

Title (en)
STRUCTURAL TIE SHEAR CONNECTOR FOR CONCRETE AND INSULATION SANDWICH WALLS

Title (de)
SCHUBVERBINDER FÜR SANDWICHMAUERN AUS BETON UND ISOLATIONSMATERIAL

Title (fr)
CONNECTEUR DE TIRANTS STRUCTURAUX POUR PAROIS SANDWICH ISOLANTES EN BETON

Publication
EP 1044311 B1 20030723 (EN)

Application
EP 98964849 A 19981222

Priority
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Abstract (en)
[origin: WO9934071A1] A structural tie shear connector (20) utilized in a concrete and insulation sandwich wall panel (10) having first and second wythes (12, 14) and an insulation layer (16) interposed therebetween. The connector (20) includes first and second horizontal strands (22, 24) of thermally non-conductive material which are adapted to be encased by the respective wythes (12, 14). A transverse web (26) of thermally non-conductive material interconnects the first and second strands (22, 24) through the insulation layer (16). The web (26) includes strands formed into a lattice structure. At least one (30) of the strands (22, 24, 28, 30, 32) of the lattice extends at an angle with respect to one of the first and second strands (22, 24) so as to be in tension when a load is applied to the wall panel (10). The connector (20) resembles a bow tie. The method of making sandwich wall panels (10) disclosed herein includes pouring the first layer (14) of concrete into a form (50); laying a plurality of insulation strips (16A, 16B, 16C, etc.) adjacent each other to define at least one gap (52) therebetween; providing a bow tie shear connector (20) having a chairing loop portion (32) thereon; while the first layer (14) of concrete is still plastic, inserting the connector (20) through the gap (52) and into the first layer (14) of concrete such that the chairing loop portion (32) rests on the bottom of the form (50); and pouring a second layer (12) of wet concrete onto the insulation strips (16A, 16B, 16C, etc.) in the form (50). The chairing loop (32) positively locates the connector (20) with respect to the form (50), the concrete layers (12, 14) and the insulation layer (16) without being affixed to the insulation.

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