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EVALUATION
REPORT

DIVISION 09832

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Tech 3500, Tech 5000, Tech 7000 and Céramitech

Soleno Textiles Inc. et Acoustitech Inc.,
150 Léon-Vachon
St-Lambert-de-Lauzon (Québec)
G0S 2W0

Tel.: (418) 889-0001
Fax: (418) 889-9915

Plant: 1261, rue Berlier
Laval (Québec)

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1. Purpose of Evaluation

The proponent sought confirmation from the Canadian Construction Materials Centre (CCMC) that "Tech 3500, Tech 5000, Tech 7000 and Céramitech" underlay mats may help reduce impact noise transmission in floor systems in buildings, in compliance with the intent of the National Building Code of Canada (NBC) 1995.

2. Opinion

Subject to the limitations and conditions stated in this report, test results and assessments provided by the proponent show that "Tech 3500, Tech 5000, Tech 7000 and Céramitech" products comply with CCMC's Technical Guide for Synthetic Fibre Mat Acoustical Underlay, MasterFormat number 09832, dated 00-10-27, and provide a level of performance equivalent to that required in:

- NBC 1995, Subsections 9.11.1., 9.11.2. and 9.30.2., and Sentence 3.1.5.8.(4).

Ruling No. 04-17-121 (13092-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 15 October, 2004 (revised 7 December, 2007)

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.

Canada Mortgage and Housing Corporation permits the use of this product in construction financed or insured under the National Housing Act.

3. Description

“Tech 3500, Tech 5000, Tech 7000 and Céramitech” products are underlays made from chosen non-woven needle-punched polypropylene and polyester fibres with polyethylene.

“Tech 3500, Tech 5000, Tech 7000 and Céramitech” products come in the following thicknesses: 3.23 mm, 5.03 mm, 6.61 mm and 3.369 mm. A roll varies between 13 m and 17.28 m in length and between 1 070 mm and 1 648 mm in width (see Figure 1).

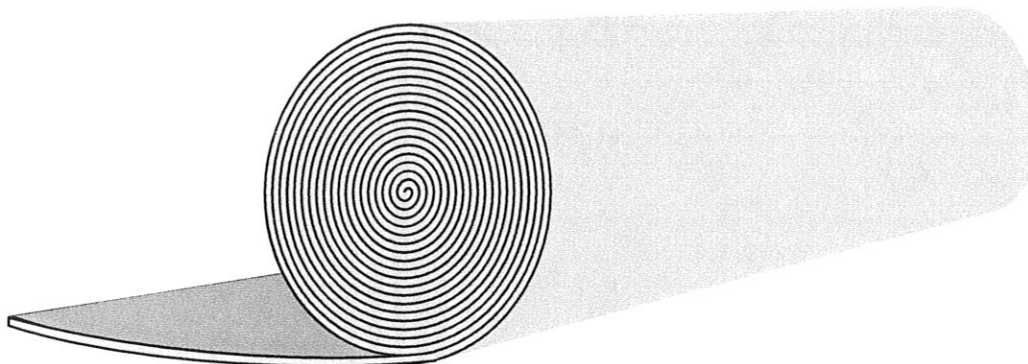


Figure 1. “Tech 3500, Tech 5000, Tech 7000 and Céramitech”

4. Usage and Limitations

“Tech 3500, Tech 5000, Tech 7000 and Céramitech” products can be used over concrete or wood subfloors subject to the following conditions:

- “Tech 3500, Tech 5000, Tech 7000 and Céramitech” products must be glued to the subfloor.
- “Tech 3500, Tech 5000, Tech 7000 and Céramitech” products shall be installed in accordance with the requirements of the technical manual published by Soleno Textiles Techniques Inc., dated October 2002.
- “Tech 3500, Tech 5000, Tech 7000 and Céramitech” products must be stored for 72 hours in the location where they will be installed before being fastened to the subfloor.

- Finish flooring such as ceramic tile and hardwood floors may be installed over “Céramitech” product as per Soleno Textiles Techniques Inc. Technical Manual.
- The joints of “Tech 3500, Tech 5000, Tech 7000 and Céramitech” products must be sealed with adhesive tape.

5. Performance

Testing and assessment were conducted at laboratories recognized by the CCMC and in the field. The test results are summarized in the following pages.

Adding an underlay to ceramic or hardwood flooring should increase the IIC (impact insulation class) rating but will not necessarily reduce low frequency transmission.

Table 1. Physical Properties of “Tech 3500, Tech 5000, Tech 7000 and Céramitech” Products

Property	Unit of measure	Results			
		Tech 3500	Tech 5000	Tech 7000	Céramitech
Length	mm	17 300	17 280	17 300	13 000
Width	mm	1 630	1 648	1 630	1 070
Overall thickness	mm	3.23	5.03	6.61	3.36
Base weight	g/m ²	378.1	536.3	1 056	434.4
Tear strength (machine direction)	N	536.6	892.8	1 853	577.7
Tear strength (cross machine direction)	N	765.1	1 261	2 528	656.1

Acoustical Performance

For the acoustical tests, “Tech 3500, Tech 5000, Tech 7000 and Céramitech” were installed in floor/ceiling assemblies. The field sound transmission class (FSTC) was established in accordance with ASTM E 413, “Classification for Rating Sound Insulation,” based on testing in accordance with ASTM E 336, “Measurement of Airborne Sound Insulation in Buildings.”

The test values are only for the complete systems tested. No acoustical rating for the underlay mat itself is provided in this Evaluation Report.

In addition, the manufacturer submitted floor/ceiling assemblies to optional testing to establish the field impact insulation class (FIIC). The FIIC was established in accordance with ASTM E 989, “Standard Classification for Determination of Impact Insulation Class (IIC)” based on testing in accordance with ASTM E 1007, “Field Measurement of Tapping Machine Impact Sound Transmission Through Floor-Ceiling Assemblies and Associated Support Structures.”

Table 2. Test Results for “Tech 3500, Tech 5000, Tech 7000 and Céramitech” Products


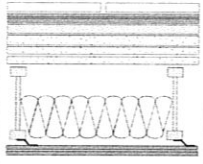
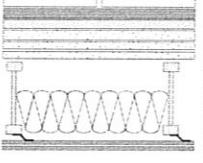
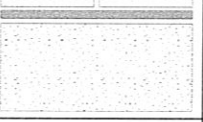
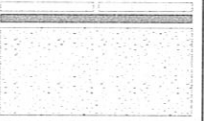
Elements in Assembly	FSTC	FIIC	Profile
Ceramic tile bed of mortar Céramitech 203 mm concrete slab	58	56	
Ceramic tiles 9.5 mm plywood 12.7 mm plywood Céramitech 38.1 mm concrete topping 20.3 mm waferboard 330 mm Open Joist 2000™ wood truss, 406 mm o.c. 152 mm blown-in cellulose 13 mm resilient metal channels, 610 mm o.c., installed perpendicular to trusses 15.9 mm Type X gypsum board	59	60	
Wood floor assembly AD-316 adhesive Tech 3500 membrane AD-316 adhesive 38.1 mm concrete topping insulating fibreboard 15.9 mm plywood I-joists glass fibre insulation 13 mm resilient metal channels, 406 mm o.c. 2-15.9 mm Type X gypsum boards	58	59	
Wood floor assembly AD-316 adhesive Tech 3500 membrane AD-316 adhesive 203.2 mm concrete slab	58	58	
Wood floor assembly AD-316 adhesive Tech 5000 membrane AD-316 adhesive 203.2 mm concrete slab	56	59	

Table 2. Test Results for “Tech 3500, Tech 5000, Tech 7000 and Céramitech” Products (cont’d)

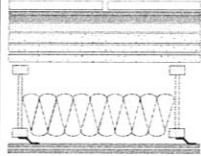

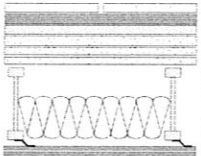
Elements in Assembly	FSTC	FIIC	Profile
Wood floor assembly 15.9 mm x 89 mm wood ledger strips Tech 5000 membrane 38.1 mm concrete topping insulating fibreboard 15.9 mm plywood I-joists glass fibre insulation 13 mm resilient metal channels, 406 mm o.c. 2-15.9 mm Type X gypsum boards	59	60	
Wood floor assembly AD-316 adhesive Tech 7000 membrane AD-316 adhesive 203.2 mm concrete slab	56	60	
Wood floor assembly 15.9 mm x 89-mm wood ledger strips Tech 7000 membrane 38.1 mm concrete topping insulating fibreboard 15.9 mm plywood I-joists glass fibre insulation 13 mm resilient metal channels, 406 mm o.c. 2-15.9 mm Type X gypsum boards	59	62	

Table 3. Test Results for “Céramitech” Based on ASTM C 627, “Evaluating Ceramic Floor Tile Installation Systems Using the Robinson-Type Floor Tester”

Elements in Assembly	Test Results	
Polymer-modified hydraulic tile grout 300 mm x 300-mm ceramic tiles top adhesive Céramitech bottom adhesive 51 mm concrete slab made of pre-mix concrete	No damage: 5 first cycles	System breakdown: 7th cycle

“Céramitech” can be used in residential and light-duty commercial applications.

For more information contact:

Luc F. Cécire, P.Eng.
(613) 993-0776

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John Flack, Ph.D.
Manager, CCMC

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