



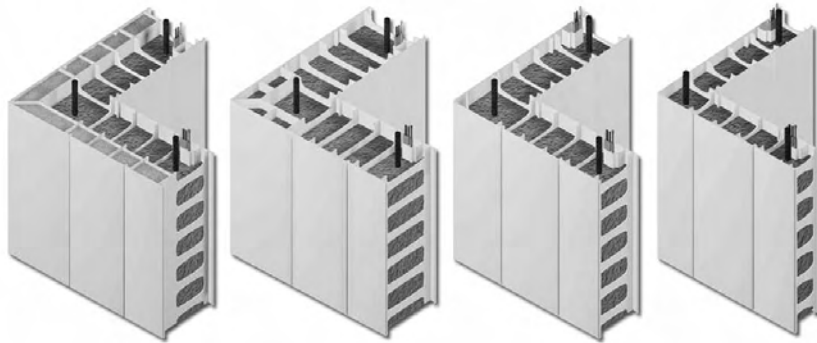
The Revolutionary Stay-in-Place
Concrete Wall Formwork

Design Guide



Version 1.0





Building Solutions for a Better World...

Welcome to the world of Nuform Building Technologies Inc., an innovative quality-driven building technologies company. Since the introduction of Conform (formerly Royal Building Systems) in 1992, the product has received global recognition for its approach in providing an innovative solution to the construction industry.

Conform is a patented polymer-based stay-in-place formwork for concrete walls. The extruded components slide and interconnect together to create a concrete formwork. The result is permanent, attractive, and pre-finished concrete walls that can be easily constructed in any climate.

Conform provides flexibility of design, whether you are building a home or a large industrial complex.

The polymer components of Conform will not decay or deteriorate over a lifespan that can be measured in decades. Conform requires no painting, and resists ultraviolet radiation. Furthermore, Conform is highly durable, virtually maintenance free, impervious to weather, and extremely energy efficient.

Conform is also environmentally friendly as the polymer components are recyclable, energy efficient, and non-toxic.

Put it all together, and you can see that Conform offers complete design flexibility and an innovative building product that is easy to maintain, friendly to the environment, and built to last. Whether you are a developer, contractor, architect, engineer, or designer you can find attractive and cost effective solutions for your next project with Conform.

Contents

1. Introduction	1
2. Conform Components	2
2.1 General	2
2.2 Conform Wall Components	2
2.3 Accessory Components	6
2.4 Tables	7
3. Designing with Conform	11
3.1 The Grid System	11
3.2 Drawing Walls	11
3.3 Preferred Wall Dimensions	15
3.4 Wall Heights	19
3.5 Wall Openings	19
4. Typical Details	21

1. Introduction

Nuform Building Technologies Inc. (Nuform) has developed an AutoCAD-based software program for the users of Conform. Using Conform Design (CFD) for AutoCAD, users can create design drawings using various components of Conform.

This Design Guide has been prepared by Nuform primarily to assist architects and designers in designing projects using Conform. It is to be used as a companion to the Conform Software Guide, which is included with CFD for AutoCAD.

It is a part of our continuing effort to provide current and practical information to users of Conform.

The Design Guide provides information on the following aspects of Conform:

- Conform Components
- Designing with Conform
- Typical Details

In addition to the Design Guide, the following guides are also available to assist in designing and building your projects using Conform.

- Technical Guide
- Engineering Guide
- Construction Guide
- Construction Guide for Non-Bearing Walls
- Finishing, Maintenance and Repair Guide

Although every effort has been made to ensure that the information provided in the Design Guide is factual and that the numerical values are accurate and consistent with current engineering practice, Nuform does not assume any liability for errors or oversights resulting from the use of information contained in this guide. Anyone making use of the information provided in these guides assumes all liability arising from such use.

Please note that component drawings in this guide are not drawn to scale, and therefore should be used for reference purposes only. All imperial measurements stated in this guide are nominal dimensions. For accuracy always use metric units when specifying component lengths.

2. Conform Components

2.1 General

Conform consists of extruded rigid polymer components that serve as a stay-in-place formwork for concrete walls including load bearing walls, non-load bearing walls, shear walls, retaining walls, and foundation walls. The extruded components slide and interconnect together to create a concrete formwork that remains in place after the concrete is poured and cured.

Four types of Conform are available: CF4 (100 mm or 4" thick), CF6 (150 mm or 6"), CF8 (200 mm or 8"), and CF8i (200 mm or 8", pre-insulated with 54 mm (2") of polyurethane insulation).

Each type of Conform creates a wall formwork using a variety of components. The two most commonly used components for each wall thickness are the straight box connector and panel 232, which are 100 mm (4") and 232 mm (9") wide respectively.

CF4 components are used for walls of small structures. CF4 components are shown in Table 2.1.

Typically, CF6 and CF8 components are used for bearing and non-bearing walls where no thermal insulation is required. CF6 components are shown in Table 2.2, and CF8 components are shown in Table 2.3.

CF8i components are primarily used for insulated exterior bearing and non bearing walls. The CF8i components are shown in Table 2.4.

The flexibility of the system allows for the combining of all four types in order to accommodate a wide variety of structures and construction applications.

Accessory components are available to provide a finishing touch to Conform. The accessory components are shown in Table 2.5.

The Conform components are available in two standard colors: tan and white.

2.2 Conform Components

Conform components were developed to fit on a 333.33 mm (1' 1 1/8") or 1000 mm (3' 3 3/8") grid, as shown in the Figure 1. The 333.33 mm grid is composed of 100 mm (3 15/16") for the box connector, and 233.33 mm (9 1/8") for the panel (P232).

It is important to note that the dimension of 233.33 mm for the panel is composed of 232.03 mm for the actual panel and a 0.65 mm joint gap at each side of the panel. All panels and spacers include a joint gap and therefore the length of wall created by a panel or spacer is greater than the component size. However, panels and spacers are named by component size and not by the wall dimension. It is essential to consider the actual wall length created rather than the component dimension in calculating the length of the wall.

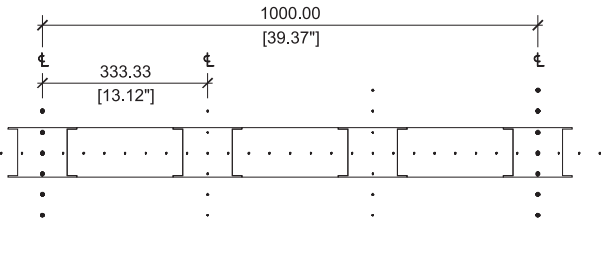


Fig. 1

Also, there are several components that can be substituted for the panel P232; refer to Section 3.2.4. These components are used to suit the location of wall intersections, doors, and windows; refer to Section 3.5.

All Conform components are cored. That is, the webs of the profiles are punched. This allows the horizontal flow of concrete between the elements. Cores are punched starting from the top of the component. The start of the first core is located at 37 mm (1 1/2") from the top end of the component and the subsequent cores are 83.3 mm (3 1/4") apart.

The coring is aligned in the CFD for AutoCAD software automatically by choosing a datum. The datum is set to suit the length of the largest quantity of components. The remaining components are extruded longer and pre-cut to the desired length. The additional extruded length is indicated as "EXTRUDED +" on the shipping list. The extruded length is increased such that the difference between the total extruded length and the chosen datum is a multiple of 83.8 mm (3 1/4"), therefore, the coring is aligned when the components are cut to the desired length.

2.2.1 Box Connectors

There are up to six standard box connector components, which allow for the design of straight, 90°, and 45° angled wall sections. All box connectors have connector legs, which join directly into a panel, spacer, or joiner components. The most commonly used box connector is the straight box connector, which is 100 mm (3 15/16") wide measured from web to web. Below are isometric views of various partially extruded box connectors.

CF4 Box Connectors

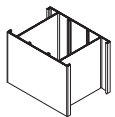


Fig. 4.1: Straight

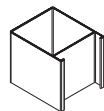


Fig 4.2: End

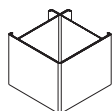


Fig. 4.3: Corner

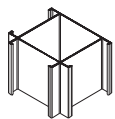


Fig. 4.4: 3-way

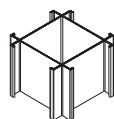


Fig. 4.5: 4-way

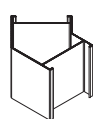


Fig. 4.6: 45°

CF6 Box Connectors

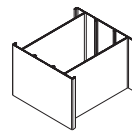


Fig. 6.1: Straight

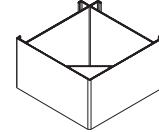


Fig. 6.3: Corner

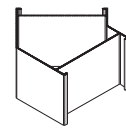


Fig. 6.6: 45°-Outside

CF8 and CF8i Box Connectors

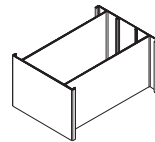


Fig. 8.1: Straight

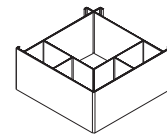


Fig. 8.3: Corner

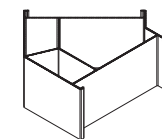


Fig. 8.6: 45°-Outside

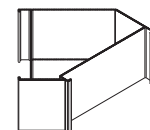


Fig. 8.7: 45°-Inside (CF8i only)

Note that dimensionally CF8 and CF8i components are identical. CF8i components are pre-insulated with 54 mm (2 1/8") of polyurethane insulation.

2.2.2 Panels

There are up to four standard panel components that connect directly into any box connector, spacer, or joiner components. The most commonly used panel is the P232, which creates a wall length of 233.33 mm (9 1/8"). The P232 panel is the most economical component per unit of wall area. Below are isometric views of various partially extruded panels.

CF4 Panels

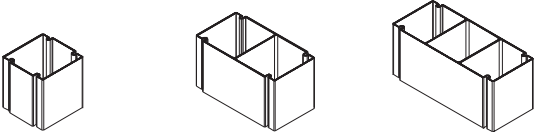


Fig. 4.8: Panel 93 Fig. 4.10: Panel 182 Fig. 4.11: Panel 232

2.2.3 Spacers

Spacer 49 and spacer 68 can be used to adjust the overall length of a wall. Spacers have a male and a female connector and therefore can be inserted in any location along a wall. The spacers can be combined with some of the smaller panels to maintain the 333.33 mm grid. The isometric views of partially extruded spacers are shown in the following figures.

CF4 Spacers



Fig. 4.12: Spacer 49 Fig. 4.13: Spacer 68

CF6 Panels

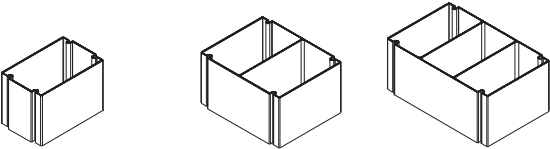


Fig. 6.8: Panel 93 Fig. 6.10: Panel 182 Fig. 6.11: Panel 232

CF6 Spacers



Fig. 6.12: Spacer 49 Fig. 6.13: Spacer 68

CF8 and CF8i Panels



Fig. 8.8: Panel 93 Fig. 8.10: Panel 182

CF8 and CF8i Spacers

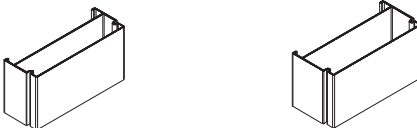


Fig. 8.12: Spacer 49 Fig. 8.13: Spacer 68

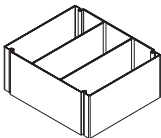


Fig. 8.11: Panel 232

2.2.4 Joiners

A joiner connects two box connectors together without the use of a panel or connects two panels together without the use of a box. Isometric views of partially extruded joiners are shown in the following figures.

CF4 Joiners

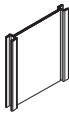


Fig. 4.14: Box Joiner

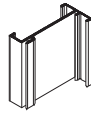


Fig. 4.15: Panel Joiner-Main



Fig. 4.16: Panel Joiner-Leg

CF6 Joiner

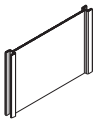


Fig. 6.14: Box Joiner

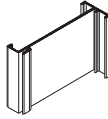


Fig. 6.15: Panel Joiner-Main

2.2.5 Starters

A cored starter is used at a 90° wall intersection except at box connectors of CF4, where a 3-way or a 4-way box connector may be used instead of a starter. An uncored starter is used on a panel to finish the end of walls or finish each side of openings, except for CF4 where an end box connector may be used. Below are isometric views of partially extruded starters.

CF4

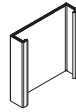


Fig. 4.17: Starter

CF6

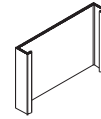


Fig. 6.17: Starter

CF8 & CF8i

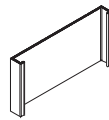


Fig. 8.17: Starter

2.3 Accessory Components

2.3.1 Openings

Any conventional window/door frame and window/door that is supplied by others can be used with Conform. The openings are created using conventional materials and extend from panel to panel, box-to-box, or box-to-panel.

2.3.2 Basic Frames

An interior wall opening can be installed between any two components and finished using a basic frame component on all sides. The basic frame is a C-shaped component that matches the wall thickness.

An opening, adjacent to a box connector or male end of a spacer can start at the end of the box connector legs, 19 mm from the box connector web, or start at the box connector web.

An opening adjustment to a panel or female end of a spacer starts at an uncored starter placed on the panel before the basic frame. Isometric views of various partially extruded basic frame components are shown in the following figures.

CF4



Fig. 4.18:
Basic Frame Opening

CF6



Fig. 6.18:
Basic Frame Opening

CF8 & CF8i

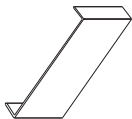


Fig. 8.18:
Basic Opening Frame

2.3.3 Electrical Raceway

The Conform electrical raceway slides onto the interior legs of a straight box connector. The electrical raceway is capped prior to pouring concrete; this provides an electrical channel to run wiring throughout the structure. Electrical raceways should not be placed back-to-back in the same straight box connector. [Note that the Conform non-metallic electrical raceway meets UL (5A) and CSA (C22.2 No.62) standards.]



Fig. Ae.1: Electrical Raceway

2.3.4 Multi-storey Band

A multi-storey cap is available in a variety of colors to cover the horizontal joints in long panelized wall sections. The band is screwed to the wall and a channel cap hides the screws. A multi-storey band cover hides the joints in the cap. Isometric views of multi-storey band are shown below.



Fig. Ap.1:
Multi-storey Cap



Fig. Ap.2:
Multi-storey
Channel Cap



Fig. Ap.3: Multi-
storey Channel
Cap Cover

2.4 Tables

For a quick reference, a detailed list of various Conform components are shown in Table 2.1 through 2.7.

Table 2.1: CF4 Components

































Symbol	Components	Dimension		Label	Part Number	Figure Number
Box Components						
	Straight	100mm	3 15/16"	WB	GEBCEHA	4.1
	End	100mm	3 15/16"	WB	GEBCEWHA	4.2
	Corner	100mm	3 15/16"	WB	GEBCCWHA	4.3
	3-Way	100mm	3 15/16"	WB	GEBCTNHA	4.4
	4-Way	100mm	3 15/16"	WB	GEBXCWHA	4.5
	45°	50mm	2"	WB	WEBC45HA	4.6
Panel Components						
	Panel 93	94.33mm	3 11/16"	WP	GEP093HA	4.8
	Panel 182	183.33mm	7 3/16"	WP	GEP182HA	4.10
	Panel 232	233.33mm	9 3/16"	WP	GEP232HA	4.11
Spacer Components						
	Spacer 49	50mm	1 15/16"	WM	GES049HA	4.12
	Spacer 68	69.5mm	2 3/4"	WM	GES068HA	4.13
Joiner Components						
	Box Joiner	39mm	1 9/16"	WM	WEJBCWHA	4.14
	Panel Joiner Main	10mm	3/8"	WM	WEJPNMHA	4.15
	Panel Joiner Leg	0mm	0"	WM	WEJPNLAA	4.16
Accessory Components						
	Starter	0mm	0"	WM	GEADPSHA	4.17
	Basic Frame Opening	3mm	1/8"	OM	WEAF0BHA	4.18

Table 2.2: CF6 Components

Symbol	Components	Dimension		Label	Part Number	Figure Number
Box Components						
	Straight	100mm	3 15/16"	WB	GEBCSENA	6.1
	Corner	150mm	5 7/8"	WB	GEBCCWNA	6.3
	45° – Outside (1)	50mm	1 15/16"	WB	WEOC45NA	6.6
Panel Components						
	Panel 93	94.33mm	3 11/16"	WP	GEPO93NA	6.8
	Panel 182	183.33mm	7 3/16"	WP	GEP182NA	6.10
	Panel 232	233.33mm	9 3/16"	WP	GEP232NA	6.11
Spacer Components						
	Spacer 49	50mm	1 15/16"	WM	GESO49NA	6.12
	Spacer 68	69.5mm	2 3/4"	WM	GESO68NA	6.13
Joiner Components						
	Box Joiner	39mm	1 9/16"	WM	WEJBCWNA	6.14
	Panel Joiner – Main	10mm	3/8"	WM	WEJPNMNA	6.15
	Panel Joiner – Leg	0mm	0"	WM	Refer to CF4	4.16
Accessory Components						
	Starter	0mm	0"	WM	GEADPSNA	6.17
	Basic Frame Opening	3mm	1/8"	OM	WEAFOBNA	6.18

(1) Grid is 50 mm (1 3/32") offset from inside face

Table 2.3: CF8 Components

Symbol	Components	Dimension	Label	Part Number	Figure Number
Box Components					
	Straight	100mm	3 15/16"	WB	GEBCSERA 8.1
	Corner (3)	200mm	7 7/8"	WB	GEBCCWTA 8.3
	45° – Corner (1) (3)	50mm	1 15/16"	WB	WEOC45TA 8.6
Panel Components					
	Panel 93 (3)	94.33mm	3 11/16"	WP	GEPO93TA 8.8
	Panel 182 (3)	183.33mm	7 3/16"	WP	GEP182TA 8.10
	Panel 232	233.33mm	9 3/16"	WP	GEP232RA 8.11
Spacer Components					
	Spacer 49	50mm	1 15/16"	WM	GES049RA 8.12
	Spacer 68	69.5mm	2 3/4"	WM	GES068RA 8.13
Accessory Components					
	Starter	0mm	0"	WM	GEADPSTA 8.17
	Basic Frame Opening	3mm	1/8"	OM	WEAFOBTA 8.18

(1) Grid is 50 mm (1 3/32") offset from inside face

(3) These are CF8i extrusions, and can be used as CF8 component without the insulation.

Table 2.4: CF8i Components






Symbol	Components	Dimension		Label	Part Number	Figure Number
Box Components						
	Straight	100mm	3 15/16"	WB	GABCSETA	8.1
	Outside Corner	200mm	7 7/8"	WB	GABCCWTA	8.3
	Inside Corner	200mm	7 7/8"	WP	GABCCITA	8.3
	45° – Outside (1)	50mm	1 15/16"	WB	WAOC45TA	8.6
	45° – Inside (2)	50mm	1 15/16"	WB	WAIC45TA	8.7
Panel Components						
	Panel 93	94.33mm	3 11/16"	WP	GAP093TA	8.8
	Panel 182	183.33mm	7 3/16"	WP	GAP182TA	8.10
	Panel 232	233.33mm	9 3/16"	WP	GAP232TA	8.11
Spacer Components						
	Spacer 49	50mm	1 15/16"	WM	WASE49TA	8.12
	Spacer 68	69.5mm	2 3/4"	WM	WASE68TA	8.13
Accessory Components						
	Starter	0mm	0"	WM	Refer to CF8	8.17
	Basic Frame Opening	3mm	1/8"	OM	Refer to CF8	8.18

Table 2.5: Conform Accessory Components

Symbol	Components	Dimension		Part Number	Figure Number
Electrical Raceway					
	CSA/UL Electrical Raceway	-	-	WEESCAAA	Ae.1
Multi-storey Band					
	Multi-storey Cap	155mm x 9mm	6 1/8" x 3/8"	TEMSCPA	Ap.1
	Multi-storey Channel Cap	-	-	TEMSCCAA	Ap.2
	Multi-storey Channel Cap Cover	155mm x 9mm	6 1/8" x 3/8"	TEMSJCAA	Ap.3

(1) Grid is 50 mm (1 3/32") offset from inside face
(2) Grid is 50 mm (1 3/32") offset from outside face

3. Designing with Conform

3.1 The Grid System

Conform is based on the metric measurement system, whereby one grid unit is equal to 333.33 mm (1' 1 1/8"). Therefore three grid units equal one meter (3' 3 3/8"). Walls and openings are typically drawn in distances which are in multiples of 333.33 mm (1' 1 1/8") from the center of one box connector to the center of another box connector.

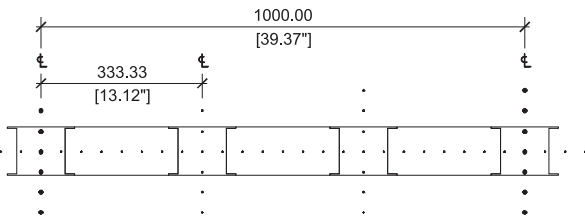


Fig. G.1: The Grid System

When drawing walls and openings it is recommended to use grid paper to assist in planning the sequence of components. An alternate method is to use the CfdAcad.arx design tools for AutoCAD, as described in further detail in the CFD for AutoCAD Software Guide. The CfdAcad.arx tool has been developed to allow drawing both in metric and imperial units. However, for the sake of clarity in the following drawings only metric dimensions are shown.

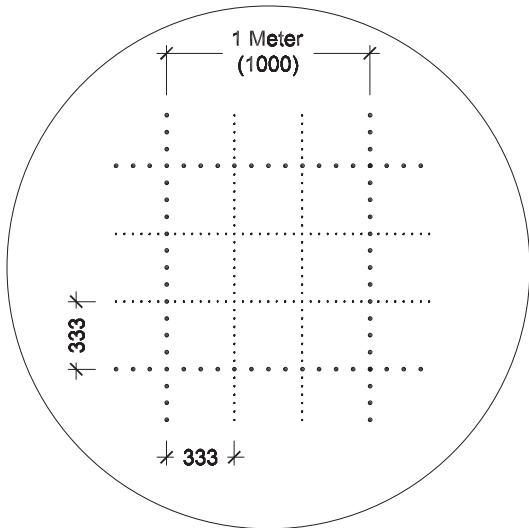


Fig. G.2: Drawing Guidelines

3.2 Drawing Walls

Drawing walls with Conform is simple and accomplished with a great deal of flexibility due to the number of different components available.

3.2.1 Straight Walls

Straight walls are drawn alternating a box connector and a panel 232. As mentioned before, one box connector and one panel will provide a distance of 333 mm (approximately 13").

CF4 Components

In the case of CF4 components, the gridline is located at the center of the wall, 50 mm (2") from either face.

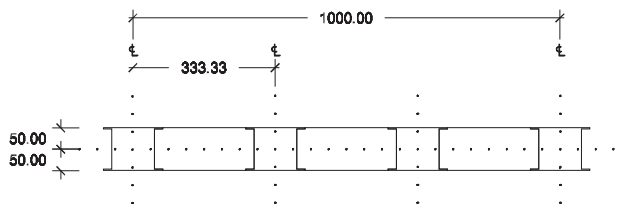


Fig. G.3: Gridline for CF4 Walls

CF6 Components

In the case of CF6 components, the gridline is located 50 mm (2") from the inside face or outside face of the wall.

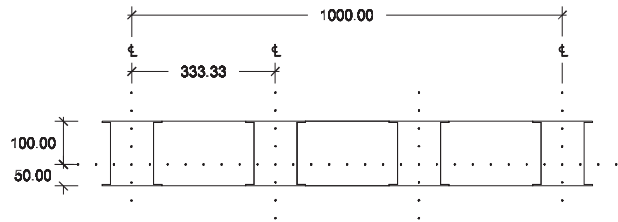


Fig. G.4: Gridline for CF6 Walls

CF8i & CF8 Components

In the case of CF8 components, the gridline is located 50 mm (2") from the inside face of the wall or from the outside face of the wall. For the CF8i components, the 50 mm (2") insulation cavity faces the outside of the structure.

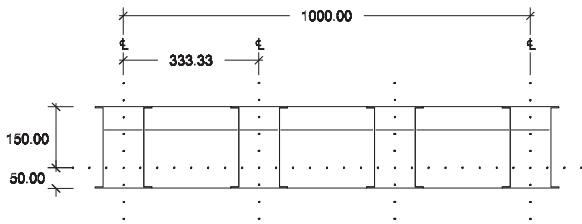


Fig. G.5: Gridline for CF8 and CF8i Walls

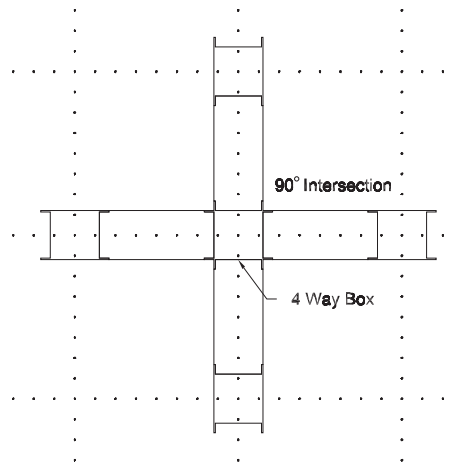


Fig. G.8: CF4 Wall with 90° Intersection using a 4-way Box

3.2.2 Walls with 90° Angle

A straight wall can be diverted into any 90° (perpendicular) direction, by using a corner box, 3-way box, 4-way box, or starter depending on the configuration required. The 3-way and 4-way boxes are available only in the CF4 components.

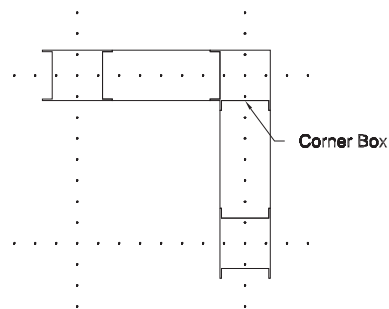


Fig. G.6: CF4 Wall with 90° Angle using a Corner Box

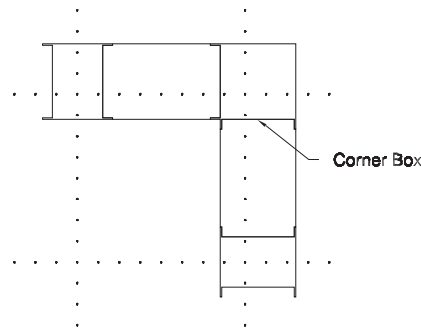


Fig. G.9: CF6 Wall with 90° Angle using a Corner Box

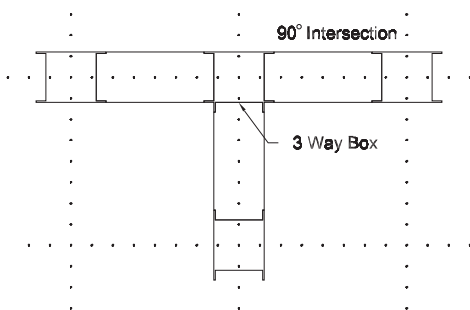


Fig. G.7: CF4 Wall with 90° Intersection using a 3-way Box

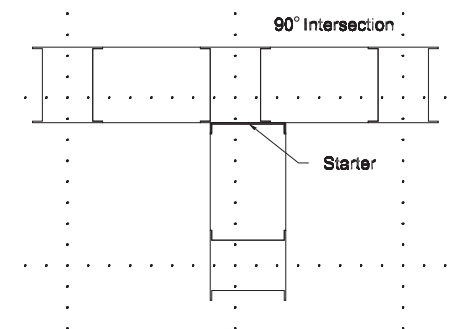


Fig. G.10: CF6 Wall with 90° Intersection using a Starter

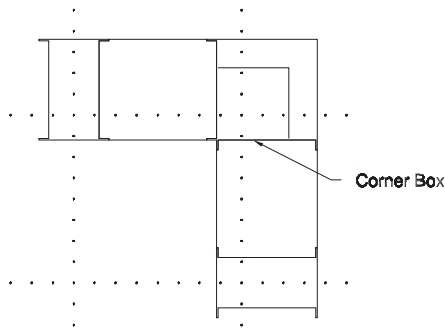


Fig. G.11: CF8 or CF8i Wall with 90° Angle using a Corner Box

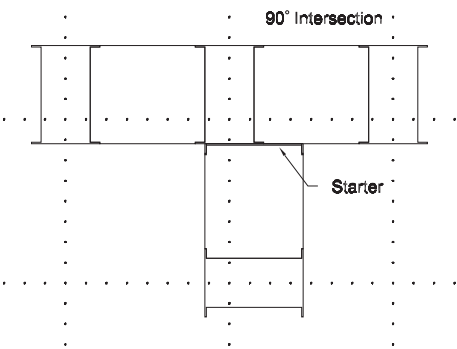


Fig. G.12: CF8 or CF8i Wall with 90° Intersection using a Starter

If a 90° wall is required to start at a panel or anywhere along a wall, a starter must be used. A starter must also be used if a 90° wall is required using two different wall thickness' (e.g. a CF8i exterior wall intersecting with an CF6 interior wall).

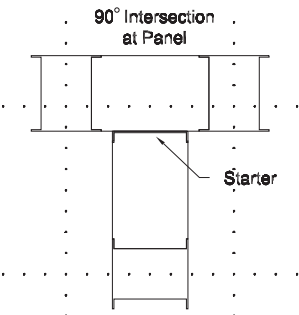


Fig. G.13: 90° Intersection using a Starter

3.2.3 45° Angled Walls

A straight wall can also be diverted in a 45° direction using the 45° box. The spacer 68 is then required at each side of a panel (P232) to bring the wall back onto the grid line, if required.

Note that when using the 45° inside box of CF8i or CF8 components, a spacer 68 is not required adjacent to the 45° inside box. See Fig. G. 16.

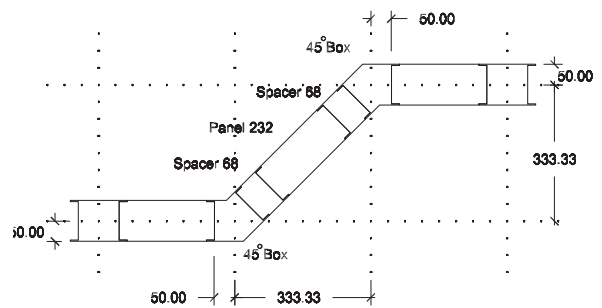


Fig. G.14: CF4 Wall with 45° Angle

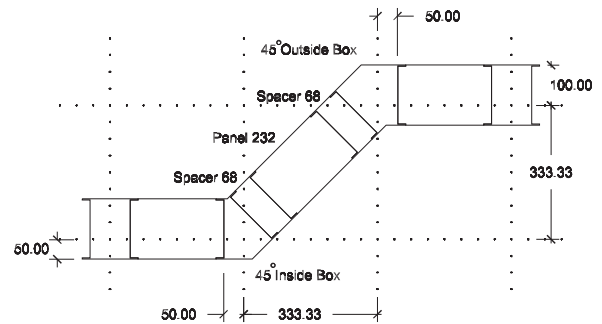


Fig. G.15: CF6 Wall with 45° Angle

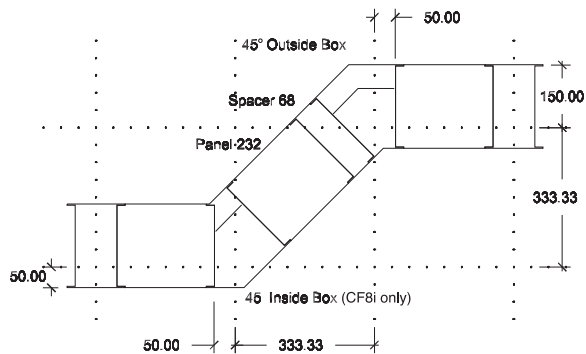


Fig. G.16: CF8 or CF8i Wall with 45° Angle

3.2.4 Wall Component Adjustments

Once the overall length of a wall has been established, a number of adjuster components can be used to alter the overall length of the wall or shuffle the sequence of components in order to accommodate a specific opening size. Any adjuster component can also be used individually; however, as a general rule, it is recommended that when component substitutions are made, that the overall wall remains on grid. To allow for easier adjustment of wall, the Conform Component Calculator is a software tool used to find the best possible component configuration. This tool can be downloaded from the Technical Resource Center of our Web site: www.nuformdirect.com.

Spacer 49/ Panel 182

A panel 232 (233.33 mm (9 1/8")) in a wall section can also be substituted by a spacer 49 (50 mm (2")) and a panel 182 (183.33 mm (7 1/8")), while still keeping the overall wall on grid (50 mm + 183.33 mm = 233.33 mm). The spacer 49 is a key component that allows for the design of a wide variety of standard door and window opening sizes.

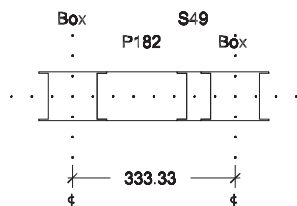


Fig. G.17: Typical Wall Adjustment using Spacer 49/Panel 182 combination

Joiner/ Box/ Panel 93

A Panel 232 (233.33 mm (9 1/8")) in a wall section can be substituted by a joiner (39 mm (1 1/2")), a Box (100 mm (4")) and a panel 93 (94.33 mm (3 3/4")), while still keeping the overall wall on grid (39 mm + 100 mm + 94.33 mm = 233.33 mm).

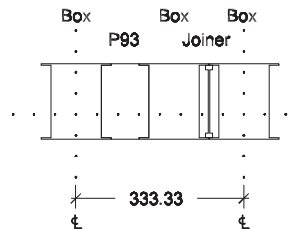


Fig. G.18: Typical Wall Adjustment using Joiner/Box/Panel 93

Spacer 68 / Panel 93 / Spacer 68

A panel 232 (233.33 mm (9 1/8")) in a wall section can be substituted by two spacer 68 (69.5 mm (2 3/4")) and a panel 93 (94.33 mm (3 3/4")) while still keeping the overall wall on grid (69.5 + 69.5 + 94.33 = 233.33 mm).

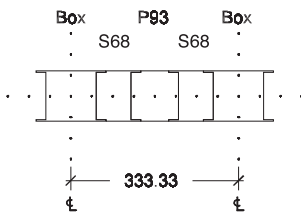


Fig. G.19: Typical Wall Adjustment using Spacer 68/Panel 93/Spacer 68

3.3 Preferred Wall Dimensions

The following Tables 3.1, 3.2 and 3.3 indicate the preferred wall dimensions for Conform. All these dimensions are based on the 333 mm (13") grid of box and panel 232 and the respective corner for each wall.

These dimensions are indicated as a guideline only. However, as demonstrated throughout this guide, it is possible to achieve almost any wall dimension by using various combinations of components.

Note that the outside face of the CF4 walls are 50.0 mm from the grid line, while the outside face of the CF6 walls are 100 mm (4") from the gridline and the outside face of the CF8i walls are offset 150 mm (6") from the gridline. For reference purposes, outside-to-outside, inside-to-inside, and outside-to-inside preferred wall dimensions are shown in Fig G.20.

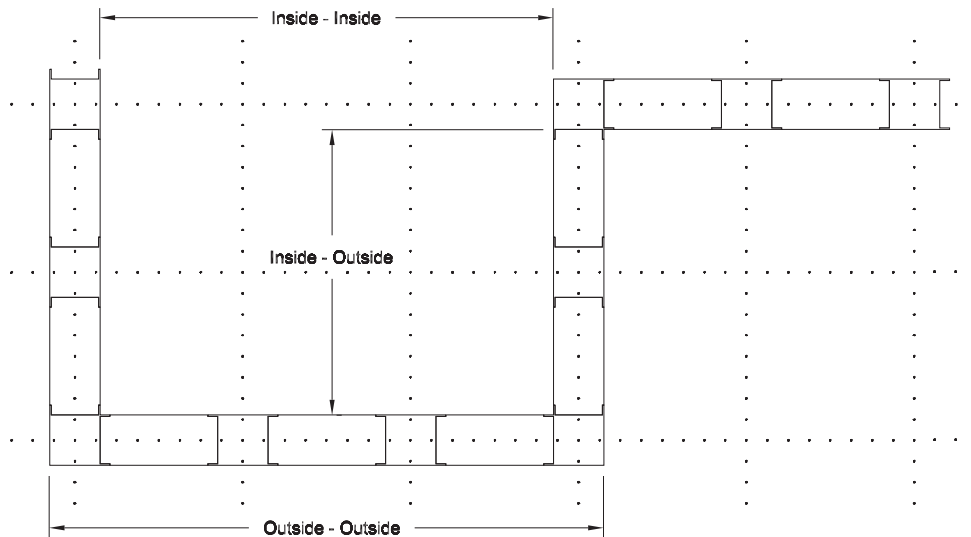


Fig. G.20: Dimensioning Convention

Table 3.1: CF4 Preferred Wall Dimensions

Inside – Inside		Inside – Outside		Outside – Outside	
1900 mm	6.23 ft	2000 mm	6.56 ft	2100 mm	6.89 ft
2233 mm	7.33 ft	2333 mm	7.65 ft	2433 mm	7.98 ft
2567 mm	8.42 ft	2667 mm	8.75 ft	2767 mm	9.08 ft
2900 mm	9.51 ft	3000 mm	9.84 ft	3100 mm	10.17 ft
3233 mm	10.61 ft	3333 mm	10.94 ft	3433 mm	11.26 ft
3567 mm	11.70 ft	3667 mm	12.03 ft	3767 mm	12.36 ft
3900 mm	12.80 ft	4000 mm	13.12 ft	4100 mm	13.45 ft
4233 mm	13.89 ft	4333 mm	14.22 ft	4433 mm	14.54 ft
4567 mm	14.98 ft	4667 mm	15.31 ft	4767 mm	15.64 ft
4900 mm	16.08 ft	5000 mm	16.40 ft	5100 mm	16.73 ft
5233 mm	17.17 ft	5333 mm	17.50 ft	5433 mm	17.82 ft
5567 mm	18.26 ft	5667 mm	18.59 ft	5767 mm	18.92 ft
5900 mm	19.36 ft	6000 mm	19.69 ft	6100 mm	20.01 ft
6233 mm	20.45 ft	6333 mm	20.78 ft	6433 mm	21.11 ft
6567 mm	21.55 ft	6667 mm	21.87 ft	6767 mm	22.20 ft
6900 mm	22.64 ft	7000 mm	22.97 ft	7100 mm	23.29 ft
7233 mm	23.73 ft	7333 mm	24.06 ft	7433 mm	24.39 ft
7567 mm	24.83 ft	7667 mm	25.15 ft	7767 mm	25.48 ft
7900 mm	25.92 ft	8000 mm	26.25 ft	8100 mm	26.57 ft
8233 mm	27.01 ft	8333 mm	27.34 ft	8433 mm	27.67 ft
8567 mm	28.11 ft	8667 mm	28.44 ft	8767 mm	28.76 ft
8900 mm	29.20 ft	9000 mm	29.53 ft	9100 mm	29.86 ft
9233 mm	30.29 ft	9333 mm	30.62 ft	9433 mm	30.95 ft
9567 mm	31.39 ft	9667 mm	31.72 ft	9767 mm	32.04 ft
9900 mm	32.48 ft	10000 mm	32.81 ft	10100 mm	33.14 ft
10233 mm	33.57 ft	10333 mm	33.90 ft	10433 mm	34.23 ft
10567 mm	34.67 ft	10667 mm	35.00 ft	10767 mm	35.32 ft
10900 mm	35.76 ft	11000 mm	36.09 ft	11100 mm	36.42 ft

Table 3.2: CF6 Preferred Wall Dimensions

Inside – Inside		Inside – Outside		Outside – Outside	
1900 mm	6.23 ft	2050 mm	6.73 ft	2200 mm	7.22 ft
2233 mm	7.33 ft	2383 mm	7.82 ft	2533 mm	8.31 ft
2567 mm	8.42 ft	2517 mm	8.25 ft	2867 mm	9.41 ft
2900 mm	9.51 ft	3050 mm	10.01 ft	3200 mm	10.50 ft
3233 mm	10.61 ft	3383 mm	11.10 ft	3533 mm	11.59 ft
3567 mm	11.70 ft	3517 mm	11.54 ft	3867 mm	12.69 ft
3900 mm	12.80 ft	4050 mm	13.29 ft	4200 mm	13.78 ft
4233 mm	13.89 ft	4383 mm	14.38 ft	4533 mm	14.87 ft
4567 mm	14.98 ft	4517 mm	14.82 ft	4867 mm	15.97 ft
4900 mm	16.08 ft	5050 mm	16.57 ft	5200 mm	17.06 ft
5233 mm	17.17 ft	5383 mm	17.66 ft	5533 mm	18.15 ft
5567 mm	18.26 ft	5517 mm	18.10 ft	5867 mm	19.25 ft
5900 mm	19.36 ft	6050 mm	19.85 ft	6200 mm	20.34 ft
6233 mm	20.45 ft	6383 mm	20.94 ft	6533 mm	21.43 ft
6567 mm	21.55 ft	6517 mm	21.38 ft	6867 mm	22.53 ft
6900 mm	22.64 ft	7050 mm	23.13 ft	7200 mm	23.62 ft
7233 mm	23.73 ft	7383 mm	24.22 ft	7533 mm	24.71 ft
7567 mm	24.83 ft	7517 mm	24.66 ft	7867 mm	25.81 ft
7900 mm	25.92 ft	8050 mm	26.41 ft	8200 mm	26.90 ft
8233 mm	27.01 ft	8383 mm	27.50 ft	8533 mm	28.00 ft
8567 mm	28.11 ft	8517 mm	27.94 ft	8867 mm	29.09 ft
8900 mm	29.20 ft	9050 mm	29.69 ft	9200 mm	30.18 ft
9233 mm	30.29 ft	9383 mm	30.78 ft	9533 mm	31.28 ft
9567 mm	31.39 ft	9517 mm	31.22 ft	9867 mm	32.37 ft
9900 mm	32.48 ft	10050 mm	32.97 ft	10200 mm	33.46 ft
10233 mm	33.57 ft	10383 mm	34.06 ft	10533 mm	34.56 ft
10567 mm	34.67 ft	10517 mm	34.51 ft	10867 mm	35.65 ft
10900 mm	35.76 ft	11050 mm	36.26 ft	11200 mm	36.75 ft

Table 3.3: CF8 and CF8i Preferred Wall Dimensions

Inside – Inside		Inside – Outside		Outside – Outside	
1900 mm	6.23 ft	2100 mm	6.89 ft	2300 mm	7.55 ft
2233 mm	7.33 ft	2433 mm	7.98 ft	2633 mm	8.64 ft
2567 mm	8.42 ft	2767 mm	9.09 ft	2967 mm	9.73 ft
2900 mm	9.51 ft	3100 mm	10.17 ft	3300 mm	10.83 ft
3233 mm	10.61 ft	3433 mm	11.26 ft	3633 mm	11.92 ft
3567 mm	11.70 ft	3767 mm	12.36 ft	3967 mm	13.02 ft
3900 mm	12.80 ft	4100 mm	13.45 ft	4300 mm	14.11 ft
4233 mm	13.89 ft	4433 mm	14.54 ft	4633 mm	15.20 ft
4567 mm	14.98 ft	4767 mm	15.64 ft	4967 mm	16.30 ft
4900 mm	16.08 ft	5100 mm	16.73 ft	5300 mm	17.39 ft
5233 mm	17.17 ft	5433 mm	17.83 ft	5633 mm	18.48 ft
5567 mm	18.26 ft	5767 mm	18.92 ft	5967 mm	19.58 ft
5900 mm	19.36 ft	6100 mm	20.01 ft	6300 mm	20.67 ft
6233 mm	20.45 ft	6433 mm	21.11 ft	6633 mm	21.76 ft
6567 mm	21.55 ft	6767 mm	22.20 ft	6967 mm	22.86 ft
6900 mm	22.64 ft	7100 mm	22.29 ft	7300 mm	23.95 ft
7233 mm	23.73 ft	7433 mm	24.39 ft	7633 mm	25.04 ft
7567 mm	24.83 ft	7767 mm	25.48 ft	7967 mm	26.14 ft
7900 mm	25.92 ft	8100 mm	26.58 ft	8300 mm	27.23 ft
8233 mm	27.01 ft	8433 mm	27.67 ft	8633 mm	28.32 ft
8567 mm	28.11 ft	8767 mm	28.76 ft	8967 mm	29.42 ft
8900 mm	29.20 ft	9100 mm	29.86 ft	9300 mm	30.51 ft
9233 mm	30.29 ft	9433 mm	30.95 ft	9633 mm	31.60 ft
9567 mm	31.39 ft	9767 mm	32.04 ft	9967 mm	32.70 ft
9900 mm	32.48 ft	10100 mm	33.13 ft	10300 mm	33.79 ft
10233 mm	33.57 ft	10433 mm	34.23 ft	10633 mm	34.89 ft
10567 mm	34.67 ft	10767 mm	35.33 ft	10967 mm	35.98 ft
10900 mm	35.76 ft	11100 mm	36.42 ft	11300 mm	37.08 ft

3.4 Wall Heights

Conform components are manufactured through an extrusion process, and therefore can be manufactured to any specified length. However, the lengths of the components are usually 7600 mm (25') or less to suit coring and handling.

Typically, Conform components for walls greater than 6100 mm (20') are pre-assembled at the manufacturing plant into panelized sections. The lengths of the box connectors and panels are staggered a minimum of 1000 mm (3') to create a finger joint. The panelized sections have a panel at each side and are 2233 mm (7' 4") wide maximum (7 Panels 232 and 6 Boxes), to suit shipping. The components of a panelized section are screwed together and lifted with a crane. The box connectors between panelized sections are shipped loose and are installed in the field as the sections are erected.

The wall components are cored at 83.33 mm on center (3 1/4"), starting 37 mm (1 1/4") from the top of the components. For stepped or sloped walls, the components are extruded longer to the nearest 83.3 increment and fabricated to the exact length required in order to align the coring horizontally.

Note: For accuracy always use metric units when specifying component lengths.

3.5 Wall Openings

The design flexibility of Conform can accommodate almost any opening size. Various combinations of box connectors, panels and spacer components can accommodate almost any opening width and the opening height can be cut at any location to suit any height. Doors, windows and frames supplied by third parties will work with Conform, as long as the appropriate rough opening size is specified.

By using all the available components, and specifically the Spacer 49 (50 mm (2")) and Spacer 68 (69 mm (2 3/4")), it is possible to achieve most opening sizes within 20 mm (3/4").

Where hollow metal doors are installed, the opening must be specified to accommodate the frame size. The components are selected to suit the width of typical hollow metal frames using a panel with a starter at each jamb. The typical man door openings are shown in Table 3.4.

Where 6 mm (1/4") bent steel plates are used for overhead door openings, the components are specified to suit. The typical overhead door openings are shown in Table 3.5.

Table 3.4: Man Door Openings

Opening Width			
Door	Frame	Conform Opening	Conform Header Components
3' 0" 915 mm	3' 4" 1017 mm	3' 4 3/8" 1026 mm	Bx/P232/Bx/P93/S68/Bx/P232/Bx
4' 0" 1219 mm	4' 4" 1321 mm	4' 4 1/4" 1327 mm	Bx/P232/Bx/P182/Bx/P182/Bx/P232/Bx
6' 0" 1829 mm	6' 4" 1931 mm	6' 4 1/2" 1944 mm	Bx/P232/Bx/P232/Bx/P182/Bx/P182/Bx/P182/Bx/P232/Bx
8' 0" 2438 mm	8' 4" 2540 mm	8' 4 1/4" 2547 mm	Bx/S68/P232/Bx/P232/Bx/P232/Bx/P232/Bx/P232/Bx/P232/Bx/P232/S49/Bx
Opening Height			
Door	Frame	Conform Opening	Conform Header Components
7' 0" 2134 mm	7' 2" 2185 mm	7' 2 1/8" 2189 mm	Length to suit
8' 0" 2438 mm	8' 2" 2489 mm	8' 2 1/8" 2493 mm	Length to suit

Table 3.5: Overhead Door Openings

Opening Width		
Door	Conform Opening	Conform Header Components
10' 0" 3048 mm	9' 11 13/16" 3044 mm	10 Boxes, 8 Panels 232, 1 Panel 182
12' 0" 3658 mm	12' 0 1/8" 3661 mm	12 Boxes, 9 Panels 232, 2 Panel 182
14' 0" 4267 mm	13' 11 5/8" 4257 mm	14 Boxes, 10 Panels 232, 2 Panel 182, 1 Panel P93, 1 Spacer 68
16' 0" 4877 mm	15' 11 7/8" 4874 mm	16 Boxes, 11 Panels 232, 3 Panel 182, 1 Panel P93, 1 Spacer 68
Opening Height		
Door	Conform Opening	Conform Header Components
10' 0" 3048 mm	10' 0 1/4" 3054 mm	Length to suit
12' 0" 3658 mm	12' 0 1/4" 3664 mm	Length to suit

4. Typical Details

The “Typical Details” of our wall system are provided to help in the understanding of Conform. The CFD AutoCAD Typical Details are intended to assist architects, engineers and designers in the preparation of their construction drawings. The Typical Details indicate standard uses and applications for Conform. However, the final user is responsible to modify the drawings to suit the specific application, the local construction practices, and the local building codes.

The CFD AutoCAD Typical Details can be downloaded from the Nuform web site. The details are divided into two groups since they are provided in both metric units and imperial units. The details in each of the two groups are divided into five categories as shown below.

Metric Details	Imperial Details
• Architectural	• Architectural
• Foundation	• Foundations
• Typical Wall	• Typical Wall
• Floor	• Floor
• Roof	• Roof

A complete list of the typical details is provided in the “Readme” file that can be downloaded with the Typical Details from the Nuform web site. To further assist users, the Readme file contains lists of details that are applicable to each wall type.

Wall Type Details

- CF4
- CF6
- CF8
- CF8i

Also the Readme file contains lists of details that are applicable to specific wall types and applications.

Wall Application Details

- CF4 Car Wash
- CF6 Bearing Walls
- CF8i Wall Panels

Notes

We hope you found this guide informative while designing your project using Conform.

As always, our main goal at Nuform Building Technologies Inc. is to ensure that our valued customers are 100% satisfied with our service and with Conform. Should you have any questions or comments, we would like to hear from you. You may contact us at the following:

Please visit the Technical Resource Center section of our Web site at www.nuformdirect.com for the latest version of this guide. Please forward us any suggestions or comments for improving this guide. All suggestions for improvements will be given full consideration for future revisions.

PURCHASER IS SOLELY RESPONSIBLE FOR DETERMINING THE SUITABILITY FOR USE OR APPLICATION OF ANY GOODS, INCLUDING COMPONENTS THEREOF, OR WHETHER SUCH GOODS MEET REQUIREMENTS OF APPLICABLE BUILDING CODES OR SAFETY CODES FOR SPECIFIC APPLICATIONS.



The Revolutionary Stay-in-Place
Concrete Wall Formwork

For more photos and information, visit our Web site at
www.nuformdirect.com



Nuform Building Technologies Inc.

1 Regalcrest Court
Woodbridge, Ontario, Canada
L4L 8P3

Toll Free: 1 877-747-WALL (9255)
Tel.: 905-652-0001
Fax: 905-652-0002

PURCHASER IS SOLELY RESPONSIBLE
FOR DETERMINING THE SUITABILITY
FOR USE OR APPLICATION OF ANY
GOODS, INCLUDING COMPONENTS
THEREOF, OR WHETHER SUCH GOODS
MEET REQUIREMENTS OF APPLICABLE
BUILDING CODES OR SAFETY CODES
FOR SPECIFIC APPLICATIONS.