation Report


ESR-3882

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<p>DIVISION: 07 00 00— THERMAL AND MOISTURE PROTECTION</p> <p>Section: 07 30 05— Roofing Felt and Underlayment</p>	<p>REPORT HOLDER: PUYOUNG IND. CO., LTD.</p>	<p>EVALUATION SUBJECT: GALAXY STANDARD AND GALAXY PREMIUM A1 ROOFING UNDERLAYMENTS</p>	
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1.0 EVALUATION SCOPE

Compliance with the following codes:

- 2015 [International Building Code® \(IBC\)](#)
- 2015 [International Residential Code® \(IRC\)](#)
- 2013 [Abu Dhabi International Building Code \(ADIBC\)](#)[†]

[†]The ADIBC is based on the 2009 IBC. 2009 IBC code sections referenced in this report are the same sections in the ADIBC.

Properties evaluated:

- Physical properties
- Fire classification

2.0 USES

Galaxy Standard and Galaxy Premium A1 roofing underlayments are alternatives to the ASTM D226, Type I and Type II, roofing underlayment specified in IBC Chapter 15 and IRC Chapter 9. The underlayments may also be used as a component of a classified roofing assembly when installed as described in Section 4.2 of this report.

3.0 DESCRIPTION

3.1 Galaxy Standard:

Galaxy Standard roofing underlayment is a polyolefin woven roofing underlayment with a proprietary coating on one side. The membrane has a nominal weight between 1.95 pounds per 100 square feet (0.0951 kg/m²) and is supplied in rolls of various lengths and widths.

3.2 Galaxy Premium A1:

Galaxy Premium A1 roofing underlayment is a polyolefin woven roofing underlayment with a gray proprietary coating on the top side. The membrane has a nominal weight between 3.15 pounds per 100 square feet (0.15 kg/m²) and is supplied in rolls of various lengths and widths.

4.0 INSTALLATION

4.1 General:

Installation of Galaxy Standard and Galaxy Premium A1 roofing underlayments must be in accordance with this report, the applicable code and the report holder’s published installation instructions. The installation instructions must be always available at the jobsite during installation.

Prior to application of the membrane, the deck surface must be free of frost, dust and dirt, loose fasteners, and other protrusions. Damaged sheathing must be replaced. Installation is limited to plywood substrates complying with the

requirements of the applicable code. Installation of an approved roof covering can proceed immediately following application of the roofing underlayment. The underlayment is to be covered by the roof covering within the time set forth in the underlayment report holder's published installation instructions. For reroofing applications, the same procedures apply after removal of the existing roof coverings and roofing felts to expose the roof deck.

4.2 Applications:

The underlayment must be installed in accordance with Chapter 15 of the IBC or Chapter 9 of the IRC, and must be laid printed side up horizontally (parallel to the eave) starting at the lower edge of the roof, with 4-inch (102 mm) horizontal (head) laps and 6-inch (152 mm) vertical (end) laps.

The underlayment must be fastened to the roof deck using No. 12 gage [0.109 inch shank diameter (2.77 mm)], corrosion-resistant steel roofing nails with a minimum head diameter of $\frac{3}{8}$ inch (9.5 mm) or plastic capped roofing nails with a minimum plastic cap diameter of 1 inch (25.4 mm). The fasteners must be spaced 8 inches (203 mm) on center along both horizontal and vertical laps and 24 inches (610 mm) on center along the middle of the roll in the field of the roof, except in areas subject to high winds where underlayment fastening must comply with high wind attachment requirements specified in IBC Section 1507, IRC Section R905 or 2015 IRC Section R905.1.1, as applicable. Fasteners must be long enough to penetrate into the sheathing a minimum of $\frac{3}{4}$ inch (19.1 mm) or through the sheathing, whichever is less. When battens are installed over the underlayment, the underlayment need only be preliminarily attached, pending attachment of the battens or counterbattens.

A single layer of minimum 25-inch-wide (635 mm) underlayment must be installed and centered vertically at all valleys before installation of underlayment in the field, and at all hips and ridges after installation of underlayment in the field.

Where the slope is from 2:12 (17 percent slope) up to 4:12 (33 percent slope) and the roof is to be covered with asphalt shingles, or where the slope is from 2½:12 (21 percent slope) up to 4:12 (33 percent slope) and the roof is to be covered with concrete or clay roof tiles, the underlayment must be horizontally lapped 24 inches (610 mm) to the centerline of the underlying course to form two layers with 6-inch (152 mm) vertical laps. Subsequent courses of the underlayment must be installed parallel to the eave, from the lower edge upwards to the ridge, in a shingle manner. The underlayment must be mechanically fastened as specified in Section 4.2.

4.3 Ice Barrier:

In areas of the roof required to have an ice barrier under IBC Chapter 15 or IRC Chapter 9, two layers of the underlayment must be cemented together with a roofing cement complying with ASTM D4586, for a maximum distance of 24 inches (610 mm) inside the exterior wall line of the building. The roof underlayment, in the field of the roof, must overlap the ice barrier.

4.4 Flashing:

Flashing must be in accordance with the applicable code. Flashing around protrusions must be over the lower course of the underlayment and under the upper course of the underlayment, to prevent water backup. When used, metal drip edges must be installed beneath the underlayment at the eaves and over the underlayment at rakes.

4.5 Classified Roofs:

Under the IBC and IRC, the roof underlayments may be used as components of classified roof assemblies consisting of Class A or Class C glass fiber mat shingles or Class C asphalt organic felt shingle complying with the applicable code, when installed in accordance with this report over minimum $\frac{15}{32}$ -inch-thick (11.9 mm) plywood deck.

5.0 CONDITIONS OF USE:

The Galaxy Standard and Galaxy Premium A1 roofing underlayments described in this report comply with, or are a suitable alternative to what is specified in, those codes listed in Section 1.0 of this report, subject to the following conditions:

- 5.1 Installation must be in accordance with this report, the applicable code and the report holder's published installation instructions. In the event of a conflict between the report holder's instructions and this report, this report governs. A copy of the report holder's installation instructions must be available at the jobsite at all times during installation.
- 5.2 Installation is limited to solid substrates complying with the applicable code.
- 5.3 Installation is limited to roofs with a slope of 2:12 (16.67 percent) or greater.
- 5.4 Installation is limited to use with roof coverings that do not involve hot asphalt or coal-tar pitch.
- 5.5 Installation is limited to roofs with ventilated attic spaces in accordance with the requirements of the applicable code.
- 5.6 Installation is limited to use with approved roof coverings that are mechanically fastened through the underlayment to the sheathing or rafters, or to use with approved roof coverings that are mechanically fastened to battens or counterbattens that are mechanically fastened through the underlayment to the sheathing or rafters.
- 5.7 The products are manufactured in Hung Yen, Vietnam under a quality-control program with inspections by ICC-ES.

6.0 EVIDENCE SUBMITTED

Data in accordance with the [ICC-ES Acceptance Criteria for Roof Underlayments \(AC188\)](#), dated February 2012 (editorially revised December 2015).

7.0 IDENTIFICATION

- 7.1 The Galaxy Standard and Galaxy Premium A1 roofing underlayments described in this report are identified by a label on each roll bearing the report holder's name (Puyoung Ind. Co., Ltd.) and address, product name, the manufacturing date code (production date) and the evaluation report number (ESR-3882).
- 7.2 The report holder's contact information is the following:

PUYOUNG IND. CO., LTD.
9F PUYOUNG BUILDING,
946, DOGOK-DONG, KANGNMA-GU
SEOUL 135050
SOUTH KOREA
+82-2-3462-2992
www.tarpaulin.co.kr