FABREEKA®
A STABILUS COMPANY

HIGH-TECH ISOLATION SOLUTIONS

FABREEKA-TIM® THERMAL BREAK

Product Catalog and Design Specification
Thermal Insulation Material

ENERGY & CONSTRUCTION

REDUCE HEAT TRANSFER AND INTERRUPT THERMAL BRIDGING

EARN LEED CREDITS AND MEET NEW BUILDING CODES

MADE IN THE USA

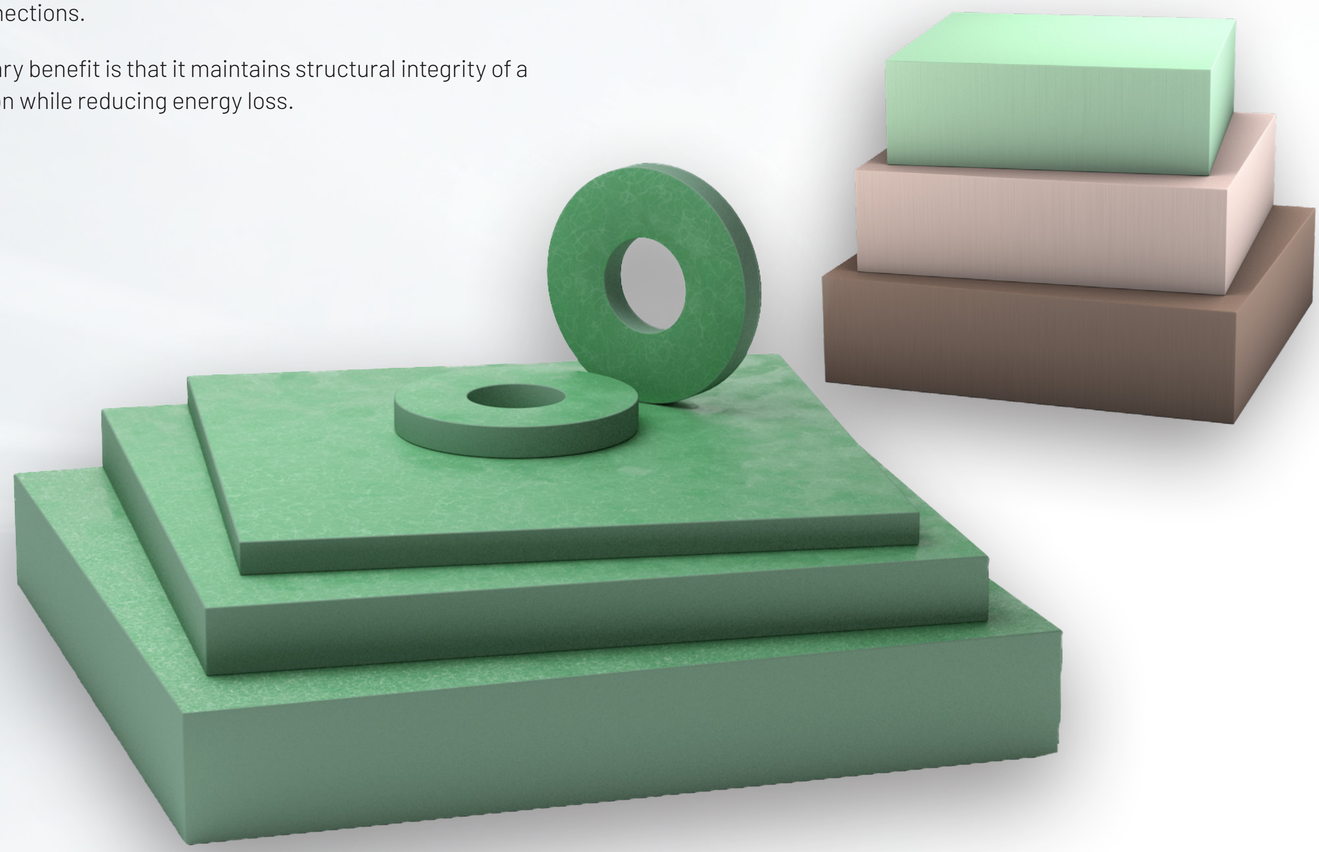
WHY CHOOSE FABREEKA-TIM® STRUCTURAL THERMAL BREAK

Fabreeka-TIM® is a structural thermal break/insulation material that is manufactured from a fiberglass reinforced laminate composite.

The properties of this material provide a thermally efficient, energy saving product that prevents thermal bridging in structural connections.

Fabreeka-TIM® is a load bearing "thermal break" used between flanged steel connections.

The primary benefit is that it maintains structural integrity of a connection while reducing energy loss.



1. Made in the USA
2. ASTM Certified
3. Meets UL certification
4. ICC-ES Listed in USA & Canada
5. RoHS II and REACH Compliant
6. Contributes to LEED Certification
7. Enhances building envelope performance
8. Aids in meeting ASHRAE 90.1 and 189.1 energy standards
9. Reviewed on BuildingGreen.com/GreenSpec
10. Independently tested and certified to published specifications
11. Lot Control repeatable, certified product every time
12. In-house Quality Control
13. Stock in hand in ¼" (6.4mm), ½" (12.7mm), ¾" (19.1mm), 1" (25.4mm), and 2" (50.8mm) thick for quick turnaround times.
14. Precise, smooth cutting by water jet
15. Application engineers available for technical support
16. Best value added thermal break solution for shear connections to help lower energy costs
17. Exceptional customer service and follow-up

WHAT KINDS OF THERMAL BREAK MATERIALS ARE YOU USING?

Fabreeka-TIM® is trusted as the official thermal break solution specified by building professionals everywhere. It is considered a green product for its energy savings with regard to energy loss caused by thermal bridging. In addition it is proven to have high compressive strength combined with resistance to thermal conductivity. Made from a fiberglass reinforced composite, Fabreeka International's Thermal Insulation Material (Fabreeka-TIM®) has a per inch R value of 0.56 and is far superior to steel (R 0.003) or concrete (R 0.08), providing a structural thermal break between flanged steel framing members.

Pictured here: A side-by-side comparison of a building envelope and the heat map throughout the structure without the use of thermal breaks.

LEED DESCRIPTION AND POTENTIAL CREDITS

LEED, or Leadership in Energy & Environmental Design, is a green building certification program through the US Green Building Council that recognizes best in class building strategies and practices.

To receive LEED certification, building projects satisfy prerequisites and earn points to achieve different levels of certification. Prerequisites and credits differ for each rating system, and teams choose the best fit for their project.

EAc1: Optimize Energy Performance

- NC 2009
- NC v2.2
- CS 2009
- Schools 2009

EAp2: Minimum Energy Performance

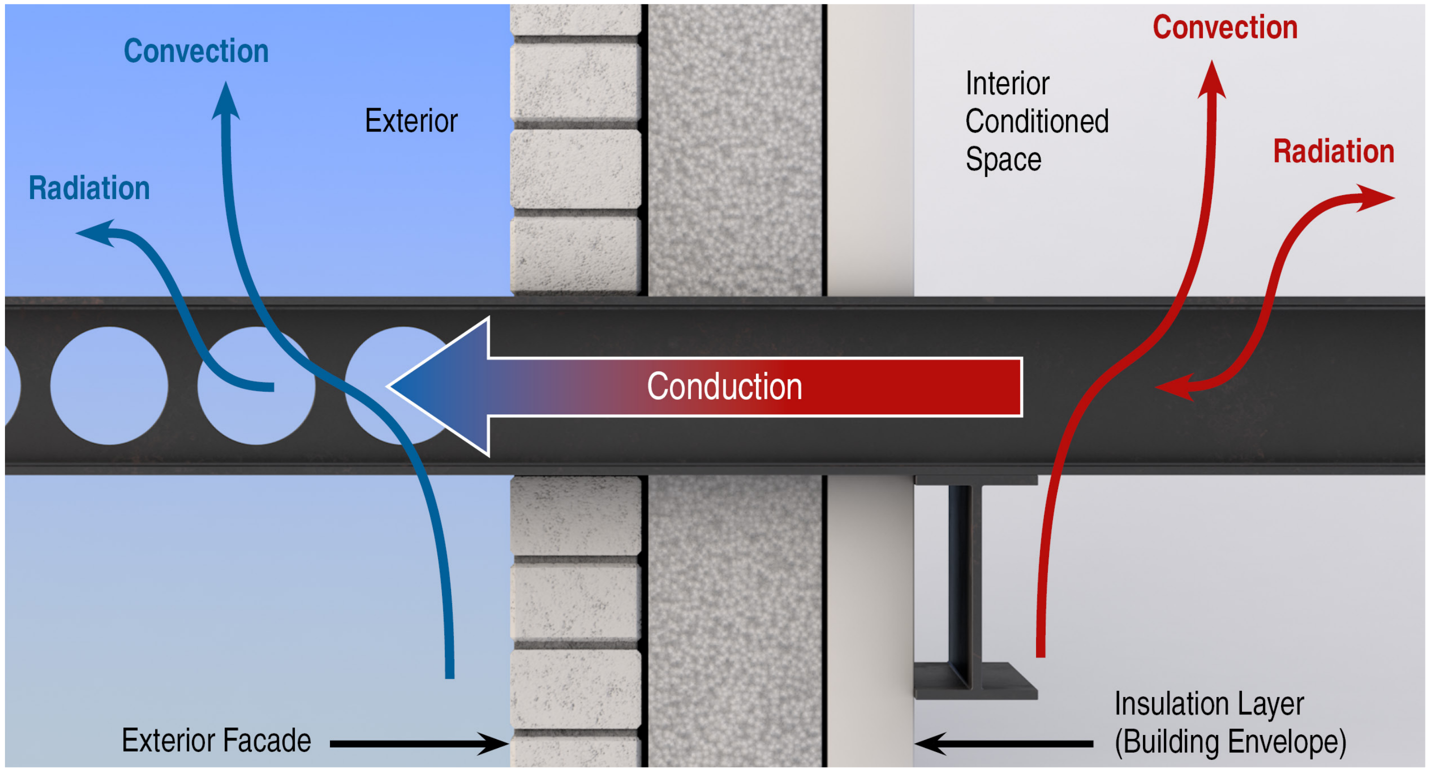
- NC 2009
- NC v2.2
- CI 2009
- CS 2009
- Schools 2009

THE BUILDING ENVELOPE & THERMAL BRIDGING

The need to evaluate thermal bridging in a building's design and performance, especially when seeking LEED accreditation, has become more prevalent because of the increasing requirements for more energy efficient buildings.

In structural steel buildings, thermal bridging occurs when conductive materials provide a conduit for energy to transfer across a thermal barrier creating an energy loss and potential for condensation. In colder climates, internal heat will find the path of least resistance, and will always want to transfer to the colder side, resulting in more energy needed to maintain room temperature. The opposite can be said for warmer climates. Up to one-third of a building's energy could be lost through thermal bridges in structures without thermal breaks. By using Fabreeka-TIM® you can greatly reduce thermal energy transfer by introducing a thermal break into the structure with low thermal conductivity between higher conductive materials. When selecting a thermal break it is important to review the structural and thermal performance of the material and what test standards were used to evaluate the product.

With the development of ASHRAE codes 90.1, 189.1 and energy efficient buildings it is useful to protect the building envelope from thermal bridging with the use of thermal break materials. Since many thermal break paths are created from canopy and balcony designs, adding a thermal break material in shear can become challenging. Architects and Structural Engineers must ensure materials are suited for the structural application. Fabreeka-TIM® material provides the needed strength combined with its R value properties to satisfy both requirements.



Up until recent years there was little known about how to determine thermal bridging characteristics in buildings, but with the help of recent studies, more information is becoming available. In March of 2012, a joint committee of AISC and SEI members published a supplement to Modern Steel Construction titled "Thermal Bridging Solutions: Minimizing Structural Steel's Impact on Building Envelope Energy Transfer", which provides a definition of thermal bridging, calculations of thermal conductivity, and solutions for preventing, as it pertains to steel connections.

A study released in the fall of 2014 by the independent firm Morrison Hershfield, titled "Building Envelope Thermal Analysis (BETA) Guide Part 1", Section 1.2 "Methodology for Determining Thermal Performance of Building Envelope Assemblies"[2], explains the vital information designers can use for evaluating energy loss and determining thermal values for the building envelope and energy conservation.

As new and refurbished buildings strive for conformance to LEED and other "green" certifications, the importance of reducing thermal bridging in the building envelope becomes a priority, which was not the case in the past. A variety of applications within buildings and the building envelope are now calling for thermal breaks to help prevent thermal bridging. Because the best solutions depend on the application it is important to understand why and when to use certain types of thermal breaks over others. Fabreeka is here to provide proven products and services to engineers for vibration isolation and thermal break solutions.

SAMPLE SPECIFICATION

Thermal Insulation Material:

1. Fiberglass Reinforced Laminate Composite, Fabreeka-TIM®, as manufactured by Fabreeka International, Inc.

2. Material shall maintain structural integrity of connections. Refer to Structural Drawings for specific Load requirements.

3. Ultimate Material Properties:

a. Tensile Strength	ASTM D638	11,000 psi (75.8 MPa)
b. Flexural Strength	ASTM D790	25,000 psi (172.4 MPa)
c. Compressive Strength	ASTM D695	38,900 psi (268.2 MPa)
d. Compressive Modulus	ASTM D695	
i. 1/2" thk (12.7mm)		291,194 psi (2,007.7 MPa)
ii. 1" thk (25.4mm)		519,531 psi (3,582.0 MPa)
e. Shear Strength	ASTM D732	15,000 psi (103.4 MPa)
f. Thickness		1" (25.4mm) or as indicated
g. Oxygen Index	ASTM D2863	21.8%
h. Coefficient of Thermal Expansion	ASTM D696	2.2
i. Thermal Conductivity	ASTM C177	1.8 BTU/Hr/ft2/in/°F (0.259 W/m*°K)
j. Density		107.83 lb/ft3 (1727Kg/M3)

Fabreeka's sample specification is available in multiple file formats. Please contact us, or visit our website:

[1] " Thermal Steel Bridging", NASCC 2011, D'Aloisio/ Miller-Johnson

[2] " Building Envelope Thermal Analysis (BETA) Guide Part 1", Section 1.2 "Methodology for Determining Thermal Performance of Building Envelope Assemblies", Morrison Hershfield, http://www.morrisonhershfield.com/newsroom/Pages/Highly-Anticipated-Building-Envelope-Thermal-Bridging-Guide-Now-Public.aspx

THERMAL TRANSMITTANCE

This document is intended to be a practical design guide to the structural engineer specifying Fabreeka-TIM® Thermal Insulation Material in lintel, canopy or end plate connections where moment forces occur. Final connection design should be made by a registered structural engineer. The examples shown in this design guide are for informational purposes only. The data shown may be used to assist the structural engineer in the final design.

To minimize energy loss due to heat flow through a building envelope via a structural connection, the heat transfer properties of the materials used within the envelope must be known. The ability of a material to resist heat flow is commonly known as the material's "R" value. Using Fabreeka-TIM® material as a "thermal break" or thermal insulator in a structural connection will reduce the rate at which heat flows by conduction, thereby changing the temperature gradient across the connection.

The R value for Fabreeka-TIM® material can be calculated by using the thermal conductivity value (K) and the material thickness (t) where:

$$R = t/K$$

Note: Thermal conductivity value (K) of a material is independent of thickness. However, the unit of inch is typically used as a standard for thermal insulation materials.

Thermal conductance (C)does depend on thickness where:

$$C = K/t$$

The C value of 1" (25.4mm) thick Fabreeka-TIM® material is half the value of 1/2" (12.7mm) thick Fabreeka-TIM® material. The thicker the material, the lower its C value.

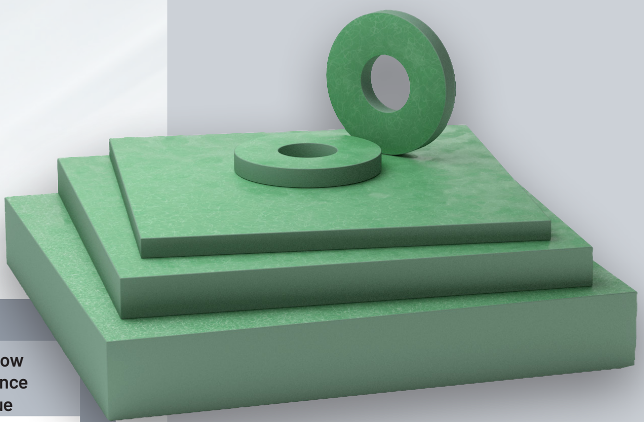
The R value can also be calculated by using the C value of Fabreeka-TIM® material where:

$$R = 1/C$$

so

$$R = 1/C = t/K$$

Therefore, if the thickness of Fabreeka-TIM® material is 1" (25.4mm) and the K value is 1.8 (0.259), the C value is 1.8 (10.2), and the corresponding R value is 0.56 (0.098).



Thermal Value Material Comparison
K value3 in BTU/Hr/ft2/in/°F* (K value3 in W/m*°K*)

Material	Thickness	Thermal Conductivity K Value	Thermal Conductance C Value	Heat Flow Resistance R Value
Fabreeka-TIM®		**1.8 (0.259)**	**7.2 (40.5)**	**0.14 (2.5x10^{-2})**
Stainless Steel	**1/4" (6.4 mm)**	111 (16)	444 (2,500)	0.002 (4x10^{-4})
Carbon Steel		375 (54)	1,500 (8,438)	0.0007 (1.18x10^{-4})
Fabreeka-TIM®		**1.8 (0.259)**	**3.6 (20.4)**	**0.28 (4.9x10^{-2})**
Stainless Steel	**1/2" (12.7 mm)**	111 (16)	222 (1,260)	0.004 (7.9x10^{-4})
Carbon Steel		375 (54)	750 (4,252)	0.001 (2.35x10^{-4})
Fabreeka-TIM®		**1.8 (0.259)**	**1.8 (10.2)**	**0.56 (9.8x10^{-2})**
Stainless Steel	**1" (25.4 mm)**	111 (16)	111 (630)	0.009 (1.59x10^{-3})
Carbon Steel		375 (54)	375 (2,126)	0.003 (4.7x10^{-4})
Fabreeka-TIM®		**1.8 (0.259)**	**2.4 (13.63)**	**0.42 (0.07)**
Stainless Steel	**3/4" (19.05 mm)**	111 (16)	148 (840.64)	0.0068 (0.0012)
Carbon Steel		375 (54)	500 (2,840)	0.002 (0.0004)
Fabreeka-TIM®		**1.8 (0.259)**	**0.9 (5.11)**	**1.11 (0.20)**
Stainless Steel	**2" (50.8 mm)**	111 (16)	55.5 (315.24)	0.018 (0.0032)
Carbon Steel		375 (54)	187.5 (1,065)	0.0053 (0.0009)

! CAUTION !

R values of materials within a building envelope can be added when the materials resist heat flow in series but cannot be added when there are parallel paths for heat flow. To accurately determine a system's overall effective R value requires a careful analysis. For accurate results, a 2D or 3D heat flow analysis program may be used.

The thermal transmittance, or U factor, of an entire assembly (system) is dependent on the C values and R values of the materials used in that system. Where:

$$U = 1/R_{TOTAL} \text{ (series) or } 1/R_{Eff} \text{ (parallel)}$$

The lower the U value, the lower the rate of heat flow for a given set of conditions.

Note: **C value in BTU/Hr/ft^2/°F or (C - W/m^2*°K)**
R value in Hr*ft^2*°F/BTU or (R - °K*m^2/W)

[3] Assumes steady state conditions and heat flow at a constant rate
* Temperature difference/gradient across connection (Δt)
[4] "Thermal Steel Bridging", NASCC 2011, D'Aloisio/ Miller-Johnson

ULTIMATE PROPERTIES OF FABREEKA-TIM®

Mechanical Properties (Nominal)			
Tensile Strength	PSI (MPa)	ASTM D638	11,000 (75.8)
Flexural Strength	PSI (MPa)	ASTM D790	25,000 (172.4)
Compressive Strength	PSI (MPa)	ASTM D695	38,900 (268.2)
Compressive Modulus - 1/2" (12.7mm) thk	PSI (MPa)	ASTM D695	291,194 (2,007.7)
Compressive Modulus - 1" (25.4mm) thk	PSI (MPa)	ASTM D695	519,531 (3,582.0)
Shear Strength	PSI (MPa)	ASTM D732	15,000 (103.4)
Operating Temperature Range	°F (°C)	–	-20 to +250* (-29 to +121*)
Thickness	in (mm)	–	1/4, 1/2, 3/4, 1, 2 (6.4, 12.7, 19.1, 25.4, 50.8)
Flame Resistance (Nominal)			
Oxygen Index	$\%O_2$	ASTM D2863	21.8
Thermal Properties (Nominal)			
Coefficient of Thermal Expansion	in/in/°Cx10^{-5}	ASTM D2863	21.8
Thermal Conductivity	BTU/Hr/ft^2/in/°F W/m*°K	ASTM C177	1.8** 0.259**
Density	lb/ft^3 (Kg/M^3)	–	107.83 (1727)
Thermal Conductivity of Steel**	BTU/Hr/ft^2/in/°F W/m*°K	–	374.5 54.0

Coefficient of Friction Values (μs) ***		
	5,000 psi (34.5 MPa)	**10,000 psi (69 MPa)**
Fabreeka-TIM® to Steel	0.27	0.26
Steel to Steel	0.8	0.8

* Loss in Ultimate Property Strength = 30% at 250°F
** Reference
*** Surface roughness of steel 1.4 μin

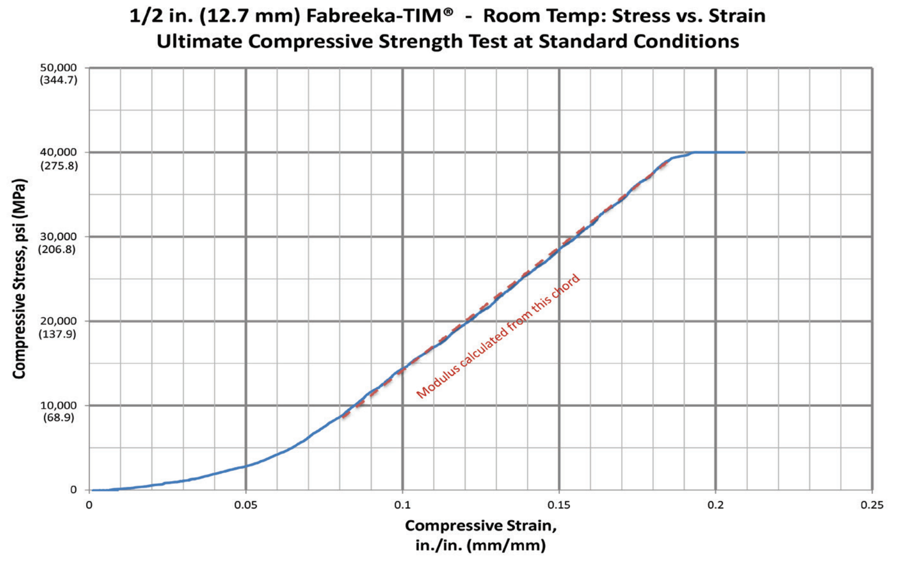
CONDENSATION CONSIDERATIONS

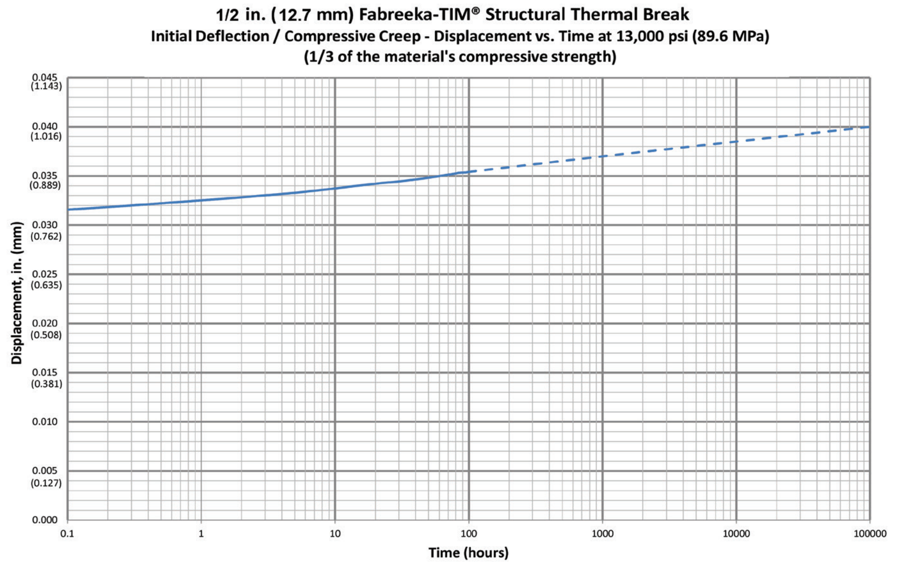
Condensation buildup can be addressed by designing the thermal break within the interior envelope of the structure as close to the outside wall as possible, applying a moisture barrier to the interior of the wall, and incorporate the appropriate insulation per the owner's scope of work.

COMPRESSIVE MODULUS

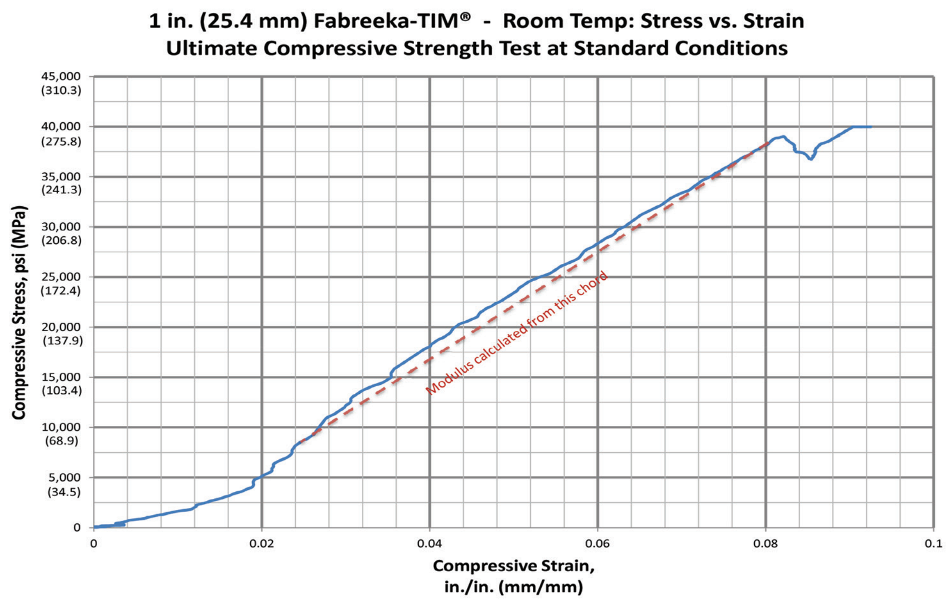
Room Temperature Modulus Calculation - Imperial (Metric)
Determined as chord modulus from Stress-Strain curve between 10,000 and 38,900 psi (68.9 and 268.2 MPa)

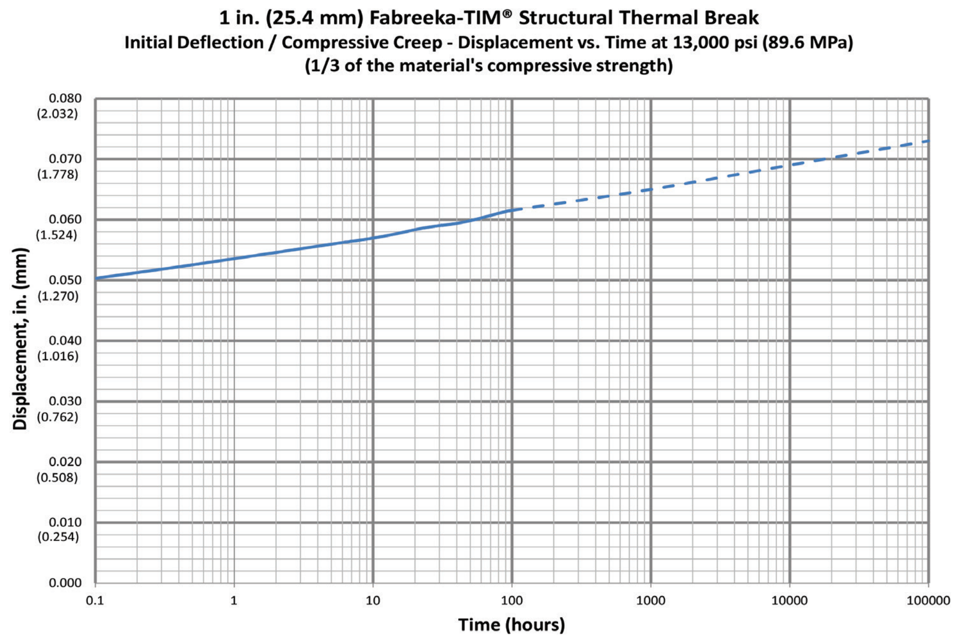
	Test Data Point 1		Test Data Point 2		
Sample Size in (mm)	**Stress psi (MPa)**	**Strain in/in (mm/mm)**	**Stress psi (MPa)**	**Strain in/in (mm/mm)**	**Modulus psi (MPa)**
0.5 x 2.34 x 2.34	10,153	0.0852	38,923	0.1840	291,194
1.0 x 2.34 x 2.34	9,997	0.0268	38,779	0.0822	519,531
(12.7 x 59.4 x 59.4)	(70.0)	(2.1640)	(268.6)	(4.6736)	(2007.7)
(25.4 x 59.4 x 59.4)	(68.9)	(0.6807)	(267.4)	(2.0879)	(3582.0)





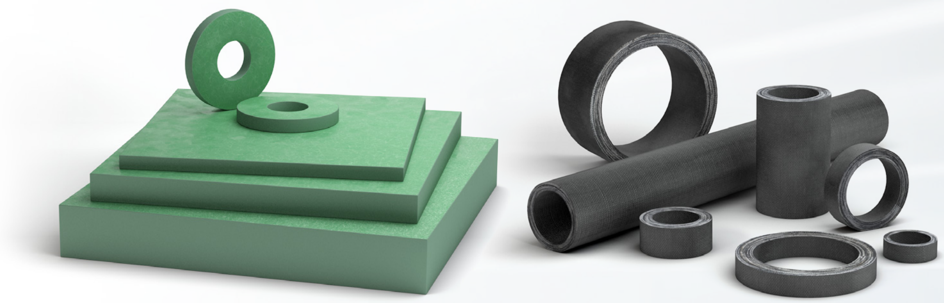
COMPRESSIVE MODULUS (CONT'D)





FABREEKA-TIM® WASHER AND FABREEKA® BUSHING SIZES

FOR STRUCTURAL CONNECTIONS



Fabreeka-TIM® material is supplied in sheets or cut to size per customer drawings and/or specifications and is available in thicknesses of 1/4″ (6.4mm), 1/2″ (12.7mm), 3/4″ (19.1mm), 1″ (25.4mm) and 2″ (50.8mm). Precision water jet cutting is available for holes and special joints. Fabreeka-TIM® material is also supplied as thermal break washers for the bolted connections between external and internal steelwork. For optimal thermal break, the area around the fastener hardware should be taken into consideration. In addition to the Fabreeka-TIM® plate, Fabreeka recommends Fabreeka-TIM® thermal break washers and bushings made from Fabreeka® material. See page 12 for a connection example.

Recommended Washer and Bushing Sizes

Bolt	Washer	Washer	Bushing	Bushing
Dia - in (mm)	**OD - in (mm)**	**ID - in (mm)**	**OD - in (mm)**	**ID - in (mm)**
3/16" (M5)	9/16" (14.29)	1/4" (6.40)	1/2" (12.70)	1/4" (6.40)
1/4" (M6)	3/4" (19.05)	5/16" (7.94)	9/16" (14.29)	5/16" (7.94)
5/16" (M8)	7/8" (22.23)	3/8" (9.53)	5/8" (15.88)	3/8" (9.53)
3/8" (M10)	1" (25.40)	7/16" (11.11)	11/16" (17.46)	7/16" (11.11)
7/16" (M12)	1 1/4" (31.75)	1/2" (12.70)	3/4" (19.05)	1/2" (12.70)
1/2" (M12)	1 3/8" (34.93)	9/16" (14.29)	13/16" (20.64)	9/16" (14.29)
9/16" (M14)	1 1/2" (38.10)	5/8" (15.88)	7/8" (22.23)	5/8" (15.88)
5/8" (M16)	1 3/4" (44.45)	11/16" (17.46)	15/16" (23.81)	11/16" (17.46)
3/4" (M20)	2" (50.80)	13/16" (20.64)	1 1/16" (26.99)	13/16" (20.64)
7/8" (M22)	2 1/4" (57.15)	15/16" (23.81)	1 3/16" (30.16)	15/16" (23.81)
1" (M25)	2 1/2" (63.50)	1 1/16" (26.99)	1 5/16" (33.34)	1 1/16" (26.99)

Notes: Fabreeka-TIM® washers are 1/4″ (6.4mm) thick.
Thickness of steel end plate determines length of Fabreeka® bushing.
Additional sizes available. Please contact Fabreeka to discuss.

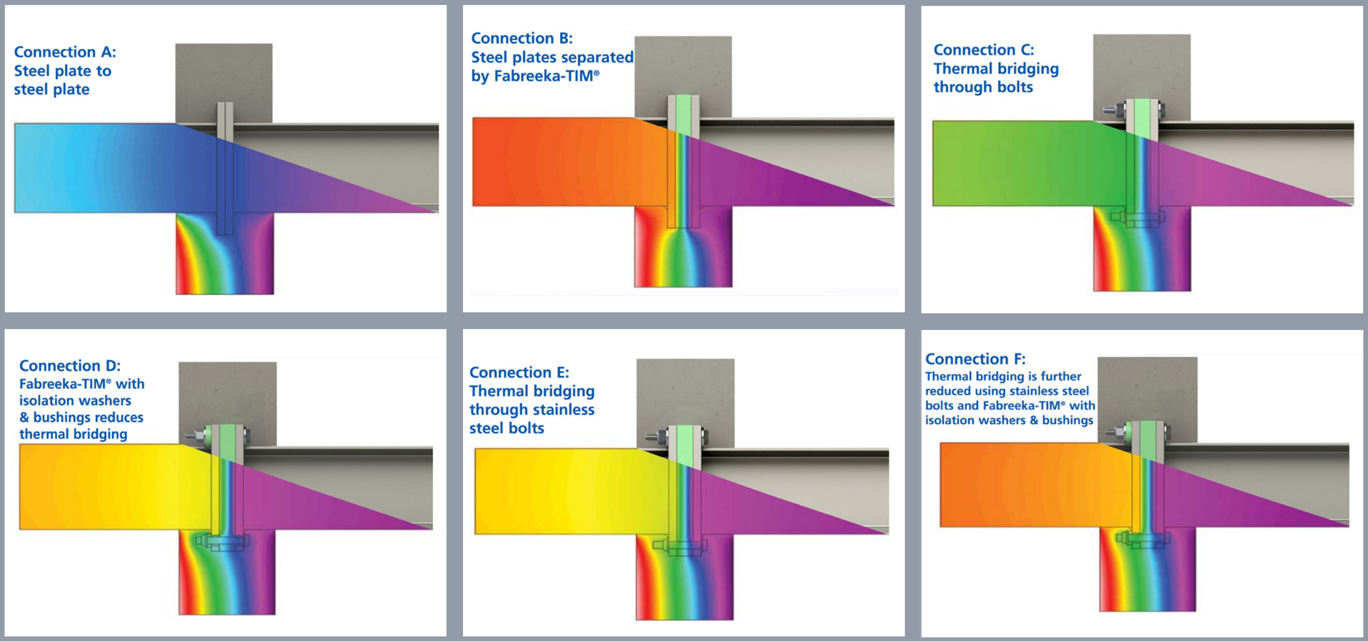
! ATTENTION !
Steel Washer must be USS Grade 8 and cover entire top and bottom surface of Fabreeka-TIM® washer, or failure of the Fabreeka-TIM® washer may result. Please refer to the top right illustration on page 13.

HOW FABREEKA-TIM® REDUCES THERMAL BRIDGING

Boundary conditions for all thermal models on pages 10-11 are 70°F (21°C) inside and 0°F (-18°C) outside, and assume a wall with an effective R-value of 6.2. The models show energy flow through an end plate connection with and without Fabreeka-TIM® material.

Connection A shows a typical beam-to-beam connection without a thermal break. Note the heat flow gradient through the connection. In Connection B, 1" (25.4mm) thick Fabreeka-TIM® material was added between the steel beams. Note the distinct thermal break of the heat flow on either side of the Fabreeka-TIM® material.

In Connection C, the heat flow profile shows how bolts act as a "thermal bridge" compromising the performance of the thermal break material. In Connection D, Fabreeka-TIM® washers and Fabreeka® bushings were added to the bolted connection to break the heat flow through the bolts. Using Fabreeka-TIM® washers and Fabreeka® bushings significantly reduces heat flow in the connection.



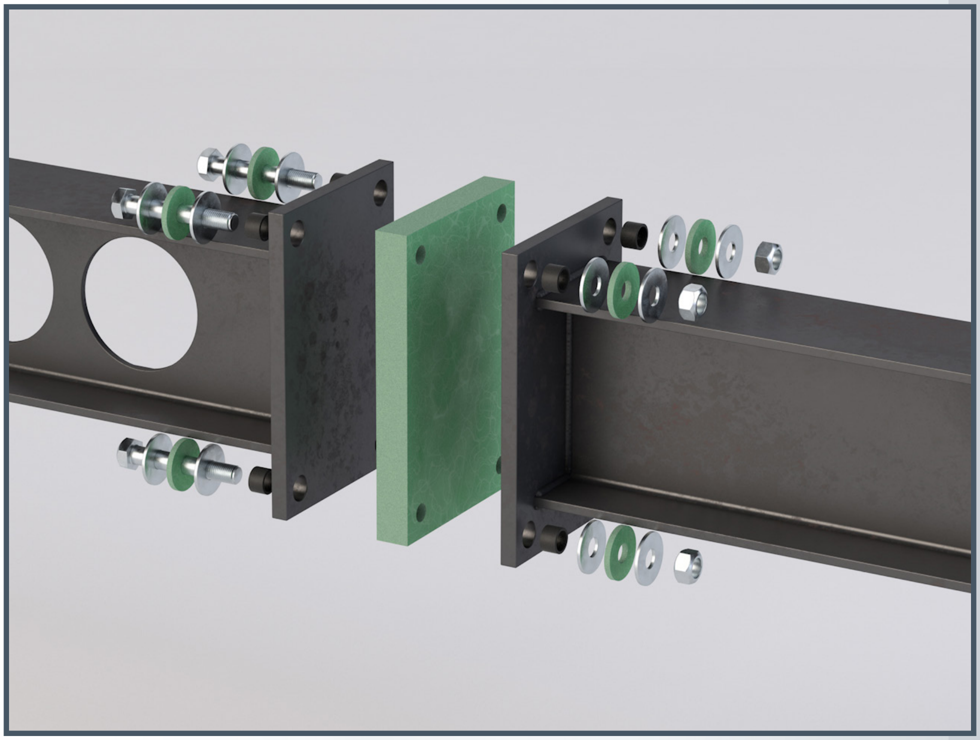
Pictured Above: Heat maps of steel connections and the different scenarios in which Fabreeka-TIM interrupts heat flow. For optimal results, pair Fabreeka-TIM® with isolation washers and bushings as seen in Connection F.

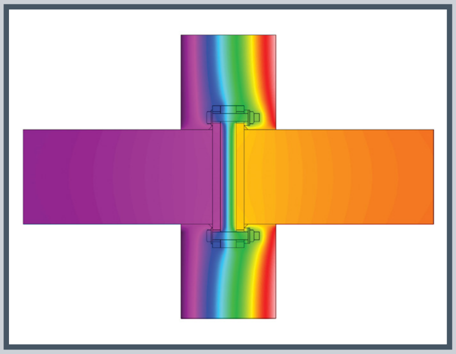
THERMAL BREAK CONNECTION DESIGN EXAMPLES

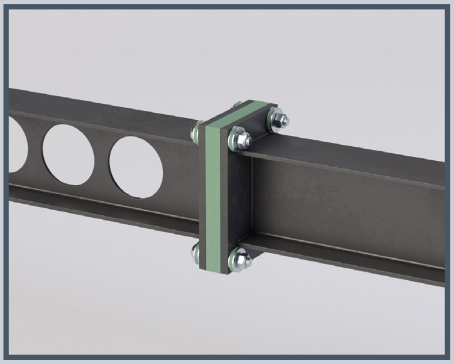
Fabreeka-TIM® can be used as a thermal break solution in both point and linear structural connections. The use of Fabreeka-TIM® material to minimize energy flow in a structural connection requires knowledge of its thermal and material properties as well. To effectively design a bolted connection using Fabreeka-TIM® components, one needs to consider the tensile and shear forces acting upon the bolts and to also consider any deflection and creep in the material itself.

In cantilever, lintel or end beam connections, bolt preload (pretension) due to torque applies a clamp force and corresponding deflection on the material. Additional load is applied as a result of moment forces acting on the connection. A moment will create additional deflection on the compression side of the moment.

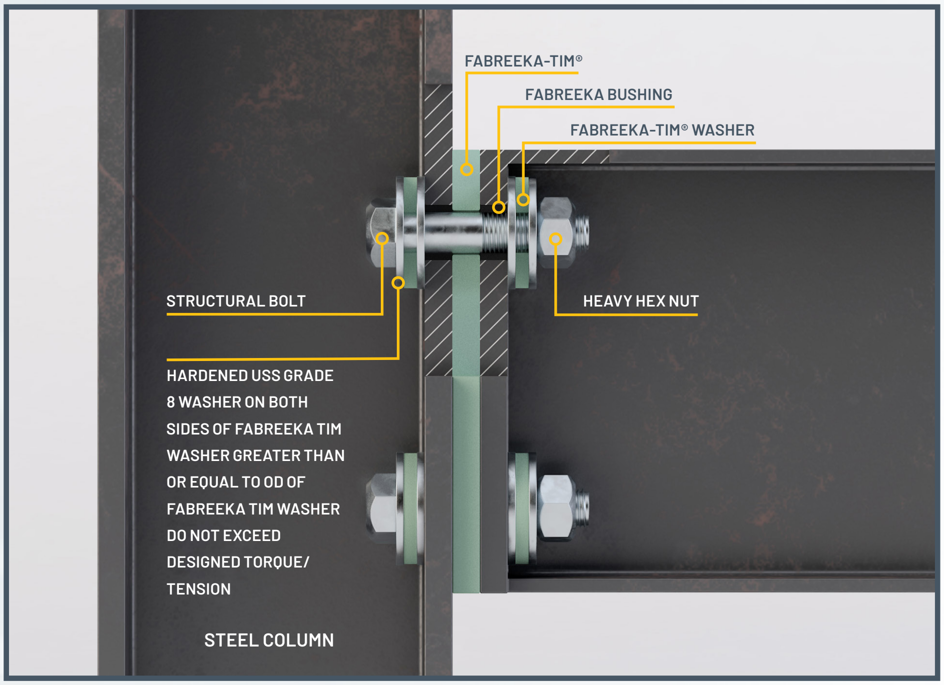
The coefficient of friction value of the Fabreeka-TIM® material can be used in conjunction with the applied compressive stress on the material to help resist shear load transfer through the connection.
To accurately provide a quote, please supply us with the design connection showing dimensions of Fabreeka-TIM® plate, hole size and location(s), connection plate thickness and fastener size, and also if you require washers and bushings to complete the thermal break connection.

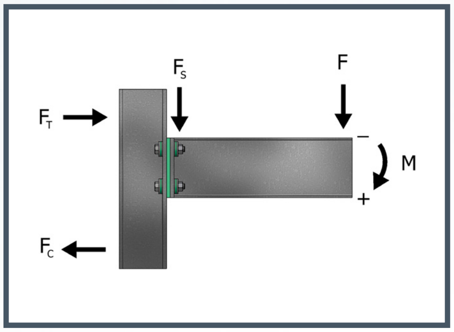


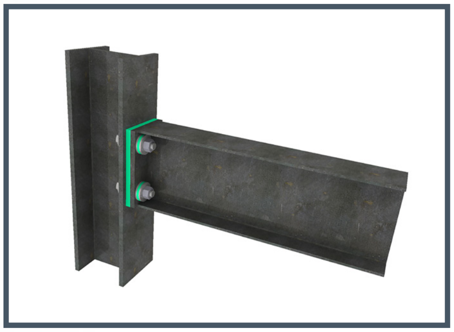


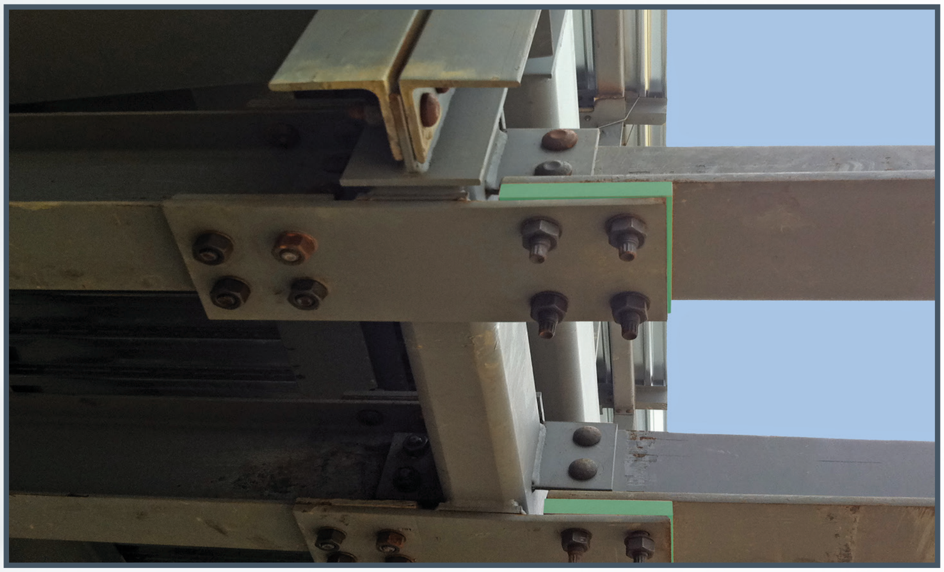


END PLATE CONNECTION





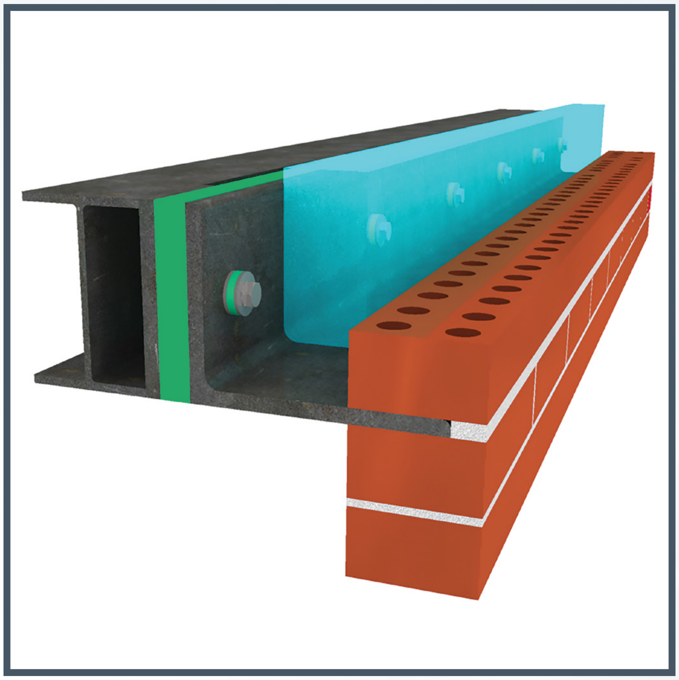




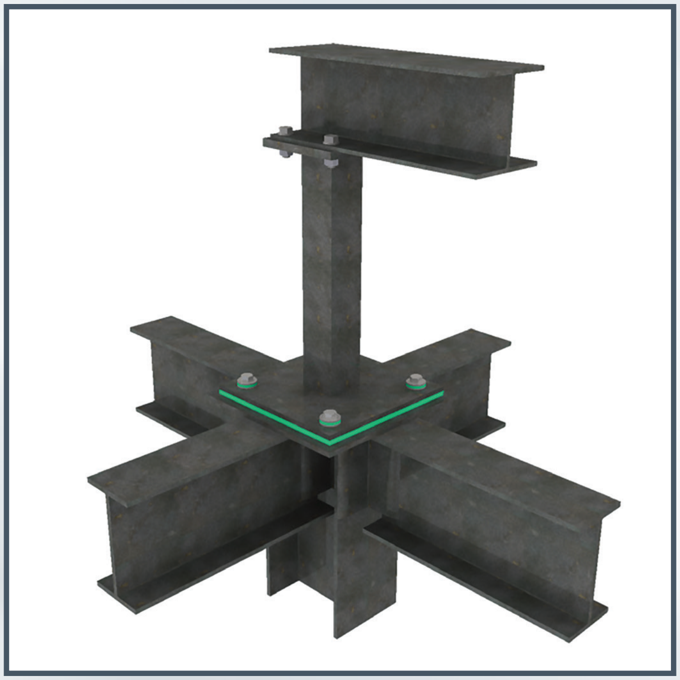
FABREEKA-TIM® IS CURRENTLY USED IN:

- Balcony connections
- End beam connections
- Canopy connections
- Lintel or curtain wall connections, including brick, glass, etc.
- Rooftop dunnage post connections
- Cold storage applications
- And more

LINTEL CONNECTION



ROOFTOP DUNNAGE POST CONNECTION TO COLUMN



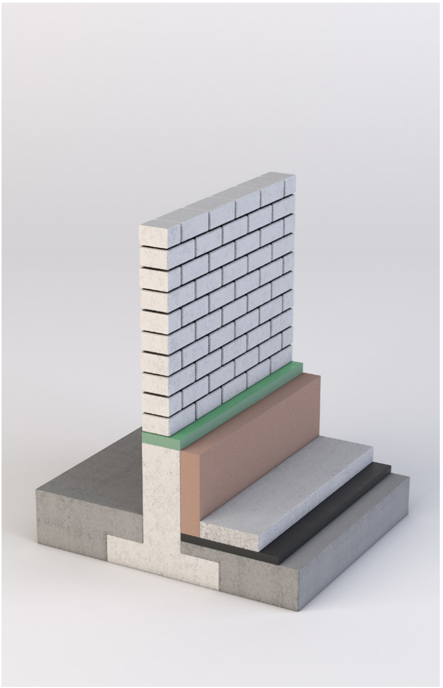
FABREEKA-TIM® RF SERIES

Fabreeka-TIM® RF properties make it impermeable by any type of liquid, including water and most solvents, thus suited for moisture, severe weather conditions or harsh environments. Additionally, it is resistant to mechanical stress and has exceptional insulating qualities which makes it a valuable asset to reduce thermal bridging in building envelope connections and cold storage applications.

For optimal thermal break performance, the area around the fastener hardware should be taken into consideration. In addition to the Fabreeka-TIM® RF block, Fabreeka recommends Fabreeka-TIM® thermal break washers and bushings made from Fabreeka® material.

APPLICATIONS UTILIZING FABREEKA-TIM® RF THERMAL BREAK

- Structural column bases, especially vital in cold storage/freezer facilities
- Tank isolation block - reduces condensation by thermally isolating cooling equipment from its supporting structure
- Roof equipment and dunnage post support block – supports HVAC, fans, davits, anchors and other heavy equipment on building roofs while preventing heat transfer to the building interior
- Foundation connections, i.e. slab to foundation, foundation to wall



FABREEKA-TIM® LT15

Fabreeka-TIM LT15 material is designed for 1,500 psi loading. It provides a better thermal insulation than vinyl and plastics, reduce corrosion between dissimilar metal elements, and is made from recycled materials, which help to achieve LEED credits.

* Optional adhesive backing for easier installation is available upon request.

Properties of Fabreeka-TIM® LT Series

		LT15
Thermal Conductivity	BTU/Hr/ft2/in/°F	0.792
Max Compressive Operating Load	PSI	1,500
Operating Temperature Range	°F	-40 to +158
Thickness (nominal)	in	1/8, 1/4

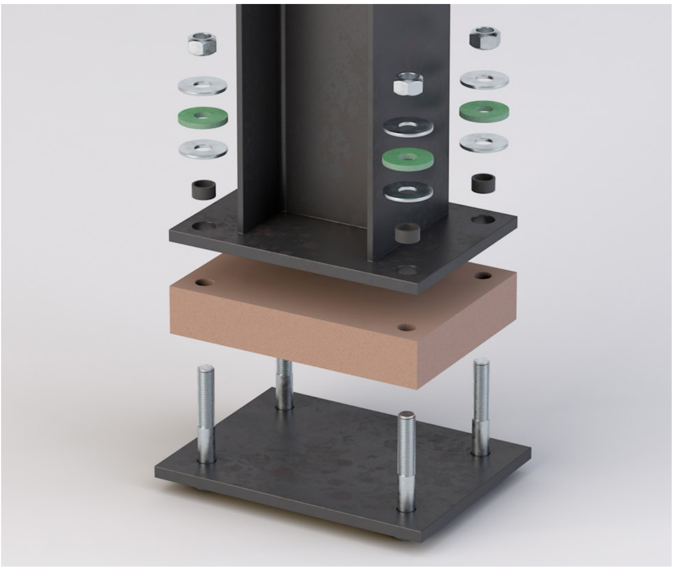
Note: Fabreeka-TIM LT15 is only to be used in non moment connections, not for structural connections.

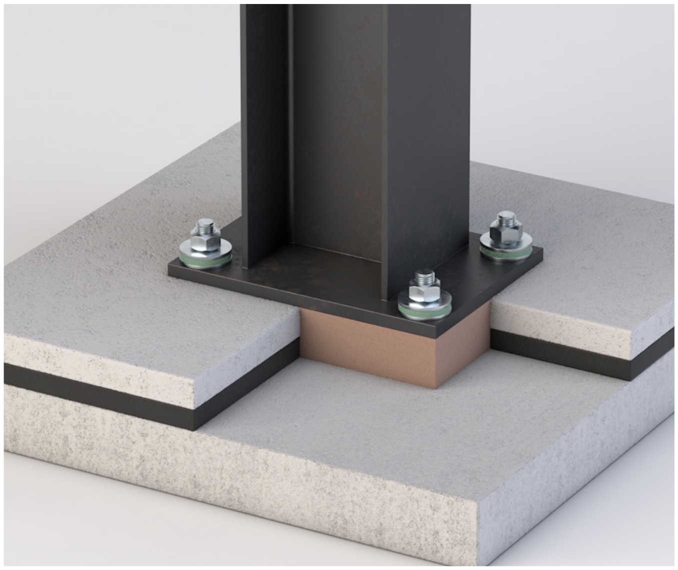
APPLICATIONS:

- Parapets, Soffits, Roof to Wall transitions
- Steel Stud Exterior Walls
- Masonry Ties
- Concrete and Precast joints and accessories
- Metal Building Framing
- Below Grade to Above Grade transitions
- Cladding attachment support clips for Z-girts, C-channels, Hat channels used in: Curtain Walls, Rain screens, Metal Wall Panels, Veneer Walls, Louvres

BENEFITS

- Made in the USA
- Used to achieve LEED certification
- Cost effective solution for low load structural connections
- Lightweight, strong and durable
- Three densities to meet different load conditions
- Thicknesses range from 1/2" to 10" in 1/2",1" or 2" increments
- Fast delivery
- Custom waterjet cut to your specification, including anchor bolt holes
- Time savings – products arrive at the site ready to use
- ISO certified company
- Lot control
- Creep resistant – resists deformation under load over time
- Closed cell material is impervious to water and other liquids
- Does not promote steel corrosion
- Functions in subgrade applications without rotting or dissolving
- Does not attract or sustain bugs or pests
- No release of chemical compounds into surrounding soil
- Compatible with concrete, grouts and adhesive





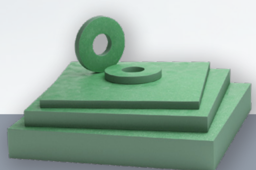
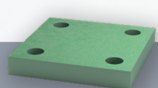
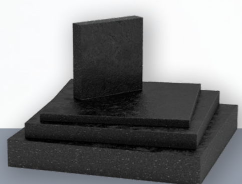
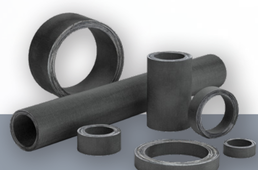
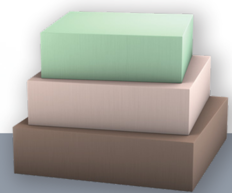
Specifications Fabreeka-TIM RF Series

	2150	1020	640	Test Method
Ultimate Compressive Stress PSI (Mpa)	2,150 (14.8)	1,020 (7.0)	640 (4.4)	ASTM D1621/EN 826
Compressive Modulus PSI (Mpa)	49,310 (340)	26,830 (185)	18,130 (125)	ASTM D1621/EN 827
Thermal Conductivity BTU·in/hr·ft^2·°F (mW/mK)	0.47 (68)	0.35 (50.5)	0.29 (42.5)	ASTM C518/ EN 12667
R value per inch (hr·ft^2·°F/BTU)	1.90	2.60	3.10	ASTM C518/ EN 12667
Fire Reaction Class	B3	B3	B3	DIN 4102
Operating Temperature °F(°C)	-328/176 (-200/+80)	-328/176 (-200/+80)	-328/176 (-200/+80)	
Density lb/ft^3 (kg/m^3)	28 (450)	20 (320)	15 (240)	ASTM D1622/ EN 1602 / EN ISO 845
Color	Brown	Beige	Mint	

Note: Fabreeka-TIM® RF is only to be used in non-moment connections.

MATERIAL COMPARISON CHART

For buildings designed to have a high performing envelope, another area of concern is for lighter load applications where Fabreeka-TIM structural thermal break may be excessive. Thermal bridging or energy flow paths through highly conductive building components are considered in the envelope design of many different building types. Ultimately there is a need for a lighter load thermal breaks to prevent thermal bridging and improve energy efficiency when incorporating sustainable elements into your building envelope. Applications range from facade support brackets and clips to metal building framing to certain concrete and precast connections. For these types of lighter load applications, the Fabreeka-TIM LT Series thermal breaks have been developed to provide the most energy savings and the best return on investment.

	Fabreeka-TIM®	Fabreeka-TIM® LT	Fabreeka-TIM® RF		
		15	2150	1020	640
Material	Fiberglass Reinforced Plastic	Recycled Rubber	Closed Cell PU	Closed Cell PU	Closed Cell PU
Compression Strength	38,900 psi	1,500 psi	2,150 psi	1,020 psi	640 psi
Thermal Conductivity (K)	1.8	0.79	0.47	0.35	0.29
Thickness	1/4", 1/2", 3/4", 1", 2"	1/8", 1/4"	1/2", 1", 2"	1/2", 1", 2"	1/2", 1", 2"
Color	Green	Black	Brown	Beige	Mint
Connection Type	structural moment connections	shim, spacer	structural compression connections		
Applications	balconies, canopies, end beam connections	steel studs, cladding, z girts, soffits	columns, foundation connections, cold storage		

YOUR MOTION. OUR SOLUTION.

STABILUS

THE GLOBAL MOTION CONTROL SOLUTION PROVIDER TO THE INDUSTRY

- Specialized industrial brands with unique solutions and expertise for each market.
- Wide product range – from simple to complex requirements across all industries.
- Broad global presence that closely connects us with all markets.

Stabilus group of industrial brands

STABILUS

Globally leading series gas spring manufacturer meeting highest automotive quality standards for industrial products in all plants.

FABREEKA – A STABILUS COMPANY

Leading supplier for **individual vibration isolation and shock control** solutions.

ACE – A STABILUS COMPANY

Expert in **industrial damping** and deceleration with **excellent customer support** satisfying most demanding application requirements.

HAHN GASFEDERN – A STABILUS COMPANY

Experienced provider of **customized and special** gas springs with **very fast** time to market.

General Aerospace – A STABILUS COMPANY

Innovative supplier of distinctive **airline motion control solutions.**

TECH PRODUCTS – A STABILUS COMPANY

Experienced manufacturer of **elastomeric vibration isolators and shock mounts.**

FABREEKA®
A STABILUS COMPANY

HIGH-TECH ISOLATION SOLUTIONS

Fabreeka International Inc.

Fabreeka International, Inc.
1023 Turnpike Street
Stoughton, MA 02072

T +1 800 - 322-7352
T +1 781 - 341-3655
F +1 781 - 341-3983

info@fabreeka.com
www.fabreeka.com

QR code takes you to our International Locations

@fabreeka-international-inc
@fabreekainternational
@fabreeka_international_inc
@fabreeka
@FabreekaIntl
@FabreekaIntl