



September 17, 2015

The Building Official
CITY of SURREY
13450 - 104 Avenue
Surrey, B.C. V3T 1V8

Dear Sir:

RE: SUPERTHERM Insulating Coating
19150 96th Avenue, Surrey, B.C.

GBA File # 151830

Gage-Babcock & Associates Ltd. have been retained to review the flame-spread rating of Supertherm Insulating Coating for compliance with the requirements of the 2012 BC Building Code, specifically the requirements of Subsection 3.1.5. Noncombustible Construction, and Subsection 3.1.12. Flame-Spread Rating and Smoke Developed Classification.

It is our assessment that Supertherm complies with the applicable requirements of the Code for the proposed application, based on the following considerations:

1. Supertherm is a liquid ceramic based insulation coating that can be applied to various substrates. Supertherm is similar to a paint coating, and is typically applied to a dry film finish thickness of less than 1 mm.
2. 19150 96th Avenue, Surrey is a new industrial building classified as Group F, Division 2 major occupancy. The building is of noncombustible construction, and is required to comply with BCBC Subsection 3.1.5. Supertherm will be applied to the inside face of the concrete tilt-up panels, as both an insulator and interior finish.
3. BCBC Sentence 3.1.5.2.(1) allows the following minor combustible components in a building required to be of noncombustible construction:
 - a) paint (see also Sentence 3.1.5.10.(1)),
 - ... and,
 - h) similar minor components.

Sentence 3.1.5.10.(1) permits combustible interior finishes, including paint, wallpaper, and other interior finishes not more than 1 mm thick, in a building required to be of noncombustible construction.

Superttherm complies with the requirements of Sentences 3.1.5.2.(1) and 3.1.5.10.(1) in that it is similar to paint with an applied thickness of less than 1 mm, and is therefore permitted to be used in a building required to be of noncombustible construction.

4. BCBC Subsection 3.1.13. Interior Finish requires the interior wall finish material to have a flame-spread rating of not more than 150, except that the interior wall finish within exits shall have a flame-spread rating of not more than 25.

Sentence 3.1.12.(1) requires the flame-spread rating of a material to be determined on the basis of not less than three tests conducted in conformance with CAN/ULC-S102, "Standard Method of Test for Surface Burning Characteristics of Building Materials and Assemblies."

Superttherm was previously tested by Omega Point Laboratories. The tests were conducted in conformance with ASTM E84-89a, with the following results:

Flame Spread Index	= 0
Smoke Developed Index	= 0

ASTM E84 and CAN/ULC-S102 are similar standards, both based on the Steiner Tunnel Test. The Standards differ in that CAN/ULC-S102 does not permit the test method to be used for the following:

- a) Materials which cannot be tested without the use of supporting material that is not representative of the intended installation,
- b) Materials that will melt, drip or disintegrate and continue to burn during testing,
- c) Materials designed for use in a relatively horizontal position with only its top surface exposed to air, or
- d) Thermoplastic materials.

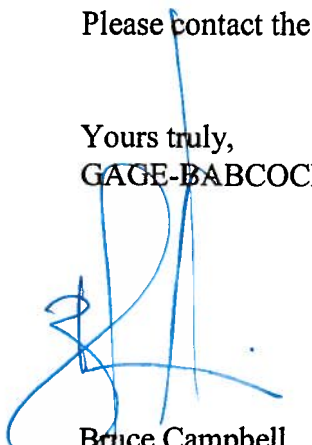
For a building material that, by its own structural qualities or the manner in which it is applied, is capable of supporting itself in position, the test methods, equipment and procedures are essentially identical. Both standards use the same criteria for the assignment of flame-spread ratings. Inorganic reinforced cement board is assigned a flame-spread of 0, and red oak is assigned a flame-spread of 100. All other materials are assigned a flame-spread relative to the calibrated index of 0-100.

The Omega Point Laboratories test was based on Superttherm applied to glass reinforced cement board applied at 100 s.f./gal., which meets the applicability criteria for using the CAN/ULC-S102 test. Given that Superttherm was assigned a flame-spread rating of 0 based on the ASTM E84 test, similar results would be achieved if the material was tested in conformance with CAN/ULC-S102.

Based on the Omega Point Laboratories test results, it is our opinion that the Superttherm Insulating Coating, when applied to concrete panels at a thickness of not more than 1 mm, will achieve a flame-spread rating of less than 25, as required by BCBC Subsection 3.1.13. requirements for interior finish materials, including interior finishes in exits.

Please contact the undersigned if you have any questions, or require additional information.

Yours truly,
GAGE-BABCOCK & ASSOCIATES LTD.



Bruce Campbell
Senior Consultant

Reviewed by:



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Principal