Construction Bulletin No. 5

Insulation Options

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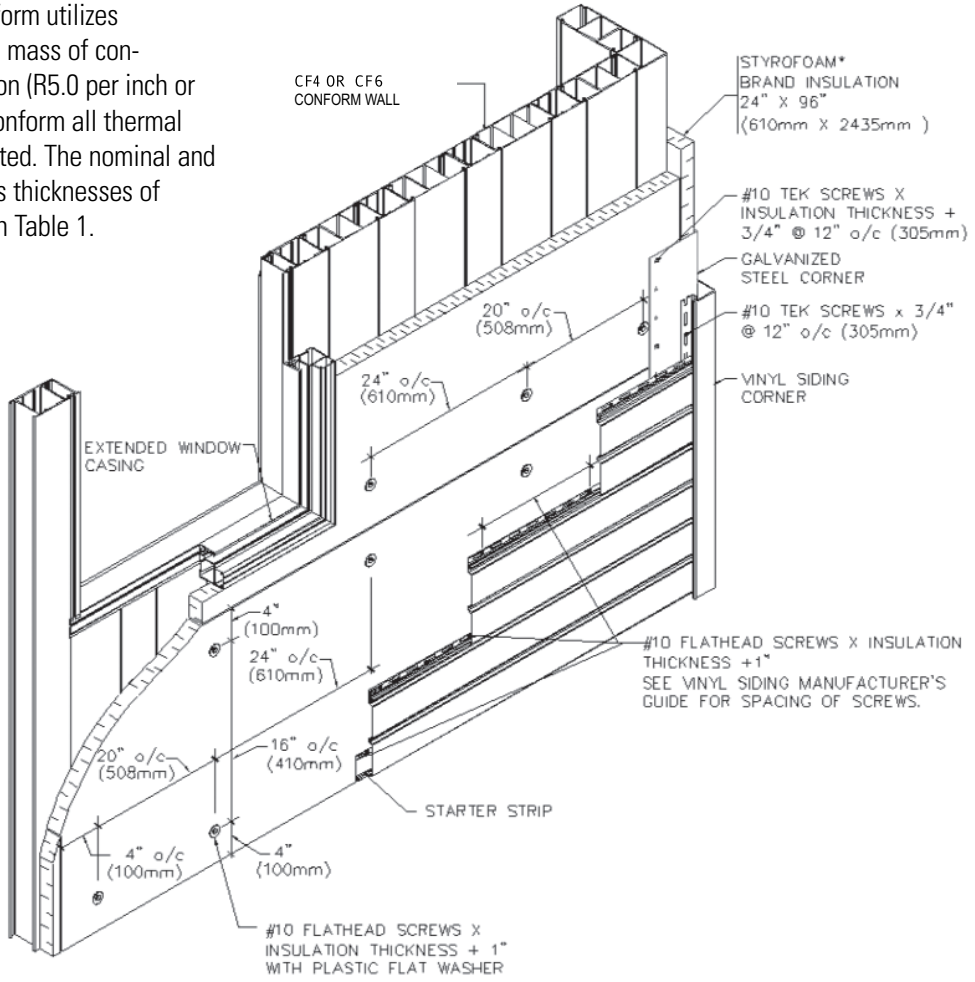
Insulation Options

Conform is simply the fastest and most efficient way to improve your bottom line on any building project. Whether you are a contractor, designer, architect, or engineer, Conform offers innovative construction solutions for your next project.

Conform and STYROFOAM Brand Insulation

Among the numerous advantages of Conform over conventional building materials and methods is the superior energy efficiency rating of the system. Conform utilizes to its full advantage the benefits of thermal mass of concrete. By using STYROFOAM brand insulation (R5.0 per inch or RSI0.87 per 25mm) on the exterior of the Conform all thermal bridging in the walls are effectively eliminated. The nominal and effective R-values of Conform, using various thicknesses of STYROFOAM brand insulation, are shown in Table 1.



Above diagram illustrates Fastening Option 1: Plastic Flat Washer Method

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Fastening STYROFOAM Brand Insulation to the Conform

STYROFOAM brand insulation products are mechanically fastened to the Conform. Table 2 demonstrates a broad selection of fastening options. For all options, the length of the fastener for securing the insulation should be a minimum 1" (25.4 mm) longer than the thickness of the insulation. Fasteners for insulation should have heads or washers that are .5" (12.7 mm) in diameter where cladding (i.e, vinyl siding) is installed directly against the insulation. Note that to achieve the desired thickness of insulation, two layers of STYROFOAM brand insulation may be used and fastened to the Conform in a similar manner as described above. Around the perimeter of each insulation board and all openings, fasteners are placed 4" (100mm) from the edge. Along the vertical edge of the board, fasteners should be no more than 6" (150mm) apart and in grids no greater than 12" by 24" (300mm by 600mm) for the rest of the board.

Table 1: Nominal and Effective R-Values for the CF4 and CF6

Thickness of STYROFOAM Brand Insulation		Nominal[1] R-value of CF4 and CF6 Walls		Effective[2] R-Value of CF4 and CF6 Walls			
				Cold Climate[3]		Hot Climate[4]	
Inches	mm	(ft2 · hr · ˚F)/Btu	RSI	(ft2 · hr · ˚F)/Btu	RSI	(ft2 · hr · ˚F)/Btu	RSI
2.0	50.8	11.9	2.10	17.7	3.12	30.6	5.39
2.5	63.5	14.3	2.52	21.3	3.75	36.8	6.48
3.0	76.2	16.9	2.98	24.8	4.38	41.6	7.33
3.5	88.9	19.4	3.42	28.5	5.02	47.7	8.40

1. The commonly reported nominal R-value for the wall assembly based on one-dimensional heat flow.
2. Effective R-value of wall taking into account the thermal mass of the Conform assembly.
3. The referenced data in this case is for Minneapolis, Minnesota
4. The referenced data in this case is Phoenix, Arizona
5. 1.0 RSI [(m^2 · ˚C)/W] = 5.678 (ft^2 ◊ hr · ˚F)/Btu

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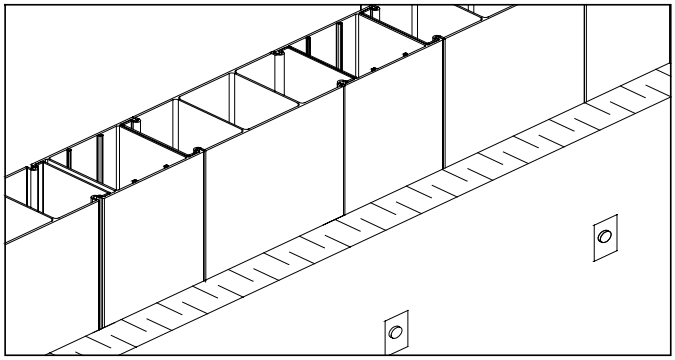
Table 2 – Insulation Fastening Options for Nuform

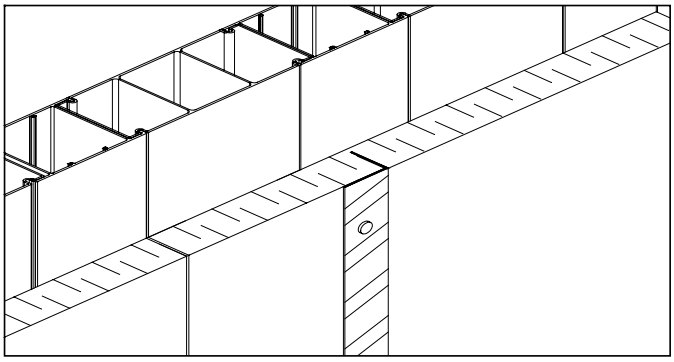
Option 1 – Plastic Washer Method

The insulation is fastened with flathead screws and plastic flat washers. The vinyl siding is fastened to the Conform assembly using flathead screws (thickness of insulation + 1" (25mm)).



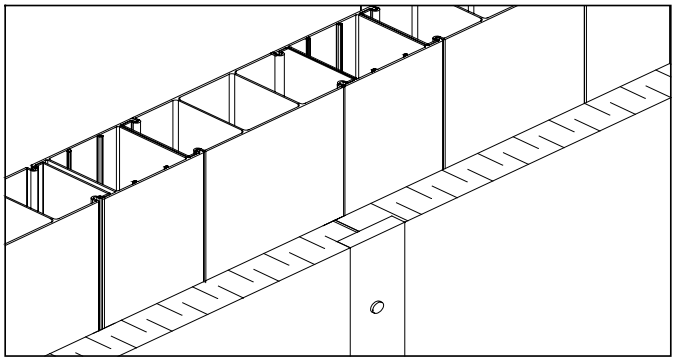
Option 2 – L or Angle Method

The insulation is fastened with flathead screws and plastic flat washers. The L-shaped galvanized steel angle is fastened through the insulation to the Conform assembly (fastener length is thickness of insulation + 1"(25mm)). The vinyl siding is fastened to angles using 1" (25mm) Tek screws as per manufacturer's recommended spacing.



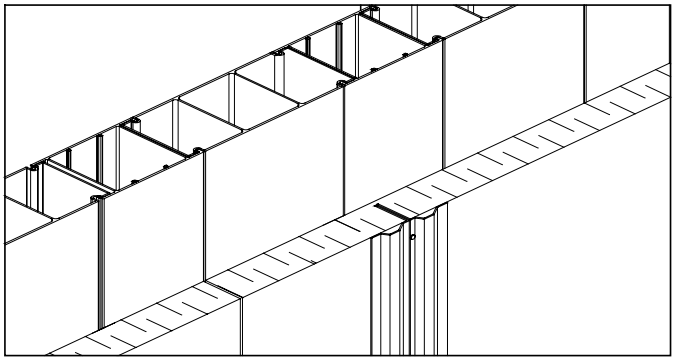
Option 3 – Wood Furring Strip Method

Certain insulation brands allow for the installation of wood furring strips, which are fastened through the insulation to the Conform assembly (fastener length is thickness of insulation + 1" (25mm)). The vinyl siding is fastened to the furring strips using 1" (25mm) flathead screws as per manufacturer's recommended spacing.



Option 4 – T-Strip Method

The insulation is fastened with flathead screws (thickness of insulation + 1" (25mm)) and plastic flat washers. The galvanized steel T-strip angles are fastened through the insulation to the Conform assembly. The vinyl siding is fastened to the angles using 1" (25mm) Tek screws as per manufacturer's recommended spacing.



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Fastening Vinyl Siding to the Conform Assemlies

If vinyl siding is fastened to the Conform using Option 1 (without furring strips), the length of the fastener used to secure vinyl siding through the insulation to the Conform should be a minimum .75" (19 mm) longer than the combined thickness of the insulation and siding. For the remaining options, fasten the siding to furring strips or steel angles as per the recommendation of the vinyl siding manufacturer.

Code Approvals

Conform has been designed to meet or exceed North American Building Codes, including the International Building Code, requirements. Code bodies in the USA, CANADA and in over twenty countries worldwide have approved Conform. Numerous technical papers and engineering reports have also been produced. For a complete list of code approvals and technical papers, please visit the website for Nuform Building Technologies at: www.nuformdirect.com or call 1-877-747-WALL.

BOCA-ES Report No 94-57; ICBO Report No ER-5174; NY Building Code (C of A No. 0093)
BMEC Ruling No. 95-01-20; CCMC Evaluation Report 12536-R

Styrofoam Brand Insulation

For further information on STYROFOAM brand insulation, please contact The Dow Chemical Company: 1-800-441-4369 (USA), 1-800-268-4840 (Canada) web: www.styrofoam.com.

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