CODE EVALUATION REPORT

CERUS-1017

PUBLISHED: December 2023
EXPIRATION: December 2025

PRODUCT: **Primus, Primus Ultra and Primus Ultra + Synthetic Roofing Underlayment**

REPORT HOLDER: Gulnar Plastics PVT LTD

CONTACT DETAILS:
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CSI DIVISION: 07 00 00 - Thermal and Moisture Protection

CSI SECTION: 07 30 05 – Roofing Felt and Underlayment

APPLICABLE CODES:
2021, 2018, 2015 International Building Code (IBC)
2021, 2018, 2015 International Residential Code (IRC)
2023 / 2020 Florida Building Code

EVALUATED:
Physical Properties
Roof Fire-Classification

1.0 APPROVED FOR FOLLOWING:

APPROVED TYPES OF CONSTRUCTION:	Type IAB, Type IIAB, Type IIIAB, Type IV, Type VAB
APPROVED USE:	Roofing underlayment for use in Class A or Class C roof assemblies on new and over existing roofs in Types I-V construction.
APPROVED INSTALLATIONS:	Roofs including fire-classified roof assemblies.

2.0 DESCRIPTION:

2.1 General:

Gulnar Plastics PVT LTD Primus synthetic roofing underlayment is a woven polypropylene fabric coated on both sides. This product has a nominal weight of 3.1 ounces per square yard (105 g/m^2).

Gulnar Plastics PVT LTD Primus Ultra synthetic roofing underlayment is a woven polypropylene fabric that includes a spun bond fabric adhered on the top (exterior facing) side. This product has a nominal weight of 2.5 ounces per square yard (85 g/m^2).

Gulnar Plastics PVT LTD Primus Ultra+ synthetic roofing underlayment is a woven polypropylene fabric that includes spun bond fabric adhered on the top side and a non-skid coating on the bottom (interior facing) side. This product has a nominal weight of 2.89 ounces per square yard (98 g/m^2).

The above noted Gulnar Plastics roof underlayment are an approved alternative to code prescribed ASTM D226, Type I and Type II roofing felt underlayment specified under 2021 / 2018 / 2015 IBC Chapter 15 and 2021 / 2018 / 2015 IRC Chapter 9.

Gulnar Plastics Primus Ultra and Primus Ultra+ underlayment complies for use in *High Velocity Hurricane Zones* as defined by the 2023 / 2020 Florida Building Code, Building and 2023 / 2020 Florida Building Code, Residential. See Section 9 of this report for further details.

Gulnar Plastics Primus Ultra complies with ASTM D8257/8257M as prescribed by Section 1507.1.1 of the 2023 FBC. Gulnar Plastics Primus Ultra complies for use in high-velocity hurricane zones as required by Section 1518.2 of the 2023 FBC for use in roof-fire classified assemblies described in Section 8.1 Table 1 of this report. See Section 9 of this report for further details.

Gulnar Plastics Primus Ultra+ has a tear strength of 15 lbf in determined in accordance with ASTM D4533 and a minimum tensile strength of 20 lbf/inch in accordance with ASTM D5035 as prescribed in Section 1507.1.1 of the 2020 FBC. Gulnar Plastics Primus Ultra+ complies with ASTM D8257/8257M as prescribed by Section 1507.1.1 of the 2023 FBC. Gulnar Plastics Primus Ultra+ complies for use in high-velocity hurricane zones as required by Section 1518.2 of the 2023 FBC for use in roof-fire classified assemblies described in Section 8.1 Table 1 of this report. See Section 9 of this report for further details.

When installed in accordance with Section 4.4 and Section 8.1 Table 2 of this report, the above noted roof underlayment are approved components of roof fire-classified assemblies in accordance with 2021 / 2018 / 2015 IBC Section 1505, 2023 / 2020 FBC Section 1505, and 2021 / 2018 / 2015 IRC Section R902.1.

Table 1. GULNAR PLASTICS UNDERLAYMENT ROLL DIMENSIONS

PRODUCT	LENGTH		WIDTH		PRODUCT WEIGHT	
	feet	m	inches	cm	oz/yd^2	g/m^2
Primus	250	76.2	48	122	3.1	105
	200	61.0	60	152		
	100	30.5	100	254		
Primus Ultra	250	76.2	48	122	2.5	85
	200	61.0	60	152		
	100	30.5	100	254		
Primus Ultra+	250	76.2	48	122	2.89	98
	200	61.0	60	152		
	100	30.5	100	254		

Alternate dimensions can be available on request.

3.0 DESIGN:

Use of Gulnar Plastics underlayment does not require design. Gulnar Plastics underlayment products outlined in this report are intended to be installed with code compliant roofing components and in accordance with Section 1507.1.1 of the 2021 / 2018 / 2015 IBC and Section R905.1.1 of the 2021 / 2018 / 2015 IRC.

When used in applications requiring roof fire-classified assemblies, installation shall conform to Section 4.4 and Section 8.1 Table 2 of this report.

4.0 INSTALLATIONS:

4.1 General:

Installation of Gulnar Plastics underlayment products must comply with the manufacturer's published installation instructions, this report and the applicable code(s). Where differences are found between documents, this report and the applicable building code shall govern.

Gulnar Plastics underlayment products are intended for installation at minimum 2:12 (17%) roof slope. Gulnar Plastics underlayment are intended for installation over solid sheathing installed in accordance with the governing code. Alternate installations are outside the scope of this report.

Prior to installation of Gulnar Plastics underlayment products, the roof deck is to be inspected to ensure the surface is free of frost, dust and dirt, loose nails, and other protrusions. Damage is to be corrected before installation of the underlayment products.

When used in reroofing applications, the same installation guidelines of Section 4.2 apply once the existing roof coverings and original underlayment have been removed to expose the roof deck surface. If any sheathing is damaged it must be replaced prior to underlayment installation.

4.2 New Construction:

The underlayment should be installed with the print facing up. The underlayment is laid out horizontally (parallel) to the eave starting at the lowest eave point. For standard applications, fasteners are spaced 8-inches (203 mm) on center along the top, bottom and side laps. The fasteners used shall be a minimum corrosion-resistant roofing nails having a minimum 1-inch diameter plastic cap. Fasteners should be long enough to penetrate through the sheathing or a minimum of ¾-inch (19.1 mm) into solid decking.

Horizontal head laps shall be a minimum of 4-inches (102 mm) overlap running with the flow of water in a shingle fashion. The vertical end laps shall be a minimum of 12-inches (152 mm) overlap.

In areas subject to high winds, underlayment fastening must comply with the high-wind attachment requirements specified in IBC Section 1507 or IRC Section R905.

For installation on slopes greater than 2:12 and less than 4:12, two layers of underlayment are required. A minimum 19-inch-wide (483 mm) strip of underlayment is installed parallel with and starting at the eave and 36-inch-wide (914 mm) sheets of underlayment overlap successive sheets with 19 inches (483 mm) overlap or horizontal head lap.

While not required, drop edge flashings and rake edge flashings are recommended installed in accordance with good roofing practice. For installation of flashing, the first row of fasteners should be placed 3-inches (76 mm) up from the eave so that the metal edging can be slipped under the underlayment before nailing. All flashing must be in accordance with the applicable code. Flashing around protrusions must be over the lower course of underlayment and under the upper course of the underlayment.

4.3 Ice Barrier:

In areas where there is the potential for or has been a history of ice forming along eaves causing the backup of water and an ice barrier is required in accordance with Chapter 15 of the IBC or Chapter 9 of the IRC, two layers of Gulnar Plastics underlayment must be cemented together with a roofing cement complying with ASTM E4586. The Gulnar Plastics underlayment is to extend from the lowest edge of all roof surfaces to a point at least 24 inches (610 mm) inside the exterior wall line of the structure. The roof underlayment shall be lapped over the Gulnar Plastics ice barrier a minimum of 4 inches (102 mm). The Gulnar Plastics ice barrier is to be installed in accordance with Section 4.2 of this report.

4.4 Roof Fire-Classified Assemblies:

The Gulnar Plastics Primus Ultra and Primus Ultra+ synthetic underlayment are approved components of roof fire-classified assemblies consisting of Class A or Class C asphalt glass fiber mat shingles or Class C asphalt organic felt shingles. Asphalt shingles are to comply with the applicable code with installation in accordance with this report over a minimum of 15/32-inch-thick (11.9 mm) plywood sheathing. See Section 8.1 Table 1 for installation details.

5.0 LIMITATIONS

- Installation of Gulnar Plastics Primus, Primus Ultra and Primus Ultra+ synthetic roofing underlayment are to comply with the applicable codes, this report and the manufacturer's installation instructions. Where differences are found between documents, the applicable code and this report govern.
- Gulnar Plastics Primus, Primus Ultra and Primus Ultra+ synthetic roofing underlayment are intended for use on roof slopes ≥ 2:12. Use on slopes < 2:12 are outside the scope of this report and shall be approved by the authority having jurisdiction.
- Gulnar Plastics Primus, Primus Ultra and Primus Ultra+ synthetic roofing underlayment are limited to use with roof coverings that do not involve hot work. The noted products are not intended for hot mop applications.
- Gulnar Plastics Primus, Primus Ultra and Primus Ultra+ synthetic roofing underlayment are intended for use with mechanically fastened roof coverings. Mechanical attachment is to penetrate through the underlayment into the sheathing or rafters, including when battens are used.
- Gulnar Plastics Primus, Primus Ultra, and Primus Ultra+ synthetic roofing underlayment are limited to installations on solid substrates complying with the applicable code. Gulnar Plastics synthetic roofing underlayment products are not intended for installation over spaced sheathing.
- Gulnar Products Primus, Primus Ultra, and Primus Ultra+ synthetic roofing underlayment are intended for installation on roofs with ventilated attic spaces in accordance with the requirements of the applicable code.
- Gulnar Plastics Primus synthetic roofing underlayment is not approved for use in high-velocity hurricane zone applications as defined by the 2020 and 2023 FBC.
- Gulnar Plastics Primus Ultra synthetic roofing underlayment is not approved for use in high-velocity hurricane zone applications as defined by the 2020 FBC.
- Gulnar Plastics Primus, Primus Ultra, and Primus Ultra+ synthetic roofing underlayment are manufactured in Silvassa, India with inspections by QAI Laboratories.

6.0 SUPPORTING INFORMATION:

The following data has been evaluated for Gulnar Plastics Primus, Primus Ultra, and Primus Ultra+ synthetic roofing underlayment:

- Data for use in roof fire classified assemblies determined in accordance with ASTM E108 *Fire Tests of Roof Coverings*.
- Data outlining compliance with Section 1507.1.1 of the 2021 / 2018 / 2015 IBC and Section R905.1.1 of the 2021 / 2018 / 2015 IRC
- Data outlining compliance with Section 1507.1.1 of the 2020 Florida Building Code
- Data outlining compliance with Section 1507.1.1 and 1508.1.1 of the 2023 Florida Building Code

7.0 MARKING:

Gulnar Plastics Primus, Primus Ultra, and Primus Ultra+ products include the the following information on the product label:

- Product Name.
- Manufacturer.
- Country of Manufacture.
- QAI CER_{US}-1017
- QAI Certification Mark shown below:

8.0 RATINGS:

8.1 Roof Fire-Classified Assemblies

Table 2 – Roof Fire-Classified Assemblies

System	Substrate	Approved Underlayment	Roofing Panel	Installation Guidelines	Roof Classification
New Construction Or Reroof when existing roof is removed	Minimum 15/32-inch-thick plywood	Primus Ultra + Or Primus Ultra	Class A asphalt glass fiber mat shingles	See Section 4.4	A
New Construction Or Reroof when existing roof is removed	Minimum 15/32-inch-thick plywood	Primus Ultra + Or Primus Ultra	Class C asphalt glass fiber mat shingles Or Class C asphalt organic felt shingles	See Section 4.4	C

9.0 SUPPLEMENTAL CODES

9.1 2020 and 2023 Florida Building Code:

Gulnar Plastics Primus Ultra, Primus Ultra+ products as detailed in Section 2.0 through 8.0 of QAI CER$_{US}$-1017 comply with the Florida Building Code editions as noted in this section when installed in accordance with the applicable building codes and this report.

Gulnar Plastics Primus Ultra complies with ASTM D8257/8257M as prescribed by Section 1507.1.1 of the 2023 FBC. Gulnar Plastics Primus Ultra complies for use in high-velocity hurricane zones as required by Section 1518.2 of the 2023 FBC for use in roof-fire classified assemblies described in Section 8.1 Table 1 of this report. See Section 9 of this report for further details.

Gulnar Plastics Primus Ultra+ has a tear strength of 15 lbf in determined in accordance with ASTM D4533 and a minimum tensile strength of 20 lbf/inch in accordance with ASTM D5035 as prescribed in Section 1507.1.1 of the 2020 FBC. Gulnar Plastics Primus Ultra+ complies with ASTM D8257/8257M as prescribed by Section 1507.1.1 of the 2023 FBC. Gulnar Plastics Primus Ultra+ complies for use in high-velocity hurricane zones as required by Section 1518.2 of the 2023 FBC for use in roof-fire classified assemblies described in Section 8.1 Table 1 of this report. See Section 9 of this report for further details.

Gulnar Plastics Primus Ultra underlayment complies with requirements for synthetic underlayment in accordance with Section 1507.1.1 and Section 1518.2 for *High Velocity Hurricane Zones* of the 2023 FBC.

Gulnar Plastics Primus Ultra+ underlayment complies with requirements for synthetic underlayment in accordance with Section 1507.1.1 and Section 1518.2 for *High Velocity Hurricane Zones* of the 2020 and 2023 FBC.

Gulnar Plastics Primus Ultra and Primus Ultra+ underlayment products comply with Section 1516 *High Velocity Hurricane Zones Fire Classification* of the 2023 and 2020 Florida Building Code, Building when installed in accordance with Section 8.1 Table 1.

10.0 ELIGIBILITY OF REPORT

QAI's Code Evaluation Report complies with the 2021 / 2018 / 2015 IBC Section 104.11 *Alternative materials, design and methods of construction and equipment* subsection 104.11.1 *Research Reports*. Supporting data has been evaluated by QAI for compliance of the noted materials and assemblies to the applicable code by QAI, and *approved* source as detailed below.

The attached report has been reviewed by a QAI Registered Professional Engineer approved by the specific state Board of Professional Engineers noted on the specific P.E. seal(s).

Per section 1703 of the IBC, QAI is an independent third-party testing, inspection and certification agency accredited by the International Accreditation Service, Inc. (IAS) for this specific scope (see IAS PCA-118, PCA-119). QAI can confirm that based on its IAS accreditation it meets IBC Section 1703.1 on Independence, Section 1703.1.2 on Equipment and Section 1703.1 on Personnel.

This Evaluation report has been designed to meet the performance requirements of IBC Section 1703.4 and contains the required information to show the product, material or assembly meets the applicable code requirements.

The product is labeled per section IBC 1703 and subject to follow-up inspection per IBC 1703.6 using QAI IAS accredited ISO 17020 inspection program (see IAS AA-635, AA-723).

For more information regarding QAI Laboratories, please visit www.qai.org.

The above is an example of the QAI registered Listing mark. The Listing mark may only be used by the Report Holder per the QAI service agreement on products defined in this report. The 'us' indicator in the 8 o'clock position indicates the product complies with the properties evaluated with limitations outlined in this report for use in the US market. A 'c' indicator in the 4 o'clock position indicates the product has been

10.0 REFERENCED STANDARDS

ASTM E108 *Standard Test Methods for Fire Tests of Roof Coverings.*
ASTM D226 *Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing*.
ASTM D4533 *Standard test Method for Trapezoid Tearing Strength of Geotextiles*.
ASTM D5035 *Standard test Method for Breaking Force and Elongation of Textile Fabrics (Strip Method)*.
ASTM D8257 *Standard Specification for Mechanically Attached Polymeric Roof Underlayment Used in Steep Slope Roofing*