

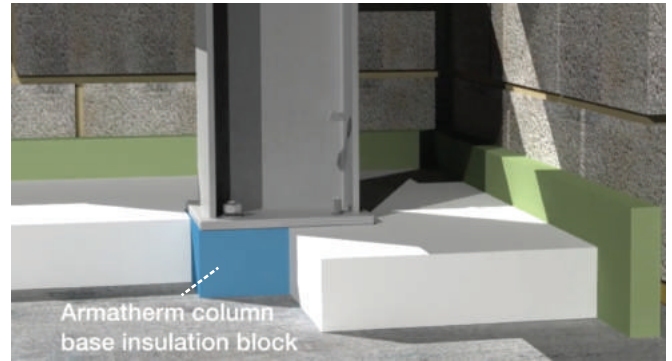


Column Base Armatherm™ Grade 500

Structural Thermal Break Solutions

Introduction

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 between the steel column and the foundation. This is also the case for columns which bear on exposed foundation walls.



Armatherm™ 500, high strength material can support and transfer column loads while providing an effective thermal break between the column base and concrete foundation. With R values as low as R 3.8 per 25mm, Armatherm™ can help to meet the baseline insulation requirements for floors in refrigerated storage facilities more efficiently than timber or aerated concrete.

Scenario	Slab Insulation 1D R-Value ft ² hr°F/BTU (W/m ² K)	Clear Field R-Value (R ₀) ft ² hr°F/BTU (m ² K/W)	U ₀ BTU/ ft ² hr°F (W/m ² K)	R effective ft ² hr°F/BTU (m ² K/W)	U effective BTU/hrft ² °F (W/m ² K)	Point Transmittance of Column BTU/hrft ² °F (W/mK)	% Reduction in Heat Loss
Column Base without Thermal Break	R-30 (5.26)	R-31.7 (5.57)	0.03 (0.179)	R-29.9 (5.26)	0.03 (0.190)	0.504 (0.864)	-
Column Base with 150mm Armatherm 500	R-30 (5.26)	R-31.7 (5.57)	0.03 (0.179)	R-31.5 (5.55)	0.03 (0.180)	0.046 (0.079)	91%

Armatherm™ Thermal bridging solutions to improve building envelope performance