

NRC Publications Archive Archives des publications du CNRC

CCMC News: Winter 1993, Issue No. 4

National Research Council of Canada. Institute for Research in Construction

For the publisher's version, please access the DOI link below. / Pour consulter la version de l'éditeur, utilisez le lien DOI ci-dessous.

Publisher's version / Version de l'éditeur:

<https://doi.org/10.4224/40001913>

CCMC News, 1993

NRC Publications Archive Record / Notice des Archives des publications du CNRC :

<https://nrc-publications.canada.ca/eng/view/object/?id=3071ad77-434d-466e-a92f-06aed98682e7>

<https://publications-cnrc.canada.ca/fra/voir/objet/?id=3071ad77-434d-466e-a92f-06aed98682e7>

Access and use of this website and the material on it are subject to the Terms and Conditions set forth at

<https://nrc-publications.canada.ca/eng/copyright>

READ THESE TERMS AND CONDITIONS CAREFULLY BEFORE USING THIS WEBSITE.

L'accès à ce site Web et l'utilisation de son contenu sont assujettis aux conditions présentées dans le site

<https://publications-cnrc.canada.ca/fra/droits>

LISEZ CES CONDITIONS ATTENTIVEMENT AVANT D'UTILISER CE SITE WEB.

Questions? Contact the NRC Publications Archive team at

PublicationsArchive-ArchivesPublications@nrc-cnrc.gc.ca. If you wish to email the authors directly, please see the first page of the publication for their contact information.

Vous avez des questions? Nous pouvons vous aider. Pour communiquer directement avec un auteur, consultez la première page de la revue dans laquelle son article a été publié afin de trouver ses coordonnées. Si vous n'arrivez pas à les repérer, communiquez avec nous à PublicationsArchive-ArchivesPublications@nrc-cnrc.gc.ca.

CCMC NEWS

Ontario to Designate CCMC in its Building Code

by G.E. Wildish

Ontario will designate CCMC as a materials evaluation body in the 1993 Interim Amendments to the OBC.

Bill 112, An Act to Revise the Building Code Act, received third reading in the Ontario Legislature on October 19 and Royal Assent on November 5, 1992. The new legislation, expected to come into force in May 1993, contains many important innovations for building owners, builders and occupants. Among them are changes that will speed the construction process, facilitate innovation and permit the Ontario Building Code to include maintenance, resource conservation and environmental standards for existing buildings.

Of particular importance to CCMC is an amendment designed to facilitate innovation in the building industry. Section 29 of the new Act allows the Minister of Housing or her delegate to approve the use of innovative materials, systems or building designs evaluated by a materials evaluation body designated in the Building Code. A regulation which will designate CCMC as such a body has been prepared for inclusion in the 1993 Interim Amendments to the Ontario Building Code. These amendments will enable Ontario to fully participate in the CCMC program, thus making the benefits of the Canada-wide CCMC system available to all Ontarians.

Ontario's Building Materials Evaluation Commission has provided a splendid service to Ontario in the past, and will continue to do so for evaluations which have a more

parochial orientation; however, the Canada-wide coverage offered by CCMC will be an addition much appreciated by all concerned.

While a CCMC evaluation does not have official authorization in Ontario until the Minister of Housing has approved it, the approval process is not expected to be cumbersome or time-consuming. The review of evaluations by Ontario should be completed expeditiously, and acceptance of the CCMC evaluations without alteration should be the norm. The proposed regulation does provide, however, that the Minister, in adopting an evaluation report (including any general conditions) may make "such modifications and conditions, including conditions of amendment or termination, as in the Minister's opinion are required in order that the use of the material, system or building design will be consistent with the purpose of the Building Code."

Ontario has been a strong supporter of CCMC since its inception and continues to be active on the Canadian Commission on Construction Materials Evaluation. The province is proud to join the other Canadian provinces and territories which are already participating in the new CCMC program.

George E. Wildish is Special Assistant to the Director, Interjurisdictional Affairs, Ontario Buildings Branch, Ministry of Housing. ♦

CCCME and PTCBS Hold Back-to-Back Meetings

PTCBS agrees to formalize support for CCMC.

At its second meeting, on 26-27 November, 1992, the Canadian Commission on Construction Materials Evaluation (CCCME) welcomed representatives from the Provincial/Territorial Committee on Building Standards (PTCBS). Mr. Fred Nicholson, Chairman of CCCME, had already attended a portion of the PTCBS meeting hosted by the Institute for Research in Construction the previous two days. This liaison enhanced the existing relationship between PTCBS and CCCME, providing each group with a better understanding of the operations and philosophies of the other.

PTCBS

PTCBS is comprised of senior officials from provincial and territorial agencies responsible for building regula-

tion, and provides policy guidance to CCCME. A member of PTCBS, currently Ms. M. Miller from Saskatchewan, serves as an ex-officio member of the Commission.

Members of PTCBS agreed in principle to prepare a formal statement of support for inclusion in CCMC Evaluations. Specific wording will be announced in a future issue of CCMC News.

CCCME Agenda

CCCME provided excellent direction to CCMC on a number of important matters. The Commission modified a previous decision directing the Centre to require that product manufacturers conform to the CSA Q9000 series of quality assurance standards. At this meeting, the

continued on page 2

CCCME and PTCBS...continued from page 1

Commission recognized that the additional requirements of CSA Q9000 (beyond those covered by ISO 9000) imposed an unwarranted burden on manufacturers. The decision was made, therefore, to rely solely on the ISO 9000 series of quality assurance standards. Since regulatory bodies in other countries are also adopting the ISO standards, implementation of the Commission's decision will assist Canadian manufacturers in foreign markets.

The need for proper identification of CCMC evaluated products has been under discussion by the Commission for some time. At this meeting, CCMC agreed to clarify its expectations, both to the manufacturers of evaluated products and to users trying to determine conformity.

CWDMA Window Certification

As reported in the last issue of CCMC News, the Canadian Window and Door Manufacturer's Association (CWDMA) has initiated a certification program for windows and patio doors. A presentation on the new pro-

gram was delivered to CCCME, with a request that CCMC cancel its evaluation program for these products as soon as possible after 1 March, 1993. The Commission recommended that no action be taken until the CWDMA Certification Program can demonstrate its success through the clear support of industry, not only manufacturers, but also users, such as specifiers and regulatory authorities. Recognizing the difficulties of defining success, the Executive Committee of the Commission will establish guidelines in this regard. Comments on the possible cancellation of CCMC's program should be directed to the Chairman, Canadian Commission on Construction Materials Evaluation, c/o National Research Council Canada, Ottawa, Ontario, K1A 0R6.

Questions or comments on the CWDMA Certification program should be forwarded to Mr. R. Lipman, Assistant Executive Vice President, Canadian Window and Door Manufacturer's Association, 27 Goulburn Ave., Ottawa, Ontario, K1N 8C7. ♦

Proper Installation of Loose-Fill Mineral-Fibre Insulation

If the density of the installed product is lower than that specified, the result could be an installation that looks proper, but provides less thermal resistance than anticipated.

Recently, a number of enquiries to CCMC have concerned the installation of loose-fill mineral fibre insulation in attics, in particular, the potential for the product to be installed at a density lower than intended. If the density of the installed product is lower than that specified for the application, the result could be an installation that looks proper, but provides less thermal resistance than anticipated. The end result of such improper installation, of course, is higher heat losses and higher heating costs.

The applicable product standard, CSA A101 (currently being revised under CGSB jurisdiction), requires that the thermal resistance of the product be measured at the design density (the density to be applied in the field) stated by the manufacturer. This design density varies among manufacturers and their products. The standard also requires that a table, or coverage chart, showing values of mass per unit area, minimum thickness and maximum coverage per bag for each given value of thermal resistance, be printed on the packaging of the product. In attics, if the installed density is less than the design density (meaning that a bag of insulation covers a greater area than expected for a specified depth), the

installation is non-conforming and will result in a reduced thermal resistance.

Since all products are different and have different coverage charts, each installation must be considered independently. But how does one determine that the installation meets the requirements for a particular situation? One way is to verify that the number of bags installed in the attic equals or exceeds the coverage chart. Many applicators provide and/or post this information for the building official to verify conformance.

The Canadian Construction Materials Centre has 16 listings for loose-fill, mineral-fibre insulation under Masterformat Number 07214.2 in its Volume 2 listings manual. These indicate the name and manufacturer of the product, the product's design density, the tested thermal resistance at that density, and the application chart which must appear on all product labelling. The Preface to this section also mentions that these insulations should be installed by qualified installers trained in the installation of these products. Many readers will find the CCMC Listings a ready and concise source of information on this subject.

Information: R.C. Waters ♦

Senior Technical Officer: Marcel Brouzes

Marcel A. Brouzes is a Senior Technical Officer with CCMC. He is responsible for evaluating roofing and waterproofing membranes, concrete, clay, cement-wood-fibre roofing tiles, slate and hardboard shingles, corrugated asphalt roofing panels and tiles, resilient flooring and wallbase, ceramic tile, seamless flooring, hardboard siding, reinforced cementitious boards, structural fibreboard subflooring and other specialty products.

After graduating from the Construction Engineering Technology program given by Cambrian College in Sault Ste. Marie in 1970, Marcel worked for Foundation Co. of Canada and various consulting engineering firms prior to joining CMHC in the spring of 1974 as Compliance Inspector. By 1982 he had become Chief Inspections



Officer for CMHC in Sydney N.S., and in 1984, in Fredericton N.B. In 1986 Marcel transferred to the CMHC Materials Evaluation Department in Ottawa and in 1988 joined the newly created CCMC. In 1991 he was temporarily assigned to the Canadian Codes Centre as Technical Secretary for six months.

Mr. Brouzes is Vice Chairman of the CSA Technical Committee on Concrete Roof Tiles and a member of key CSA and CGSB technical and advisory committees for roofing, waterproofing, cementitious boards, floor coverings and tile. ♦

Roofing and Waterproofing Membranes

A roofing product may also be an excellent waterproofing product.

The Canadian construction industry is beginning to recognize that a roofing product also serves as an excellent waterproofing product for the protection of basement walls and underground structures. CCMC evaluation listings have always acknowledged that roofing and waterproofing membranes share a basic similarity of function; to keep water out of the structure on which they are installed.

By assessing such products in the context of the relevant CGSB product and application standards, CCMC assures that they meet certain fundamental parameters:

- They must be able to be installed in such a way as to form a continuous, impervious membrane. This is accomplished by either having no joints (liquid membranes) or joints that can be effectively sealed to provide a similar effect.
- They must be capable of bridging cracks that may occur in the structure. This capability is assured when the product can be shown to be elastomeric; a characteristic defined in CAN/CGSB-37.58-M86 as "that property of certain macromolecule materials that allows them to return rapidly to their initial dimensions and shape after substantial deformation by a weak stress and release of the stress."
- They must be able to resist impacts (toughness) and remain flexible during installation, such as during back-filling or the application of granular topping, and during their application exposure. For some of these materials, the most severe exposure will be to extreme cold temperatures and the foot traffic that can occur during maintenance of roof mounted equipment.
- They must have the ability to remain in place, either by their inherent adhesion qualities or by being mechanically fastened, depending on the application.

CGSB Standards

Four Canadian product standards are currently applicable to both roofing and waterproofing materials. They cover the qualities listed above, and also include "fingerprinting" tests that specifically categorize or identify the material within that particular standard.

Although modified bituminous membranes have the potential to be used as a waterproofing membrane, the standard CGSB 37-GP-56M Modified Bituminous Roofing Membranes at this time only recognizes these as roofing materials. A draft standard, however, is presently under review for the specific use of Modified Bituminous Membranes as a waterproofing material.

The following information outlines the type of testing that must be conducted for a product to comply with the relevant standard.

CAN/CGSB-37.50-M89, Hot-Applied, Rubberized Asphalt for Roofing and Waterproofing, tests for thickness, flash point, penetration (cone), flow, toughness, ratio of toughness to peak load, adhesion rating, water vapour permeance, water absorption, pinholing, low temperature flexibility, crack bridging capability, heat stability and viscosity.

CGSB 37-GP-52M(1984), Roofing and Waterproofing Membrane, Sheet Applied, Elastomeric, tests for thickness, strength of membrane, lap joint strength, ultimate elongation, tensile set, low temperature flexibility, water absorption, dimensional stability after water absorption, heat aging, ozone resistance, resistance to accelerated weathering, dynamic impact, and tear resistance/strength.

CGSB 37-GP-54M(1979), Roofing and Waterproofing Membrane, Sheet Applied, Flexible, Polyvinyl Chloride, tests for thickness, tensile strength, lap joint strength, elongation at break, low temperature impact, resistance to heat aging, low temperature flexibility, resistance to accelerated weathering, permeability, water vapour transmission, water absorption, dimensional change after stress relaxation with and without loading, and cone penetration.

CAN/CGSG-37.58-M86, Membrane, Elastomeric, Cold-Applied Liquid, for Non-Exposed Use in Roofing and Waterproofing, tests for thickness, adhesion in peel, crack bridging, low temperature flexibility, recovery, watertightness and sag flow (for vertical and sloped applications).

Installation

Proper installation is critical to the performance of roofing and waterproofing products. For this reason, manufacturers have detailed installation requirements for these products and most manufacturers limit installation to personnel they have trained and certified. The following standards also govern the installation of some of these products: CAN/CGSB-37.51-M-90 Application of Hot-Applied Rubberized Asphalt for Roofing and Waterproofing, and CGSB 37-GP-55M Application of Sheet Applied Flexible Polyvinyl Chloride Roofing Membrane.

Products

For more information on products which have been evaluated by CCMC for roofing and waterproofing applications the reader should consult CCMC's Volume 2 of Evaluation Listings.

Information: Marcel Brouzes ♦

Code Clarification on EIFS Cladding

In establishing a Technical Guide (evaluation criteria) for Exterior Insulation and Finish Systems (EIFS), CCMC staff identified a Code interpretation problem regarding the requirements of Articles 3.1.5.5. Combustible Cladding and 3.2.3.7. Construction of Exposing Building Face. A draft guide, based on consultation with Canadian Codes Centre staff, was circulated to industry representatives for comment. Strong opposition to the criteria by the EIFS Council caused the Centre to consult with four provinces to ascertain the interpretations used by their building officials. Two provinces required such systems to comply with all provisions of both Articles in all appropriate cases, while the others used a more flexible interpretation.

CCMC staff requested a ruling from the Standing Committee on Fire Protection at its December meeting. The Committee concluded that the interpretation provided to CCMC by the province of Ontario best expressed the intent of the requirements, and requested the Codes Centre to develop suggested changes to reflect that interpretation.

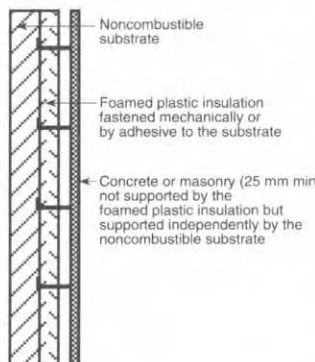
Ontario's interpretation is reproduced below. CCMC will consult with all provinces and territories to determine their positions on the use of these systems. Any variations resulting from this survey will be identified in Evaluation Reports on EIFS as they become available.

It is the opinion of the Ontario Buildings Branch that, based on the legal wording in the 1990 Building Code, Article 3.2.3.7. does not override the requirements of Article 3.1.5.5. This has created situations where certain types of EIFS acceptable under the 1986 (Ontario) Building Code are now unacceptable under the 1990 Building Code (due to height restrictions and requirements for testing under Article 3.1.5.5.).

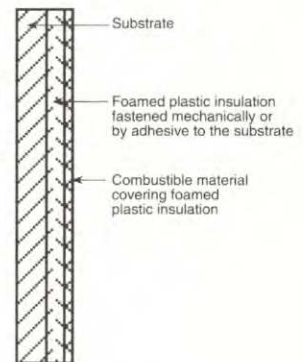
The Ontario Buildings Branch recognizes that it was not the intent of the changes to the 1990 Building Code to require EIFS to comply with both Clause 3.2.3.7.(3)(c) and Article 3.1.5.5. Therefore, we will be proposing to amend the Building Code so that a cladding system meeting the requirements of Clauses 3.2.3.7.(3)(a) or (c) is not subject to the height limitations and testing requirements of Article 3.1.5.5.

The effect of our proposed amendments is illustrated as follows:

Example A A noncombustible cladding, consisting of at least 25 mm of concrete or masonry installed independently of foamed plastic insulation, will be governed by Clause 3.2.3.7.(3)(a) or (c). Neither the height limitations nor the testing requirements of Article 3.1.5.5. will apply.



Example B Where a combustible material covers the exterior side of foamed plastic insulation, the requirements of Clause 3.2.3.7.(3)(b), and therefore Article 3.1.5.5., will apply.



Example C Where a noncombustible material (other than concrete or masonry at least 25 mm thick) covers the exterior side of foamed plastic insulation, the requirements of Clause 3.2.3.7.(3)(c) will apply. The covering material shall be noncombustible when tested in accordance with ULC

S114 and it shall remain in place for at least 15 minutes when the wall assembly is tested in accordance with ULC S101. In this case, neither the height limitations nor the testing requirements of Article 3.1.5.5. will apply.

Of course, if the wall assembly does not meet both requirements of Clause 3.2.3.7.(3)(c), then it would be required to meet the requirements of Clause 3.2.3.7.(3)(b) and, therefore, the height limitations and testing criteria of Article 3.1.5.5.

Information: F. Nabhan ♦



National Research
Council Canada

Conseil national
de recherches Canada

CCMC News is a quarterly publication of the National Research Council of Canada and is produced by the Canadian Construction Materials Centre of the Institute for Research in Construction. Enquiries or comments should be addressed to Mr. Bruno Di Lenardo, CCMC News, Institute for Research in Construction, National Research Council of Canada, Ottawa, Ontario K1A 0R6. (613) 993-6189, Facsimile (613) 952-0268

Canada

ISSN 0848-600X

Ce document est aussi publié en français.



Library and Archives
Canada

395 Wellington Street
Ottawa, ON K1A 0N4

Bibliothèque et Archives
Canada

395, rue Wellington
Ottawa, ON K1A 0N4

For material still subject to legislative, contractual or institutional obligations, users warrant that they will respect those obligations and not use LAC collections in a manner that would infringe the rights of others. Liability that may arise in the use of a copy is assumed in full by the user. LAC accepts no responsibility for unauthorized use of collection material by users.

To ensure proper citation and to facilitate relocation of an item, the source of the material and its reference number should always accompany the copy.

Pour les documents faisant encore l'objet d'obligations législatives, contractuelles ou institutionnelles, les usagers s'engagent à respecter ces obligations et à ne pas utiliser les documents des collections de BAC de façon à nuire aux droits d'autrui. Ils doivent assumer entièrement toute responsabilité qui pourrait découler de l'utilisation d'une reproduction de document. BAC décline toute responsabilité quant à l'utilisation non autorisée de documents provenant de ses collections.

Afin de citer un document avec exactitude et d'en faciliter le repérage, sa source et son numéro de référence doivent toujours accompagner la reproduction.

TITLE/TITRE :

***CCMC News by Canadian Construction Materials Centre., National Research Council Canada.
no.4(1993:Winter)***

FILE/DOSSIER :

REFERENCE NUMBER / NUMÉRO DE RÉFÉRENCE:

ISSN:1188-0783, OCLC Number: 1081344498

PAGE(S) : **3**

DATE : **06/03/2020**