

Commercial Construction-Americas

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RE: Grace Roof Underlayments and Window, Door & Deck Flashing
LEED 2009 Green Building Rating System™

To Whom It May Concern:

This letter is intended to detail the potential contribution of Grace Roof Underlayments and Window, Door & Deck Flashing materials to the LEED 2009 Green Building Rating System™ for New Construction, Major Renovations of existing buildings, Core & Shell and Schools.

MR Credit 2.1: Construction Waste Management, Divert 50% from Disposal

MR Credit 2.2: Construction Waste Management, Divert 75% from Disposal

In areas where facilities exist, the following Grace Roof Underlayments and Window Door & Deck Flashing packaging materials are recyclable and can contribute to earning Materials and Resources Credit 2.1 and Credit 2.2.

		<u>Maximum Weights</u>
• Wooden Pallet	wood	45 lbs
• Underlayment Core	cardboard	2.5 lbs/core
• Underlayment Carton	cardboard	3.5 lbs/carton
• Flashing Core	cardboard	0.06 lbs/inch length Flashing Available in Several Lengths
• Flashing Carton	cardboard	2.5 lbs/carton
• Pail	steel	2 lbs/pail
• Pail	HDPE (plastic)	2 lbs/pail

MR Credit 4.1: Recycled Content, 10%

MR Credit 4.2: Recycled Content, 20%

The recycled content of Grace Roof Underlayments is as follows and can contribute to earning Materials and Resources Credit 4.1 and Credit 4.2. If a Grace Roof Underlayments and Window, Door & Deck Flashing materials is not listed below, then it does not contain any recycled content, 0% Post Consumer and 0% Post Industrial.

<u>Grace Product</u>	<u>Wt. Percent Post Consumer</u>	<u>Wt. Percent Post Industrial</u>
Ice & Water Shield HT (High Temp.)	1.00	0.00
Triflex	0.00	15.00



MR Credit 5.1: Regional Materials, 10% Extracted, Processed & Manufactured Regionally
MR Credit 5.2: Regional Materials, 20% Extracted, Processed & Manufactured Regionally

Grace Roof Underlayments and Window, Door & Deck Flashing materials are manufactured in North America. If these locations fall within a 500-mile radius of the project site and the location the raw materials used to make the finished product are extracted, recovered or harvested within a 500-mile radius of the project, then these materials or a portion of the materials can contribute to earning Materials and Resources Credit 5.1 and Credit 5.2.

The following are the locations of the Grace Roof Underlayments and Window, Door & Deck Flashing materials main manufacturing plants (Grace has other smaller satellite plants):

- Bedford Park, IL
- Mount Pleasant, TN
- Valdosta, GA

Please contact your local Grace Representative to request a project specific letter pertaining to Credit 5.1 and Credit 5.2. The letter will provide the quantity of raw materials that are extracted, recovered or harvested within 500 miles of the project location.

MR Credit 6: Rapidly Renewable Materials

None of the Grace Roof Underlayments and Window, Door & Deck Flashing materials are made from or contain any rapidly renewable materials.

MR Credit 7: Certified Wood

None of the Grace Roof Underlayments and Window, Door & Deck Flashing materials are made from or contain any wood-based materials. MR Credit 7 is not applicable to Grace Roof Underlayments and Window, Door & Deck Flashing materials.

EA Category Prerequisite 2: Minimum Energy Performance

There are three compliance paths to comply with this prerequisite as follows:

Option 1: Buildings must meet a minimum level of energy efficiency and comply with several mandatory and prescriptive requirements of ASHRAE Standard 90.1-2007 (without amendments).

Option 2: Comply with the prescriptive measures of the applicable ASHRAE Advanced Energy Design Guide for the type of building constructed.

Option 3: Comply with the prescriptive measures of the Advanced Buildings™ Core Performance™ Guide developed by the New Buildings Institute.

One method to improve energy efficiency is to reduce uncontrolled air leakage through the building envelope. The use of Grace Roof Underlayments as full coverage roof underlayments and Grace Window, Door & Deck Flashings in conjunction with an air barrier substantially reduces uncontrolled air leakage through the building envelope, reducing energy consumption.

EA Credit 1: Optimize Energy Performance – 1 to 19 or 21 Points

Up to 19 Points can be earned by New Construction, Major Renovations of existing buildings, and School projects or up to 21 Points for Core & Shell projects with this one credit alone. One method to achieve the points is to conduct a whole building project simulation per ASHRAE Standard 90.1-2007. The points are based on the amount of percentage improvement compared to baseline building performance in the Standard. Achieving a 48% energy performance improvement for the proposed New Construction, Major Renovations of existing buildings, and School projects earns the full 19 points. Achieving a 44% energy performance improvement for the proposed Core & Shell projects earns the full 21 points.

The other two compliance path options are:

Option 2: Comply with the prescriptive measures of the applicable ASHRAE Advanced Energy Design Guide for the type of building constructed.

Option 3: Comply with the prescriptive measures of the Advanced Buildings™ Core Performance™ Guide developed by the New Buildings Institute.

Using Grace Roof Underlayments installed as full coverage roof underlayments and Grace Window, Door & Deck Flashings in conjunction with an air barrier dramatically improves energy efficiency. Eliminating uncontrolled air leakage reduces the energy load on a building required to condition and replace the air that escaped through holes and voids in the building.

IEQ Prerequisite 1: Minimum Indoor Air Quality (IAQ) Performance

The LEED 2009 Rating System has a prescriptive requirement for this Prerequisite to meet the minimum requirements of sections 4 through 7 of ASHRAE 62.1-2007. Grace Roof Underlayments and Window, Door & Deck Flashing used in conjunction with an air barrier can be used to reduce uncontrolled air leakage into and out of a building. Air carries a significant amount of moisture into the insulating layers of a building. If that air reaches its dew point temperature, it will deposit liquid moisture or water. This moisture source combined with mold spores and an organic food source could lead to organic growth such as mold, thus negatively impacting the Indoor Air Quality. Use of Grace Roof Underlayments and Window, Door & Deck Flashing can be used to control the air leakage and help eliminate the moisture and water source that is necessary to support organic growth.

IEQ Credit 3.1: Construction Indoor Air Quality (IAQ) Management Plan – 1 Point

The goal of this credit is to reduce indoor air quality problems resulting from the construction process. One of the requirements is to protect installed absorptive materials from moisture damage. Grace Roof Underlayments and Window, Door & Deck Flashing act as water shedding barriers. Typical roof and wall construction may include water absorptive insulation and sheathing materials. These water absorptive materials can be protected from moisture damage by using a Grace Window, Door & Deck Flashing while the building is being built and after the exterior cladding is installed. Grace Roof Underlayments can be used in a similar manner to protect roofing materials prior to and after installation of shingles and other roof coverings.

IEQ Credit 4.2: Low Emitting Materials, Paints & Coatings

IEQ Credit 4.2 pertains to products that are to be used in the interior of a building. Grace Roof Underlayments and Window, Door & Deck Flashing materials are applied onto the exterior of a structure and therefore would not contribute to this credit. However, Grace has provided the volatile organic content (VOC) of a Grace Roof Underlayments and Window, Door & Deck Flashing primer material listed below.

<u>Grace Product</u>	<u>VOC Content g/L</u>
Perm-A-Barrier WB Primer	10

Please feel free to contact me with any additional questions or information.

Sincerely,



John Dalton
Grace Technical Services Manager