

Infill System Solutions

CableStud and Matrix Tile System

Full-scale mock-ups in preparation for display in
the 2014 Beijing International Housing Exposition

INTRODUCTION TO INFILL SYSTEM PRODUCT/SOLUTIONS

INFILL SYSTEMS BV offers two products for efficient management of wires and pipes that are part of any INFILL package in an OPEN BUILDING or S/I project: CableStud and Matrix Tile System.

Cablestud is an engineered plastic construction accessory for use at the bottom of non-loadbearing walls and wall-liners. It allows for outlets and other terminations to be anywhere, anytime in these walls, with efficient wiring connections made behind a removable baseboard. It has met relevant European and US code requirements for strength, fire and smoke spread for use in any building type.

The principle design can be modified to accommodate variations in standard metal stud sizes (per country or market area); variations are also possible for different kinds of and dimensions of baseboards, as well as for alternative means of attaching the baseboards to the CableStud at each non-loadbearing stud.

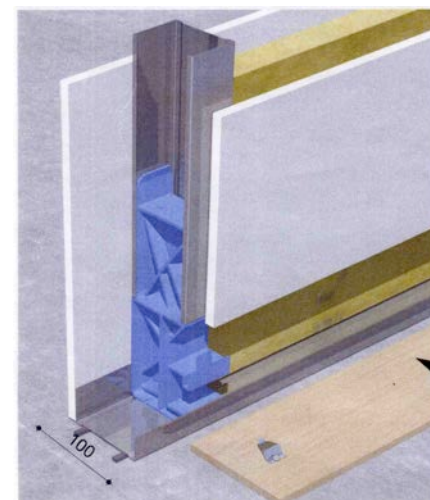
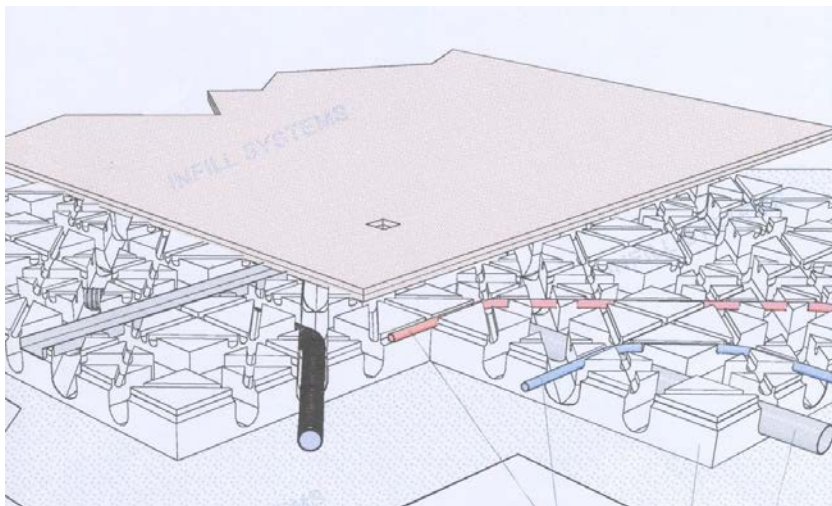
The Matrix Tile is a 10cm floor layer placed on a building's leveled floor, within the space of a single unit of occupancy. It is designed to hold infill piping (water supply, gray water drain lines, gas lines and flat air ventilation ducts) securely in place. Its unique 0-slope gray water drainage system has been tested and approved by both Dutch and German testing laboratories and requires no secondary venting. As an "engineered siphon-sucking system" with approvals in Europe, building regulators are expected to accept it as an "equivalent" solution to conventional plumbing installations that require pipe slope.

The intellectual property for both is held by INFILL SYSTEMS BV, Delft, the Netherlands. Infill Systems US LLC, Philadelphia, PA. has the exclusive rights to introduce both products in the United States. Patent protection for both is registered in most EU countries, and for the Cablestud in the US.

Acquisition of all the technical know-how and construction of a full-scale working mock-up following Dutch building products and standards can be arranged for a lump-sum, along with continuing technical support, for interested parties outside the areas where patent protection for these solutions is held.

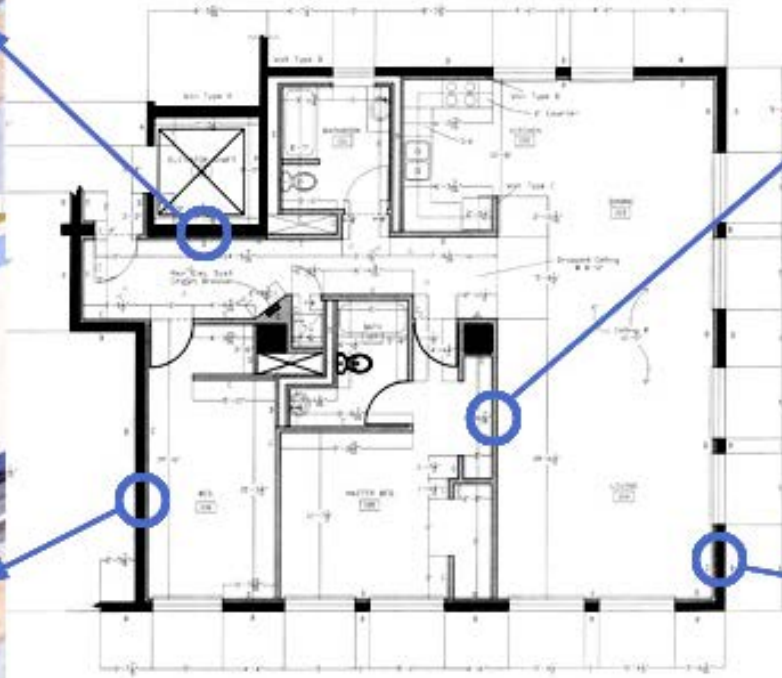
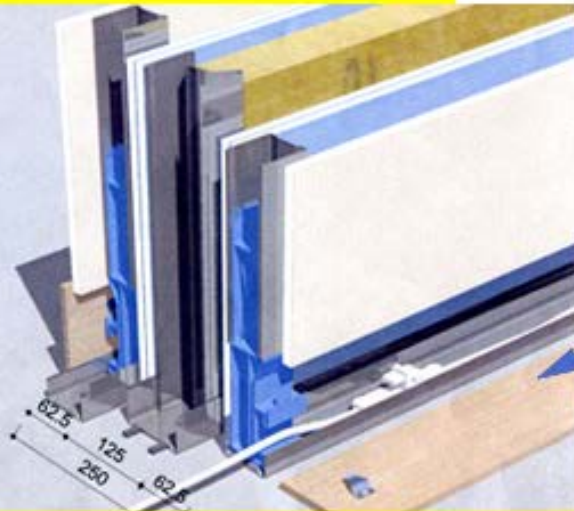
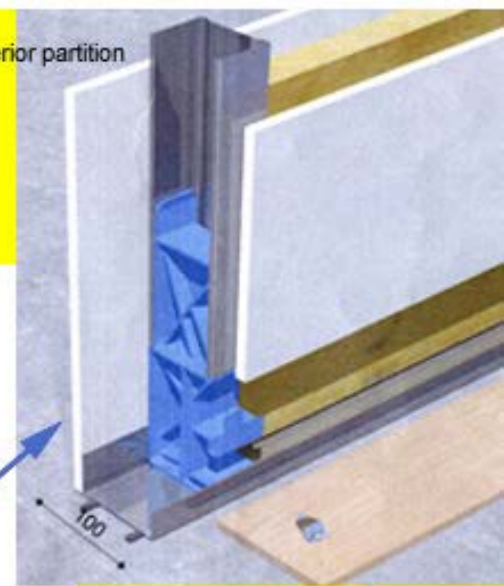
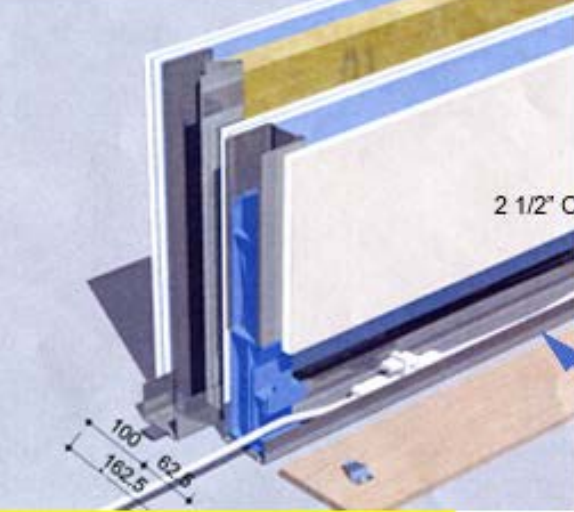
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3 5/8" Cable Stud for standrad interior partition

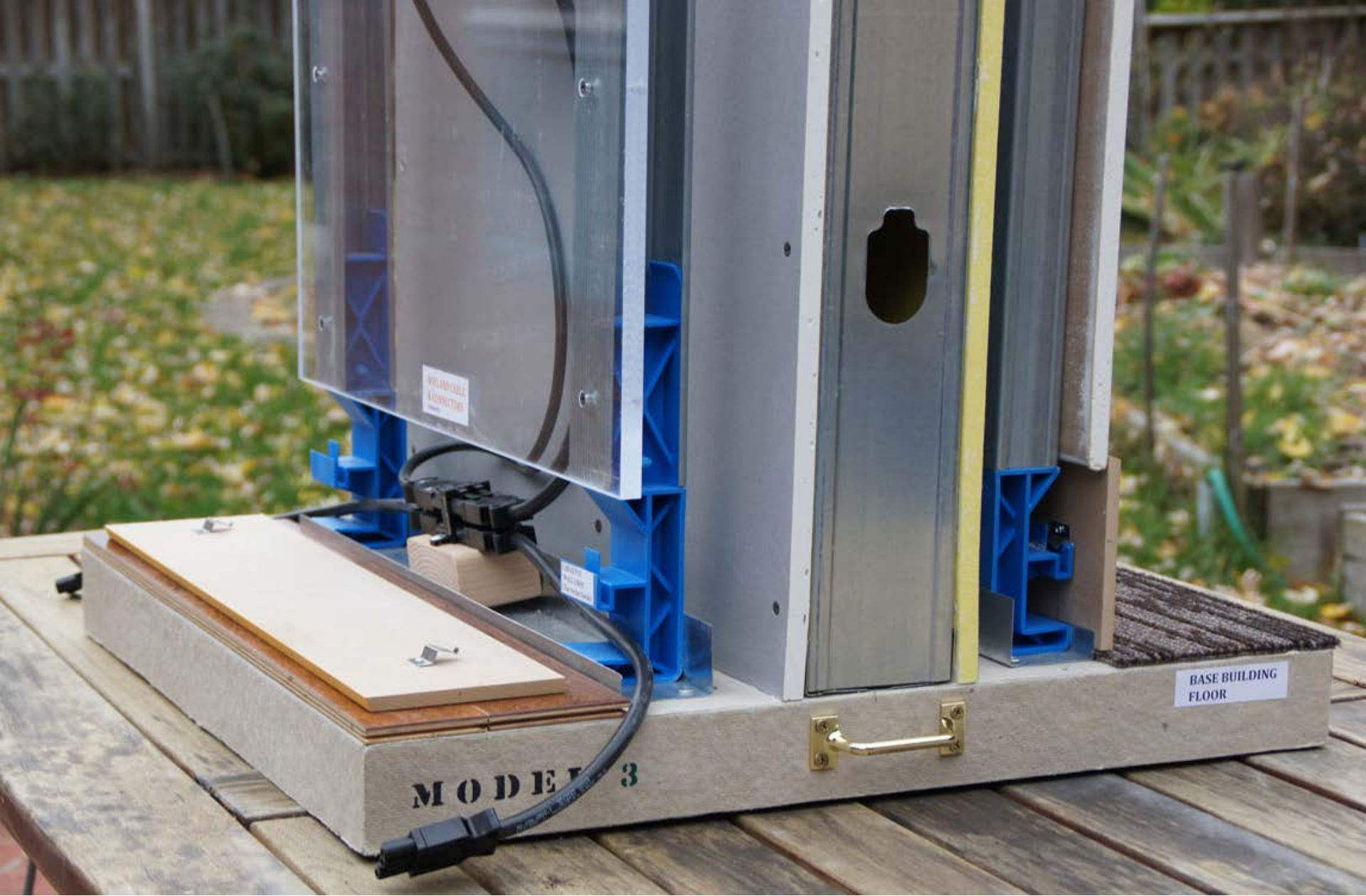
2 1/2" Cable Stud wall liner along coridder wall



2 1/2" Cable Stud on both sides of a demising wall

2 1/2" Cable Stud along exterior wall

CableStud applications with three typical US metal stud dimensions



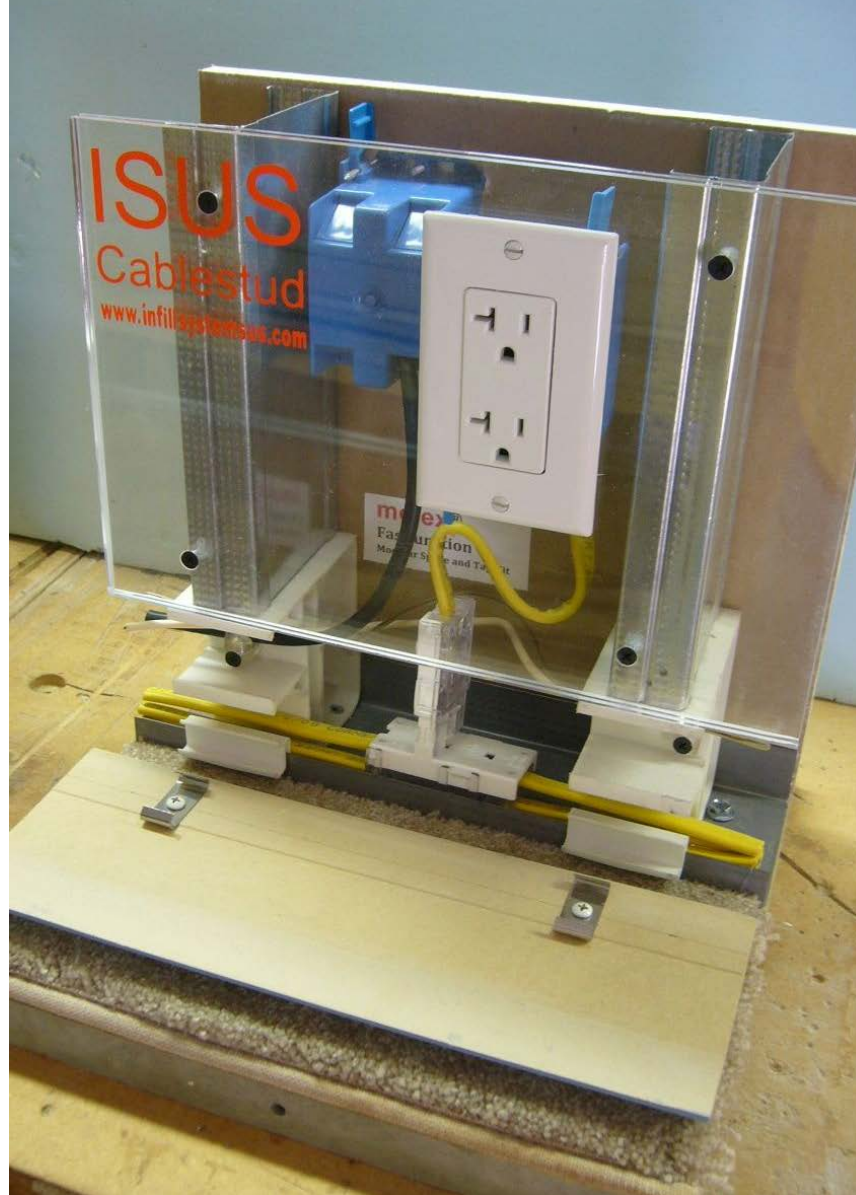
Dutch Cablestud “wall-liner” application on both sides of a unit separation wall



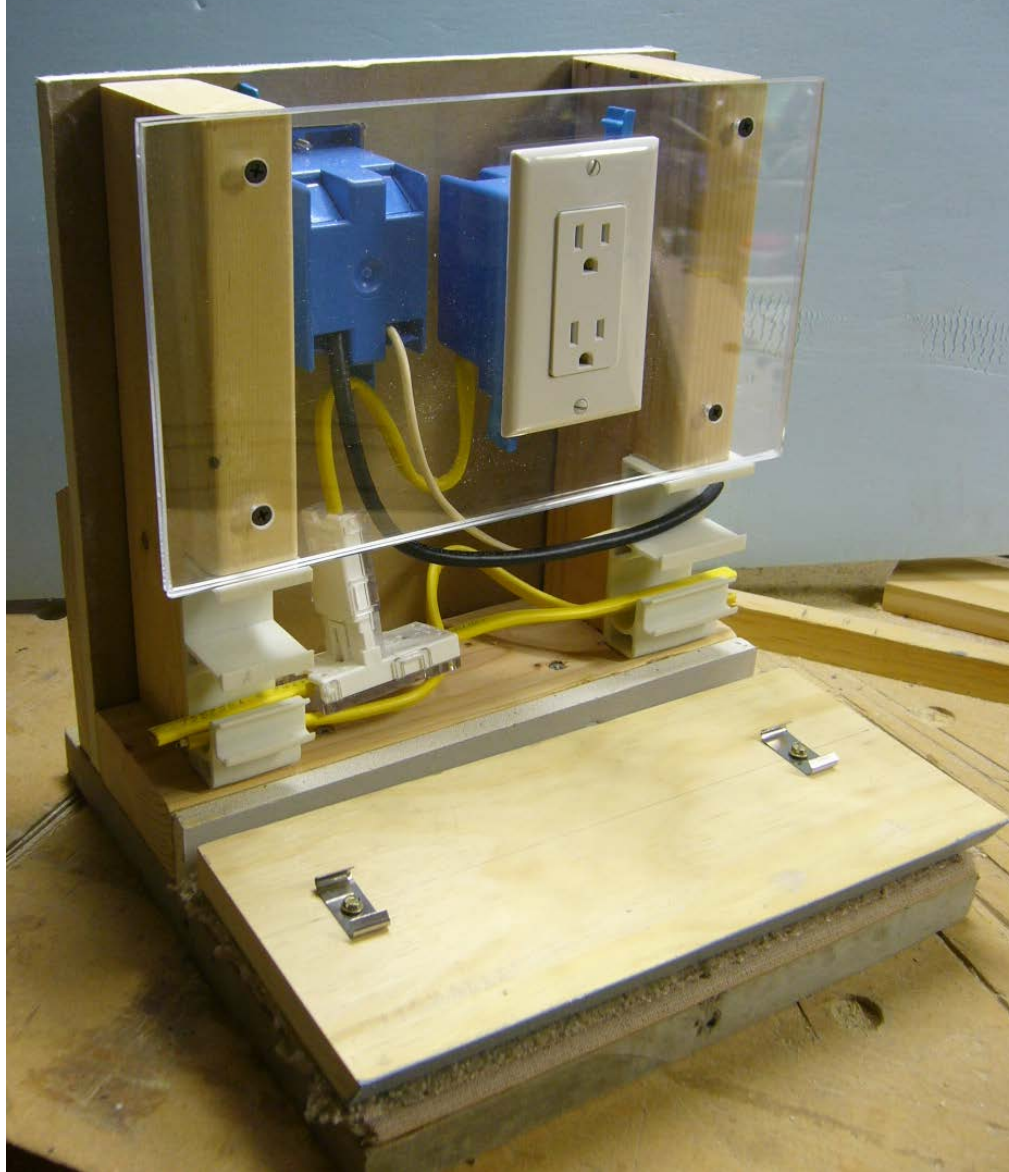
Dutch Cablestud “wall-liners” against a unit separation wall. Use of Wieland’s “plug-in” electrical box used in this mock-up required that the wall liner studs be held at approximately 3cm from the wall; use of other electrical boxes will enable the wall liner to be placed closer to the separation wall.



Dutch Cablestud insulated “wall-liner” on an exterior wall. Use of Wieland “plug-in” electrical box required that the wall liner studs are held approximately 3cm from the wall; use of other electrical boxes would enable the wall liner to be placed closer to the exterior wall.



US CableStud in a typical US-size metal stud wall – showing use of a code-approved “splice and tap” cable connector (Molex) for use in “accessible” situations (one of several such solutions for making wiring connections)



US CableStud in a wood-stud wall – showing use of a code-approved US-supplied “splice and tap” cable connector (MOLEX) for use in “accessible” situations. Connection for the low-voltage termination serving the space on the other side of the wall is accessed behind the removable baseboard on this side of the wall.



Dutch CableStud combined with a Matrix Tile floor, showing Wieland Cable and connectors with “quick-connect” termination box, as well as low-voltage termination on the other side of the wall. The Matrix Tile (medium density polystyrene or equivalent thermal and acoustical isolating) has grooves in two sizes, the larger for holding the 0-slope gray-water drainage lines securely in place, the other for domestic water piping.



Matrix Tile System, showing 0-slope drain, a waterless waste valve (manufactured by Wavin), domestic water lines, and hot-water floor heating in the bottom-layer of the 2-layer fireproof Matrix-Tile covering.



Matrix Tile system and CableStud. A bathroom on one side of the wall (hot and cold water lines run up into the wall from the Matrix Tile). A removable baseboard on one side of the wall only.



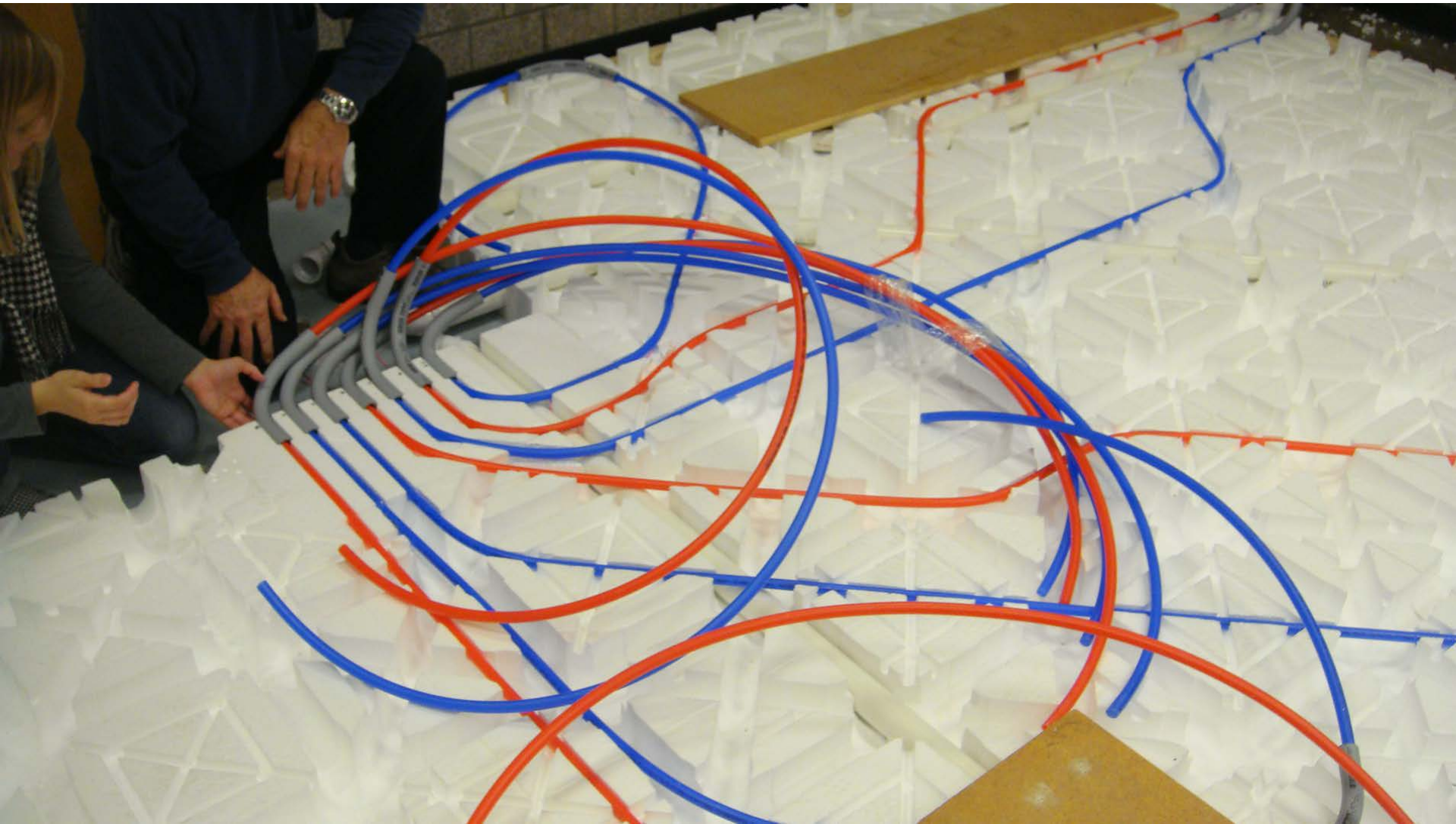
Matrix Tile in a bathroom (showing shower base, 0-slope gray water drain line, one manufacturer's shower pan and low-profile drain trap (others are possible), and domestic water piping)



An “under-door” wire channel is possible in the thickness of the Matrix-Tile fire-proof floor cover



The “under-door” wire channel in the thickness of the Matrix-Tile fire-proof floor cover through which both power and low-voltage wires can be pulled from one side of the door to the other.



“Home-run” hot and cold domestic lines installed in the Matrix Tile, gathered in a special Matrix tile at the place where they will be attached to manifolds (see next slide).



Home-run domestic hot and cold water lines attached to their respective shut-off manifolds.

A Geberit wall-mounted, rear-discharge WC and urinal are visible in the background.

Also visible are two vertical waste pipes, one for connection to black-water fixtures (toilet+ urinal). The other vertical waste pipe uses a “collector manifold” to receive 0-slope gray water drain lines - of uniform diameter and a maximum of 10 meters in length with 5 “L’s” – running in the Matrix Tile from each gray-water fixture without branching.



In new construction, the Matrix Tile requires a recessed floor in the tenant space of approximately 15cm, such as seen in the photograph here.

The Matrix Tile system can also be used in adaptive reuse projects. In that case, a step of approximately 15cm is required from the public corridor “up” to the finished floor level of the apartments.

This can be done by raising the public corridor floor level (between fire stairs and elevator), or at each apartment. In the latter case, a small vestibule inside the apartment front door can be held at the corridor floor level, with a step up to the finish floor of the apartment.