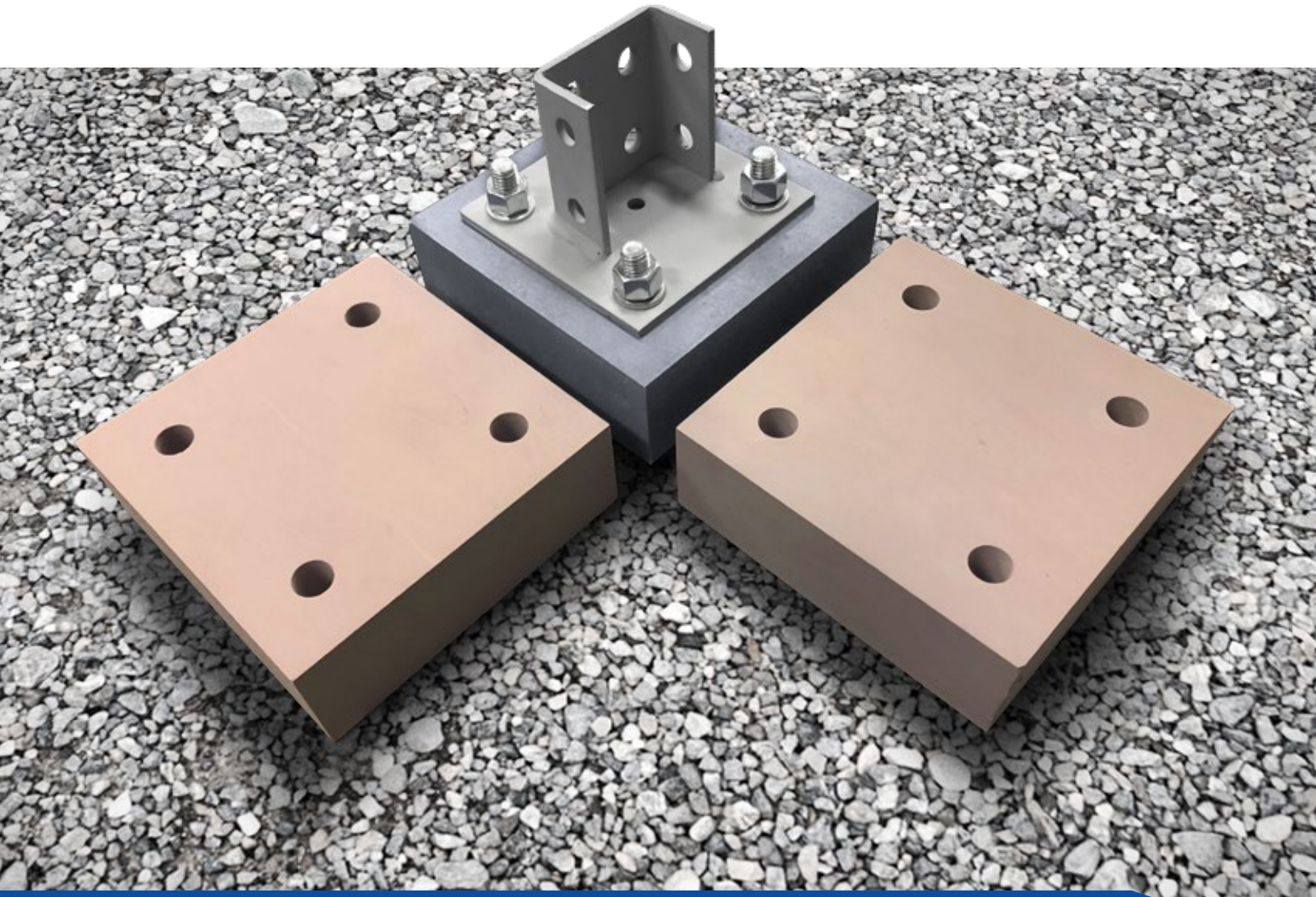
INNOVATION PROVIDERS



CORAFOAM® U Series

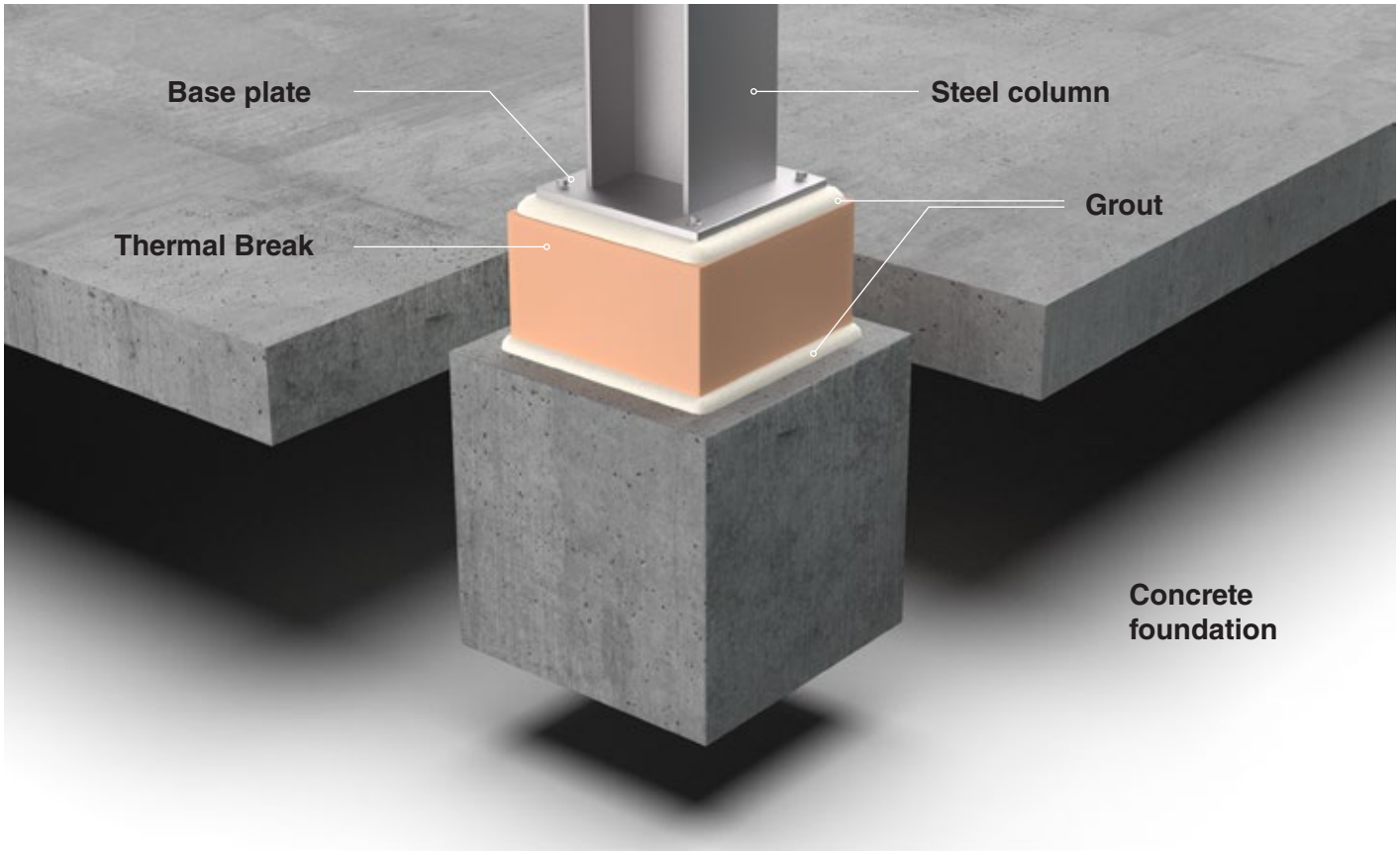
The Thermal Break Solution

DUNA-USA
FOAMS & CHEMICALS

CORAFOAM® U Series Thermal Breaks
& Column Bearing Urethane Blocks

Technology and innovation in architecture and construction in recent decades are focused on harm-reduction and climate-minded design. Through the implementation of energy-efficient systems, buildings can significantly reduce their carbon footprint. One structural opportunity for enhancing energy efficiency is within the foundational structure, which is prone to thermal bridging.

Building envelope connections are prime targets of thermal bridging. This process occurs when there is a transfer between conductive materials of energy across a thermal barrier-this creates energy inefficiencies and leaves the area prone to condensation.



CORAFOAM® U Series thermal breaks and column bearing urethane blocks make a measurable difference in energy loss reduction. CORAFOAM® U series is a high density rigid polyurethane foam with a closed cell structure and a low thermal conductivity value.

APPLICATIONS OF CORAFOAM® U SERIES URETHANE BLOCKS

CORAFOAM® U Series thermal breaks and **column bearing** urethane blocks are applicable for use as an effective **thermal break** in both **cold storage** and building envelope applications. The impermeability of **CORAFOAM® U Series urethane block** makes it a top contender for **construction** in locations with harsh environments, moisture, or severe weather conditions. For energy-efficient construction, CORAFOAM® U Series is well-equipped to meet those demands.

Within the thermal envelope of a building, reducing heat flow contributes to the reduction of energy consumption and prevents complications from accumulated condensation.

CORAFOAM® U Series Urethane blocks can support an extensive range of **structural** loading conditions and has a closed cell structure that prevents the absorption of moisture or water. Even under continuous **load**, there is limited creep associated with urethane blocks.

- **Column base**

Typically, columns weave through the building envelope and the base's slab **insulation**. With CORAFOAM® Series urethane blocks, thermal bridging can be prevented by facilitating thermal break underneath the column's base.

- **Parapet/roof penetration**

The structural framing necessary for parapet and roof to wall locations must mitigate the continuous **insulation** from façade to roof creating a thermal bridge. CORAFOAM® U urethane blocks are ideal for this purpose, as they create a thermal block through connecting the façade and roof insulation under the parapet.

- **Foundation**

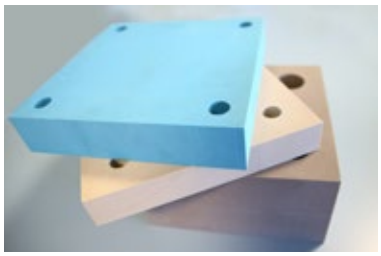
Foundations are a part of a building's structure. The connection from slab on grade to foundation wall and wall above foundation wall are both areas where thermal bridging occurs. CORAFOAM® U Series thermal breaks and column bearing urethane blocks provide support and create a thermal block to minimize energy loss and increase a building's durability.

- **Tank Isolation Protection Block**

Chiller equipment outside of cold-storage facilities in isolated tanks can be insulated with urethane blocks to prevent condensation and to support the structure.

- **Equipment Support Block**

Placed on top of the building's roof, these insulation blocks support HVAC and other heavy equipment while preventing radiant heat transfer to the building's interior. This added insulation keeps the building interior cooler and reduces the load on cooling equipment, lowering utility costs.



- **Floor Reinforcement**

CORAFOAM® U200 blocks are used inside the floor panels of insulated walk-in coolers and freezers. Lower density blocks cost-effectively support shelving and provide a valuable thermal break to prevent the transfer of the thermal energy between the floor and ground. These insulating qualities minimize costly energy losses.

BENEFITS AND ADVANTAGES OF CORAFOAM® U SERIES THERMAL BREAKS AND COLUMN BEARING URETHANE BLOCKS.

CORAFOAM® U Series column bearing urethane blocks have several advantages, including:

- Minimal loss of energy regardless of the foundational temperature difference.
- Superior compressive strength that supports roof-column loads.
- Over time, blocks resist distortion from the **load** through creep **resistance**.
- Comprised of material that is biologically and chemically inert, blocks will not decompose nor rot, and does not contribute to steel corrosion.
- Insects or vermin are not attracted or supported by this material, nor does it contaminate surrounding soil with chemical release.
- Cost-effective method for connections under low structural loads.
- Guaranteed performance standards are certified through methodological certified testing.
- Easy installation with cut-to-size specifications.
- Most adhesives, concrete, and grout are compatible with our CORAFOAM® U Series.

MECHANICAL AND PHYSICAL SPECIFICATIONS

Mechanical and Thermal Properties of CORAFOAM® U Series Thermal Break & Column Bearing Blocks

Properties	Test Method	CORAFOAM® U200	CORAFOAM® U280	CORAFOAM® U310
Density	ASTM D1622	20 lb/ft^3	28 lb/ft^3	31 lb/ft^3
Compressive Strength @ 2% deformation	ASTM D1621	420 psi	740 psi	1010 psi
Compressive Strength @10% deformation	ASTM D1621	1000 psi	2100 psi	2300 psi
Compressive Modulus	ASTM D1621	27000 psi	58000 psi	63000 psi
K-factor @ 50°F	ASTM C518	0.35 BTU·in/hr·ft^{2}·°F	0.47 BTU·in/hr·ft^{2}·°F	0.50 BTU·in/hr·ft^{2}·°F
R-value @ 50°F	ASTM C518	2.8	2.1	2.0
Operating temperature		-328°F / +176°F	-328°F / +176°F	-328°F / +176°F
Color		Peach	Brown	Purple

About DUNA-USA :

Established in 2001, DUNA-USA Inc. is part of the DUNA-Corradini S.p.A. group, a worldwide industry leader in the development and production of polyurethane and polyisocyanurate foam, chemicals, equipment, and instruments. The chemical laboratory is the center of our intellectual work and product development, and we know the ins and outs of our products better than anyone else. For this reason, DUNA-USA is dedicated to providing superior and comprehensive technical support in product selection and application.

Contact us: DUNA-USA is happy to help you select the right products for your needs. Contact us by filling out our web form by following this link: *www.dunagroup.com/usa/contact-us.*

I N N O V A T I O N P R O V I D E R S

INNOVATION PROVIDERS

DUNA-CORRADINI SpA
Via Modena Carpi, 388
41019 Soliera,
MODENA, Italy
Tel.: (+39) 059 893911
Fax: (+39) 059 565403

info@dunagroup.com
www.dunagroup.com

DUNA-USA Inc.
4210 FM 1405 Baytown, Texas 77523
Tel.: 281-383-3862
TOLL FREE: 866-383-DUNA
Michigan Plant: 5900 West 6th street Ludington,
Michigan 49431

info-dunausa@dunagroup.com
www.dunagroup.com/usa

DUNA-EMIRATES LLC FZC
P.O. Box 50024
Fujairah, U.A.E.

Tel.: (+971) 09 228 2409
Fax: (+971) 09 228 2399

info-dunaemirates@dunagroup.com
www.dunagroup.com/emirates

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