

Thermal Break Material

Armatherm™ 500

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.

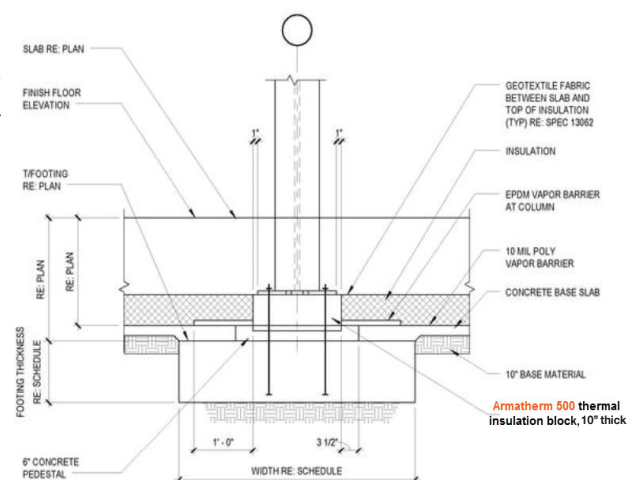


Specifications Armatherm™ 500	160	250	320	490
Compressive Strength (N/mm²)	2.0	4.4	7.2	16.8
Compressive Modulus (N/mm²)	65	240	320	440
Thermal Conductivity (W/mK)	0.031	0.042	0.051	0.07
R Value Per 25mm	4.60	3.40	2.80	2.00
Min. Operating Temperature °C	-185	-185	-185	-185
Max. Operating Temperature °C	80	80	80	80

Armatherm™ 500 is manufactured in sheets 2400 x 1200 x 50mm thick and can be bonded to create 150mm, 200mm and 250mm thicknesses to achieve a specific R value. It can be used anywhere a penetration or transition exists in the building envelope creating a thermal bridge.

Solutions using Armatherm™ 500 to minimise heatloss include:

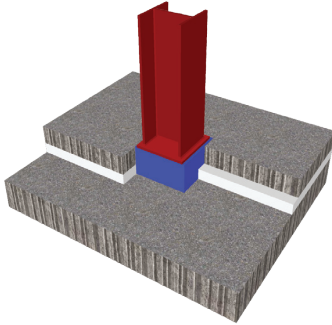
- Parapets
- Slab/floor edge
- Column base
- Roof penetrations
- Roof Edge
- Slab to foundation
- Foundation to wall
- Concrete balconies



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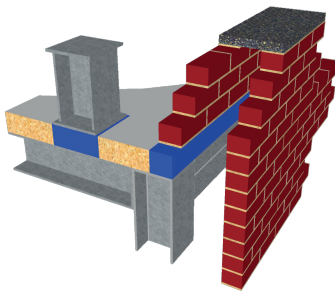
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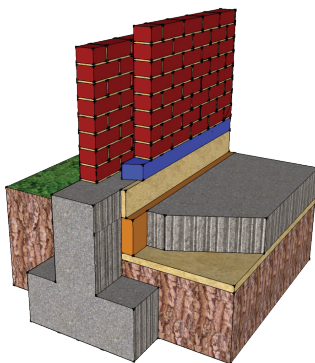
Column Base

Columns traditionally extend through the building envelope and slab insulation at their base. Thermal bridging can be prevented by using Armatherm™ 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 façade. This creates a thermal bridge which can be prevented by providing a Armatherm™ 500 series structural thermal break under the parapet connecting the façade 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 a 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 18 N/mm² while providing minimal energy loss. When used with Armatherm™ rebar, the heat loss at these concrete connections is reduced significantly.

ARMATHERM™ Minimise building energy loss and improve building envelope performance.