

Spray Applied Thermal and Acoustic Insulation

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PART 1 GENERAL

1.1 Related Works and Sections

- 1.1.1 Division 07 21 00 - Building Insulation
- Division 09 80 00 - Acoustic insulation

1.2 Work Included

- 1.2.1 Provide all materials, labour, equipment and services necessary for, and incidental to, the complete and correct installation of all **TC-417** and related work as shown on the drawings or where specified herein, and in accordance with all applicable requirements of the Contract.
- 1.2.2 All material and installation shall conform to the applicable and/or other code requirements of all authorities having jurisdiction.

1.3 Quality Assurance

- 1.3.1 If requested, provide samples of minimum size 300 x 300mm (12" x 12") of sprayed **TC-417** on a rigid backing appropriate to the installation.
- 1.3.2 Work shall be performed by a firm with a minimum 3 years experience in the sprayed insulation and/or fireproofing business and shall possess expertise in the installation of **TC-417** and shall be currently registered as an approved Applicator by ThermaCoustic Industries International Limited.
- 1.3.3 Before proceeding with the application of **TC-417** thermal and acoustic insulation, approval of the proposed material thickness shall be obtained from the architect and other applicable authorities.

1.4 Manufacturer's Literature

- 1.4.1 Copies of the manufacturer's literature, clearly indicating conditions of acceptance and method of application, shall be available on site before and during period of performance of related work and product installation.

1.5 Material Delivery and Storage

- 1.5.1 All material to be delivered to the site in original, undamaged and unopened packages clearly labelled as **TC-417**.
- 1.5.2 All materials to be stored on site in a warm, dry

location on either a concrete floor or raised platform. Material must not get damp or wet.

- 1.5.3 **TC-417** adhesive must not freeze.

1.6 Project Conditions

- 1.6.1 **TC-417** shall only be installed under the conditions as stated in the manufacturer's published application instructions.
- 1.6.2 When the prevailing outdoor temperature at the site is less than 4°C (40°F), a minimum substrate and ambient temperature of 4°C (40°F) shall be maintained for 24h before, during and until the applied product is completely cured (dry) through to the substrate. If necessary for job progress, the General Contractor shall provide enclosures with dry heat to maintain temperature.
- 1.6.3 The General Contractor shall provide ventilation to allow proper drying of the installed **TC-417** during and after its application.
- 1.6.4 At all times during installation and drying of **TC-417** ventilation in enclosed areas shall not be less than 3 complete air changes per hour.
- 1.6.5 All patching and repairing of installed **TC-417** required because of damage or cutting by other trades shall be performed under this Section and paid for by the trade(s) responsible.
- 1.6.6 The General Contractor shall allow the Manufacturer's representative full access to the site during normal working hours.
- 1.6.7 The General Contractor shall co-operate in the coordination and scheduling of the insulation work to avoid delays in job progress.

PART 2 PRODUCTS

- 2.1.1 Materials: spray-applied material shall be **TC-417** white glass fibre together with **TC-417** synthetic emulsion adhesive conforming to CAN/ULC S-114 and ASTM E-136 as manufactured by ThermaCoustic Industries International Limited.
- 2.1.2 **TC-417** shall not contain free crystalline silica, asbestos or combustible fibre, and shall exhibit the following qualities according to the test protocols quoted:

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ASTM C-518 R = 4.17/in; RSI = 29.32/m
K = 0.24; λ = 0.0346

CAN/ULC S-114: Non-combustible

ASTM E-136: Non-combustible

ASTM E-84: Flame spread \leq 25;
Smoke development \leq 450

ASTM C-423 90a: NRC = 1.00 (50mm/2 in.)

ISO 354: NRC = 0.95 (50mm/2 in.)

MIL-STD 810E Method 508.4 Fungal Resistance
No growth

2.1.3 ThermaCoustic Industries **TC-417** Adhesive shall be mixed with fresh, clean, potable water in the exact proportion as recommended by the manufacturer;

2.1.4 **TC-417** adhesive must be kept from freezing at all times.

PART 3 EXECUTION

3.1 Preparation

3.1.1 All surfaces to receive **TC-417** spray insulation shall be free of all petroleum-based greases and oils, loose mill scale, rust, poorly adhered paint and other foreign materials that could impair bonding to the surface. Any required cleaning of the substrate to receive **TC-417** shall be the responsibility of the General Contractor.

3.1.2 Remove dust, dirt or foreign material on surfaces to which the product is to be applied, that could otherwise create a false bond or surface staining of the product.

3.1.3 Verify compatibility and bond requirements of all surfaces to receive **TC-417**.

3.1.4 Ensure that all clips, hangers, supports, sleeves and other items that will protrude through the installed **TC-417** are in place prior to commencement of application.

3.1.5 Ensure that all equipment, piping, ducts or other units that would interfere with the application of **TC-417** are not positioned until application is complete.

3.1.6 Ensure that proper temperature and ventilation are maintained as specified in 1.6.2 through 1.6.4.

3.1.7 Provide and install masking, drop cloths or other suitable coverings to prevent overspray from coming into contact with unintended fixtures and surfaces.

3.2 Application

3.2.1 Mix and apply **TC-417** in strict accordance with manufacturer's published recommendations.

3.2.2 Apply product in sufficient thickness to achieve the required thermal and/or acoustic value.

3.2.3 Use a 'one-pass' application procedure. Do not layer application.

3.3 Clean-up

3.3.1 Remove overspray from equipment and surfaces not intended to be covered. Perform all removal work while installed product is still wet;

3.3.2 Ensure clean up is up to industry standards.

3.4 Options

3.4.1 The surface of **TC-417** can be left untamped for basic finish, or can be board tamped and oversprayed for a flatter, more uniform finish.

3.4.2 For a more durable and attractive finish in exposed areas we recommend the surface be board tamped and oversprayed with **TC-417** adhesive.

3.4.3 If a finish colour other than white is desired we suggest:

- a) Paint the installed **TC-417** with any good quality emulsion paint of the desired colour;
- b) Otherwise, for dark grey (charcoal) or light grey use our colour additives for **TC-417** adhesive.

NOTE: Colour added to the adhesive will produce a less evenly coloured surface than painting.