# 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<sup>™</sup> 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 (psi)	210	560	1100	2150
Compressive Modulus (psi)	6,155	18,130	29,000	49,300
Shear strength (psi)	145	167	257	310
Thermal Conductivity (BTU in/hr ft²F)	0.26	0.32	0.39	0.53
R Value Per Inch	3.85	3.1	2.6	1.9
Operating Temperature	–300°F / +175 °F			

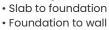
Armatherm<sup>™</sup> 500 is manufactured in sheets 8' x 4' and can be bonded together to satisfy U value and thickness specification requirements. The standard thicknesses are 2", 1" and 1/2". Armatherm<sup>™</sup> 500 can be used anywhere a penetration or transition exists in the building envelope creating a thermal bridge. Solutions using Armatherm<sup>™</sup> to minimize heatloss include:

- Parapets
- Slab/floor edge
- Column base
- Roof penetrations
- Custom windowsills





USGBC



• Roof edge

- Concrete balconies
- Custom moulding for
- over-insulating

RAiNA



Column Base Thermal Break







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GLOBAL COLD CHAIN

ALLIANCE

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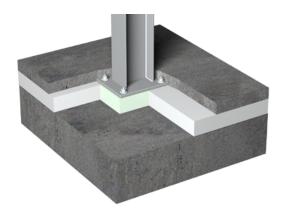
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### **COLUMN BASE**

Columns traditionally extend through the building envelope and slab insulation at their base. Thermal bridging can be prevented by using Armatherm<sup>™</sup> 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<sup>™</sup> 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<sup>™</sup> 500 series material can support and transfer loads up to 2,150 psi while providing minimal energy loss.





















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