www.armatherm.com

Foundation to Wall Transition

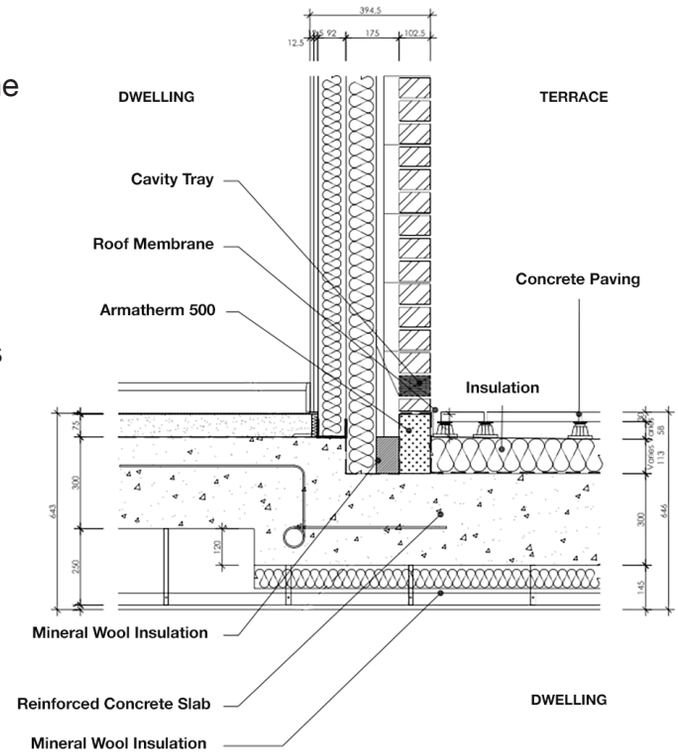
Armatherm™ Grade 500

Structural Thermal Break Solutions

Introduction

Internal steel columns traditionally extend through the building envelope floor slab and insulation at their base. In low temperature buildings such as freezer rooms and cold storage facilities, this creates a thermal bridge and point transmittance (heat loss) at the steel column base. This is also the case for exterior columns which support floors or roof overhangs. The column to roof connection interrupts the continuous insulation creating heat loss due to thermal bridging.

Armatherm™ 500, structural thermal break material can support and transfer column loads while providing an effective thermal break at the column connection. With R values as low as R 3.8 per 25mm, Armatherm™ 500 can help to meet the BS requirement for continuous insulation as well as the baseline insulation requirements for floors in refrigerated storage facilities.



TYPICAL TERRACE / WALL EDGE DETAIL

Scenario	Clear Wall R-Value (R_c) ft²hr°F/BTU (W/m² K)	Slab 1D R-Value ft²hr°F/BTU (W/m² K)	Slab Heat Loss L2DF BTU/ft²hr°F (W/m² K)	Assembly Heat Loss L2DT BTU/ft²hr°F (W/m² K)	Linear Transmittance of Wall to Slab BTU/ft²hr°F (W/m² K)	% Reduction in Heat Loss
Exterior Wall directly on footing. 25mm fiberboard floor to foundation	R-10.2 (1.79)	R-5 (0.88)	1.18 (2.04)	1.88 (3.25)	0.309 (0.534)	-
50mm Armatherm 500 under exterior wall and interior wall. 25mm fiberboard floor to foundation	R-10.2 (1.79)	R-5 (0.88)	1.18 (2.04)	1.74 (3.01)	0.170 (0.294)	45%
50mm Armatherm 500 under exterior wall and interior wall. 50mm Armatherm 500 floor to foundation	R-10.2 (1.79)	R-5 (0.88)	1.18 (2.04)	1.71 (2.96)	0.139 (0.241)	55%

Armatherm ™ Thermal bridging solutions to improve building envelope performance

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