

RGC ACCEPTANCE CRITERIA
for
**MANUFACTURED POLYMER-MODIFIED, REINFORCED
BITUMINOUS SHEET MEMBRANES**
Used in
**Roof Waterproofing
and
Grade-level Waterproofing
Systems**

RGC ACWP-MOD

Approved June 15, 2023
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Previous Versions: none

Preface

Acceptance Criteria created by the RGC (“Guarantor”) are intended solely to establish objective requirements for materials used in the RoofStar™ Guarantee Program (property of the RCABC Guarantee Corp. (RGC)) through which the RGC issues the RoofStar™ Guarantee for waterproofing and water-shedding systems. Materials used in the construction of waterproofing or water-shedding systems must be accepted by the RGC. Refer to other resources in the *Roofing Practices Manual* for other criteria, and for documents, related to the application and approval process.

Use of this Acceptance Criteria is strictly for the purpose of admitting into the RoofStar™ Guarantee Program products manufactured expressly for waterproofing or water-shedding assemblies, for roofs or at-grade. Use

of this Acceptance Criteria for any other purpose shall be at the sole discretion of the user and is not endorsed or condoned by the RGC. Furthermore, this Acceptance Criteria, and the term “accepted”, shall not be construed as a measure of a material’s efficacy or its suitability for any application outside the RoofStar™ Guarantee Program, nor shall it be construed to mean that the *Guarantor* endorses a product conforming to the requirements set out in this document.

This Acceptance Criteria provides guidelines for the material and performance characteristics to which an accepted material must conform. Acceptance is confirmed by the *Guarantor* through a review of the applicant’s submission and is finally endorsed by the RGC Board of Directors. Accepted materials are periodically reviewed by the RGC for conformity to these criteria, and acceptance may be revoked at any time should the product change so that it no longer conforms.

RGC Acceptance Criteria are evaluated periodically by the RGC Technical Committee, which meets throughout the year. The RGC reserves the right under policy to change Acceptance Criteria at any time, and any changes to this Acceptance Criteria shall be effective on the date shown on this document. Changes will be highlighted for a period of twelve (12) months. Previous versions of this Acceptance Criteria can be requested in writing from the *Guarantor*.

In the event that a product listed in the RoofStar Guarantee Program is rendered non-conforming by a change in an Acceptance Criteria, the manufacturer will have no more than twelve (months) from the date of the change to conform to the Acceptance Criteria and resubmit the material for acceptance by the RGC.

1.0 Purpose and Scope

1.1 Purpose

The purpose of this Acceptance Criteria is to establish basic requirements for bituminous sheet membrane products, modified with styrene-butadiene-styrene (“SBS”) or atactic polypropylene (“APP”), in compliance with the National Building Code of Canada and the British Columbia Building Code. To promote transparency and objectivity about membrane characteristics, this document requires publication of test data following the criteria in Tables 1 and 2 (see Appendix A).

1.2 Scope

Polymer-modified bituminous sheet membranes are manufactured with various blends of bitumen, are reinforced with fibreglass, a blend of fibreglass materials, polyester, or a blend of the two materials, may be formulated to be self-adhered, adhesive-applied, hot-mopped, or torch-welded, and may be coated on the weather-side surface with granules, reflective materials, or films. This document establishes basic criteria by which the RGC guarantees polymer-modified sheet membrane products in the British Columbia marketplace.

2.0 General

2.1 Reference Documents

All referenced documents shall be the current version in force at the time of the Effective Date shown on this Acceptance Criteria.

- 2.1.1 **CSA-A123.23** *Product specification for polymer-modified bitumen sheet, prefabricated and reinforced.* CSA Group.
- 2.1.2 **Standard for SBS-modified Bitumen Membrane Roof Systems** (RGC Roofing Practices Manual).

2.2 Definitions

- 2.2.1 **Applicant** means an Associate Member of the RCABC, and means the manufacturer or, in the alternative, the agent, distributor or another party representing the manufacturer, who presents the *product* for consideration of acceptance by the RGC.
- 2.2.2 **CSA Standard** means CSA-A123.23, *Product specification for polymer-modified bitumen sheet, prefabricated and reinforced.*
- 2.2.3 **Grade** means a membrane grade (Grade 1 or Grade 2) conforming to the classification used in CSA-A123.23, 1.2.2 Grades.
- 2.2.4 **Manufacturer** means an Associate Member of the RCABC and has the same meaning as the *Applicant*.
- 2.2.5 **Product** means the material submitted for acceptance by the RGC, under the terms of this Acceptance Criteria.
- 2.2.6 **Technical Data Sheet** means the document published by a *manufacturer* to display the properties of the material, the standards or test methods it conforms to, and application information about the material, but shall not be used as promotional literature.
- 2.2.7 **Type** means a membrane type (Type A, B, or C) conforming to the classification used in CSA-A123.23, 1.2.1. Types.
- 2.2.8 Other terms as defined in the Glossary of the *RGC Roofing Practices Manual*, or as defined in *ASTM D1079 Standard Terminology Relating to Roofing and Waterproofing*.

3.0 Criteria for Acceptance

3.1 Membership

The *Applicant* must be a member of the RCABC/RCABC Guarantee Corp. (RGC), and must have completed the following administrative requirements:

- 3.1.1 **Policy A-055 Associate Member Commitment**

- 3.1.2 Policy A-041 Material Acceptance Criteria**
- 3.1.3 Policy A-078 Material Acceptance Agreement**
- 3.1.4 Material Bond (ref. Policy A-080 Material Bond)**

3.2 Product marketplace installation

- 3.2.1** The *Applicant* shall disclose, together with the *product* application, a list of projects located in British Columbia that incorporate the *product*. Projects must be complete and in service for at least two (2) consecutive years preceding the date of application. The list of projects shall include no fewer than six (6). The list shall be submitted on the Product History form which is downloadable from the Roofing Practices Manual.
- 3.2.2** The requirements in **3.2.1** may be supplemented with a list of projects in regions with a similar climate to the climate for which the *product* is submitted (ref. **3.5.2.1**).

3.3 Material Information

- 3.3.1 Characteristics**
The *product* shall conform to the characteristics described in CSA-A123.23, Section 5, *Physical Requirements*, and to the tables below (Table 7.1. or Table 7.2.).

3.4 Packaging and Identification

- 3.4.1** The *product* packaging shall conform to the requirements in CSA-A123.5, Section 11, *Packaging, shipping, and marking*.
- 3.4.2** The *product* shall be identified on the Declaration of Conforming Product by one of the following criteria, which are described in Policy A-041.
 - 3.4.2.1 Branded (Proprietary)**
 - 3.4.2.2 Private Labeled**
 - 3.4.2.3 Co-branded**

3.5 Product Specifications and Test Procedures

- 3.5.1 General Specifications:** Products must conform to the *CSA Standard* following the test procedures therein.

3.6 Reporting on *Technical Data Sheets*

- 3.6.1 General Requirements:** Each *Applicant's Technical Data Sheet* shall publish the test results for each Property shown on Table 7.1. or Table 7.2. and shall publish the data following the format shown below in Table 3.6.1

Table 3.6.1. – Technical Data Sheet material properties and test values

Properties		CSA A123.23 Criteria Type [], Grade []	Tested Value
Thickness – mm (mils)		Show required min.	Publish actual value
Selvedge thickness – mm (mils)		Show required min.	Publish actual value
Mass per unit area – kg/m ² (lbs/100 ft ²)		Show required min.	Publish actual value
Back surface coating thickness (only for heat-welded sheets), min. – mm (mils)		1.0 (40)	Publish actual value
Strain energy (before and after heat conditioning), min. – kN/m (lbf/in)	At 23 ± 2°C (73.4 ± 3.6°F)	Show required min.	Publish actual value
	At -18 ± 2°C (-4 ± 3.6°F)	or show “See tested value”, as required by Standard	Publish actual value
Peak load (before and after heat conditioning), min. – kN/m (lbf/in)	At 23 ± 2°C (73.4 ± 3.6°F)	Show required min.	Publish actual value
	At -18 ± 2°C (-4 ± 3.6°F)	or show “See tested value”, as required by Standard	Publish actual value
Elongation at peak load (before and after heat conditioning), %	At 23 ± 2°C (73.4 ± 3.6°F)	Show required min.	Publish actual value
	At -18 ± 2°C (-4 ± 3.6°F)	or show “See tested value”, as required by Standard	Publish actual value
Ultimate elongation at 23 ± 2°C (before and after heat conditioning), %		Show required min. or show “See tested value”, as required by Standard	Publish actual value
Dimensional stability, max., %		Show required min.	Publish actual value
Low temperature flexibility (before and after heat conditioning), max. – °C (°F)		-18 (-4)	Publish actual value
Low temperature flexibility after UV weathering (Grades 1 and 2 only), max. – °C (°F)		-12 (10) or N/A. as required by Standard	Publish actual value or Show N/A if not required
Compound stability, min. – °C (°F)		Show required min.	Publish actual value
Resistance to puncture		N/A or Pass, as required by Standard	N/A or Pass, as required by Standard
Granule embedment (Grade 1 only), max. – g (oz)		2.0 (0.07) or N/A, as required by Standard	Publish actual value or show N/A if not required
Moisture content, max., % *		1.0	Publish actual value

[] Replace with appropriate membrane type and grade (Ref. CSA-A123.23, 1.2.1 Types)

* Applicable only for APP-modified membranes

3.7 Additional Criteria

- 3.7.1 Standard for SBS-modified bitumen Membrane Roof Systems:** The *product* shall also conform to the material property requirements published in Table 9.1 of the Standard for SBS-modified Bitumen Membrane Roof Systems, Article 9.2.1.1., “Membrane Composition, Thickness, and Selection”.¹

4.0 Product Testing and Verification

The *Applicant* must present a Declaration of Conforming Product (use **Form F-090**), supported by a report produced by a testing laboratory that possesses no affiliation with the *Applicant*. *Manufacturer* technical data publications will not be accepted as an alternative to third party verification.

5.0 Guarantor Disclosure of Information

The *Guarantor* agrees to share in tables or pages of the Roofing Practices Manual the identification of the polymer modifier used in the *Applicant’s* product, the published membrane thickness, the mass per unit area as shown in the membrane tables of Division C (Roofing Practices Manual), and to upload the product’s supporting *Technical Data Sheet*.

6.0 Application

Refer to Division C in the RGC *Roofing Practices Manual* for downloadable copies of application forms.

7.0 Tables

Sheet membranes complying with this acceptance criteria shall conform to the requirements set out in the following tables (7.1. and 7.2.), which are replicated from the tables in the *CSA Standard*.

¹ This is an internal classification of the RGC and is independent of product compliance with CSA-A123.23. *Products* that satisfy the requirements of the *CSA Standard* but do not conform to RGC requirements may be accepted by the RGC at the discretion of the *Guarantor*, but only as indicated in Division C of the Roofing Practices Manual.

Table 7.1. – Requirements for SBS-modified bitumen reinforced sheet membrane goods

Property		Type A (Glass/Fibreglass)			Type B (Polyester)			Type C (Combination)		
Thickness, min. – mm (mils)		2.4 (95)	2.0 (80)	2.0 (80)	3.3 (130)	2.2 (85)	2.2 (85)	2.8 (110)	1.8 (70)	1.8 (70)
Selvege thickness, min. – mm (mils)		2.0 (80)			2.2 (85)			1.8 (70)		
Mass per unit areas, min. – kg/m ² (lbs/100 ft ²)		3.2 (65)	2.2 (45)	2.2 (45)	3.7 (75)	2.6 (53)	2.6 (53)	2.9 (60)	2.2 (45)	2.2 (45)
Back surface coating thickness (only for heat-welded sheets), min. – mm (mils)		1.0 (40)			1.0 (40)			1.0 (40)		
Strain energy (before and after heat conditioning), min. – kN/m (lbf/in)	At 23 ± 2°C (73.4 ± 3.6°F)	Report value*			5.5 (31)			5.5 (31)		
	At -18 ± 2°C (-4 ± 3.6°F)	Report value*			3.0 (17)			3.0 (17)		
Peak load (before and after heat conditioning), min. – kN/m (lbf/in)	At 23 ± 2°C (73.4 ± 3.6°F)	5.3 (30)			Report value*			Report value*		
	At -18 ± 2°C (-4 ± 3.6°F)	12.3 (70)			Report value*			Report value*		
Elongation at peak load (before and after heat conditioning), %	At 23 ± 2°C (73.4 ± 3.6°F)	2			Report value*			Report value*		
	At -18 ± 2°C (-4 ± 3.6°F)	1			Report value*			Report value*		
Ultimate elongation at 23 ± 2°C (before and after heat conditioning), %		3			Report value*			Report value*		
Dimensional stability, max., %		0.5			1.0			0.5		
Low temperature flexibility (before and after heat conditioning), max. – °C (°F)		-18 (-4)								
Low temperature flexibility after UV weathering (Grades 1 and 2 only), max. – °C (°F)		-12 (10)	N/A		-12 (10)	N/A		-12 (10)	N/A	
Compound stability, min. – °C (°F)		91 (195)			102 (215)			91 (195)		
Resistance to puncture		N/A			Pass			Pass		
Granule embedment (Grade 1 only), max. – g (oz)		2.0 (0.07)	N/A		2.0 (0.07)	N/A		2.0 (0.07)	N/A	

N/A: Not applicable for this type/ grade

* The CSA-A123.23 Standard prescribes minimum strain energy values for Types Band C. Peak load, elongation at peak load, and ultimate elongation results (obtained from the same test procedure as strain energy) shall be reported but no minimum values have to be met. The reverse applies to Type A.

Table 7.2. – Requirements for APP-modified bitumen reinforced sheet membrane goods

Property		Type B (Polyester)			Type C (Combination)		
Thickness, min. – mm (mils)		4.0 (160)	3.5 (140)	3.5 (140)	4.0 (160)	3.5 (140)	3.5 (140)
Selvege thickness, min. – mm (mils)		3.5 (140)			3.5 (140)		
Mass per unit areas, min. – kg/m ² (lbs/100 ft ²)		4.2 (86)	3.4 (69)	3.4 (69)	4.4 (90)	3.7 (75)	3.7 (75)
Back surface coating thickness (only for heat-welded sheets), min. – mm (mils)		1.0 (40)			1.0 (40)		
Strain energy (before and after heat conditioning), min. – kN/m (lbf/in)	At 23 ± 2°C (73.4 ± 3.6°F)	5.5 (31)			5.5 (31)		
	At -18 ± 2°C (-4 ± 3.6°F)	3.0 (17)			3.0 (17)		
Peak load (before and after heat conditioning), min. – kN/m (lbf/in)	At 23 ± 2°C (73.4 ± 3.6°F)	Report value*			Report value*		
	At -18 ± 2°C (-4 ± 3.6°F)	Report value*			Report value*		
Elongation at peak load (before and after heat conditioning), %	At 23 ± 2°C (73.4 ± 3.6°F)	Report value*			Report value*		
	At -18 ± 2°C (-4 ± 3.6°F)	Report value*			Report value*		
Ultimate elongation at 23 ± 2°C (before and after heat conditioning), %		Report value*			Report value*		
Dimensional stability, max, %		1.0			0.5		
Low temperature flexibility (before and after heat conditioning), max. – °C (°F)		0 (32)					
Low temperature flexibility after UV weathering (Grades 1 and 2 only), max. – °C (°F)		6 (43)	N/A		6 (43)	N/A	
Compound stability, min. – °C (°F)		110 (230)					
Resistance to puncture		Pass			Pass		
Granule embedment (Grade 1 only), max. – g (oz)		2.0 (0.07)	N/A		2.0 (0.07)	N/A	
Moisture content, max., %		1.0					

N/A: Not applicable for this type/ grade

* The CSA-A123.23 Standard prescribes minimum strain energy values for Types B and C. Peak load, elongation at peak load, and ultimate elongation results (obtained from the same test procedure as strain energy) shall be reported but no minimum values have to be met.