

ציפוי אקוסטי דקורטיבי Tc - 417



Acoseal

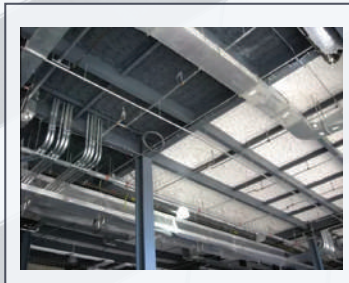
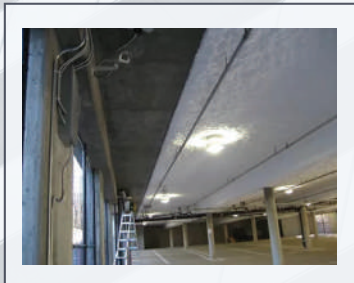
פתרונות אקוסטיים בהתזה

03-6348577

A/A

הופק על ידי אריאל פילן

טיח אקוסטי **Tc - 417** בהתזה הוא ציפוי חד רכיבי בולע רעש לשיפור אקוסטיקה וסאונד בחלל הפנימי. ביישום של **Tc - 417**, ניתן להפוך כל מבנה למבנה "רב תכליתי" ולהפיק ממנו תועלת רבה יותר. טיח אקוסטי **Tc - 417** מיושם בשיטת התזה באמצעות מכונות ייעודיות על ידי צוותי החברה ובהתאם למפרטי היצרן בליווי בעל הסמכה מטעמו. החומר המותז מתייבש למגע תוך יום עד יומיים והוא גמיש ודומה במראהו לשטיח. מלבד למראה הדקורטיבי של **Tc - 417** ואפשרויות בחירת הגוון הרבות, טיח אקוסטי בשיטת ההתזה, מתאים וחסכוני כשכבת גימור לכיסוי שטחים גדולים, ומאפשר ביצוע רציף ללא כשל תפרים.



נספחים

- ✓ אישור הסמכה
- ✓ דף קטלוג
- ✓ אישור תו תקן ירוק
- ✓ C423 - ASTM
- ✓ Sound absorption
- ✓ הנחיות לצבעים נוספים
- ✓ תגובות בשריפה ויתרונות

מעוניינים בפרטים נוספים? לייעוץ ללא התחייבות

חייגו עכשיו 0507754247 או השאירו הודעה בדף החברה [/http://acoseal.com](http://acoseal.com)

טיח אקוסטי - Tc 417 של חברת Acoseal

טיח אקוסטי Tc 417 בהתזה הוא ציפוי חד רכיבי בולע רעש לשיפור אקוסטיקה וסאונד בחלל הפנימי. ביישום של Tc 417, ניתן להפוך כל מבנה למבנה "רב תכליתי" ולהפיק ממנו תועלת רבה יותר למשתמשי הקצה. חברת Acoseal בעלת ניסיון מעשי, בשיטת ההתזה בחללים גדולים של מעל שלושים שנה בארץ ובחול ומשנת 1998 באמצעות מנהלה מייצגת את מיטב החברות בעולם בתחום האקוסטיקה. אנחנו ניהלנו וביצענו את הפרויקטים הגדולים והמורכבים בישראל.

"לקטלוג הפרויקטים - לחץ כאן"



גוונים ויתרונות:

בלעדי ל- Tc 417

שיטת היישום ומפרטי היצרן מאפשרים ערבול לגוון הנבחר. מגוון לבן שלג ועד למרקמי צבע נועזים כבר בשלב הכנת התערובת, וגם בשלב מתקדם. אופציה ייחודית המאפשרת לאדריכל ולדיירי הבית שילובי צבעים מבלי לפגוע בתכונות המוצר שלא כמו במוצרים האחרים הקיימים בישראל. *מומלץ- ששילוב צבע, שלא על ידי צוותי החברה ילווה על ידינו טרם הביצוע במפרט יצרן בכדי להבטיח שתכונות החומר ישמרו.

בדיקות בשטח:

כל עבודה נבדקת בסיומה ונרשמת במאגר העבודה על היצרן. ללקוח מונפק תעודת מכון תקנים המאשר את היישום כמתאים למפרטי היצרן לעמידות באקוסטיקה המתוכננת בכדי להציג ליועצים ולמזמיני העבודה. ומשלב זה מוענק אחריות חברה למשך 10 שנים.

בין רשימת העבודות שביצענו בשנה האחרונה נמנים מיטב הפרויקטים מול חברות הבניה המובילות בישראל. "לחץ לקטלוג הפרויקטים"

טיח אקוסטי Tc 417 מיושם בשיטת התזה באמצעות מכונות ייעודיות על ידי צוותי החברה ובהתאם למפרטי היצרן בליווי בעל הסמכה מטעמו. החומר המותז מתייבש למגע תוך יום עד יומיים והוא גמיש ודומה במראהו לשיטה. ומלבד למראה הדקורטיבי של Tc 417. ואפשרויות בחירת הגוון האינסופיות, טיח אקוסטי בשיטת ההתזה, מתאים וחסכוני כשכבת גימור לכיסוי שטחים גדולים, והוא מאפשר ביצוע רציף וללא כשל תפרים.

המוצר מתאים לכל סוגי התשתיות בבנין, בתוצרה ישרה מקומרת ועגולה והוא נועד לציפוי חללים פנימיים קטנים וגדולים כגון: מבני חינוך, אולמות ספורט, בתי כנסת, מקלטים דו תכליתיים, מרכזי קניות, אודיטוריום, תיאטראות, מסופי שדה תעופה, מנהרות, בריכות שחייה, משרדים, תקרות בטון לשיפור מראה, חידוש תקרות אקוסטיות, רעשי צנרת, בידודים אופטימאליים של רעש בין חדרים, וגגות פלדה.

טיח אקוסטי Tc 417 הוא מוצר ממוחזר עומד בתקן Leed לבניה ירוקה, בעל תכונות מוכחות ותעודות בדיקה ממכונים מובילים בעולם בפרמטרים בידוד אקוסטי, בידוד תרמי, בידוד מפני נזקי קורוזיה, ועמידות מפני אש. Tc 417 הוא המוצר היחיד בישראל שנמצא תחת בקרה מפעלית לכל שלבי הייצור.

בהתאם לבדיקות תקן astm c 423, לקבלת העובי האופטימלי לי הציפוי היינו 25 מ"מ אך לשם הגדלת מקדם הבליעה ניתן ליישם את הציפוי גם בשכבות עבות יותר ועד ל140 מ"מ.

Lodz, as of May 12, 2021

TO WHOM IT MAY CONCERN

We hereby certify that company „ACOSEAL” by Hanan Pilo is our Sales Partner with sole rights to import, sell and install our thermal and accoustic insulation products in Israel.

Hanan Pilo has been instructed to work with our Thermacoustic TC-417 spray insulation, Isocell for you cellulose insulation and handling of X-Floc machines for spray and blow-in. We advise him throughout the process to ensure quality and compliance with the manufacturers' conditions.

You are always welcome to confirm the certificate and current position of Hanan Pilo with Derowerk.

This certificate has been issued for the first time as of 12.05.2021 and remains valid until 31.12.2031.

Derowerk is exclusive sales partner of Thermacoustic Ltd., ISOCELL GmbH & Co KG and X-Floc Dämmtechnik-Maschinen GmbH.

Robert Zaorski

manager
certified energy auditor



TC-417

SPRAY APPLIED
THERMAL AND ACOUSTIC
INSULATION SYSTEM

07 21 00

09 80 00



www.thermacoustics.com

TC-417 SPRAY APPLIED THERMAL & ACOUSTIC SYSTEM

PRODUCT DESCRIPTION

- TC-417 is a glass fibre based spray-applied thermal and acoustic insulation;
- Its major uses are within the multi-unit residential, institutional, commercial and industrial markets for installation in both new construction and retrofit applications.

MATERIALS:

- TC-417 is comprised of pure white, inorganic, non-combustible glass fibres (minimum 40% recycled glass) and a non-hazardous, water-based synthetic emulsion adhesive;
- These components are combined during application on the job site;

BENEFITS:

- **Green Product- LEED Credits available**
- When installed, TC-417 produces a monolithic, non-combustible insulation blanket that resists heat flow, air circulation and moisture migration to the substrate;
- TC-417 is equally effective in retarding heat flow into or out of the structure as required;
- TC-417 can be applied to most sound, grease and oil-free substrates such as concrete, steel, sealed gypsum board, sealed wood and rigid insulation;

- It also adheres to Sprayed Fire Resistive Material (SFRM)
- The single-step, spray-applied process allows the most complex surface configurations to be covered easily and efficiently with no seams or voids;
- TC-417 can be left exposed as a heavily textured surface or it can be covered, depending on the design and type of application.

FIRE SAFETY LISTED PRODUCT



Non-Combustible

Class A Flame Spread & Smoke Developed

The major component of TC-417 is inorganic glass fibre, and the installed product has been tested to CAN/ULC S114 and ASTM E-136 and rated as non-combustible.

Since TC-417 is non-combustible it can be applied to any fire rated assembly or Sprayed Fire Resistive Material (SFRM) without any impact on the rating.

THERMAL FEATURES

The high thermal values achieved by TC-417 make it a cost-effective way to help comply with today's energy codes. In addition, it is very effective in helping

combat rising energy costs.

TC-417 exhibits the following thermal attributes:

- Thermal resistance:
R = 4.17/inch; RSI = 0.73/25 mm
- Thermal conductivity:
K = 0.24; I= 0.0346
- Application thickness without mechanical support.
 - i) Overhead (horizontal) –
5" (125 mm) = > R20/RSI3.5
 - ii) Wall (vertical) –
7" (175 mm) = > R28/RSI4.9

NOTE:

If greater thermal resistances are required, a pin, mesh and clip system may be used.

CONDENSATION CONTROL

TC-417 helps control condensation under many different circumstances in both conditioned and unconditioned buildings;

NOTE:

The subject of condensation control is broad. Therefore, before specifying TC-417 for use where condensation control is a factor, please check our catalogue or website (www.thermacoustics.com) or contact us directly at 1 866 460 1474.

SOFFIT AND PARKING GARAGE APPLICATIONS

Concrete parking garage ceilings and soffits (see diagrams) provide strong challenges to the design professional intent on insulating them effectively. Their surface is often penetrated by service pipes and ducts, which run tight, or in close proximity to, the ceiling surface. In addition, they are broken by frequent columns and beams needed to support the building.

The most practical method of insulating them is by the use of a high efficiency spray-in-place thermal material. TC-417 is ideal for this purpose. It provides a monolithic blanket that is non-combustible, Class A flame spread

TC-417

PRODUCT PERFORMANCE

Test Standard	Test	Requirement	Result
Thermal Conductance	ASTM C 518	Report Value	I= 0.0346 W / (m2·°C) K = 0.24 Btu in / (hr·ft2·°F)
Thermal Resistance	ASTM C 518	Report Value	SI = 29.32m °C / W R = 4.17 (hr·ft2·°F) / Btu
Non-Combustibility Intertek – Spec ID 51429	ASTM E 136 CAN/ULC S-114	Non-Combustible Non-Combustible	Non-Combustible Non-Combustible
Surface Burning Characteristics Intertek – Spec ID 51429	ASTM E 184 CAN/ULC S-102	Flame Spread <25 Smoke Developed <50	Flame Spread <25 Smoke Developed <50
Adhesion/ Cohesion	ASTM E 736	>1.7 kPa	Passed
Noise Reduction	ASTM C 423 ISO 354	Report Value	50mm / 2" = 1.00 ISO 354 50mm / 2" = 0.95
Fungal Resistance	MIL0STD 810E Method 508.4	Report Value	No growth
Deflection	ASTM E759	1/120	No delamination - Passed

TC-417 SPRAY APPLIED THERMAL & ACOUSTIC SYSTEM

rating and has the highest R (RSI) value (R = 4.17/inch; RSI = 0.73/25mm) of the sprayed fibre products.

Generally speaking, parking garage ceilings comprised of steel decking with concrete topping produce a greater insulation challenge.

In some garage and most soffit applications, a drop ceiling may be desirable to protect the piping, ductwork, etc., and insulation from damage, or for esthetic reasons.

Provision of a drop ceiling, either permanent or removable, does not impair the performance of TC-417.

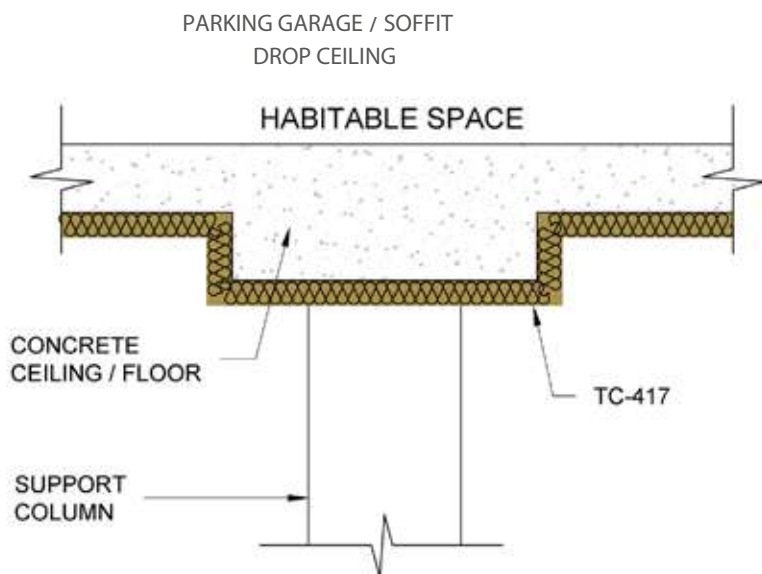
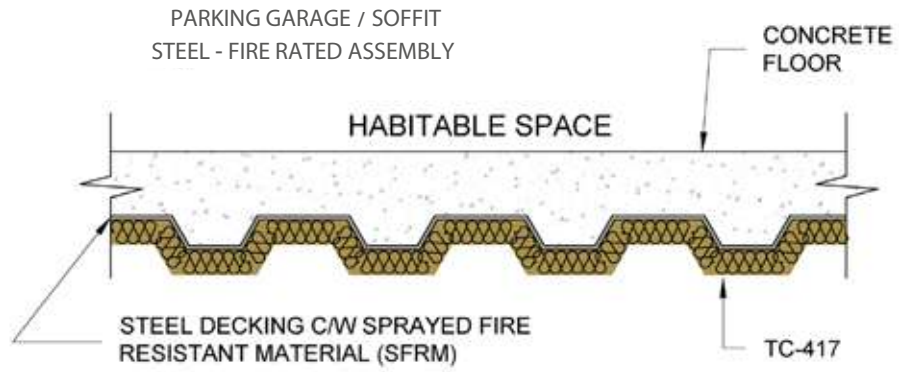
ROOF APPLICATIONS

TC-417 can be used on any new roof construction, or as retrofit to any existing sound, watertight roof assembly. Its ease of installation, regardless of the complexity of the substrate, together with its monolithic application makes it an ideal choice.

ACOUSTIC FEATURES

When noise reduction within a building is required TC-417 is an excellent choice. It exhibits the following acoustic attributes:

- NRC (noise reduction coefficient): ASTM C-423 90a 1.00 @ 2"/50mm
- ISO 354 0.95 @ 2"/50mm

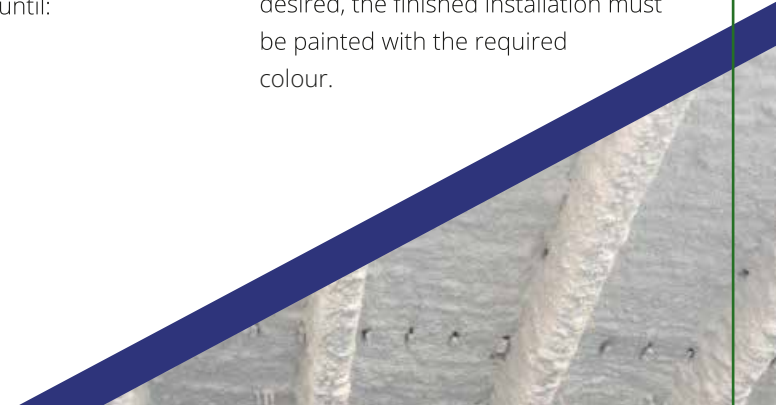
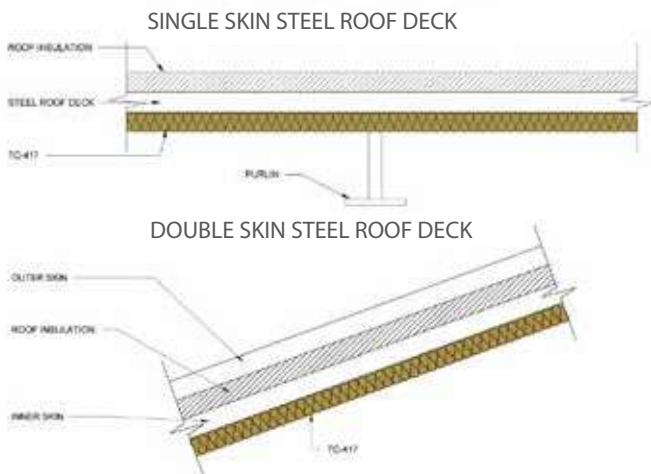


NOTE : Effective acoustic control in any building is primarily based on a thorough understanding of its particular acoustic problems and the methods and materials needed to control them. Therefore, we strongly emphasise that no decision to use TC-417 thermal and acoustic insulation as an acoustic installation in any building be made until:

- Our relevant test data is obtained (see below);
- A qualified, local acoustic consultant, familiar with the project, be retained to interpret our data and to make recommendations concerning the use of our material.

COLOUR OPTIONS

We supply colour additives for our adhesive to produce dark grey or light grey finishes. If other colours are desired, the finished installation must be painted with the required colour.



ThermaCoustic TC-417

Spray Applied Thermal and Acoustic Solutions

Division 07 2100 • Division 09 8000

SPECIFICATION GUIDE

PART 1 GENERAL

1.1 Related Works and Sections

- 1.1.1 Division 07 2100 - Building Insulation
- Division 09 8000 - 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 shown on the drawings or where specified herein, and in accordance with all applicable requirements of the Contract documents.

- 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 90mm x 121mm (3.5" x 4.75") 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 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 2 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 representative full access to the site during normal working hours.
- 1.6.7 The Contractor shall co-operate in the co-ordination and scheduling of the insulation work to avoid delays in job progress.

- 1.6.8 The General Contractor shall ensure that all equipment, piping, ducts or other utilities that would interfere with the application of TC-417 are not positioned until application is complete.

- 1.6.9 The Contractor shall ensure that proper temperature and ventilation are maintained as specified in 1.6.2 through 1.6.4.

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

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 4-S114 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:
ASTM C-518: R = 4.17/in; RSI = 29.32/m
K = 0.24; I = 0.0346

CAN/ULC S-114: Non-combustible

ASTM E-136: Non-combustible
CAN/ULC S-102:

ASTM E-84: Flame spread = < 25;
Smoke development = < 50

ASTM C-423 90a: NRC = 1.00 (50mm/2 in.)
ISO 354: NRC = 0.95 (50mm/2 in.)

- 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 equipment, piping, ducts or other utilities that would interfere with the application of TC-417 are not positioned until application is complete.

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

- 3.1.6 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.

3.3 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 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) For dark grey (charcoal) or light grey use our colour additives for TC-417 adhesive;

- b) Otherwise, paint the installed TC-417 with any quality emulsion paint of the desired colour.

WARRANTY

ThermaCoustic Industries International Limited (TIIL) offers limited warranties against defects in materials and workmanship of its component products at time of shipment to the installing contractor. TIIL supplies components of a finished product only, and the finished product is site manufactured by an approved applicator. Consequently, TIIL has no control over installation design and/or workmanship, ancillary materials, or conditions and/or methods of installation. Therefore, although TIIL has tested its finished products to industry standards according to recognised protocols and in approved laboratories, it does not warrant the performance, or any other result, of any installation containing its products.

This warranty disclaimer includes all implied warranties and specifically disclaims any warranty of merchantability or suitability for any particular purpose. Under no circumstances shall TIIL be liable for indirect, consequential or circumstantial damage.



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Fax: 604.460.1476
#108 - 20119 - 113B Avenue Email: info@thermacoustics.com
Maple Ridge, BC V2X 0Z1 Canada Website: www.thermacoustics.com



ThermaCoustic TC-417/AF-90 LEED V4 Summary

Material and Resources (MR) Credits

Credit: Building Product Disclosure and Optimization– Sourcing of Raw Materials

Option 2- Leadership Extraction Practices (1 POINT)

TC-417 glass fibre has a minimum pre-consumer recycled content of 20% and a minimum post-consumer recycled content of 21%.

Energy and Atmosphere (EA) Credits

Credit: Optimize Energy Performance

Option 1- Whole Building Energy Simulation (1-18 POINTS; 1-16 POINTS FOR SCHOOLS; 1-20 POINTS FOR HEALTHCARE) OR Option 2- Prescriptive Compliance: ASHRAE Advanced Energy Design Guide (1-6 POINTS)

TC-417 complies with the mandatory provisions of ANSI/ASHRAE/IESNA Standard 90.1-2010 for thermal insulation, and has an R-value of 4.17 per inch.

Indoor Environmental Quality Credits

Credit: Low-Emitting Materials

Option 1- Product Category Calculations OR, Option 2- Budget Calculation Method (13 POINTS)

TC-417 has a general emissions evaluation that passes the California Department of Public Health (CDPH) Standard Method v1.1-2010. Our range of TVOC after 336 hours is 0.5 mg/m³ or less, as specified in the CDPH Standard Method v1.1.

Credit: Thermal Comfort

Option 1- ASHRAE Standard 55-2010 (1 POINT)

The thermal comfort design of TC-417 is compliant with the ASHRAE Standard 55-2010, and has an R-value of 4.17 per inch.

Credit: Acoustic Performance

Option 1- Speech Privacy, Sound Isolation, and Background Noise (1 POINT)

TC-417 spray-applied insulation has a NRC of 1.0 at 2 inches, and would contribute to an STC rating in conjunction with the other components of the building envelope.

*Note: The credits noted above are applicable to TC-417 as well as AF-90 spray applied insulation products.

**LABORATORY MEASUREMENT
USING TEST METHOD ASTM C423-99a OF
SOUND ABSORPTION COEFFICIENTS OF
TC-417 GP SPRAY-ON TREATMENT**

Prepared for:

THERMACOUSTIC INDUSTRIES INTERNATIONAL LTD.
PO Box 31752
Pitt Meadows, BC, CANADA, V3Y 2H1

Prepared by:

**THE UNIVERSITY OF ALBERTA
MECHANICAL ENGINEERING ACOUSTICS AND NOISE UNIT**

**JOB NUMBER: 01-06-A
20 AUGUST 2001**

C. B. B. B.
20 Aug. '01

UNIVERSITY OF ALBERTA
MECHANICAL ENGINEERING ACOUSTICS AND NOISE UNIT
EDMONTON, ALBERTA, CANADA

DETERMINATION OF NOISE REDUCTION COEFFICIENT (NRC)
ACCORDING TO ASTM STANDARD: C423-90a

DATE: 31 July 2001
CLIENT: ThermaCoustic Industries Ltd.

TEST NO: 1
TEST PERFORMED BY:
Corjan Buma, P.ENG.

REVERB ROOM VOLUME: 228.3621 Cubic Meters
MICROPHONE PLACED AT 7 FIXED POSITIONS

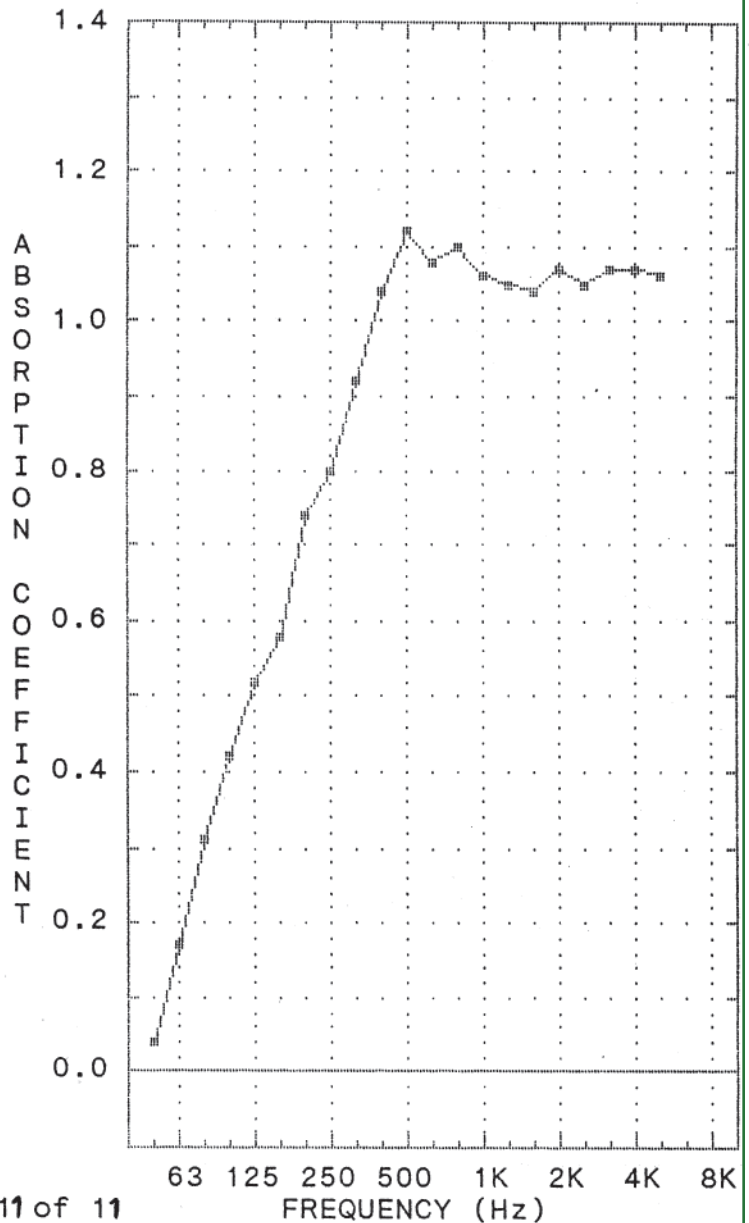
ENVIRONMENT:	TIME	DATE	TEMP(C)	RH(%)	ATMOSPHERIC PRESSURE (KPa)
# 1 EMPTY ROOM:	18:42	07-31-01	18.80	58.25	93.18 (700.8 mm Hg @ 21.0 C)
# 7 EMPTY ROOM:	19:28	07-31-01	18.70	59.14	93.18 (700.8 mm Hg @ 21.0 C)
# 1 SAMPLE ROOM:	17:02	07-31-01	18.54	57.75	93.18 (700.7 mm Hg @ 19.9 C)
# 7 SAMPLE ROOM:	18:03	07-31-01	18.50	58.98	93.18 (700.7 mm Hg @ 19.9 C)

TEST SAMPLE SURFACE AREA : 6.764 Sq m [2.447 m wide by 2.764 m high]
MOUNTING CONFIGURATION : 'A'

TEST SAMPLE DESCRIPTION :
Sound Absorption Data of TC-417 GP Specimen; nominal thickness 2 inches

FREQ (Hz)	EMPTY RT60 (sec)	SAMPLE RT60 (sec)	TOTAL METRIC SABINE	COEFF ABSORB COEFF	COEFF UNCERTAINTY (+/-)
50	2.40	2.39	0.25	0.04	0.60
63	2.38	2.19	1.14	0.17	0.81
80	3.71	3.07	2.07	0.31	0.20
100	3.52	2.79	2.83	0.42	0.20
125	4.15	2.97	3.52	0.52	0.09
160	4.75	3.16	3.94	0.58	0.15
200	5.63	3.21	4.98	0.74	0.11
250	5.54	3.06	5.41	0.80	0.05
315	5.41	2.83	6.25	0.92	0.09
400	5.35	2.65	7.06	1.04	0.07
500	5.10	2.49	7.57	1.12	0.05
630	4.84	2.47	7.34	1.08	0.06
800	4.66	2.40	7.45	1.10	0.04
1000	4.18	2.31	7.17	1.06	0.04
1250	3.85	2.21	7.13	1.05	0.06
1600	3.63	2.14	7.06	1.04	0.03
2000	3.41	2.05	7.20	1.07	0.03
2500	3.13	1.95	7.12	1.05	0.05
3150	2.80	1.81	7.25	1.07	0.03
4000	2.36	1.61	7.23	1.07	0.03
5000	1.92	1.39	7.19	1.06	0.04

NRC = 1.00



**LABORATORY MEASUREMENT
USING TEST METHOD ISO-354(85) OF
SOUND ABSORPTION COEFFICIENTS OF
TC-417 GP SPRAY-ON TREATMENT**

Prepared for:

THERMACOUSTIC INDUSTRIES INTERNATIONAL LTD.
PO Box 31752
Pitt Meadows, BC, CANADA, V3Y 2H1

Prepared by:

**THE UNIVERSITY OF ALBERTA
MECHANICAL ENGINEERING ACOUSTICS AND NOISE UNIT**

JOB NUMBER: 01-06-B

20 AUGUST 2001

C. Brown
20 Aug. '01

Sound Absorption of TC-417 GP Specimen

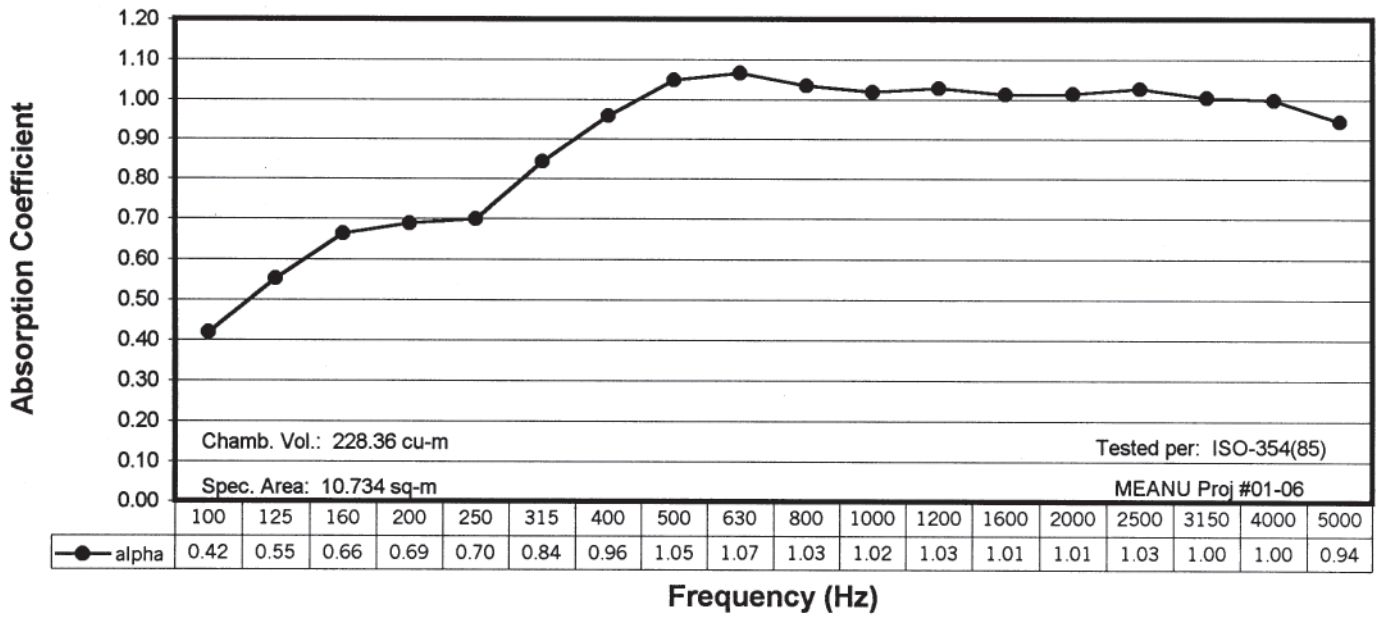


FIGURE 3



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Technical Bulletin: Painting a TC-417 installation and the impact on the overall NRC value

If a TC-417 installation is to be painted, we recommend that the surface be tamped prior to the application of the paint. Note: Tamping can only be done on flat surfaces. Tamping will help flatten out the surface making it easier to get a uniform finish. If the surface is fluted metal deck the natural TC-417 surface finish is acceptable to receive paint.

A TC-417 installation can also be tinted (light gray or charcoal gray), if the final paint color going to be grey or black, prior to painting to help with color uniformity.

For best results, we recommend the use of a good quality, high solids, and acrylic paint. A minimum two coats will be required and possible a third, depending on the surface finish.

A painted TC-417 surface will have a virtually identical overall NRC value when compared to an unpainted TC-417 surface due to the following circumstances:

1. When the TC-417 acoustic test panels are produced, the surface is tamped and then over sprayed twice with TC-417 adhesive. This process mimics the field process of tamping the surface prior to painting, and the application of two coats paint.
2. TC-417 produces excellent high frequency NRC values due to its low density and naturally rough carpet like texture and in turn, it produces low lower frequency NRC values because of to its low density. When the TC-417 surface is painted the rough carpet like texture remains and the surface density increases, which will result in slightly higher low frequency NRC values but slightly lower high frequencies values. Therefore, the net NRC result is virtually identical.

Note: Glass fiber is impervious, therefore only the surface will be colored, the paint will not be absorbed into the fiber matrix. If the painted surface is damaged the white or tinted fiber beneath the surface will show through. In addition, the textured finish surface of the installation will cause shadows across it, which will change as the light intensity and direction change, thus adding to the perception that the surface is unevenly colored

THERMACOUSTIC INDUSTRIES INTERNATIONAL LTD TEST REPORT

SCOPE OF WORK

TESTING OF 2 IN. THICK TC-417 SPRAY APPLIED THERMACOUSTICAL INSULATION FOR COMPLIANCE WITH THE APPLICABLE REQUIREMENTS OF THE FOLLOWING CRITERIA: ASTM E136-16A STANDARD TEST METHOD FOR BEHAVIOR OF MATERIALS IN A VERTICAL TUBE FURNACE AT 750°C. (OPTION A)

REPORT NUMBER

103775398COQ-006 R0

TEST DATE(S)

06/20/19 - 06/20/19

ISSUE DATE

06/24/19

PAGES

6

DOCUMENT CONTROL NUMBER

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THERMACOUSTIC INDUSTRIES INTERNATIONAL LTD TEST REPORT

SCOPE OF WORK

REPORT OF TESTING 2 IN. THICK TC-417 SPRAY APPLIED THERMACOUSTICAL INSULATION FOR COMPLIANCE WITH THE APPLICABLE REQUIREMENTS OF THE FOLLOWING CEITERIA: CAN/ULC S102-18, STANDARD METHOD OF TEST FOR SURFACE BURNING CHARACTERISTICS OF BUILDING MATERIALS AND ASSEMBLIES.

REPORT NUMBER

103775398COQ-004 R0

TEST DATE(S)

06/12/19 - 06/12/19

ISSUE DATE

06/20/19

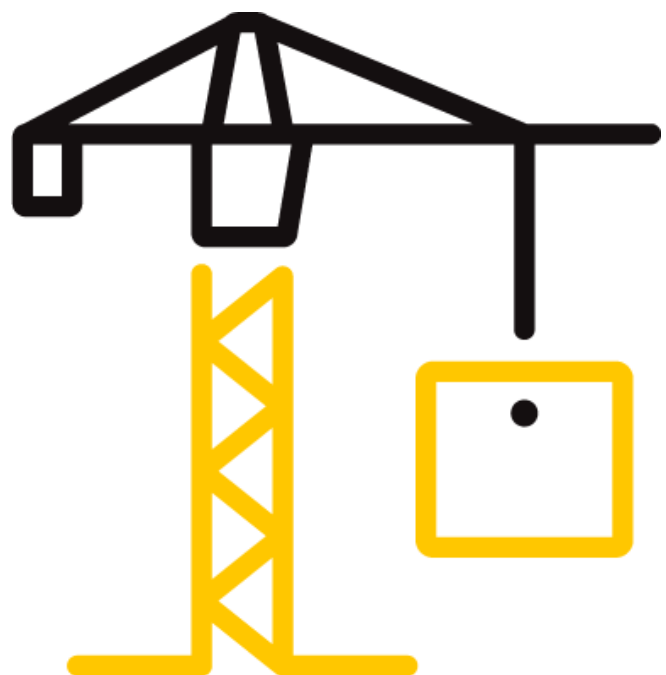
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SCOPE OF WORK

REPORT OF TESTING FR BIOFOAM APPLIED AT 2 IN. THICK TC-417 SPRAY APPLIED THERMACOUSTICAL INSULATION FOR COMPLIANCE WITH THE APPLICABLE REQUIREMENTS OF THE FOLLOWING CEITERIA: **ASTM E84-19A** STANDARD TEST METHOD FOR SURFACE BURNING CHARACTERISTICS OF BUILDING MATERIALS.

REPORT NUMBER

103775398COQ-004 R0

TEST DATE(S)

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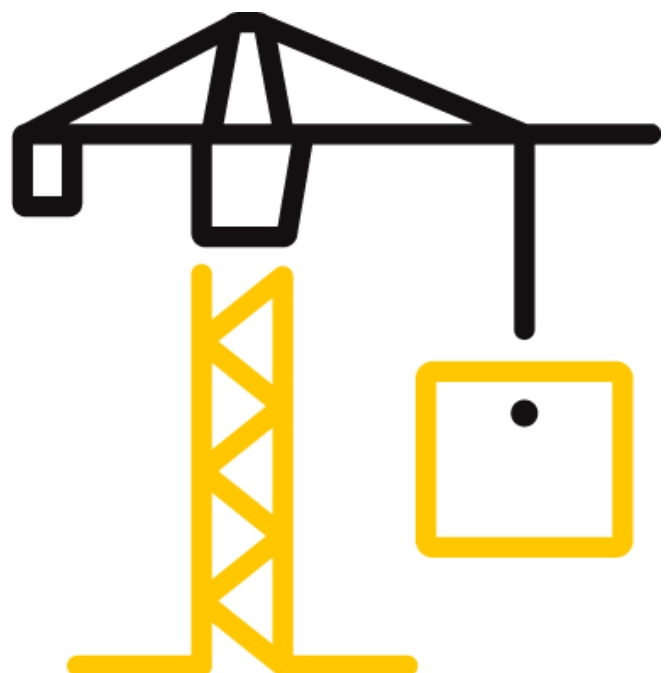
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SCOPE OF WORK

TESTING OF 2 IN. THICK TC-417 SPRAY APPLIED THERMACOUSTICAL INSULATION FOR COMPLIANCE WITH THE APPLICABLE REQUIREMENTS OF THE FOLLOWING CRITERIA: **CAN/ULC S114-18**, STANDARD METHOD OF TEST FOR DETERMINATION OF NON-COMBUSTIBILITY IN BUILDING MATERIALS

REPORT NUMBER

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TEST DATE(S)

06/12/19 - 06/12/19

ISSUE DATE

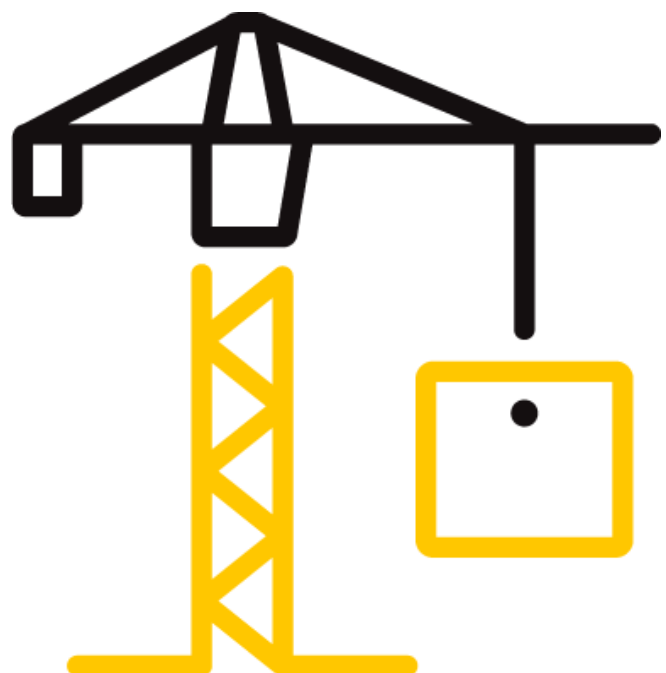
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GENERAL INFORMATION

Spray Applied Fiberglass (TC-417) Versus Spray Applied Cellulose



Spray Applied Cellulose (Sold under various brand names)

- a) Composition: Shredded paper products - may be new or recycled newsprint, cardboard or paper stock treated with water-based, **resoluble** fire retardant to slow down flame spread and smoke development. Products are mixed with waterbased adhesive at time of application;
- b) Thermal value (R) - varies from 3.4 - 3.8 per inch depending upon manufacturer;
- c) Noise reduction (NRC) - usually about 0.95 per 2 inch;
- d) Flame spread rating: varies from manufacturer to manufacturer, but all meet requirements of:
Flame spread = ≤ 25
Smoke development = ≤ 450
NOTE: Installation may require periodic overspray with fire retardant to maintain these ratings as retardant may leach out over time;
- e) Combustibility - **combustible**.
NOTE: Because these are 100% organic products they can never be rated as "noncombustible";
- f) Application thickness (underside of horizontal surface) = 3" in one pass; can be increased to 5" with second application after first is cured;
- g) Air erosion - meets requirement;
- h) Fungal resistance - meet requirements at time of application. **NOTE: Fire retardants often double as fungicides, and as they are water resoluble they may leach out over time and compromise the fungal resistance rating;**
- i) Bond Strength - sufficient to hold themselves in place on underside of horizontal surface.

Spray Applied TC-417 (Glass fibre-based)

- a) Composition - Fine, white, purpose-manufactured glass fibre (min. 25% recycled content) mixed with water-based adhesive at time of application;
- b) Thermal value (R) = 4.17 per inch;
- c) Noise reduction (NRC) = 1.00 per 2 inch;
- d) Flame spread rating:
Flame = ≤ 25
Smoke = ≤ 450 **NOTE: Installation does not require periodic overspray with fire retardant to maintain these ratings, as glass is non-combustible;**
- e) Combustibility - product is rated as **noncombustible**;
- f) Application thickness (underside of horizontal surface) = 5" in **one pass**;
- g) Air erosion - meets requirement;
- h) Fungal resistance - meets requirement (MIL-STD 810E, Method 508.4). **Will not support Stachybotrys chartarum mould, which requires cellulose-based material to support growth.**
NOTE: If further information concerning mould growth in cellulose is desired, please see our information sheet titled "Mould in Buildings: A Health Issue."
- i) Bond strength: >1.7 kPa, which is deemed by the relevant authorities to be sufficient to hold **TC-417** securely in place on the underside of a horizontal surface. **NOTE: Bond strength of glass fibre is lower than cellulose. This is because paper absorbs moisture very readily and the adhesive permeates the paper (cellulose) and forms a cohesive whole. In the case of fibreglass, the adhesive cannot permeate the glass, but encapsulates it with a very thin film to form the matrix. Thus, the adhesive, which is organic, forms only a minor part of the installation and ensures that TC-417 is rated as noncombustible.**

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Acoseal

פתרונות אקוסטיים בהתזה

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