



Product Evaluation Report

PER-13065

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Progressive Engineering Inc.

Initial Listing
July, 2014

Re-Approved
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Goshen, Indiana 46528

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Listed Product
GoGuard MH Undersiding

Listed For
LaSalle Bristol
601 County Road 17
Elkhart, IN 46515

Approved Manufacturer
Qingdao PuYoung Plastics Co., Ltd.
Ligezhuang Town Resident,
Jiaozhou City, Qingdao,
Shangdong, China 266300

Progressive Engineering Inc. is an accredited Testing Laboratory and Third Party Quality Control Agency. This **Product Evaluation Report** represents a product that *Pei* has a Follow-up Service Agreement with. This **Product Evaluation Report** in no way implies warranty for this product or relieves **LaSalle Bristol** of their liabilities for this product. *Pei* is accredited to ISO Standard 17020 and 17025. This **PER** is an official document if it is within one year of the Initial or Re-Approval date.

Listing Details

The **GoGuard MH Undersiding** covered under this **Product Evaluation Report** is manufactured by Qingdao PuYoung Plastics Co., Ltd. and listed by *Progressive Engineering Inc.* (*Pei*). The manufacturer listed above has an approved Quality Control Manual to manufacture this material. The MH undersiding material is intended for the HUD Manufactured Housing Industry. Each roll for incoming shipments go through a quality control check and testing. This program is monitored by *Pei*.

Product Description

The **GoGuard MH Undersiding** is a woven mesh material used for the economic grade of manufactured housing (MH) undersiding (bottom board). The material is manufactured from a woven one-sided coated polyethylene scrim/coating. The undersiding material provides vapor barrier protection by preventing floor damage due to water penetration and reducing mold production. The MH undersiding roll comes in a variety of sizes. For roll availability, the length of a finished roll would be approximately 3000', with a width ranging in sizes of: 148", 170", 176", 184", 196", 205", and 225".

Product Storage

Rolls should be protected from the elements and stored on a flat surface, so that the material is not permanently creased, indented, flattened or damaged.

Code Compliance

| |
|--|
| Title 24: HUD - Part 3280 |
| Section 3280.305 (D) 6 - Bottom Board Material |

Compliance - Standard Test Methods

ASTM D781 - 1968(73): Beach Puncture Test - Puncture and Stiffness of Paperboard and Corrugated and Solid Fiberboard

Exceeds the level of 48 inch-pounds of puncture resistance as tested by the Beach Puncture Test.

ASTM E96: Procedure A: Perm Rating (MVTR) Water Vapor Transmission of Materials

US PERM Rating = 0.15 Perm

General Product Usage and Limitations

- The **GoGuard MH Undersiding** shall be installed in accordance with the manufacturer's Installation Instructions, and are subject to the conditions of this **PER**. A copy of the manufacturer's Installation Instructions shall be made easily available to the installer.

- The material should be laid over the entire prepared floor assembly; which includes HVAC duct system, floor insulation, electrical and plumbing components or manufactured home frame, with the edge of the material extending over the edge of the perimeter joist or floor edge. Extending the material over the edges will allow for an easier attachment for staples.

- The MH undersiding may be laid out on the floor assembly with woven scrim (uncoated), side facing up and should be attached to the outside perimeter joist, with a minimum of 1" wide crown, 16 gauge minimum staples.

- The edge of the material should be stapled approximately 3" on center around the perimeter. To increase the holding strength of the MH undersiding, the material may be folded over before stapling. Staples should be applied at approximately a 45° angle as to also increase the holding strength.

- Staples should be set flush with the face of the material, not to be set to where the crown of the staple is cutting into the material.

- The **GoGuard MH Undersiding** cannot be walked on during installation.

- For cuts or tears the material can be repaired using an approved adhesive tape shown in Table 1 of this **PER**. To make a repair on the material, cut a section out that is at least two inches (2") larger than the area to be repaired. Fasten all four sides with an approved adhesive tape, with the repairing area being clean and dry. Make sure the grain of the patch material is being set in the same direction as the overall base material. The following table on page two (2) shows acceptable repair tapes.

Table 1 - Approved Adhesive Tape

| Repair Tape Description |
|-------------------------|
| Intertape AC617 |
| Intertape 20CBK |
| Intertape IRON-GR |
| World Pak HM2000 |
| Shurtape PC 609 |
| Shurtape PC 658 |

Product Labeling

All **GoGuard MH Undersiding** material covered by this **PER** must be labeled on the MH undersiding itself and labeled on the outer shipping material, with at least the following:

1. Labeling that the product meets HUD Section - 3280.305 (D) 6
2. Roll number, size (width / length), GSM, order number and Company Information
3. This **PER** Number & *Pei* Name and Logo information, located at both ends of the core
4. A green product label for MH will be on each roll detailing the product specification with bar code reading



Figure 1 - Approved Product Label

Product Documentation

A Follow-up Service and Inspection Agreement between *Progressive Engineering Inc.* and **LaSalle Bristol**
LaSalle Bristol Quality Control Program - Dated: 7/24/2017

Qingdao PuYoung Plastic Products Co., Ltd. Quality Manual Version A - Document No.: FY--ZS--01 - Dated: 2/2/2017

GoGuard MH Undersiding MH80GSM Sheet - Dated: 1/2017

GoGuard MH Undersiding MH80GSM Product Data Sheet - Dated: 1/2017

GoGuard MH80 Undersiding Product Specification (Folded Film) - Dated: 1/2017

GoGuard MH Undersiding Storage and Installation Sheet - Dated: 1/2017

A SDS for LLDPE U8835 - Dated: 2/17/2015

A SDS for HDPE MF5000 - Dated: 2/17/2015

Test Report No.: RAD-5483 - Beach Puncture Test per ASTM D781 - Dated: 5/8/2014

Pei Project No. 2016-0580 - ASTM D781 Puncture Resistance Testing - Dated: 10/17/2016

Pei Project No. 2017-0357 - ASTM D781 Puncture Resistance Testing - Dated: 5/22/2017

PuYoung IND. Affidavit Letter - Dated: 9/5/2016

PuYoung IND. Affidavit Letter - Dated: 7/14/2017

Pei Project No. 2017-6097 - ASTM D781 Puncture Resistance Testing - Dated: 7/20/2017

Pei Test Report No. 2017-0357 - ASTM E96 Water Vapor Transmission Test on PuYoung GoGuard MH Undersiding
 Tested to Procedure A - Desiccant Method - Dated: 2/27/2017

Repair Tape Test Report - Tested to ASTM D 5035 and ASTM D 3330 - Method A - Dated: 11/29/2017

A Repair Tape Acceptance Letter from PY PuYoung Ind. Co., Ltd. - Dated: 11/30/2017