



## Evaluation Report CCMC 14003-R JointSealR<sup>®</sup> Foam Joint Tape and FlashSealR<sup>®</sup> Foam Flashing Tape

<b>MASTERFORMAT:</b>	07 65 62.02
<b>Evaluation issued:</b>	2014-11-19
<b>Re-evaluation due:</b>	2017-11-19

### 1. Opinion

It is the opinion of the Canadian Construction Materials Centre (CCMC) that “JointSealR<sup>®</sup> Foam Joint Tape” and “FlashSealR<sup>®</sup> Foam Flashing Tape” when used as a water-resistive barrier material providing continuity of the second plane of protection around exterior wall penetrations (windows and doors) and along vertical or horizontal joints of insulating sheathing panels in accordance with the conditions and limitations stated in Section 3 of this Report, complies with the National Building Code of Canada (NBC) 2010:

- Clause 1.2.1.1.(1)(a), Division A, as an acceptable solution from Division B:
  - Subsection 9.27.4., Sealants
- Clause 1.2.1.1.(1)(b), Division A, as an alternative solution that achieves at least the minimum level of performance required by Division B in the areas defined by the objectives and functional statements attributed to the following applicable acceptable solutions:
  - Article 9.27.3.7., Flashing Materials
  - Article 9.27.3.8., Flashing Installation

This opinion is based on CCMC’s evaluation of the technical evidence in Section 4 provided by the Report holder.

### 2. Description

The products are self-adhered, weatherproof tape designed for sealing around openings and penetrations around exterior walls, and along vertical or horizontal joints between extruded polystyrene rigid insulating boards manufactured by Owens Corning (see CCMC 13430-L, 13431-L, 12935-R and 13387-R).

The products are composed of multi-layer polyolefin films. The films are 0.13 mm thick and the total thickness of the products is 0.25 mm. The products are available in rolls that are 90 mm, 152 mm and 228 mm wide, and 27.4 m long.

### 3. Conditions and Limitations

CCMC’s compliance opinion in Section 1 is bound by “JointSealR<sup>®</sup> Foam Joint Tape” and “FlashSealR<sup>®</sup> Foam Flashing Tape” being used in accordance with the conditions and limitations set out below.

- The products are intended to be used in conjunction with all “Foamular<sup>®</sup>” XPS insulations manufactured by Owens Corning (see CCMC 13431-L, 13430-L, 12935-R and 13387-R).
- The “Foamular<sup>®</sup>” XPS insulation must not be exposed to ultraviolet (UV) irradiance greater than 20.2 kJ/m<sup>2</sup> prior to the application of the products. This value of UV irradiance exposure represents approximately four days in summer or 23 days in winter on a vertical south facing wall in the southern regions of Canada.
- Should “Foamular<sup>®</sup>” XPS insulation have been exposed to a UV irradiance greater than 20.2 kJ/m<sup>2</sup> prior to installing the product, the surface of “Foamular<sup>®</sup>” XPS insulation must be scraped until no oxidation layer remains.
- When the product is used in conjunction with doors and windows, the doors and windows must be installed as per Subsection 9.7.6, Installation (Windows, Doors and Skylights), of Division B of the NBC 2010.
- The product must be used in conjunction with sealants conforming to Subsection 9.27.4., Sealants, of Division B of the NBC 2010.
- The product must be used with cladding incorporating a capillary break as per Sentence 9.27.2.2.(1), Minimum Protection from Precipitation Ingress, of Division B of the NBC 2010, unless the cladding has been deemed not to require an air space (e.g., deem by building officials based on past cladding performance or by CCMC).

- The product must be installed in accordance with the manufacturer’s installation manual.
- The product or packaging for the product must be identified with the following information:
  - manufacturer’s name or logo; and
  - the phrase “CCMC 14003-R.”

## 4. Technical Evidence

The Report Holder has submitted technical documentation for CCMC’s evaluation. Testing was conducted at laboratories recognized by CCMC. The corresponding technical evidence for this product is summarized below.

### 4.1 Material Requirements

**Table 4.1.1 Results of Testing of Material Properties of “JointSealR® Foam Joint Tape” and “FlashSealR® Foam Flashing Tape”**

Property	Unit	Requirement	Declared Value	Result
Thickness, average	mm	Declared value + 0.025	0.25	0.25
Width	mm	≥ Declared width + 0.8	88.9	89.4
Width	mm	≥ Declared width + 0.8	101.6	102.4
Width	mm	≥ Declared width + 0.8	152.4	152.8
Width	mm	≥ Declared width + 0.8	228.6	229.0
Length	%	≥ Declared length + 1%	27.4	28

### 4.2 Performance Requirements

**Table 4.2.1 Results of Testing of Initial Performance Properties of “JointSealR® Foam Joint Tape” and “FlashSealR® Foam Flashing Tape”**

Property	Unit	Requirement	Result
Tensile breaking strength, MD <sup>(1)</sup>	N/m	Report value	3 523
Tensile breaking strength, CMD <sup>(2)</sup>	N/m	Report value	3 209
Elongation, average, MD	%	≥ 400	1 033
Elongation, average, CMD	%	≥ 400	1 037
Load strain, MD	–	800 000	3 649 905
Load strain, CMD	–	800 000	3 335 020
Nail sealability	–	No water penetration	Pass
Water resistance	–	No water seepage	Pass
Pliability at manufacturer’s minimum specified installation temperature (–20°C)	–	No cracking and no loss of adhesion	Pass
Bond separation (flagging)	mm	≤ 2	≤ 1

#### Notes to Table 4.2.1:

<sup>(1)</sup> MD – Machine direction.

<sup>(2)</sup> CMD – Cross-machine direction.

**Table 4.2.2 Results of Testing of Performance Properties after Accelerated Aging (UV- and Heat-aging)**

Property	Unit	Requirement	Result
Tensile breaking strength, MD <sup>(1)</sup>	% of original	≥ 75	78 (2 760.4 N/m)
Tensile breaking strength, CMD <sup>(2)</sup>	% of original	≥ 75	77 (2 466.8 N/m)
Elongation, average, MD	%	≥ 400	999
Elongation, average, CMD	%	≥ 400	953
Load strain, MD	–	800 000	2 761 139
Load strain, CMD	–	800 000	2 353 490
Water resistance	–	No water seepage	Pass
Pliability at low temperature (–20°C)	–	Pass	Pass

**Notes to Table 4.2.2:**

- (1) MD – Machine direction.  
(2) CMD – Cross-machine direction.

**Table 4.2.3 Results of Testing of Peel and Shear Adhesion at Room Temperature (23°C)**

Property	Substrate	Unit	Requirement	Result
<b>Peel Adhesion</b>	PVC	N/m	≥ 200	569.5
	Window wood, pine	N/m	≥ 200	680.4
	Anodized aluminum	N/m	≥ 200	618.8
	Fibre-reinforced plastic (FRP)	N/m	≥ 200	626.5
	Framing lumber, spruce	N/m	≥ 200	641.1
	Non-adherent side of the tape backing	N/m	≥ 200	461.2
	Unexposed plane “Foamular <sup>®</sup> ” XPS	N/m	≥ 200	631.6
	UV-exposed plane “Foamular <sup>®</sup> ” XPS <sup>(1)</sup>	N/m	≥ 200	519.9
<b>Shear Adhesion</b>	PVC	Rating 1 to 4 <sup>(2)</sup>	Rating 1 or 2	Rating 1
	Window wood, pine	Rating 1 to 4	Rating 1 or 2	Rating 1
	Anodized aluminum	Rating 1 to 4	Rating 1 or 2	Rating 1
	Fibre-reinforced plastic (FRP)	Rating 1 to 4	Rating 1 or 2	Rating 1
	Framing lumber, spruce	Rating 1 to 4	Rating 1 or 2	Rating 1
	Non-adherent side of the tape backing	Rating 1 to 4	Rating 1 or 2	Rating 1
	Unexposed plane “Foamular <sup>®</sup> ” XPS	Rating 1 to 4	Rating 1 or 2	Rating 1
	UV-exposed plane “Foamular <sup>®</sup> ” XPS <sup>(1)</sup>	Rating 1 to 4	Rating 1 or 2	Rating 1

**Notes to Table 4.2.3:**

- (1) The “Foamular<sup>®</sup>” XPS was exposed to 96 hours of UV radiation at irradiance of 0.35 W/m<sup>2</sup>.  
(2) Rating 1 means ≥ 75% of the surface remains adhered.  
Rating 2 means 50% to 75% of the surface remains adhered.  
Rating 3 means 25% to 50% of the surface remains adhered.  
Rating 4 means less than 25% of the surface remains adhered.

**Table 4.2.4 Results of Testing of Peel and Shear Adhesion at High Temperature (50°C)**

Property	Substrate	Unit	Requirement	Result
<b>Peel Adhesion</b>	PVC	N/m	≥ 200	352.4
	Window wood, pine	N/m	≥ 200	267.0
	Anodized aluminum	N/m	≥ 200	329.8
	Fibre-reinforced plastic (FRP)	N/m	≥ 200	335.2
	Framing lumber, spruce	N/m	≥ 200	212.7
	Non-adherent side of the tape backing	N/m	≥ 200	294.8
	Unexposed plane “Foamular <sup>®</sup> ” XPS	N/m	≥ 200	359.8
	UV-exposed plane “Foamular <sup>®</sup> ” XPS <sup>(1)</sup>	N/m	≥ 200	321.8
<b>Shear Adhesion</b>	PVC	Rating 1 to 4 <sup>(2)</sup>	Rating 1 or 2	Rating 1
	Window wood, pine	Rating 1 to 4	Rating 1 or 2	Rating 1
	Anodized aluminum	Rating 1 to 4	Rating 1 or 2	Rating 1
	Fibre-reinforced plastic (FRP)	Rating 1 to 4	Rating 1 or 2	Rating 1
	Framing lumber, spruce	Rating 1 to 4	Rating 1 or 2	Rating 1
	Non-adherent side of the tape backing	Rating 1 to 4	Rating 1 or 2	Rating 1
	Unexposed plane “Foamular <sup>®</sup> ” XPS	Rating 1 to 4	Rating 1 or 2	Rating 1
	UV-exposed plane “Foamular <sup>®</sup> ” XPS <sup>(1)</sup>	Rating 1 to 4	Rating 1 or 2	Rating 1

**Notes to Table 4.2.4:**

- (1) The “Foamular<sup>®</sup>” XPS was exposed to 96 hours of UV radiation at irradiance of 0.35 W/m<sup>2</sup>.
- (2) Rating 1 means ≥ 75% of the surface remains adhered.  
Rating 2 means 50% to 75% of the surface remains adhered.  
Rating 3 means 25% to 50% of the surface remains adhered.  
Rating 4 means less than 25% of the surface remains adhered.

**Table 4.2.5 Results of Testing of Peel and Shear Adhesion at Low Temperature (-20 °C)**

Property	Substrate	Unit	Requirement	Result
<b>Peel Adhesion</b>	PVC	N/m	≥ 200	809.5
	Window wood, pine	N/m	≥ 200	895.7
	Anodized aluminum	N/m	≥ 200	813.6
	Fibre-reinforced plastic (FRP)	N/m	≥ 200	916.0
	Framing lumber, spruce	N/m	≥ 200	936.5
	Non-adherent side of the tape backing	N/m	≥ 200	625.8
	Unexposed plane “Foamular <sup>®</sup> ” XPS	N/m	≥ 200	547.3
	UV-exposed plane “Foamular <sup>®</sup> ” XPS <sup>(1)</sup>	N/m	≥ 200	491.7
<b>Shear Adhesion</b>	PVC	Rating 1 to 4 <sup>(2)</sup>	Rating 1 or 2	Rating 1
	Window wood, pine	Rating 1 to 4	Rating 1 or 2	Rating 1
	Anodized aluminum	Rating 1 to 4	Rating 1 or 2	Rating 1
	Fibre-reinforced plastic (FRP)	Rating 1 to 4	Rating 1 or 2	Rating 1
	Framing lumber, spruce	Rating 1 to 4	Rating 1 or 2	Rating 1
	Non-adherent side of the tape backing	Rating 1 to 4	Rating 1 or 2	Rating 1
	Unexposed plane “Foamular <sup>®</sup> ” XPS	Rating 1 to 4	Rating 1 or 2	Rating 1
	UV-exposed plane “Foamular <sup>®</sup> ” XPS <sup>(1)</sup>	Rating 1 to 4	Rating 1 or 2	Rating 1

**Notes to Table 4.2.5:**

- (1) The “Foamular<sup>®</sup>” XPS was exposed to 48 hours of UV radiation at irradiance of 0.35 W/m<sup>2</sup>.

- (2) Rating 1 means  $\geq 75\%$  of the surface remains adhered.  
 Rating 2 means 50% to 75% of the surface remains adhered.  
 Rating 3 means 25% to 50% of the surface remains adhered.  
 Rating 4 means less than 25% of the surface remains adhered.

**Table 4.2.6 Results of Testing of Peel and Shear Adhesion after Water Immersion**

Property	Substrate	Unit	Requirement	Result
Peel Adhesion	PVC	N/m	$\geq 200$	567.0
	Window wood, pine	N/m	$\geq 200$	568.2
	Anodized aluminum	N/m	$\geq 200$	621.2
	Fibre-reinforced plastic (FRP)	N/m	$\geq 200$	660.5
	Framing lumber, spruce	N/m	$\geq 200$	713.1
	Non-adherent side of the tape backing	N/m	$\geq 200$	468.5
	Unexposed plane "Foamular <sup>®</sup> " XPS	N/m	$\geq 200$	681.9
	UV-exposed plane "Foamular <sup>®</sup> " XPS <sup>(1)</sup>	N/m	$\geq 200$	565.3
Shear Adhesion	PVC	Rating 1 to 4 <sup>(2)</sup>	Rating 1 or 2	Rating 1
	Window wood, pine	Rating 1 to 4	Rating 1 or 2	Rating 1
	Anodized aluminum	Rating 1 to 4	Rating 1 or 2	Rating 1
	Fibre-reinforced plastic (FRP)	Rating 1 to 4	Rating 1 or 2	Rating 1
	Framing lumber, spruce	Rating 1 to 4	Rating 1 or 2	Rating 1
	Non-adherent side of the tape backing	Rating 1 to 4	Rating 1 or 2	Rating 1
	Unexposed plane "Foamular <sup>®</sup> " XPS	Rating 1 to 4	Rating 1 or 2	Rating 1
	UV-exposed plane "Foamular <sup>®</sup> " XPS <sup>(1)</sup>	Rating 1 to 4	Rating 1 or 2	Rating 1

**Notes to Table 4.2.6:**

- (1) The "Foamular<sup>®</sup>" XPS was exposed to 96 hours of UV radiation at irradiance of 0.35 W/m<sup>2</sup>.  
 (2) Rating 1 means  $\geq 75\%$  of the surface remains adhered.  
 Rating 2 means 50% to 75% of the surface remains adhered.  
 Rating 3 means 25% to 50% of the surface remains adhered.  
 Rating 4 means less than 25% of the surface remains adhered.

**Table 4.2.7 Results of Testing of Peel and Shear Adhesion after 25 %<sup>(1)</sup> Elongation**

Property	Substrate	Unit	Requirement	Result
Peel Adhesion	PVC	N/m	$\geq 200$	681.2
	Window wood, pine	N/m	$\geq 200$	692.1
	Anodized aluminum	N/m	$\geq 200$	678.7
	Fibre-reinforced plastic (FRP)	N/m	$\geq 200$	703.9
	Framing lumber, spruce	N/m	$\geq 200$	723.0
	Non-adherent side of the tape backing	N/m	$\geq 200$	615.4
	Unexposed plane "Foamular <sup>®</sup> " XPS	N/m	$\geq 200$	585.1
	UV-exposed plane "Foamular <sup>®</sup> " XPS <sup>(2)</sup>	N/m	$\geq 200$	508.5
Shear Adhesion	PVC	Rating 1 to 4 <sup>(3)</sup>	Rating 1 or 2	Rating 2
	Window wood, pine	Rating 1 to 4	Rating 1 or 2	Rating 2
	Anodized aluminum	Rating 1 to 4	Rating 1 or 2	Rating 2
	Fibre-reinforced plastic (FRP)	Rating 1 to 4	Rating 1 or 2	Rating 2
	Framing lumber, spruce	Rating 1 to 4	Rating 1 or 2	Rating 1
	Non-adherent side of the tape backing	Rating 1 to 4	Rating 1 or 2	Rating 1
	Unexposed plane "Foamular <sup>®</sup> " XPS	Rating 1 to 4	Rating 1 or 2	Rating 2

Property	Substrate	Unit	Requirement	Result
	UV-exposed plane “Foamular <sup>®</sup> ” XPS <sup>(2)</sup>	Rating 1 to 4	Rating 1 or 2	Rating 2

**Notes to Table 4.2.7:**

- (1) The product is elongated to 125% of its original length.  
(2) The “Foamular<sup>®</sup>” XPS was exposed to 96 hours of UV radiation at irradiance of 0.35 W/m<sup>2</sup>.  
(3) Rating 1 means ≥ 75% of the surface remains adhered.  
Rating 2 means 50% to 75% of the surface remains adhered.  
Rating 3 means 25% to 50% of the surface remains adhered.  
Rating 4 means less than 25% of the surface remains adhered.

**Table 4.2.8 Results of Testing of Peel and Shear Adhesion after Accelerated Aging (UV- and Heat-Aging)**

Property	Substrate	Unit	Requirement	Result
<b>Peel Adhesion</b>	PVC	% of original	≥ 75	158 (675.2 N/m)
	Window wood, pine	% of original	≥ 75	151 (771.1 N/m)
	Anodized aluminum	% of original	≥ 75	154 (715.7 N/m)
	Fibre-reinforced plastic (FRP)	% of original	≥ 75	170 (798.3 N/m)
	Framing lumber, spruce	% of original	≥ 75	162 (775.0 N/m)
	Non-adherent side of the tape backing	% of original	≥ 75	161 (557.8 N/m)
	Unexposed plane “Foamular <sup>®</sup> ” XPS	% of original	≥ 75	135 (639.2 N/m)
	UV-exposed plane “Foamular <sup>®</sup> ” XPS <sup>(1)</sup>	% of original	≥ 75	133 (519.2 N/m)
<b>Shear Adhesion</b>	PVC	Rating 1 to 4 <sup>(2)</sup>	Rating 1 or 2	Rating 1
	Window wood, pine	Rating 1 to 4	Rating 1 or 2	Rating 1
	Anodized aluminum	Rating 1 to 4	Rating 1 or 2	Rating 1
	Fibre-reinforced plastic (FRP)	Rating 1 to 4	Rating 1 or 2	Rating 1
	Framing lumber, spruce	Rating 1 to 4	Rating 1 or 2	Rating 1
	Non-adherent side of the tape backing	Rating 1 to 4	Rating 1 or 2	Rating 1
	Unexposed plane “Foamular <sup>®</sup> ” XPS	Rating 1 to 4	Rating 1 or 2	Rating 1
	UV-exposed plane “Foamular <sup>®</sup> ” XPS <sup>(1)</sup>	Rating 1 to 4	Rating 1 or 2	Rating 1

**Notes to Table 4.2.8:**

- (1) The “Foamular<sup>®</sup>” XPS was exposed to 96 hours of UV radiation at irradiance of 0.35 W/m<sup>2</sup>.  
(2) Rating 1 means ≥ 75% of the surface remains adhered.  
Rating 2 means 50% to 75% of the surface remains adhered.  
Rating 3 means 25% to 50% of the surface remains adhered.  
Rating 4 means less than 25% of the surface remains adhered.

**Table 4.2.9 Results of Testing of Peel Adhesion of Substrate after Shelf-Life Test (Equivalent to 12 Months at 20°C)**

Substrate	Unit	Requirement	Result
PVC	N/m	≥ 200	585.0
Window wood, pine	N/m	≥ 200	671.3
Anodized aluminum	N/m	≥ 200	682.5
Fibre-reinforced plastic (FRP)	N/m	≥ 200	726.1
Framing lumber, spruce	N/m	≥ 200	671.3

Substrate	Unit	Requirement	Result
Non-adherent side of the tape backing	N/m	≥ 200	451.6
Unexposed plane “Foamular®” XPS	N/m	≥ 200	611.3
UV-exposed plane “Foamular®” XPS <sup>(1)</sup>	N/m	≥ 200	379.5

**Notes to Table 4.2.9:**

<sup>(1)</sup> The “Foamular®” XPS was exposed to 96 hours of UV radiation at irradiance of 0.35 W/m<sup>2</sup>.

**Table 4.2.10 Results of Testing of Performance Properties of Substrate after Thermal Cycling**

Substrate	Unit	Requirement	Result
Nail sealability	–	No water penetration	Pass
Peel adhesion (anodized aluminum)	N/m	≥ 200	647.9
Shear adhesion (anodized aluminum)	Rating 1 to 4 <sup>(1)</sup>	Rating 1 or 2	Rating 1

**Notes to Table 4.2.10:**

- <sup>(1)</sup> Rating 1 means ≥ 75% of the surface remains adhered.  
Rating 2 means 50% to 75% of the surface remains adhered.  
Rating 3 means 25% to 50% of the surface remains adhered.  
Rating 4 means less than 25% of the surface remains adhered.

**4.3 Air Leakage of Window Flashing System**

**Table 4.3.1 Results of Testing of Air Leakage of Window Installations at Exterior Wall Openings<sup>(1)</sup>**

Flashing System	Window Installation	Unit	Requirement	Result
“FlashSealR® Foam Flashing Tape” <sup>(2)</sup>	Flanged	L/s-m <sup>2</sup>	Report result	0.087
Benchmark <sup>(3)</sup>	Flanged <sup>(4)</sup>	L/s-m <sup>2</sup>	Report result	0.22
“FlashSealR® Foam Flashing Tape”	Boxed	L/s-m <sup>2</sup>	Report result	0.052
Benchmark	Boxed <sup>(5)</sup>	L/s-m <sup>2</sup>	Report result	0.12

**Notes to Table 4.3.1:**

- <sup>(1)</sup> Air leakage rate measured at 75 Pa.  
<sup>(2)</sup> “FlashSealR® Foam Flashing Tape” was installed in accordance to the manufacturer’s instructions, with the following modifications: corner pieces of 75 mm wide were used at the base of the corner sill and a metal head flashing was extended 50 mm beyond the rough opening of the window.  
<sup>(3)</sup> The benchmark flashing is based on the installation requirements of the NBC 2010 and CAN/CSA-A440.4-07 (R2012), “Window, Door, and Skylight Installation.” A breather-type sheathing membrane was wrapped around the header, with a second piece of breather-type sheathing membrane covering the rough opening. The membrane was cut using the “I-cut” method. The window sill was covered with an impermeable adhesive flashing that continued up the sides of the rough opening for a distance of 200 mm.  
<sup>(4)</sup> The flanged window was fastened using cap-nail fasteners through the nailing fins located on top of the “Foamular®” XPS insulation and into the studs.  
<sup>(5)</sup> The boxed window was installed using clips and fasteners through the shims into the sides of the stud frame.

#### 4.4 Water Tightness of Window Flashing System

The water tightness of “FlashSealR® Foam Flashing Tape” was compared with a benchmark flashing system conforming to the window installation and flashing system requirements of the NBC 2010. The flashing systems were compared with two window installation scenarios: a window installation with no deficiency and a window installation with a deficiency. The deficiency is a 3-mm-diameter hole drilled into the bottom left corner of the window sash through to the sloped window sill. The deficiency is designed to mimic a joint failure in the window sash allowing water to enter through to the flashing system at the window sill.

**Table 4.4.1 Results of Testing of Window Installation with No Deficiency<sup>(1)</sup>**

Flashing System	Window Installation	Requirement	Result
“FlashSealR® Foam Flashing Tape” <sup>(2)</sup>	Flanged	No water entry	Pass
Benchmark <sup>(3)</sup>	Flanged <sup>(4)</sup>	No water entry	Pass
“FlashSealR® Foam Flashing Tape”	Boxed	No water entry	Pass
Benchmark	Boxed <sup>(5)</sup>	No water entry	Pass

**Notes to Table 4.4.1:**

<sup>(1)</sup> The window installations were tested with applied pressures ranging from 0 to 700 Pa, and water spray rates ranging from 1.0 L/min/m<sup>2</sup> to 3.2 L/min/m<sup>2</sup>.

**Table 4.4.2 Results of Testing of Flanged Window Installation with a Deficiency – Water Spray Rate 1.0 L/min/m<sup>2</sup>**

Applied Pressure (Pa)	Water Entry Rate (mL/min)		Requirement	Result	
	Benchmark	“FlashSealR®”		Benchmark	“FlashSealR®”
0	4	12	No water entry beyond the sill or to the stud cavity. No accumulation of water on the sill.	Pass	Pass
50	5	9		Pass	Pass
80	4	17		Pass	Pass
160	14	14		Pass	Pass
310	14	25		Pass	Pass
520	17	31		Pass	Pass
730	18	60		Pass	Pass

**Table 4.4.3 Results of Testing of Flanged Window Installation with a Deficiency – Water Spray Rate 2.0 L/min/m<sup>2</sup>**

Applied Pressure (Pa)	Water Entry Rate (mL/min)		Requirement	Result	
	Benchmark	“FlashSealR®”		Benchmark	“FlashSealR®”
0	6	11	No water entry beyond the sill or to the stud cavity. No accumulation of water on the sill.	Pass	Pass
50	6	11		Pass	Pass
70	7	12		Pass	Pass
150	11	13		Pass	Pass
310	13	24		Pass	Pass
520	16	26		Pass	Pass
720	19	40		Pass	Pass

**Table 4.4.4 Results of Testing of Flanged Window Installation with a Deficiency – Water Spray Rate 3.2 L/min/m<sup>2</sup>**

Applied Pressure (Pa)	Water Entry Rate (mL/min)		Requirement	Result	
	Benchmark	“FlashSealR®”		Benchmark	“FlashSealR®”
0	5	9	No water entry beyond the sill or to the stud cavity. No accumulation of water on the sill.	Pass	Pass
60	8	19		Pass	Pass
80	10	17		Pass	Pass
160	10	20		Pass	Pass



Applied Pressure (Pa)	Water Entry Rate (mL/min)		Requirement	Result	
	Benchmark	“FlashSealR®”		Benchmark	“FlashSealR®”
310	15	21		Pass	Pass
520	18	24		Pass	Pass
720	21	45		Pass	Pass

**Table 4.4.5 Results of Testing of Boxed Window Installation with a Deficiency – Water Spray Rate 1.0 L/min/m<sup>2</sup>**

Applied Pressure (Pa)	Water Entry Rate (mL/min)		Requirement	Result	
	Benchmark	“FlashSealR®”		Benchmark	“FlashSealR®”
0	13	3	No water entry beyond the sill or to the stud cavity. No accumulation of water on the sill.	Pass	Pass
50	14	5		Pass	Pass
80	15	7		Pass	Pass
150	16	6		Pass	Pass
310	16	8		Pass	Pass
520	17	9		Pass	Pass
700	18	10		Pass	Pass

**Table 4.4.6 Results of Testing of Boxed Window Installation with a Deficiency – Water Spray Rate 2.0 L/min/m<sup>2</sup>**

Applied Pressure (Pa)	Water Entry Rate (mL/min)		Requirement	Result	
	Benchmark	“FlashSealR®”		Benchmark	“FlashSealR®”
0	13	3	No water entry beyond the sill or to the stud cavity. No accumulation of water on the sill.	Pass	Pass
50	16	8		Pass	Pass
80	15	12		Pass	Pass
160	13	14		Pass	Pass
310	15	16		Pass	Pass
510	17	18		Pass	Pass
720	19	19		Pass	Pass

**Table 4.4.7 Results of Testing of Boxed Window Installation with a Deficiency – Water Spray Rate 3.2 L/min/m<sup>2</sup>**

Applied Pressure (Pa)	Water Entry Rate (mL/min)		Requirement	Result	
	Benchmark	“FlashSealR®”		Benchmark	“FlashSealR®”
0	10	15	No water entry beyond the sill or to the stud cavity. No accumulation of water on the sill.	Pass	Pass
50	11	19		Pass	Pass
80	14	20		Pass	Pass
150	12	17		Pass	Pass
320	13	18		Pass	Pass
520	15	22		Pass	Pass
710	18	22		Pass	Pass

## Report Holder

Owens Corning Canada LP  
3450 McNicoll Avenue  
Scarborough, ON M1V 1Z5

**Telephone:** 800-988-5269  
**Fax:** 800-989-8298

## Plant(s)

Grande-Île (Valleyfield), QC

## Disclaimer

*This Report is issued by the Canadian Construction Materials Centre, a program of NRC Construction at the National Research Council of Canada. The Report must be read in the context of the entire CCMC Registry of Product Evaluations, including, without limitation, the introduction therein which sets out important information concerning the interpretation and use of CCMC Evaluation Reports.*

*Readers must confirm that the Report is current and has not been withdrawn or superseded by a later issue. Please refer to [http://www.nrc-cnrc.gc.ca/eng/solutions/advisory/ccmc\\_index.html](http://www.nrc-cnrc.gc.ca/eng/solutions/advisory/ccmc_index.html), or contact the Canadian Construction Materials Centre, NRC Construction, National Research Council of Canada, 1200 Montreal Road, Ottawa, Ontario, K1A 0R6. Telephone (613) 993-6189. Fax (613) 952-0268.*

*NRC has evaluated the material, product, system or service described herein only for those characteristics stated herein. The information and opinions in this Report are directed to those who have the appropriate degree of experience to use and apply its contents. This Report is provided without representation, warranty, or guarantee of any kind, expressed, or implied, and the National Research Council of Canada (NRC) provides no endorsement for any evaluated material, product, system or service described herein. NRC accepts no responsibility whatsoever arising in any way from any and all use and reliance on the information contained in this Report. NRC is not undertaking to render professional or other services on behalf of any person or entity nor to perform any duty owed by any person or entity to another person or entity.*

**Date modified:**  
2014-12-04