

# Plasti-Fab Design Manual

## Wall Insulation Interior Systems





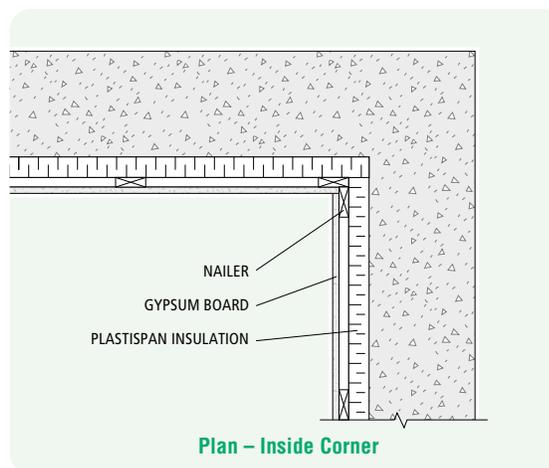
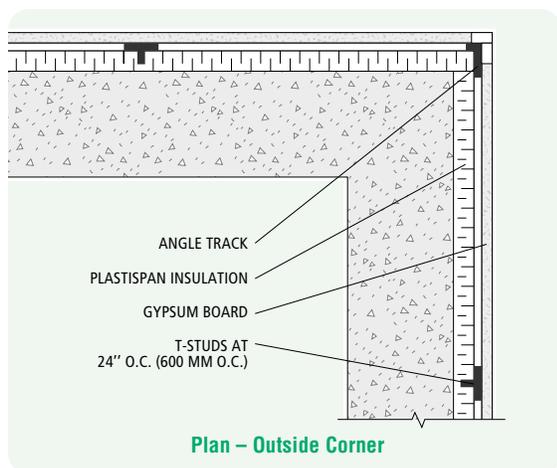
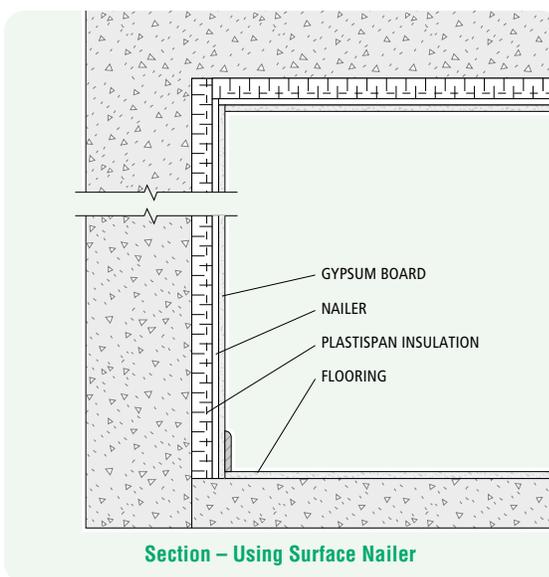
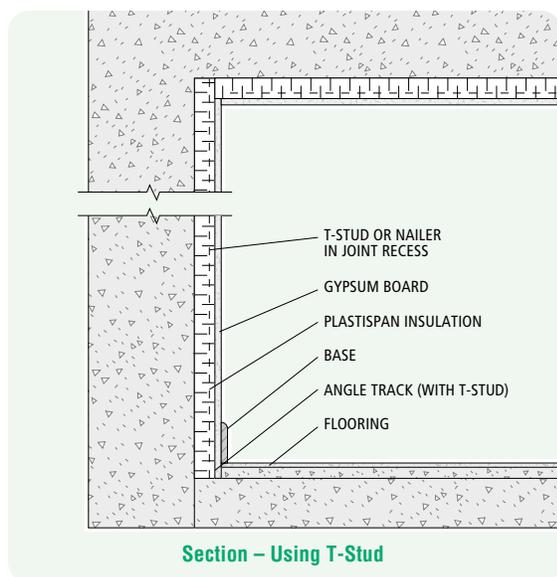
# PlastiSpan™ Insulation

## Interior Systems

Plasti-Fab PlastiSpan insulation can be used to insulate the interior of masonry or concrete walls in commercial buildings or in residential basements. The National Building Code requires a finish over PlastiSpan insulation to be supported through the insulation to the wall.

This brochure illustrates a metal T-stud system which is commonly used in commercial buildings. The T-stud is fastened through the insulation to the supporting structure using a Gripcon fastener. The Gypsum board or other finish is attached to the T-stud. The installation is fast and allows the insulation and the finish to be installed at the same time.

A wood nailer system is more commonly used in residential basements although both the T-stud and the nailer can be used in commercial and residential applications. The nailer is mounted over the insulation and fastened through to the supporting structure using a Gripcon fastener. The space created by the surface mounting provides for electrical wiring if required. The nailers are spaced to provide support for the finish. Where a basement is insulated the insulation should be carried over to the header joist and up to the floor above.



## Application

Choose application instructions from the general application instructions in the PlastiSpan brochure "Wall Insulation: Selection, Application and Specification."

The following instructions apply specifically to interior systems.

### For Surface Nailer Application

Erect PlastiSpan insulation using adhesive for temporary placement of insulation if required.

Place nailers on 400 mm (16") or 600 mm (24") or as required by finish. Fasten through PlastiSpan insulation to wall (or ceiling) using Gripcon fasteners, 4 per 2.4 m (8 foot) length.

## Specification

Choose specification from specification section of the PlastiSpan brochure "Wall Insulation: Selection, Application and Specification" with the following additions:

### Nailers

19 x 38 mm (1" x 2"), 19 x 63 mm (1" x 3"), 19 x 89 mm (1" x 4") wood nailers fastened to substrate with fasteners maximum 600 mm (2' 0") o.c.

Thermal resistance of walls finished with 12.7 mm (1/2") gypsum board.

### Thermal Resistance of Walls finished with 12.7 mm (1/2") Gypsum Board

SI VALUES ("RSI")		NOMINAL WALL THICKNESS	PLASTISPAN RIGID INSULATION THICKNESS					
WALL CONSTRUCTION			NONE	40 mm	50 mm	75 mm	100 mm	125 mm
Face Brick	100 mm	300 mm	0.58	1.69	1.95	2.60	3.25	3.90
Concrete Block (LIGHT WEIGHT)	200 mm							
Face Brick	100 mm	300 mm	0.44	1.55	1.81	2.46	3.11	3.76
Concrete Block (SAND AGGREGATE)	200 mm							
Face Brick	100 mm	200 mm	0.23	1.34	1.60	2.25	2.90	3.55
Common Brick	100 mm							
Concrete Block (LIGHT WEIGHT)	200 mm	200 mm	0.50	1.62	1.88	2.53	3.17	3.82
	250 mm							
Concrete Block (SAND AGGREGATE)	200 mm	200 mm	0.36	1.48	1.74	2.39	3.03	3.68
	250 mm							
Concrete	200 mm	200 mm	0.26	1.38	1.64	2.29	2.94	3.59
	250 mm							

\*Add RSI 0.26 for every 10 mm of PlastiSpan Rigid Insulation over 125mm

IMPERIAL VALUES ("R")		NOMINAL WALL THICKNESS	PLASTISPAN RIGID INSULATION THICKNESS					
WALL CONSTRUCTION			NONE	1.5"	2"	3"	4"	5"
Face Brick	4"	12"	3.12	9.19	11.07	14.82	18.57	22.32
Concrete Block (LIGHT WEIGHT)	8"							
Face Brick	4"	12"	2.48	8.56	10.43	14.18	17.93	21.68
Concrete Block (SAND AGGREGATE)	8"							
Face Brick	4"	8"	1.29	7.37	9.24	12.99	16.74	20.49
Common Brick	4"							
Concrete Block (LIGHT WEIGHT)	8"	8"	2.85	8.92	10.80	14.55	18.30	22.05
	10"							
Concrete Block (SAND AGGREGATE)	8"	8"	2.04	8.12	9.99	13.74	17.49	21.24
	10"							
Concrete	8"	8"	1.49	7.57	9.44	13.19	16.94	20.69
	10"							

\*Add R 3.75 for every 1" of PlastiSpan Rigid Insulation over 5"

All thermal resistances calculated using principles published in ASHRAE Handbook of Fundamentals. Values for wall construction include inside air film, 12.7 mm (1/2") gypsum board, insulation, structural wall, and outside air film.