

CCMC 12959-R

CCMC Canadian code compliance evaluation

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| CCMC number: | 12959-R |
| Status: | Active |
| Issue date: | 2000-02-23 |
| Modified date: | 2022-11-28 |
| Evaluation holder: | <p>Hal Industries Inc. 9681 - 187th Street Surrey BC V4N 3N3 Canada Website: www.halind.com Telephone: 604-888-0777 Email: contact@halind.com</p> |
| Product name: | Polymax 180 |
| Code compliance: | NBC 2015, OBC |
| Evaluation requirements: | CCMC-TG-075113.01-15 "CCMC Technical Guide for Roof Sheathing Felt" |

In most jurisdictions this document is sufficient evidence for approval by Canadian authorities.

[Learn more about CCMC recognition](#) [Look for the trusted CCMC mark on products to verify compliance.](#)

Code compliance opinion

It is the opinion of the Canadian Construction Materials Centre that the evaluated product, when used as a polyester roof sheathing felt in accordance with the conditions and limitations stated in this evaluation, complies with the following code:

National Building Code of Canada 2015

| Code provision | Solution type |
|---|--------------------|
| 5.6.1.1.(1) Except as provided in Sentence 5.6.1.1.(... | <u>Acceptable</u> |
| 9.26.1.2.(1) Roofs shall be protected with roofing, i ... | <u>Acceptable</u> |
| 9.26.2. Roofing Materials | <u>Alternative</u> |
| 9.26.11.3. Roof Felts | <u>Alternative</u> |

Ontario Building Code

Ruling No. 01-01-85 (12959-R) authorizing the use of this product in Ontario, subject to the terms and conditions contained in the Ruling, was made by the Minister of Municipal Affairs and Housing on 2001-10-15 (revised 2017-03-22) pursuant to s.29 of the Building Code Act, 1992 (see Ruling for terms and conditions). This Ruling is subject to periodic revisions and updates.

The above opinion is based on the evaluation by the CCMC of technical evidence provided by the evaluation holder, and is bound by the stated conditions and limitations. For the benefit of the user, a summary of the technical information that forms the basis of this evaluation has been included.

Product information

Product name

Polymax 180

Product description

The product is a polyester roof sheathing felt made of non-woven, spun-bonded, heat-stabilized polyester fabric that is impregnated with a roofing grade asphaltic bitumen to form a highly absorbent base sheet and ply sheet for built-up roofing (B.U.R.).

Typical installation of the product is shown in the following figure.

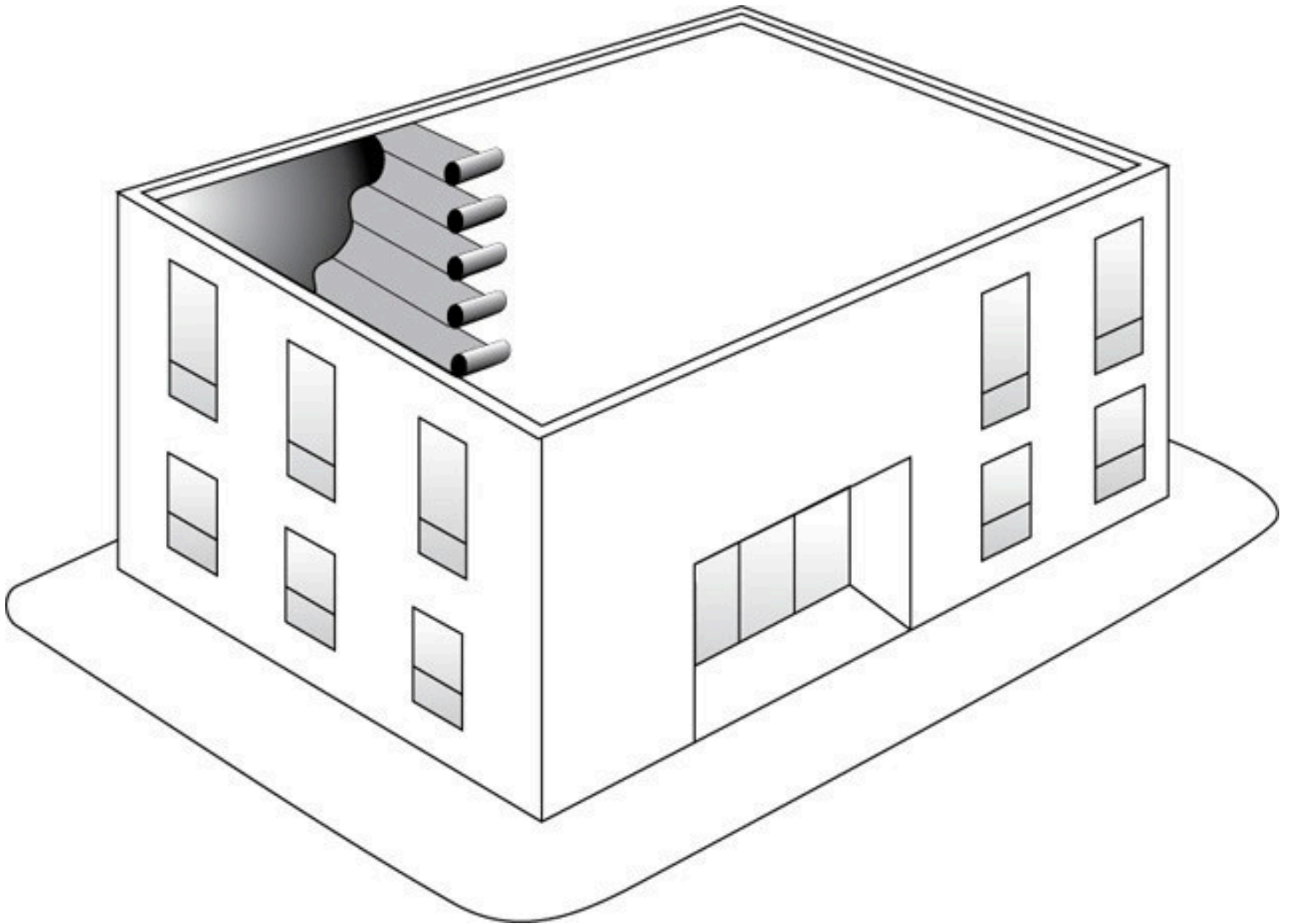


Figure 1. “Polymax 180”

Manufacturing plant

This evaluation is valid only for products produced at the following plant:

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| Product name | Manufacturing plant |
|--------------|---------------------|
| | Surrey, BC, CA |
| Polymax 180 | ☉ |

☉ Indicates that the product from this manufacturing facility has been evaluated by the CCMC

Conditions and limitations

The CCMC’s compliance opinion is bound by this product being used in accordance with the conditions and limitations set out below.

- The product is intended to be used as a base sheet and ply sheet in B.U.R. systems.
- When the product is used in roof coverings installed on buildings governed by Part 3 of the NBC 2015, the roof covering must conform to a Class A, B or C classification determined in accordance with Article 3.1.15.1., Roof Covering Classification, of Division B of the NBC 2015.
- When the product is used as part of a rated roof assembly governed by Part 3, Part 5, and/or Part 9 of Division B of the NBC 2015, the roof assembly must be rated according to Articles 3.1.7.1., Determination of Ratings, and 9.10.3.1., Fire-Resistance and Fire-Protection Ratings, of Division B of the NBC 2015.
- A B.U.R. using the product must be constructed in accordance with Article 5.6.1.2. and Subsection 9.26.11., Built-Up Roofs, of Division B of the NBC 2015. The product surfaces must be mopped dry to avoid blistering.
- The product’s ply sheets are not watertight until totally saturated with hot asphalt. Exposed unfinished membranes must be kept dry and protected by an impermeable membrane until the product is fully covered with asphalt.
- This Evaluation Report is applicable only to products identified by the phrase “CCMC 12959-R.”

Technical information

This evaluation is based on demonstrated conformance with the following criteria:

| Criteria number | Criteria name |
|----------------------|--|
| CCMC-TG-075113.01-15 | CCMC Technical Guide for Roof Sheathing Felt |

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Performance requirements

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Table 1. Results of testing of physical and mechanical properties of the product

| Property | | Unit | Requirement (type II) ⁽¹⁾ | Result |
|---|--|---------------------------------|--|--------------------------------------|
| Unit mass of mat ⁽²⁾ | | g/m ² | ≥ 180 | 190 |
| Minimum thickness | | mm | ≥ 0.51 | 1.24 |
| Breaking load | | kN/m | ≥ 5.2 | 17.8 MD ⁽³⁾ 11.6 XD |
| Elongation | | % | ≥ 25 | 44 MD 55 XD |
| Trapezoid tearing strength | | N | ≥ 107 | 153.7 MD 152.6 XD |
| Puncture strength | | N | ≥ 169 | 336.9 |
| Heat distortion stability | | % change | ≤ 2 | 1.1 MD 0.4 XD |
| Moisture at point of manufacture | | % | ≤ 1.0 | 0 |
| Mass of bituminous saturant (asphalt) | | g/m ² ⁽⁴⁾ | ≥ 308 | 395 |
| Percentage of bituminous saturant | | % | ≥ 170 | 206 |
| Mass of comminuted surfacing (sand) | | g/m ² | ≤ 100 | 5.95 |
| Net dry mass of asphalt-impregnated polyester felt ⁽⁵⁾ | | g/m ² | ≥ 488 | 585 |
| Pliability at 25°C | 12.7-mm (1/2-in.) radius bend | - | No failure | Passed |
| Pliability at -5°C | 12.7-mm (1/2-in.) radius bend ⁽⁶⁾ | - | No failure | Passed |
| Loss on heating at 105°C for 5 h | | % | ≤ 4 | 0.25 |
| Behaviour on heating | | - | No flowing, sagging, blistering or absorption of the coating | Passed |
| Water vapour permeance (desiccant method) | | n/g (Pa•s•m ²) | Report value | 5382.98 ⁽⁷⁾ |

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| Property | | Unit | Requirement (type II) ⁽¹⁾ | Result |
|----------------------------------|--------|------|--|---------|
| Strain energy | | kN/m | ≥ 3.0 | 6.05 MD |
| | | | | 4.22 XD |
| Dynamic cold temperature cycling | | - | Peel strength must be min. 80% of original value | Passed |
| Straightness | | mm | ≤ 50 | 5 |
| Flatness | dry | mm | ≤ 10 | 3 |
| | mopped | - | Comparable to flatness of modified bituminous sheet membrane | Passed |

Notes:

- 1 Refers to Type II classifications according to ASTM D 5726-98, "Standard Specification for Thermoplastic Fabrics Used in Hot-Applied Roofing and Waterproofing."
- 2 The unit mass must be that of the polyester mat in a moisture-free condition.
- 3 MD = machine direction; XD = cross machine direction
- 4 This requirement is based on the mass of bituminous saturant required in ASTM D 2178-97a, "Standard Specification for Asphalt Glass Felt Used in Roofing and Waterproofing."
- 5 This requirement is based on a minimum that represents the dry unit mass of the polyester mat and the mass of bituminous saturant. Manufacturers may have values that exceed the prescribed number.
- 6 The methodology stated in ASTM D 146-04, "Standard Test Methods for Sampling and Testing Bitumen-Saturated Felts and Woven Fabrics for Roofing and Waterproofing," is used again, except the specimens are stored in a refrigerator at -5°C for 120 minutes.
- 7 The results obtained were based on the Water Method and were deemed acceptable in lieu of results conducted according to the Desiccant Method.

Administrative information

Disclaimer

This evaluation is issued by the Canadian Construction Materials Centre (CCMC), a part of the Construction Research Centre at the National Research Council of Canada (NRC). The evaluation must be read in the context of the entire [CCMC Registry of Product Assessments](#) and the legislated applicable building code in effect.

The CCMC was established in 1988 on behalf of the applicable regulator (i.e., the provinces and territories) to ensure—through assessment—conformity of alternative and acceptable solutions to regional building codes as determined by the local authority having jurisdiction (AHJ) as part of the issuance of a building permit.

It is the responsibility of the local AHJs, design professionals, and specifiers to confirm that the evaluation is current and has not been withdrawn or superseded by a later issue. Please refer to [the website](#) or contact:

Canadian Construction Materials Centre

Construction Research Centre
National Research Council of Canada
1200 Montreal Road
Ottawa, Ontario, K1A 0R6
Telephone: 613-993-6189
Fax: 613-952-0268

The NRC has evaluated the material, product, system or service described herein only for those characteristics stated herein. The information and opinions in this evaluation are directed to those who have the appropriate degree of experience to use and apply its contents (i.e., AHJs, design professionals and specifiers). This evaluation is only valid when the product is installed in strict compliance with the stated conditions and limitations of evaluation and the applicable local building code. In circumstances where no applicable local building permit is issued and that no confirmation of compliance 'for use in the intended field application' is undertaken, this evaluation is null and void in all respects. This evaluation is provided without representation, warranty, or guarantee of any kind, expressed, or implied, and the NRC provides no endorsement for any evaluated material, product, system or service described herein. The NRC accepts no responsibility whatsoever arising in any way from any and all use and reliance on the information contained in this evaluation with respect to its compliance to the referenced code(s) and standard(s). The 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.

Language

Une version française de ce document est disponible.

In the case of any discrepancy between the English and French version of this document, the English version shall prevail.

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CCMC recognition

The Canadian Construction Materials Centre (CCMC) assesses compliance with Canadian building, energy and safety codes. We are the only construction code compliance service supported and operated by the Government of Canada. Trusted by over 6,000 regulators across Canada.

Most Canadian authorities having jurisdiction (AHJs) consider CCMC product assessments acceptable as evidence for product approval.

CCMC assessments are recognized by construction authorities across Canada:

Alliance of Canadian Building Official Associations (ACBOA)



(Alliance of Canadian Building Official Associations (ACBOA))

First Nations National Building Officers Association (FNNBOA)



(First Nations National Building Officers Association (FNNBOA))

Canadian Home Builders' Association (CHBA)



(Canadian Home Builders' Association (CHBA))

Alberta Building Officials Association (ABOA)



(Alberta Building Officials Associations (ABOA))

Saskatchewan Building Officials Association (SBOA)



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Manitoba Building Officials Association (MBOA)



(Manitoba Building Officials Association (MBOA))

Ontario Building Officials Association (OBOA)



(Ontario Building Officials Association (OBOA))

New Brunswick Building Officials Association (NBBOA)



(New Brunswick Building Officials Association (NBBOA))

Nova Scotia Building Officials Association (NSBOA)



(Nova Scotia Building Officials Association (NSBOA))

The CCMC provides code compliance assessments to Canadian code requirements, consulting nationwide with construction regulators to elicit regional variations in code requirements as well as provincial and local interpretations. Users are advised to review the technical information presented in CCMC assessments when making approval decisions. [Learn more about how the CCMC provides a unique service for Canada.](#)

For more information, contact the CCMC by phone at (613) 993-6189 or by email at ccmc@nrc-cnrc.gc.ca

Code compliance as an acceptable solution

Code Compliance via Acceptable Solutions

If a building design (e.g. material, component, assembly or system) can be shown to meet all provisions of the applicable **acceptable solutions** in Division B (e.g. it complies with the applicable provisions of a referenced standard), it is deemed to have satisfied the objectives and functional statements linked to those provisions and thus to have complied with that part of the Code.

— National Building Code of Canada, Sentence A-1.2.1.1.(1)(a)

The CCMC has determined that compliance with this provision of the Code has been demonstrated as an **Acceptable Solution**. The evaluation report provides a summary of the basis of CCMC's compliance opinion.

CCMC's code compliance opinions

All CCMC evaluation reports are opinions of code compliance established in accordance with the National Building Code of Canada, Subsection 1.2.1. "Compliance with this Code," which requires compliance to be achieved by:

- complying with the applicable acceptable solutions in Division B, or
- using an alternative solution that will achieve at least the minimum level of performance required by Division B in the areas defined by the objective and functional statements attributed to the applicable acceptable solutions.

The CCMC assesses compliance with Canadian building, energy and safety codes, and is trusted by over 6,000 regulators across Canada.

Code compliance as an alternative solution

Code Compliance via Alternative Solutions

Where a design differs from the acceptable solutions in Division B, then it should be treated as an **"alternative solution."** A proponent of an alternative solution must demonstrate that the alternative solution addresses the same issues as the applicable acceptable solutions in Division B and their attributed objectives and functional statements. However, because the objectives and functional statements are entirely qualitative, demonstrating compliance with them in isolation is not possible. Therefore, Clause 1.2.1.1.(1)(b) identifies the principle that Division B establishes the quantitative performance targets that alternative solutions must meet. In many cases, these targets are not defined very precisely by the acceptable solutions [...] Nevertheless, Clause 1.2.1.1.(1)(b) makes it clear that an effort must be made to demonstrate that an alternative solution will perform as well as a design that would satisfy the applicable acceptable solutions in Division B—not “well enough” but “as well as.”

— National Building Code of Canada, Sentence A-1.2.1.1.(1)(b)

The CCMC has determined that compliance with this provision of the Code has been demonstrated as an **Alternative Solution**. The evaluation report provides a summary of the basis of CCMC's compliance opinion.

CCMC's code compliance opinions

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