ARMATHERM™ 500 SERIES

Thermal Break Material For Structural Connections

INTRODUCTION

Reducing heat flow within a building's thermal envelope reduces energy consumption as well as potential condensation issues. Armatherm™ 500 thermal break material significantly reduces energy lost from thermal bridging in building envelope connections.

Armatherm™ 500 is a high strength, polyurethane material made in several densities to support a wide range of loading conditions. Due to its closed cell structure, it does not absorb water or moisture and has limited creep under continuous load.

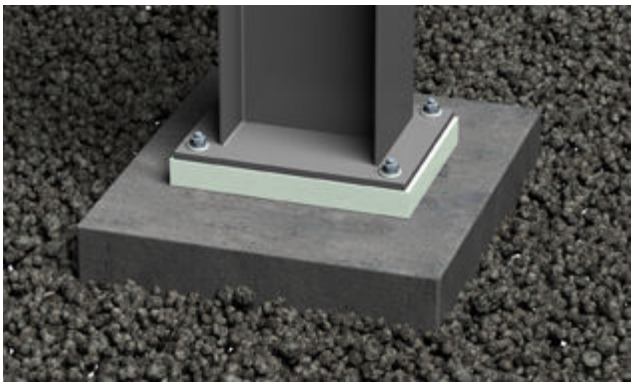
Armatherm™
500 Series

SPECIFICATIONS OF ARMATHERM™ 500 SERIES

Specifications of Armatherm™ 500 Series	500 - 080	500 - 150	500 - 200	500 - 280
Compressive Stress	210 psi/2 MPa	560 psi/4 MPa	1100 psi/8 MPa	2150 psi/15 MPa
Compressive Modulus	6,155 psi/43 MPa	18,130 psi/125 MPa	29,000 psi/200 MPa	49,300 psi/340 MPa
Shear strength	145 psi/1 MPa	167 psi/1 MPa	257 psi/2 MPa	310 psi/2 MPa
Thermal Conductivity	0.26 W/M * k	0.32 W/M * k	0.39 W/M * k	0.53 W/M * k
R Value Per Inch	0.1516 RSI/MM	0.1220 RSI/MM	0.1024 RSI/MM	0.748 RSI/MM
Operating Temperature	-150°C / +80°C (-300°F / +175 °F)	-150°C / +80°C (-300°F / +175 °F)	-150°C / +80°C (-300°F / +175 °F)	-150°C / +80°C (-300°F / +175 °F)

Armatherm™ 500 is manufactured in sheets 2 440 mm x 1 220 mm (48" x 96") and can be bonded together to satisfy U value and thickness specification requirements. The standard thicknesses are 50,8 mm, 25,4 mm and 12,7 mm. Armatherm™ 500 can be used anywhere a penetration or transition exists in the building envelope creating a thermal bridge. Solutions using Armatherm™ to minimize heatloss include:

- Parapets
- Slab/floor edge
- Column base
- Roof penetrations
- Custom windowsills
- Roof edge
- Slab to foundation
- Foundation to wall
- Concrete balconies
- Custom moulding for over-insulating



Column Base Thermal Break

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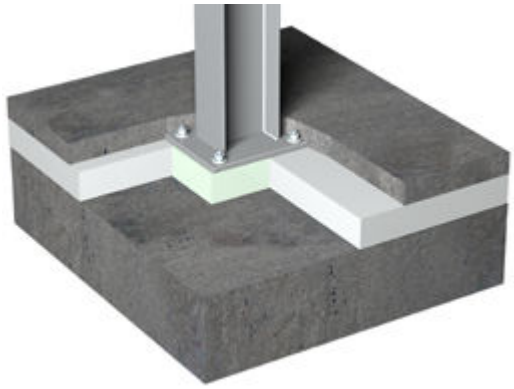
COLUMN BASE

Columns traditionally extend through the building envelope and slab insulation at their base. Thermal bridging can be prevented by using Armatherm™ 500 series material as a load supporting thermal break directly under the column base.

This is particularly important in cold storage facilities to prevent the sub grade from freezing.



PARAPET / ROOF PENETRATION

Roof to wall and parapet locations require structural framing for support which prevents continuous insulation from roof to facade. This creates a thermal bridge which can be prevented by providing an Armatherm™ 500 series structural thermal break under the parapet connecting the facade and roof insulation and improving the effective R value by as much as 30%. A thermal break can also be installed within the envelope at roof penetration points where structural elements are supported. This provides continuous insulation and prevents potential condensation issues.

SLAB / FOUNDATION / WALL

Foundations are part of a building's envelope. The connection from slab on grade to foundation wall and wall above foundation wall are both areas where thermal bridging occurs. Armatherm™ 500 series material can support and transfer loads up to 14,82 MPa (2,150 psi) while providing minimal energy loss.

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