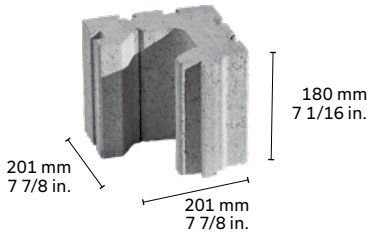
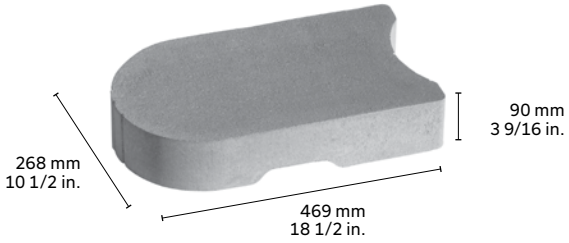
Tandem® Next System

SYSTEM ELEMENTS

TANDEM NEXT STRUCTURAL UNIT 180 mm

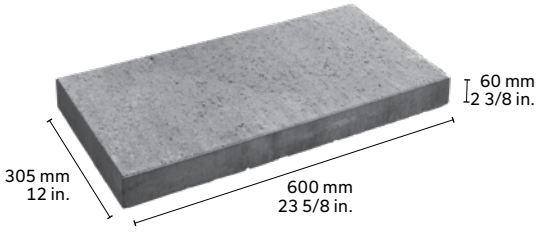


TANDEM NEXT STARTER UNIT



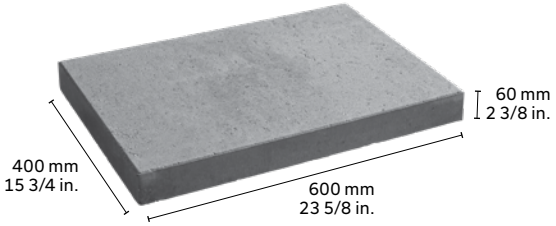
TANDEM NEXT UNIVERSAL CONNECTOR

MELVILLE PLUS STRAIGHT CAPPING UNIT



MELVILLE PLUS STEP UNIT

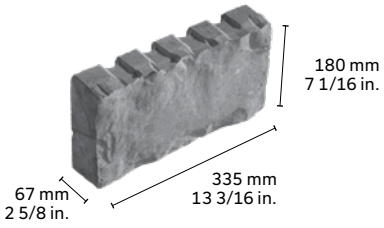
(FOR DOUBLE-SIDED WALL CAPPING)



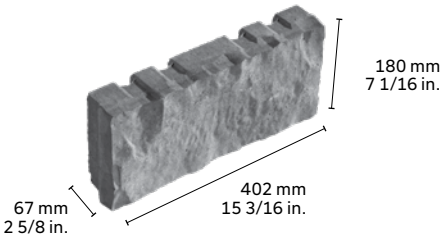
SYSTEM ELEMENTS (CONT'D)

LAFITT TANDEM VENEER UNITS 180 mm

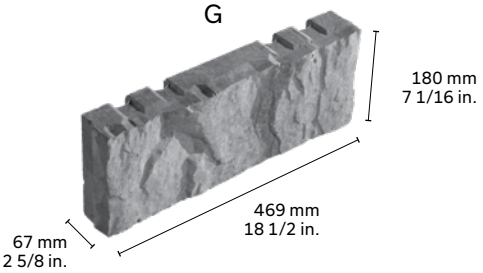
E



F



G



MELVILLE TANDEM VENEER UNITS 180 mm

E

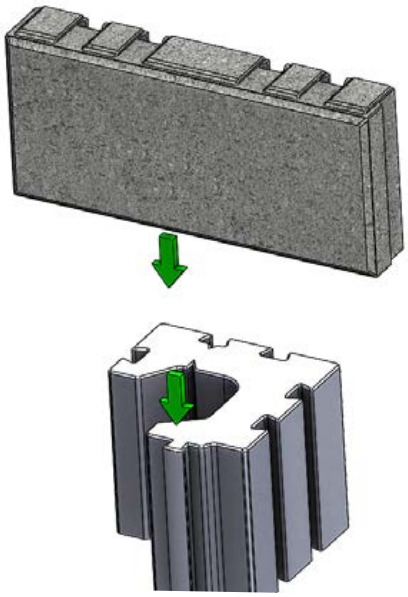
F

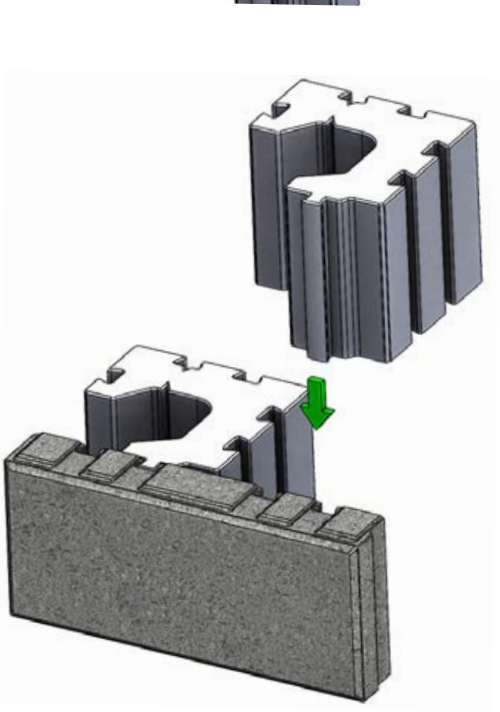
G

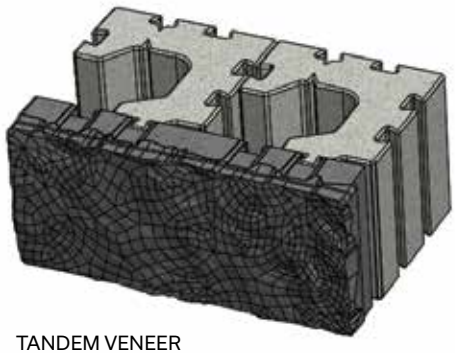
DESCRIPTION

The new Tandem Next 180 mm wall system allows the creation of retaining walls, double-sided walls, columns and stairs.

It applies the principle of interlocking a veneer unit into a structural unit with a dovetail joint (tenon and mortise or interlocking male/female system). Each structural unit has a vertical tenon (male side) and each veneer unit has at least two mortises (female side). The veneer units are joined to the structural units by simply sliding their tenon into the mortises to form the Tandem Next units.





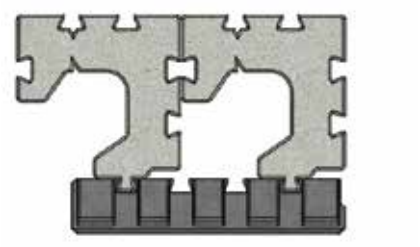


TANDEM VENEER
(LAFITT, MELVILLE)

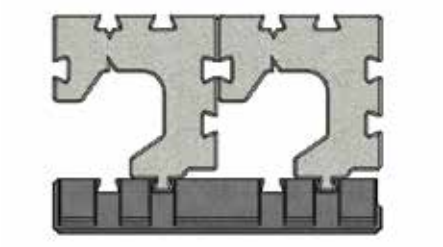
ASSEMBLY

Assembly of Tandem Next elements always requires the use of two structural units for one veneer unit, Melville and Lafitt Tandem. The structural units obviously must be positioned so that the tenons are always located behind a veneer unit.

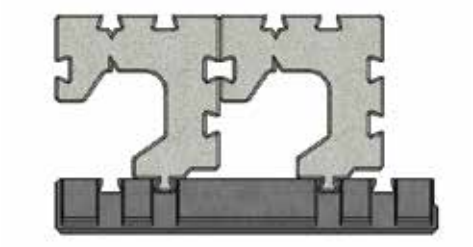
MURET TANDEM NEXT AVEC VENEERS TANDEM SYSTEM (LAFITT, MELVILLE)



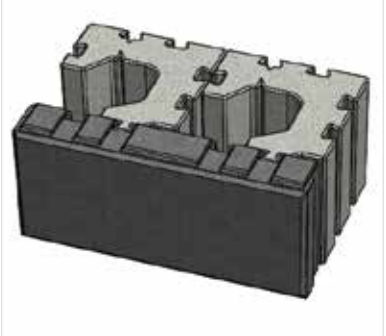
VENEER E

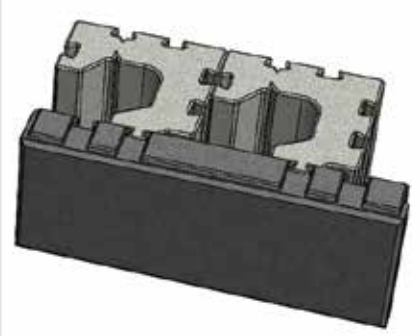


VENEER F



VENEER G



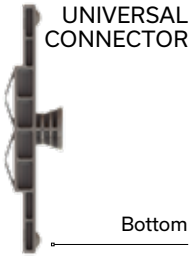


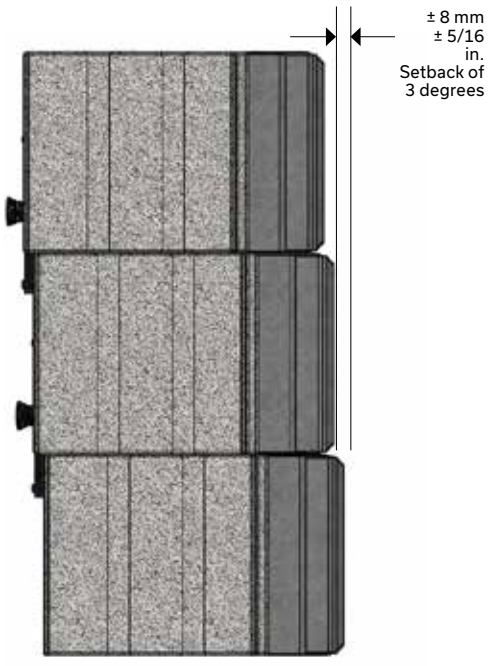
The structural units are reversible and the back can be oriented to the left or right depending on the veneer format used. It is recommended to place the structural units in the mortises farthest from a veneer whenever possible.

SLOPED WALL

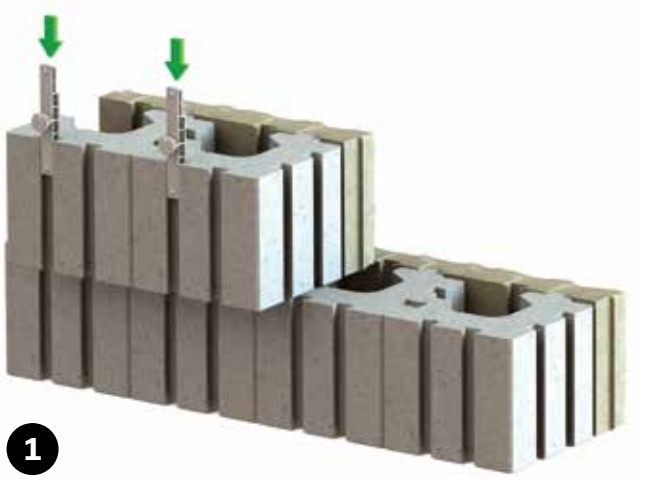
The Tandem Next wall system allows construction of vertical or sloped walls using the universal connector specially designed for this purpose. This connector is inserted in one of the two grooves located on the back of the structural units. The connectors are slid from the top of the grooves until they overlap the structure unit located below by a few centimetres. In general, one universal anchor is required for each structural unit.

To build a sloped wall, the connector must be placed as shown in the drawing. Simply push the Tandem Next unit forward until the connector locks it. This will form a setback of about 9 mm relative to the lower unit.





CROSS-SECTIONAL VIEW



1

Slide the universal connector as follows (one connector per unit)

2

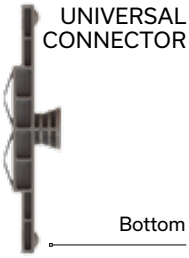
Exceed the lower part of the connector with the unit underneath

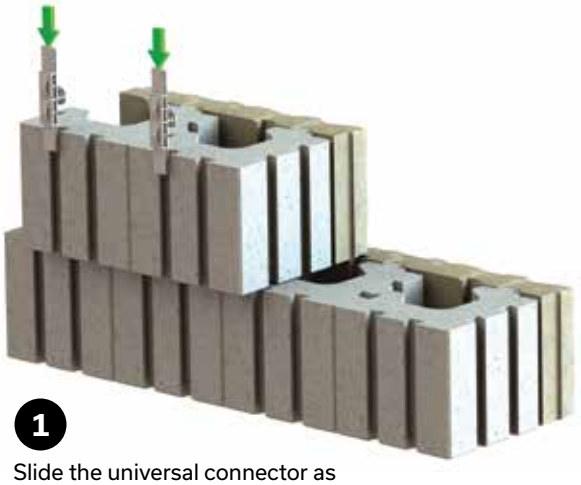
3

Push the unit forward until it locks

VERTICAL WALL

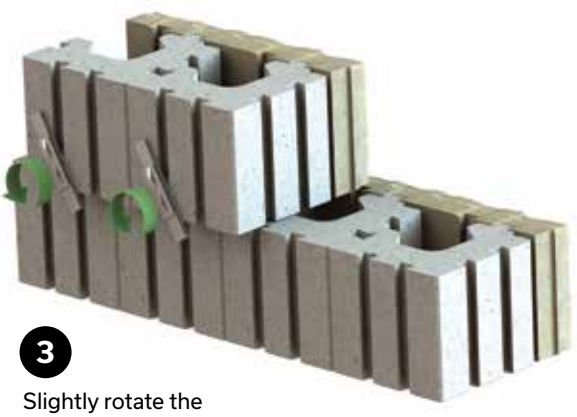
A vertical wall applies the same principle as a sloped wall, with the difference that the universal connector is simply turned 180 degrees (see the drawing). After insertion in a groove as far as the overlap with the unit underneath, the connector slopes slightly relative to the vertical. The Tandem Next unit then is pushed forward until it locks, to create a vertical wall.



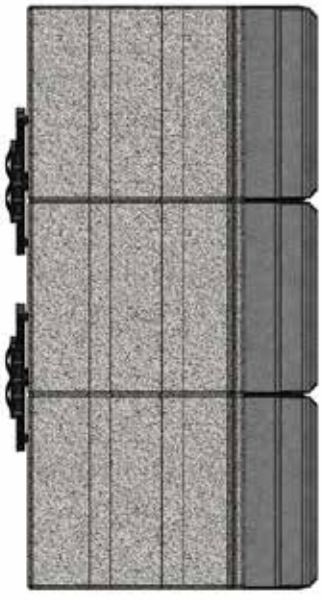


1 Slide the universal connector as follows (one connector per unit)

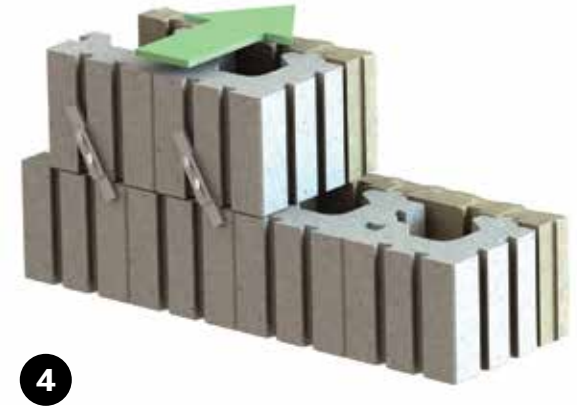
2 Exceed the lower part of the connector with the unit underneath



3 Slightly rotate the universal connector



CROSS-SECTIONAL VIEW



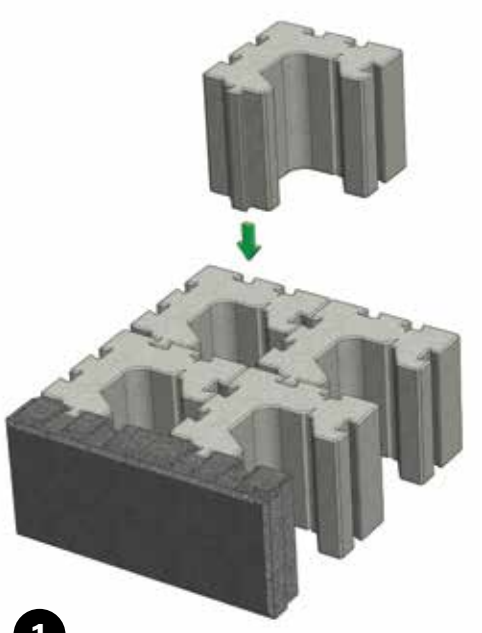
4 Push the unit forward until it locks

REINFORCING WALLS

WALL MORE RESISTANT TO LOADS

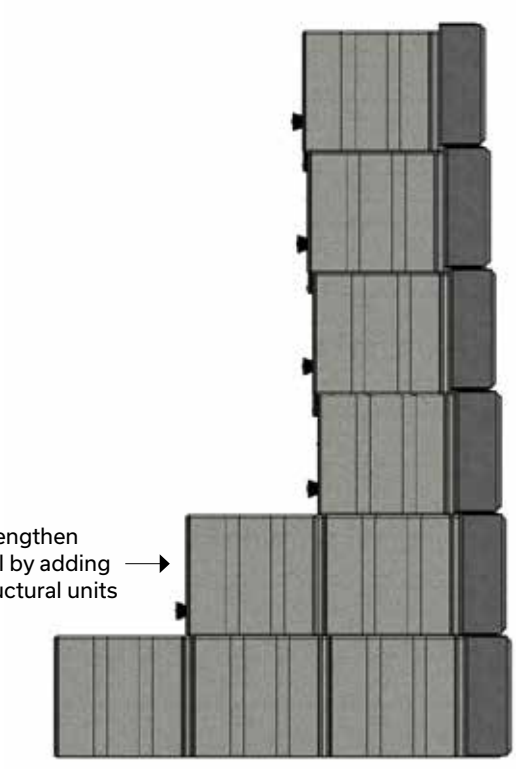
The maximum above-ground height of a Tandem Next retaining wall is 900 mm - 36 in. for a sloped wall and 560 mm - 22 in. for a vertical wall. A portion of the wall at least 150 mm - 6 in. high must be buried in the ground to ensure its stability.

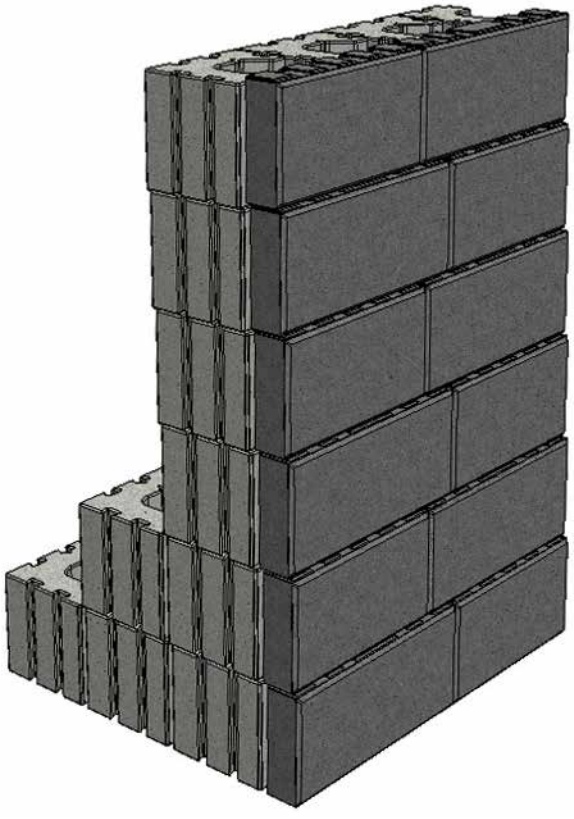
The flexibility of the Tandem Next system allows interconnection of structural units by using Tandem Next universal connectors. This has the advantage of being able to build stronger walls by adding units in the back.



1

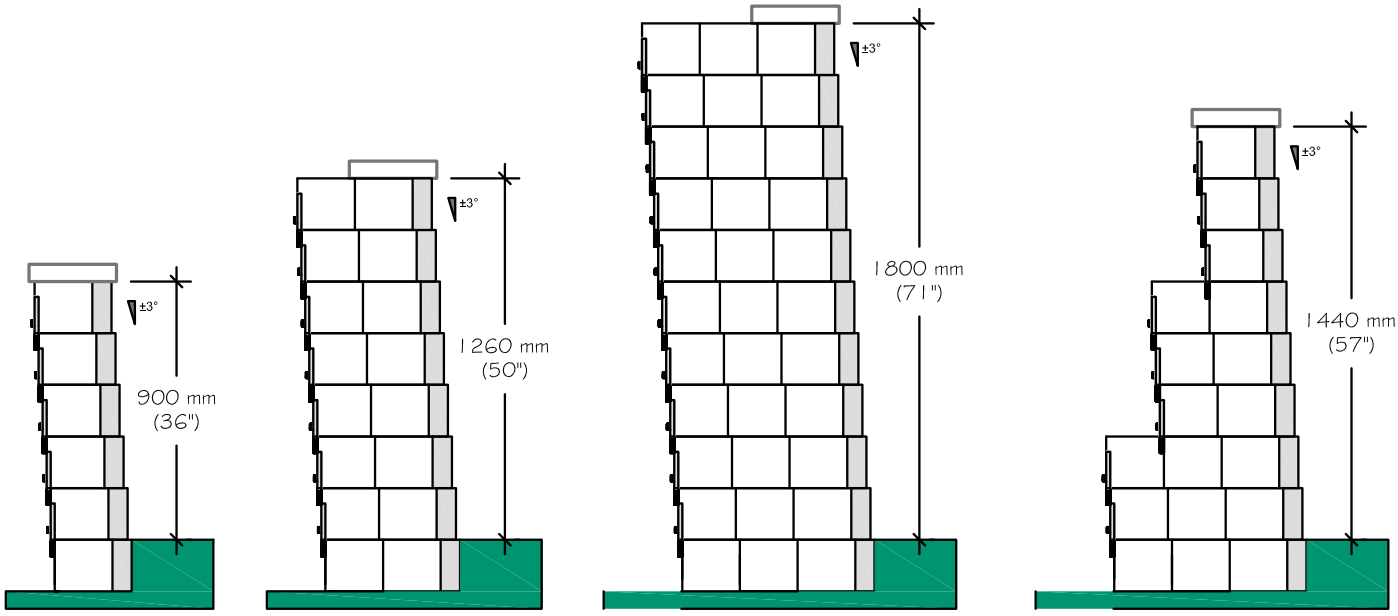
Install an additional structural unit by sliding the vertical tenon (male side) in the mortise (female side)



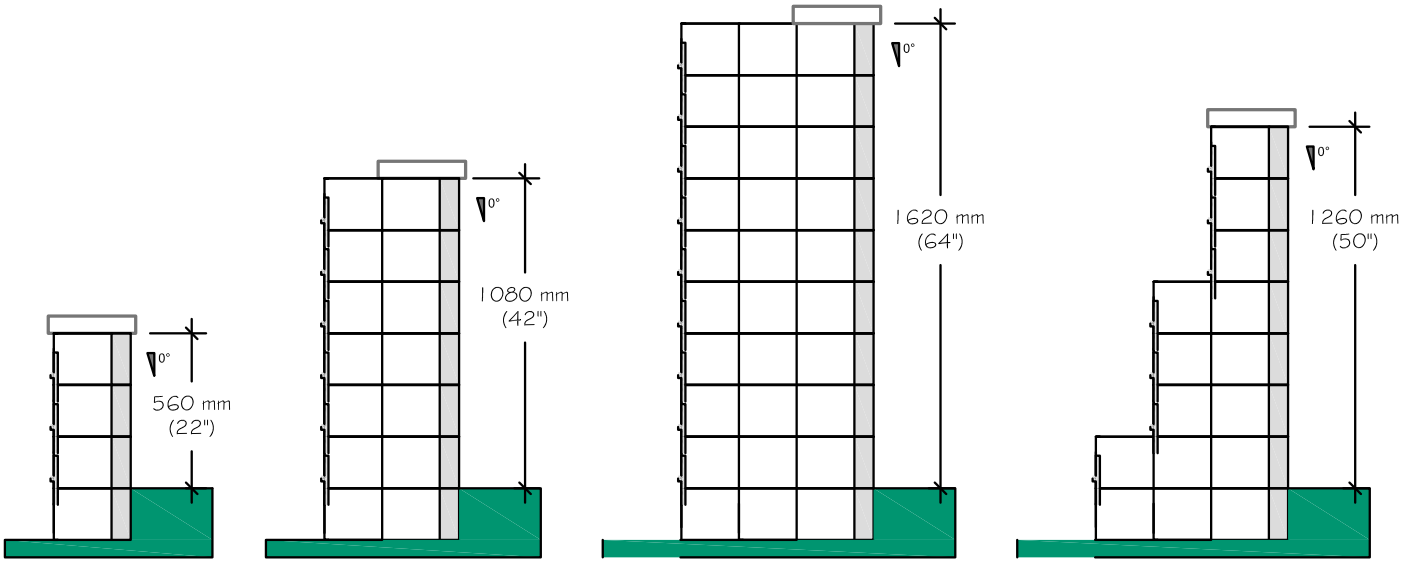


REINFORCING WALLS (CONT'D)

SLOPED TANDEM NEXT WALL

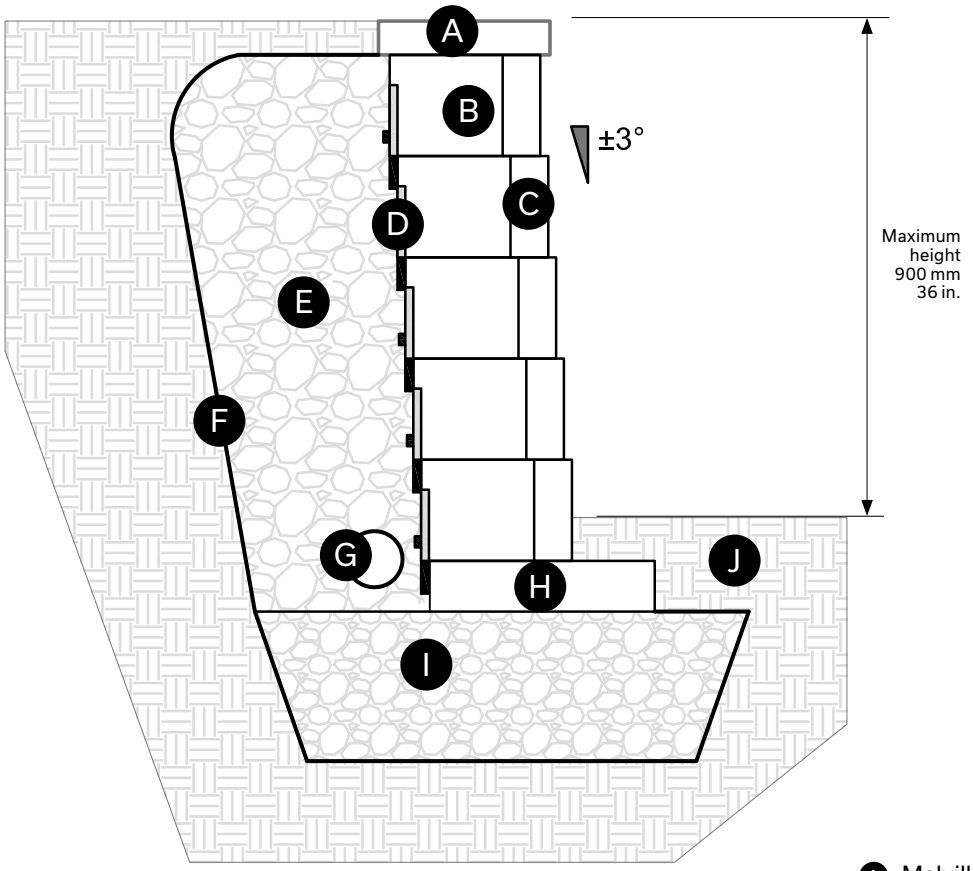


VERTICAL TANDEM NEXT WALL



CROSS-SECTION - TANDEM NEXT RETAINING WALL WITH INCLINATION

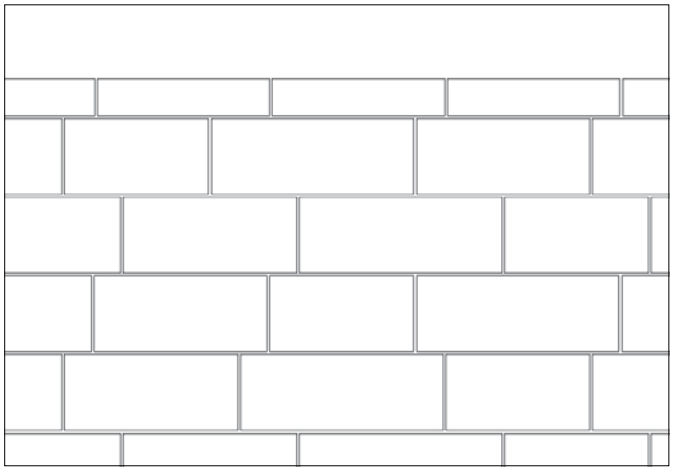
Here we present the general typical construction cross-section of a Tandem Next wall. The width of a Tandem Next retaining wall is 268 mm - 10 1/2 in.



- **A** Melville Plus capping unit (or other) 60 x 305 x 600 mm - 2 3/8 x 12 x 23 5/8 in.
- **B** Tandem Next wal structural unit 180 x 201 x 201 mm - with 20 mm - 3/4 in. clear crushed stone
- **C** 180 mm veneer unit (Tandem System)
- **D** Tandem Next universal connector
- **E** 20 mm - 3/4po clear stone 300 mm minimum
- **F** Geotextile membrane
- **G** Perforated drain 100 mm - 4 in. Ø connected to services
- **H** Starter unit 90 x 268 x 469 mm - 3 1/2 x 10 1/2 x 18 1/2 in.
- **I** 0 to 20 mm - 0 to 3/4 in. compacted granular foundation 300 mm - 12 in. minimum
- **J** Minimum buried depth 150 mm - 6 in.

LAYING PATTERN

LINEAR PATTERN
100 % Tandem 180



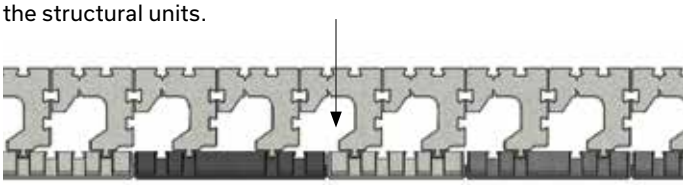
CONSTRUCTION OF A RETAINING WALL

STRAIGHT WALL

The construction of a Tandem Next wall begins with the placement of the starter units installed side by side (the longest side).

Install a first row of structural units at random on the starter units, using all the formats in equal proportions and following the indications for the typical cross-section. Then insert the veneer units in the structural units as described previously, and provide for the placement of the universal connectors depending on the chosen slope of the wall. The next rows are installed in the same way, avoiding alignment of the vertical joints of one row to another.

Clean stone must be installed behind the structural units. It is also recommended to install clean stone **in the empty spaces** of the structural units.

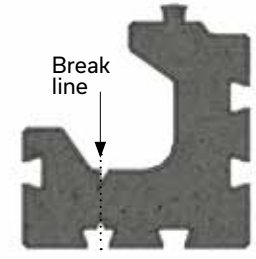


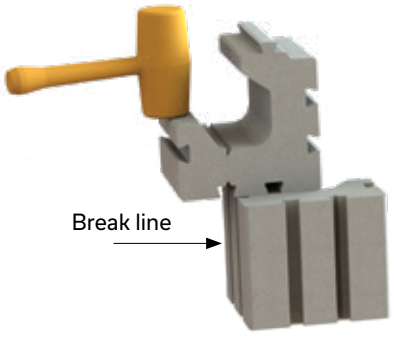
Melville and Lafitt Tandem

CURVED WALL

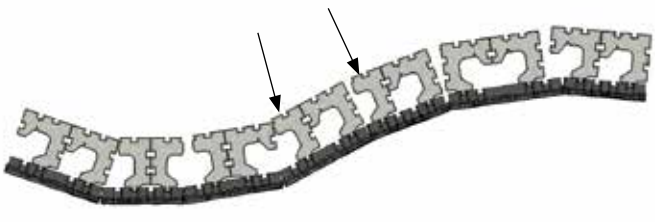
The construction of a Tandem Next curved wall begins with the placement of the starter units installed side by side (the longest side), bevelling the units to form the required curve.

Building a concave or convex curved walls is possible with the Tandem Next system. The use of smaller veneer units allows reduction of the bending radius. The back part of the structural units sometimes must be cut as illustrated to create the bevelled elements necessary for the construction of curved walls. The minimum bending radius of a Tandem Next wall is 2.4 m - 8 ft.





To close a concave curve, break the end of the unit with a hammer



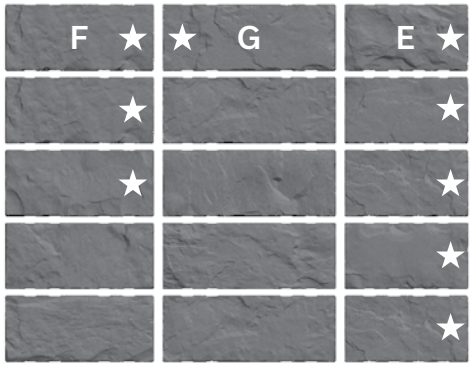
CONSTRUCTION OF A RETAINING WALL (CONT'D)

BUILDING A 90° OUTER CORNER

It is recommended to always begin a wall with a corner. A 90° outer corner is produced by using the veneers specially designed for this purpose, depending on the chosen type of veneer. The veneer units all contain integrated corners, but in different proportions depending on the chosen type of veneer.

A Lafitt Tandem 180 veneer cube contains 8 units with one 90° corner side per row. All the Melville Tandem 180 veneer units contain one corner side.

Stacking position on pallets
(with a textured end)

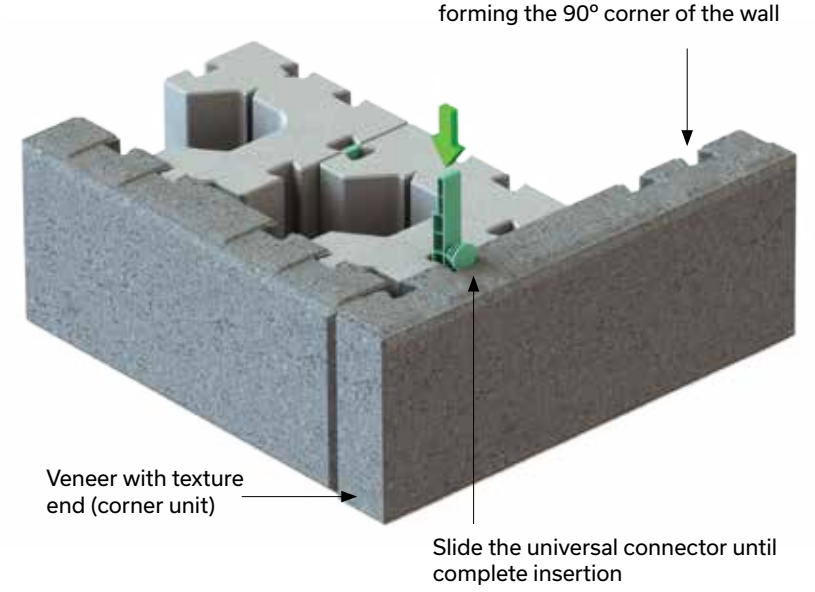


LAFITT TANDEM – 180 MM UNITS

90° CORNER WALL PRINCIPLE

The veneer units are reversible to form left or right corners. For each row, the veneer that forms thecorner is affixed to the structural unit using a Tandem Next universal anchor. The position of the veneer is alternated 90° from one row to the next. We recommend gluing the elements used to make the corner of each row, using concrete adhesive. Spread the adhesive on the veneer units or the structural units or both. Only one universal anchor per row is required to form a corner. Long veneers must be affixed to the structural unit following the corner (tenons and mortise).

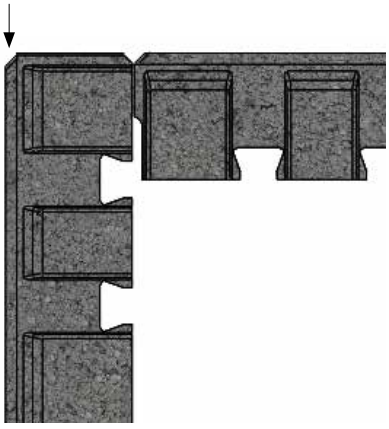
It is possible to add other structural units in the corners of a wall to strengthen it, if required.

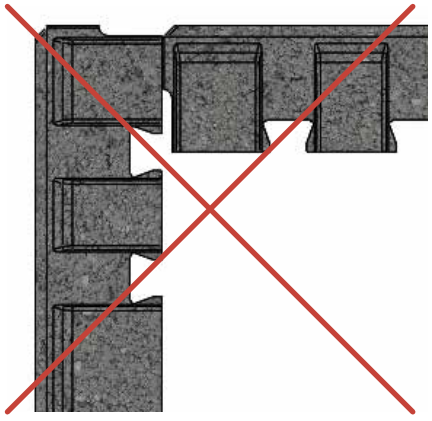


CONSTRUCTION OF A RETAINING WALL (CONT'D)

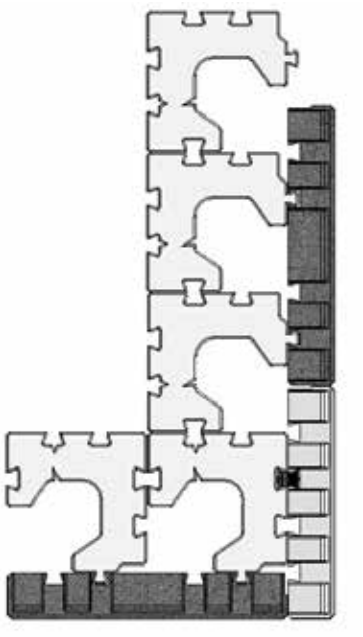
BUILDING AN OUTER 90° CORNER WITH TANDEM VENEER (MELVILLE, LAFITT)

Always use veneers with texture end (corner unit) to build a corner

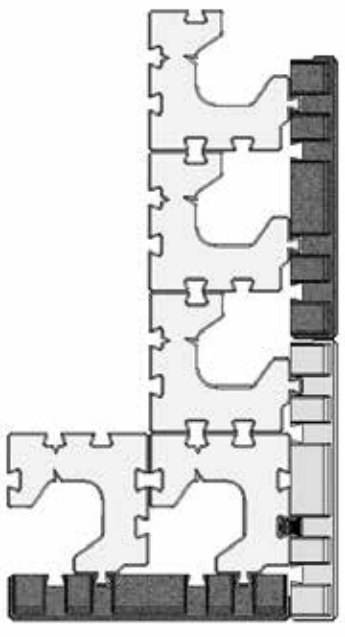




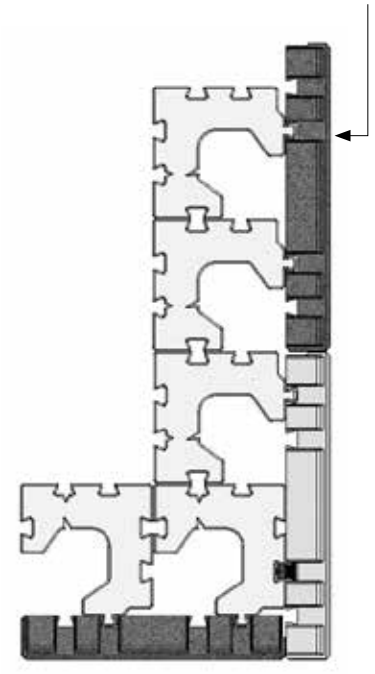
Make sure to put the tenon of a second structural unit on the veneer forming the corner of the wall



WITH VENEER E



WITH VENEER F

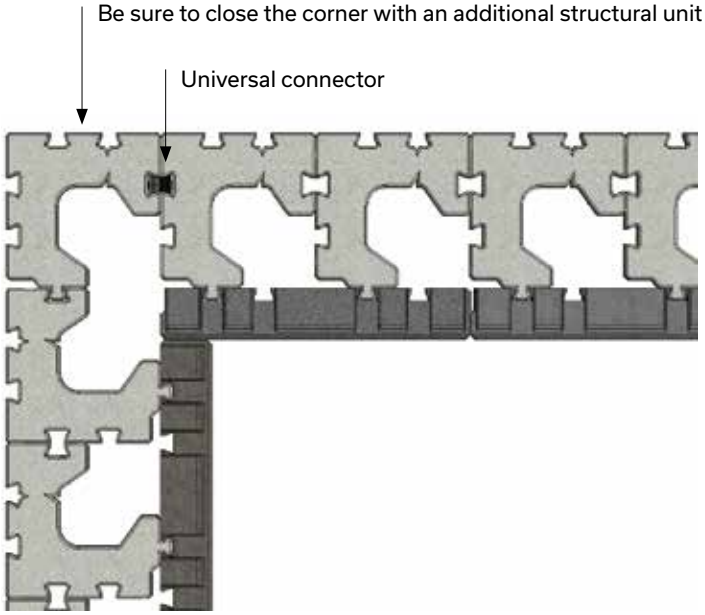


WITH VENEER G

CONSTRUCTION OF A RETAINING WALL (CONT'D)

BUILDING A 90° INNER CORNER

Building an inner corner is based on the principle illustrated opposite. The solidity of an inner corner is assured by the placement of a structural unit forming the back corner of the wall. This additional unit is anchored to the others with a Tandem Next universal connector.



MELVILLE AND LAFITT TANDEM VENEER

TANDEM NEXT RETAINING WALL CAPPING

Tandem Next retaining walls can be capped with different types of products:

> Melville Plus 60 capping unit

> Lafitt Plus 90 capping unit

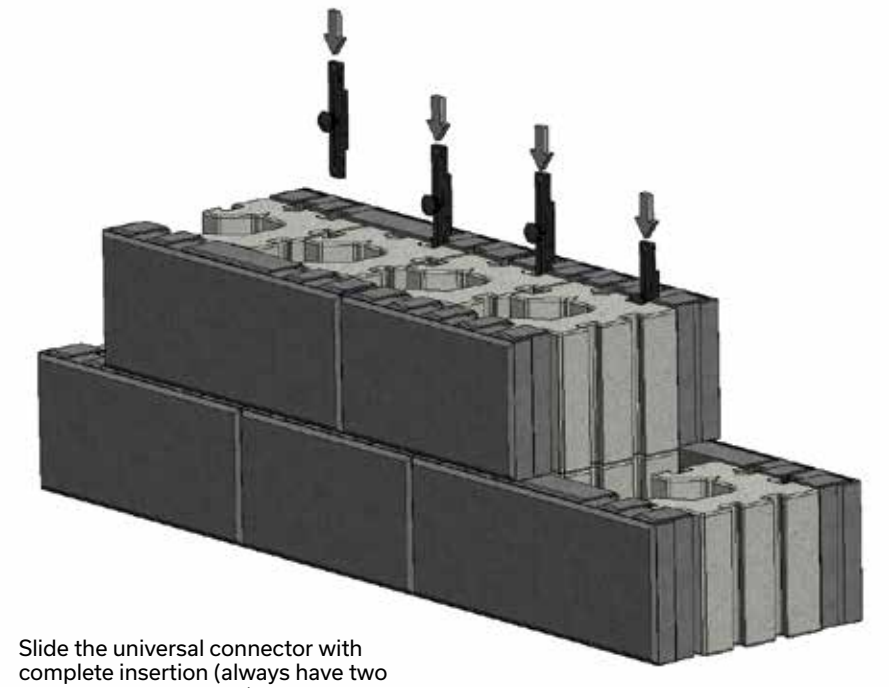
> Celtik Plus Straight 90 capping unit

The capping units must be glued to the last row of units, using an appropriate concrete adhesive. For the curved parts, certain elements must be bevelled to follow the curve of the wall.

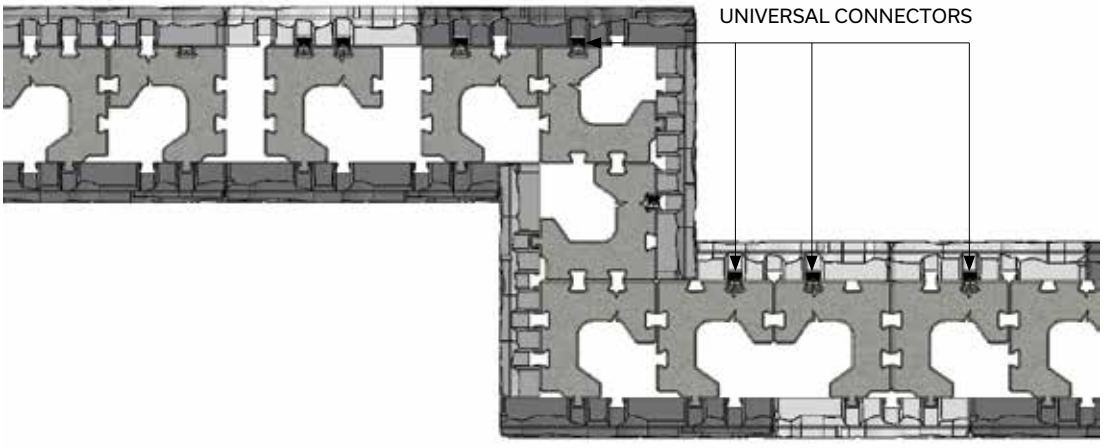
TANDEM NEXT DOUBLE-SIDED WALL

A double-sided wall is built without a slope and thus is vertical. Installation of a Tandem Next double-sided wall requires the use of veneer units, which are affixed to each side of the Tandem Next structural units. The basic principle is to build a Tandem Next wall and add veneer units in the back, affixing them with Tandem Next universal connectors in the vertical position. The outer corners of a double-sided wall must be built by using corner veneer units. The flexibility of the Tandem Next system is based on the fact that the structural units can be positioned in several ways, ensuring that each veneer can be affixed to them by tenons or by universal connectors.

TANDEM NEXT DOUBLE-SIDED WALL WITH TANDEM VENEER (MELVILLE, LAFITT)

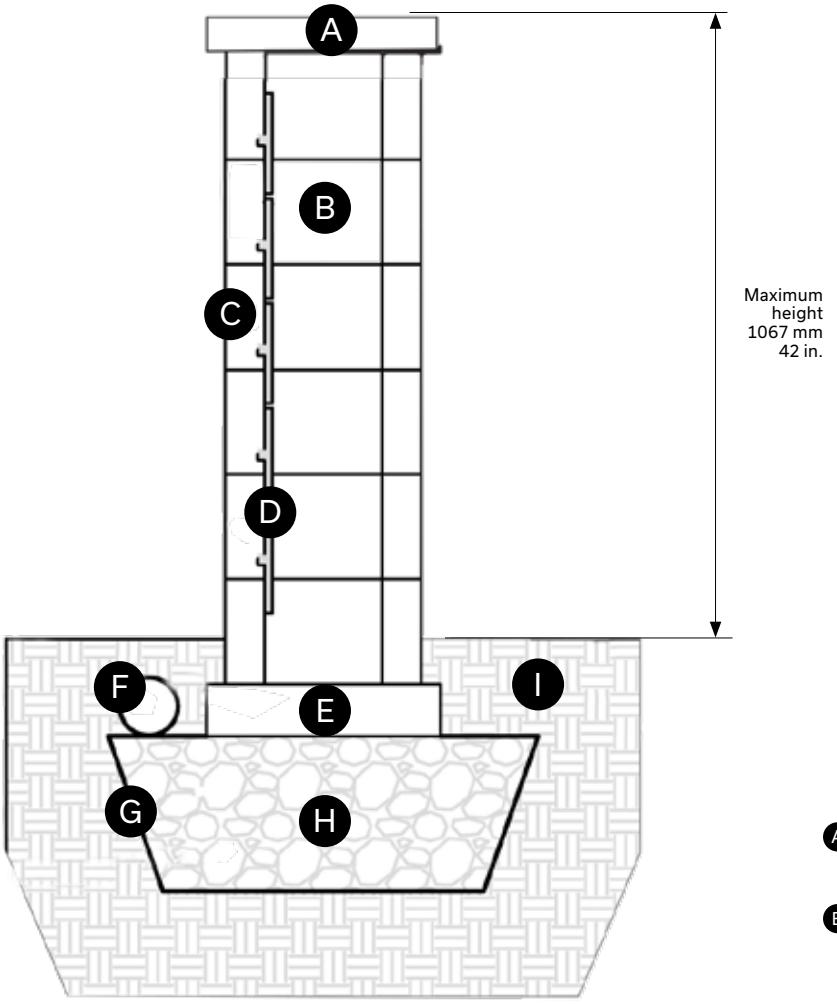


Slide the universal connector with complete insertion (always have two connectors per veneer)



CROSS-SECTION - TANDEM NEXT DOUBLE-SIDED WALL

A typical cross-section of a double-sided wall is shown here. A Tandem Next double-sided wall rests on a first base course made with starter units installed side by side (the longest side). The units are placed at random, avoiding alignment of the vertical joints of one row to another. It is essential to glue each row together (inducing the base course), using concrete adhesive. Spread the adhesive on the veneer units or the structural units or both.



- A Melville Plus wall step unit
  60 x 400 x 600 mm - 2 3⁄8 x 15 3⁄4 x 23 5⁄8 in.
- B Tandem Next wall structural unit
  180 x 201 x 201 mm with clear crushed stone 20 mm - 3/4 in.
- C 180 mm veneer unit (Tandem System)
- D Universal connector Tandem Next
- E Starter unit 90 x 268 x 469 mm - 3 1/2 x 10 1/2 x 18 1/2 in.
- F 100 mm Ø - 4 in. perforated drain pipe connected to sewer services
- G Geotextile membrane
- H 0 to 20 mm - 0 to 3/4 in. compacted granular foundation 300 mm - 12 in. minimum
- I Minimum buried depth 150 mm - 6 in.

TANDEM NEXT DOUBLE-SIDED WALL END

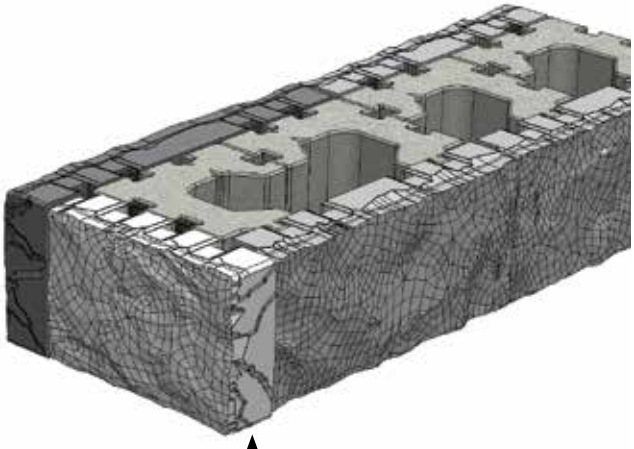
The construction details of a double-sided wall end are shown here. The veneer units must be cut to 268 mm - 10 1/2 in. to allow their installation. Only the smallest veneer unit must be used to finish a double-sided wall (unit A Tandem Next and unit E for Tandem veneers). It will be necessary to use two universal anchors to affix these elements. It is suggested to use concrete adhesive to glue together the elements forming the end of a wall, at each row.

The width of a Tandem Next double-sided wall is 335 mm - 13 3/16 in. and its maximum above-ground height is 1067 mm - 42 in.

DOUBLE-SIDED TANDEM NEXT WALL CAPPING

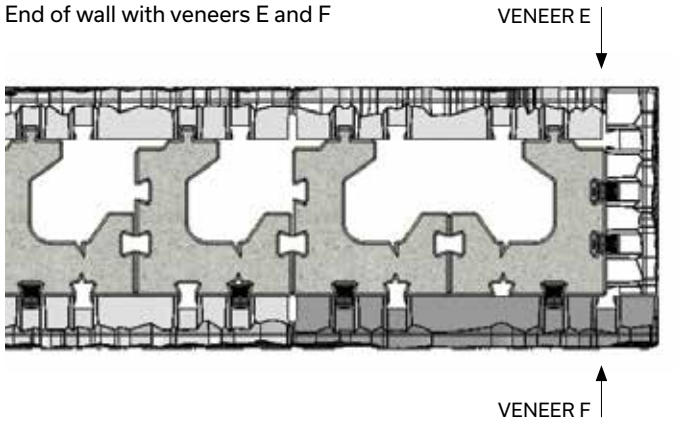
Tandem Next double-sided walls can be capped with different types of products: Melville Plus 60 step and Melville Plus 90 step.

END OF WALL WITH TANDEM SYSTEM

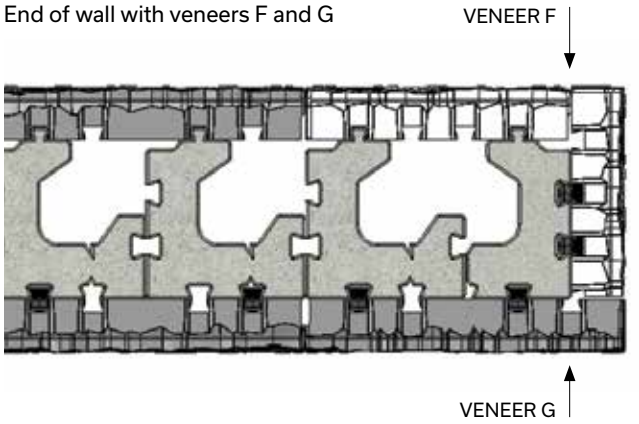


Veneer with texture at the end (corner unit)

End of wall with veneers E and F



End of wall with veneers F and G



TANDEM NEXT COLUMN

Columns can be built with the Tandem Next system. The veneer units are secured to the structural units with their tenon and with universal connectors. It is possible to create a space in the centre of the column so that a post can be inserted. However, this post most not be structural (for example, the post can serve as a lamppost).

Four column formats are possible:

> 402 x 402 mm - 15 7/8 x 15 7/8 in.

> 469 x 469 mm - 18 1/2 x 18 1/2 in.

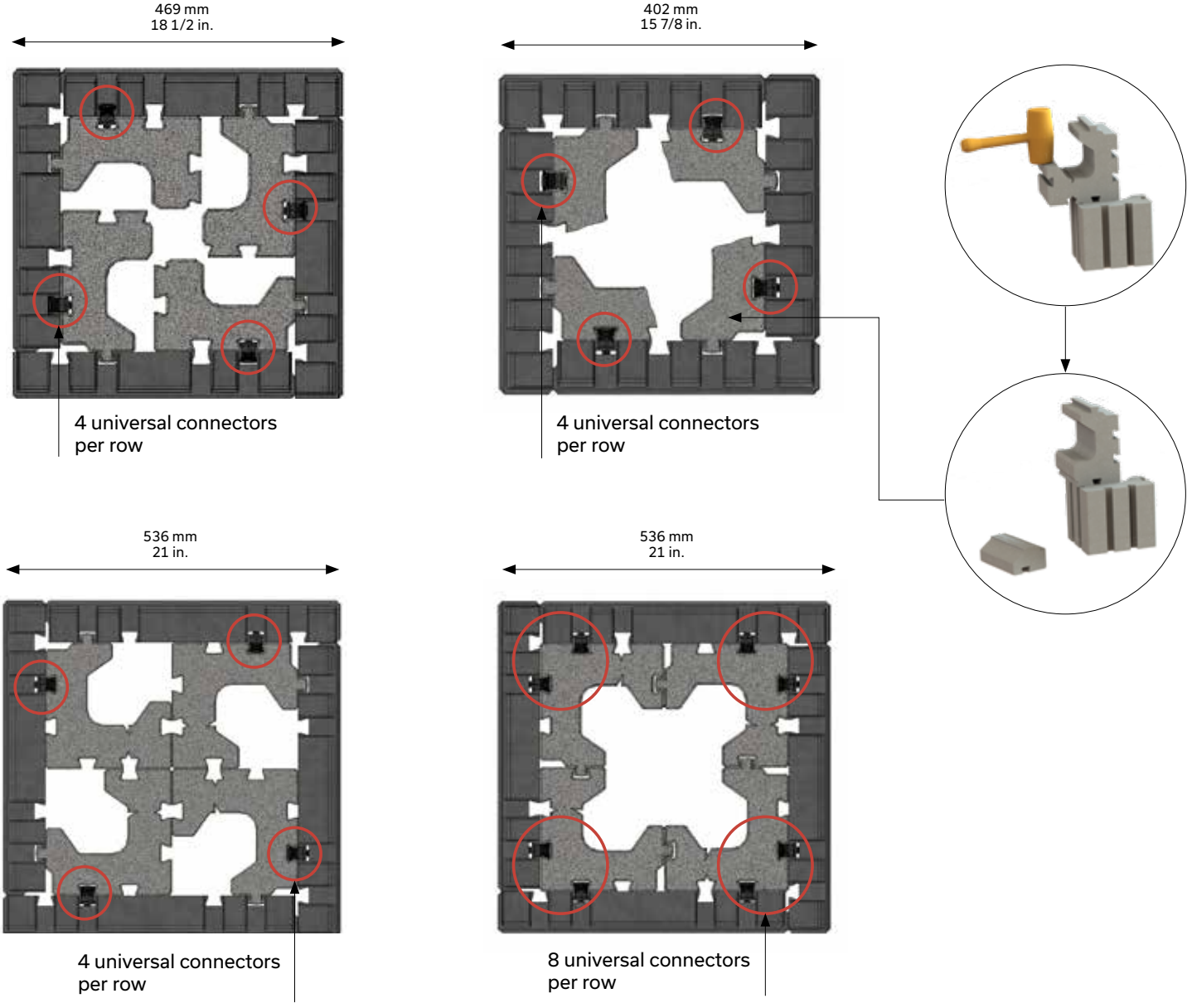
> 536 x 536 mm - 21 1/4 x 21 1/4 in.

A Tandem Next doubled-sided wall rests on a first base course made with starter units. We propose five types of construction of columns in different formats. This type of construction requires the creation of 90° corners. The position of the veneer is alternated by 90° from one row to another. It is essential to glue each row together (including the base course), using concrete adhesive. Spread the adhesive on the veneer units or the structural units or both. The construction of Tandem Next columns will require that only units with the same format be used. This will leave surpluses in the other formats on the same pallet.

The smallest column formats require cutting of the structural units (see drawings). To increase the overall solidity of a column, it is possible to install universal connectors at the centre of a column 536 x 536 mm (21 x 21 in.) that joins the four structural units. The empty spaces at the centre of the column must be filled with clean stone. The maximum height of a column is limited to 1080 mm - 42 1/2 in., which includes a portion buried in the ground of at least 150 mm - 6 in.

NOTE: We recommend using only Melville Tandem veneers to build columns.

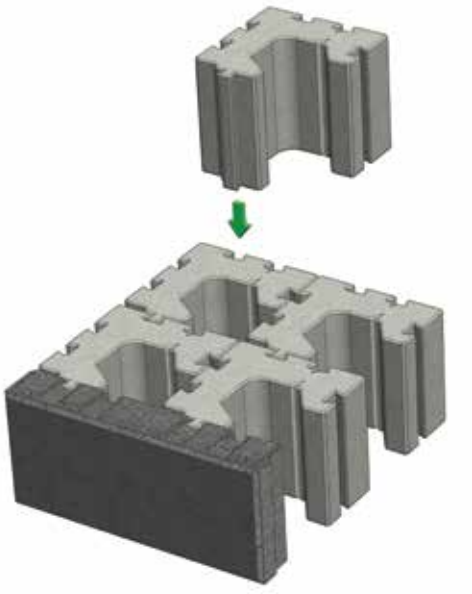
MELVILLE TANDEM NEXT VENEER COLUMN



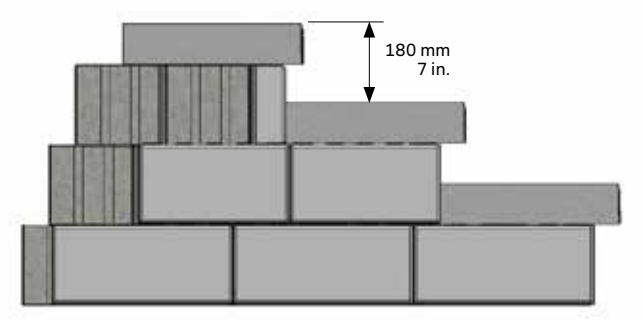
NOTE: The structural units can be joined with additional universal anchors in the centre to increase the strength of the column.

BUILDING OF STAIRS

The Tandem Next system allows the building of stairs. The construction of Tandem Next landings at each level of the stairs ensure maximum stability of the entire structure. We show the basic principles here.

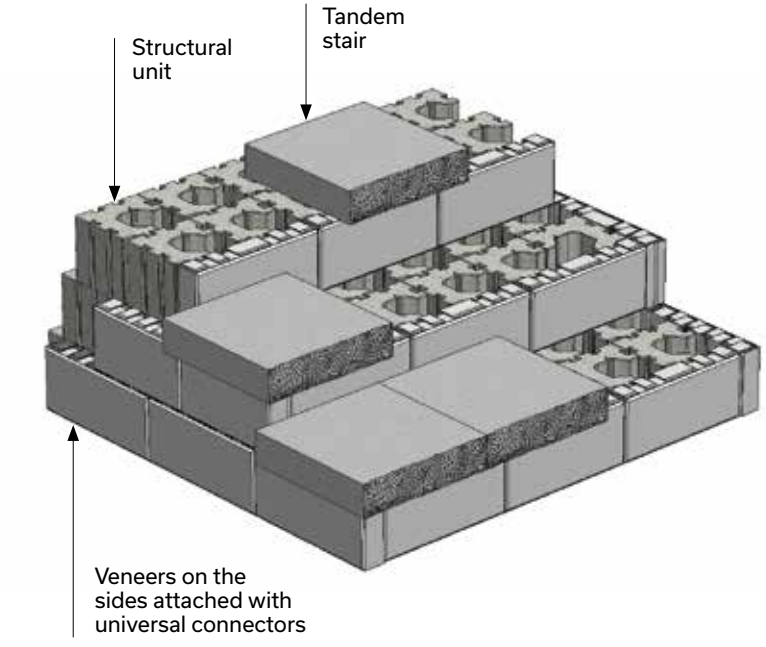


Install an additional structural unit by sliding the vertical tenon (male side) into the mortise (female side)



SIDE VIEW

A first landing is installed with the structural units attached together with universal connectors. The size of this landing varies with the number of stairs to be constructed. The veneer units are then placed all around and secured with universal anchors. A second landing is constructed above according to the same procedure by installing a series of stairs in front, secured with concrete adhesive. Construction continues until the last stair. The Tandem Next System stairs can be produced using different products: Melville Plus 60 step, Melville Plus 90 step and Lafitt Plus 90 step.

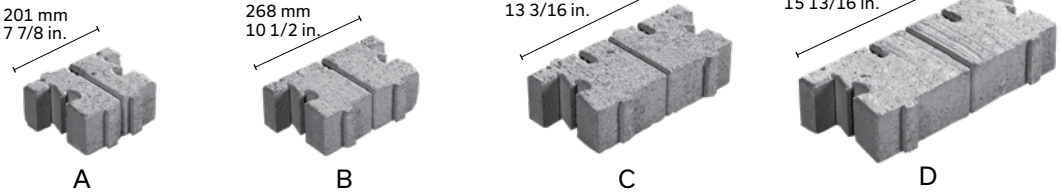


Tandem System®

SYSTEM ELEMENTS

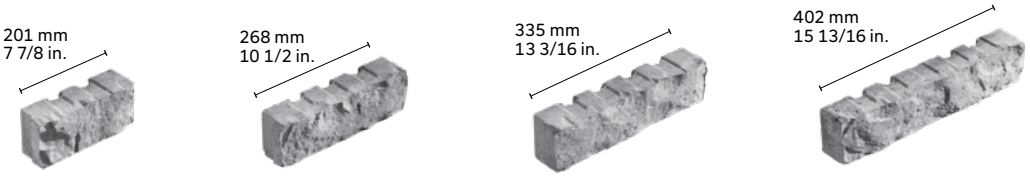
90 MM VENEER UNITS

STRUCTURAL
Height: 90 mm - 3 9/16 in.
Depth: 155 mm - 6 1/8 in.



A B C D

LAFITT
Height: 90 mm - 3 9/16 in.
Depth: 67 mm- 2 5/8 in.



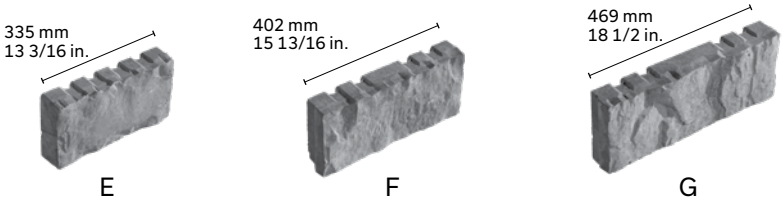
A B C D

MELVILLE
Height: 90 mm - 3 9/16 in.
Depth: 67 mm - 2 5/8 in.

A B C D

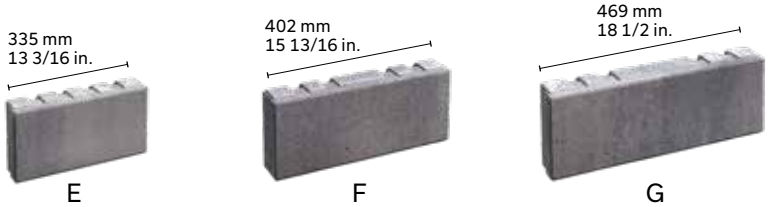
180 MM VENEER UNITS

LAFITT
Height: 180 mm - 7 1/16 in.
Depth: 67 mm - 2 5/8 in.



E F G

MELVILLE
Height: 180 mm - 7 1/16 in.
Depth: 67 mm - 2 5/8 in.

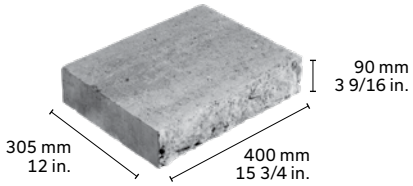


E F G

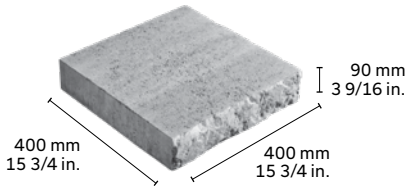
SYSTEM ELEMENTS

OTHER UNITS (SOLD SEPERATELY)

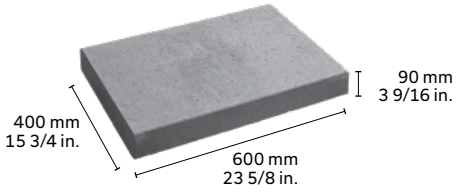
LAFITT PLUS STRAIGHT CAPPING



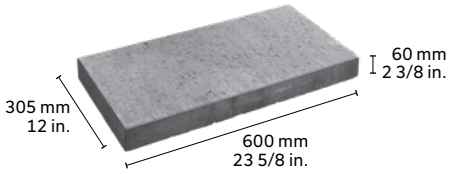
LAFITT PLUS STEP



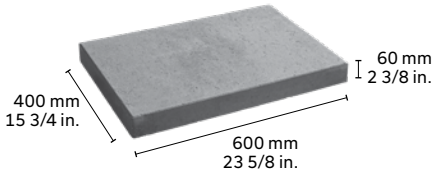
MARCHE MELVILLE PLUS 90



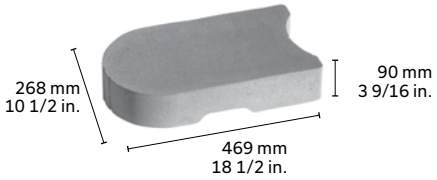
MELVILLE PLUS STRAIGHT CAPPING



MELVILLE PLUS 60 STEP



STARTER UNIT



ANCHORS AND CONNECTORS

SETBACK ANCHOR

DOUBLE-SIDED CONNECTOR

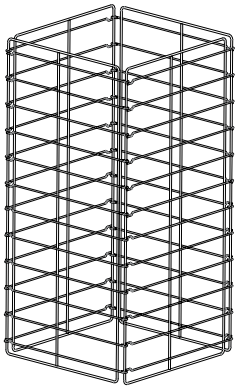
CORNER ANCHOR

TANDEM GRID CONNECTOR

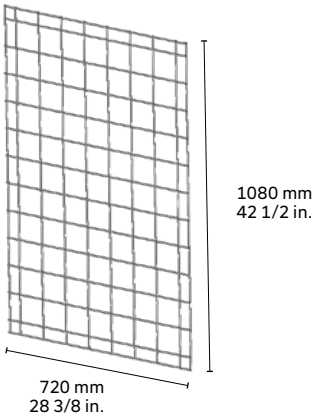
DOUBLE-SIDED CONCRETE CONNECTOR

OTHERS

TANDEM GRID PILLAR KIT



TANDEM MODULAR GRID



TANDEM SHELF ANGLE

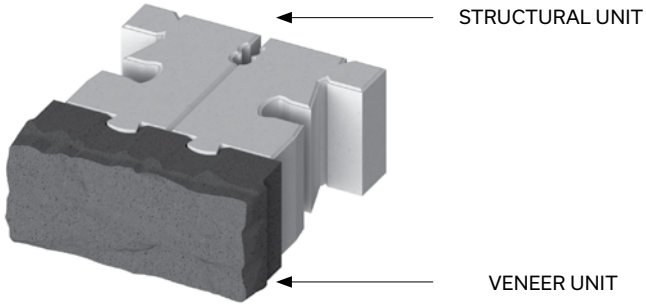
64 x 64 x 2439 mm
2 1/2 x 2 1/2 x 8 in.

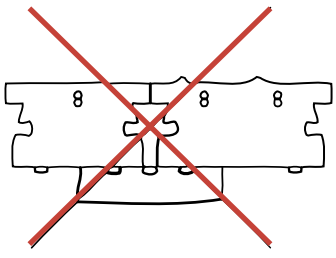
Each Tandem Grid Pillar Kit comes with 1 bag of 200 Tandem grid connectors.
Each Tandem Modular Grid comes with 1 bag of 60 Tandem grid connectors, 1O screws #1O x 1 1/4 in. and 10 loop clamps.

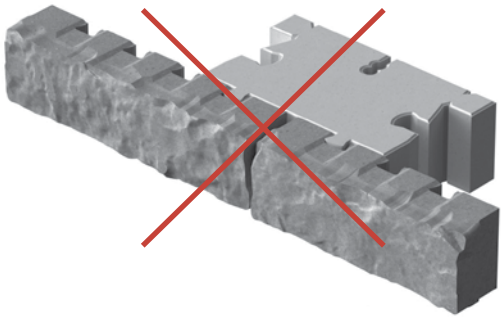
UNIT ASSEMBLY

TANDEM 90

Tandem 90 units are 3 9/16 in. (height). For each structural unit, there is a veneer unit of the same length and height. The unit can be assembled using the dovetail joint (an interlocking male/ female system). Each structural unit has two vertical tenons (male side) and each veneer unit has at least two mortises (female side). The veneer units are joined to the structural units by simply sliding the mortises into the tenons to create the Tandem unit. There are two types of veneer units, Lafitt and Melville Tandem units. The total depth of the unit is 222 mm - 8 3/4 in.







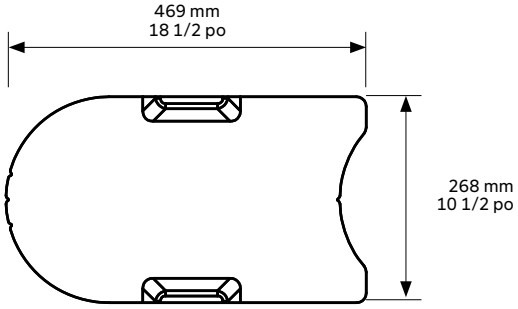
ATTENTION: In general, do not overlap two veneer units on a single structural unit of the same height, and do not overlap two structural units on a single veneer unit.

Building a Tandem Retaining Wall

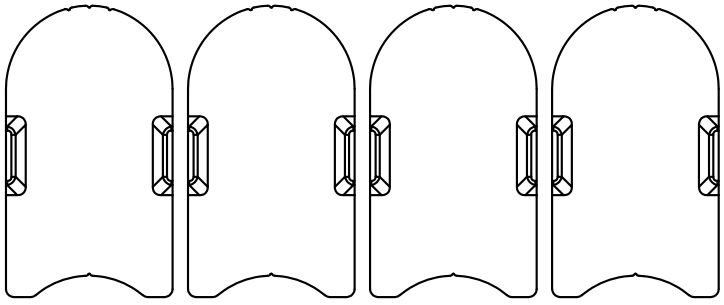
STARTER UNIT

The first course of the Tandem wall is built using the Tandem wall starter unit. This is to be installed directly on the granular base foundation and levelled. The unit is bevelled to make it easy to install curved walls.

The use of starter units is strongly recommended given that the Tandem units (structural and veneer units) can then be placed on a uniform base ensuring overall wall stability.



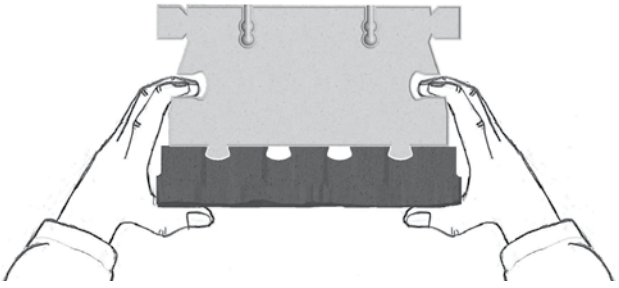
STARTER UNIT



INSTALLATION OF STARTER UNITS
PLAN VIEW

PREASSEMBLY

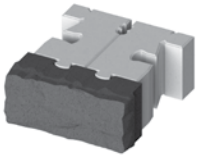
90 unit: It is best to pre-assemble veneer and structural units before beginning to stack them in building the wall. Once pre-assembled, Tandem units are randomly installed on starter units, using the four different sizes.



RECOMMENDED HANDLING FOR THE TANDEM 90 UNIT

STRUCTURAL UNIT

VENEER UNIT



TANDEM UNIT

ANCHOR SYSTEM

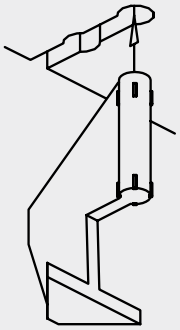
The way in which the setback anchor is positioned in the Tandem wall system determines the slope of the wall. This positioning is what allows for either vertical or sloped walls.

Generally, at least one setback anchor must be installed per Tandem 90 unit, to make sure the wall is stable. Setback anchors come with or without blades. No-blade setback anchors are used in curved walls. Both types of anchor can be used in straight walls.

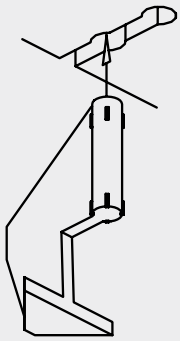
Allowable heights[1] : 650 mm - 26 in. without a slope (0°, vertical);
1 050 mm - 42 in. with a slope of 9°

For a 9° of slope, the setback per row of 90 mm is 14 mm - 9⁄16 in.

[1] Maximum height of the wall including the buried portion of 150 mm - 6 in. without additional load or embankment above the wall



Position for building a wall on a 9° slope.
Maximum height of 1.05 m - 42 in.



Position for building a vertical wall.
Maximum height of 0.65 m - 26 in.

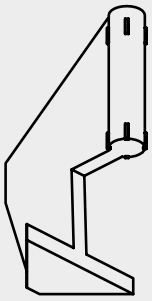
THERE ARE SEVERAL WAYS TO BUILD A TANDEM RETAINING WALL:

> By using only Lafitt or Melville Tandem 90 units

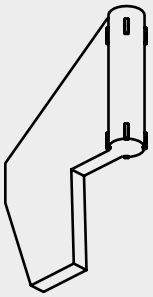
> By using only Lafitt or Melville Tandem 180 units

> By combining Lafitt or Melville Tandem 90 and 180 units together, to make a single wall

It is possible to use Lafitt and Melville Tandem Veneer units in the same wall.

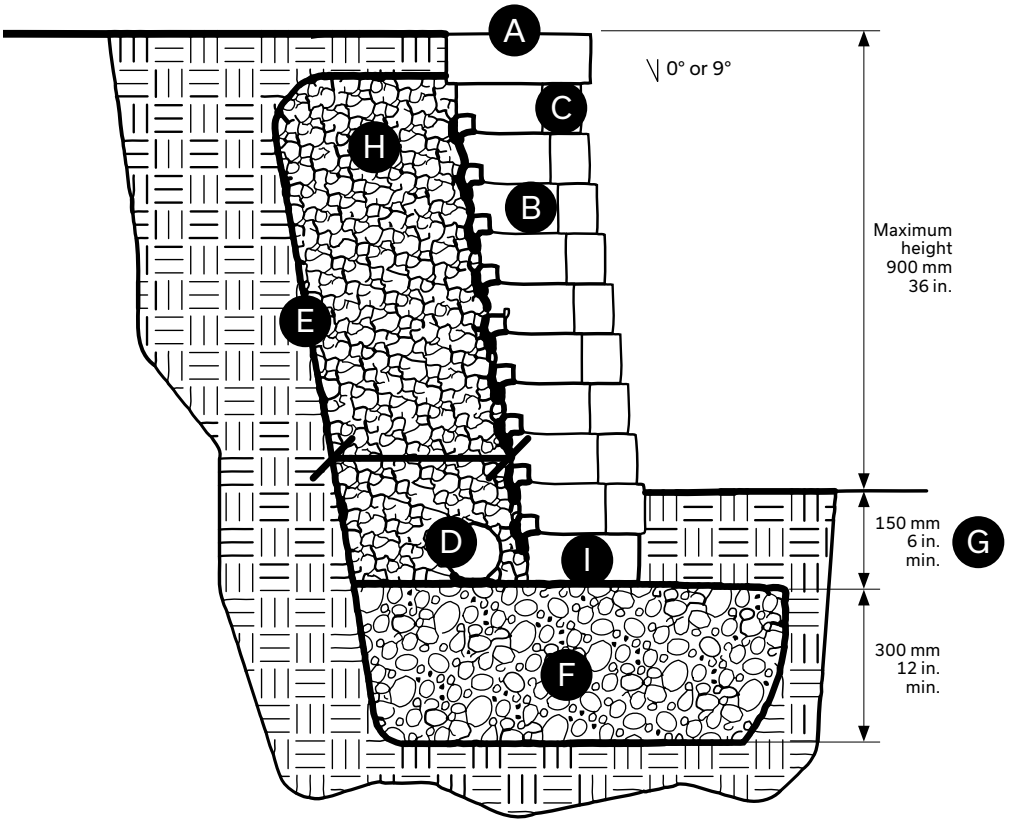


C1 - Base model



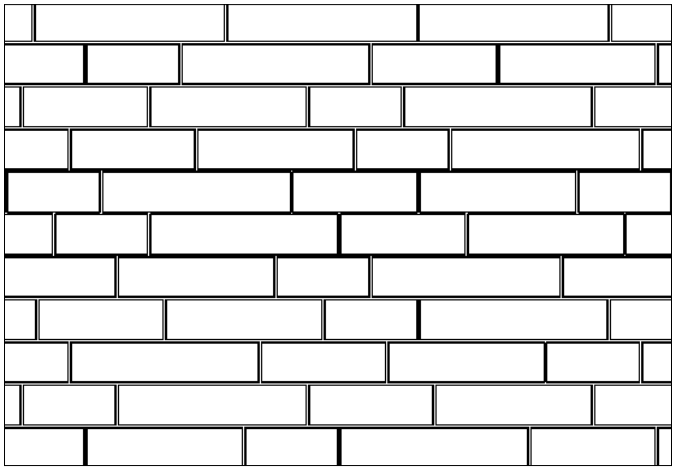
C2 - Model without blades

CROSS-SECTION - LAFITT AND MELVILLE TANDEM 90 WALL



LAYING PATTERN

LINEAR PATTERN
100 % Tandem 90



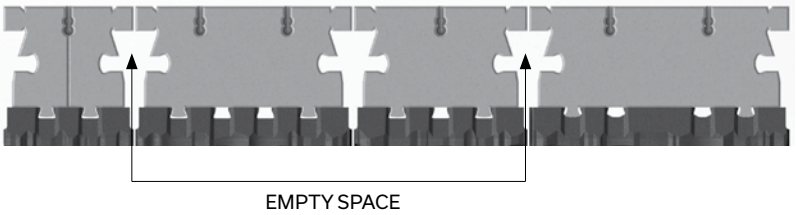
- A Straight capping unit
  90 x 305 x 400 mm - 3 9/16 x 12 x 15 3/4 in. OR
  60 x 305 x 600 mm - 2 3/8 x 12 x 23 5/8 in.
- B Structural unit 90 x 155 mm x variable (201, 268, 335 ou 402 mm) - 3 9/16 x 6 1/8 in. x variable (7 7/8, 10 1/2, 13 3/16, 15 13/16 in.)
- C Veneer 90 mm unit (Tandem System)
- D 100 mm Ø - 4 in. perforated drain pipe connected to sewer services
- E Geotextile membrane
- F 0 to 20 mm - 0 to 3/4 in. compacted granular foundation 300 mm - 12 in. minimum
- G Minimum buried depth 150 mm - 6 in.
- H Clean stone 20 mm - 3/4po, 300 mm minimum
- I Starter unit 90 x 268 x 469 mm - 3 1/2 x 10 1/2 x 18 1/2 in.

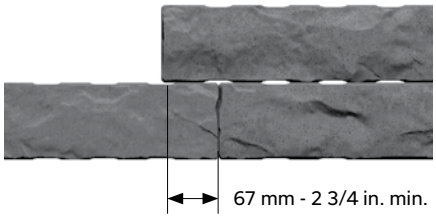
STRAIGHT WALL

To build straight Tandem walls, install the units randomly, using equal numbers of all umt sizes according to the typical cross-section and installation pattern associated with each type of walls.

When building a Tandem wall, avoid aligning vertical joints between rows as much as possible. Allow a minimum overlap of about 67 mm - 2 3/4 in. between units to make sure the vertical joints do not line up.

Lafitt Tandem wall (plan view)





CURVED WALL

Using some Tandem units yields the minimum following curves:

	LAFITT TANDEM 90	MELVILLE TANDEM 90
Convex curves (outside)	1.5 m - 5 ft.	1.8 m - 6 ft.
Concave curves (inside)	1.2 m - 4 ft.	1.8 m - 6 ft.

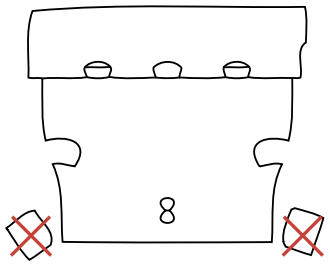
Curved sections of walls must generally be built using the smallest units.

For a curved Tandem 90 wall, use units A, B and C. Their ends are bevelled to make it easier to install the curved wall.

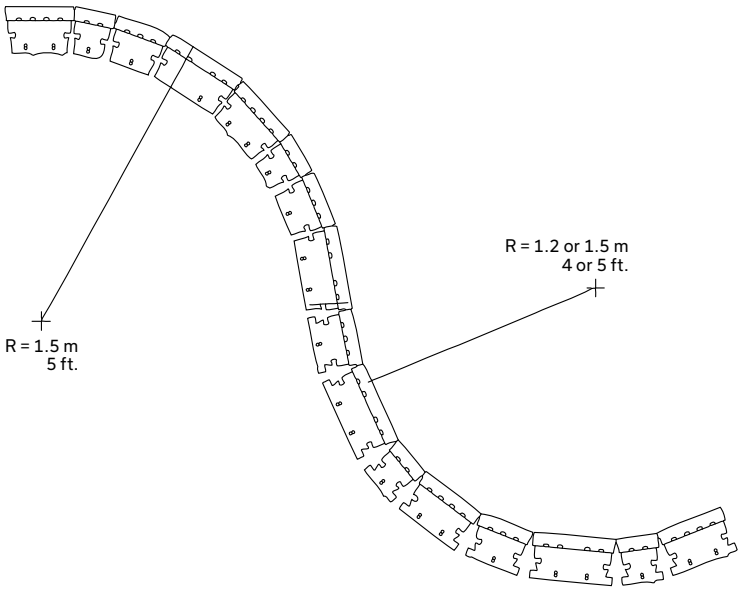
Since Melville Tandem Veneers all have a textured side, the minimum bend radius is greater.

Remember that there will be a surplus of longer units for the remainder of the wall.

In building convex curves (outer curve), the wings of structural units may have to be cut off.



Cut off the extremeties (wings) if necessary



90° CORNER WALL

When building a retaining wall, it Is best to start with a corner to avoid breaks and alignment of vertical joints. Specially designed veneer units are needed to build a 90° corner. These units are called textured end units or corner veneer units.

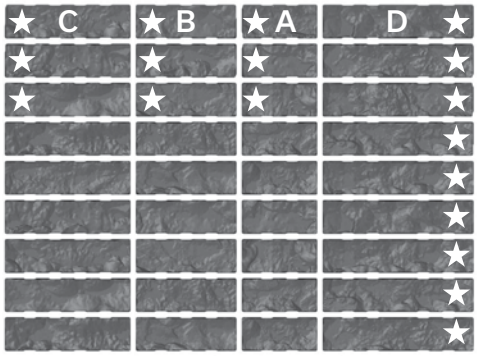
LAFITT TANDEM

A lafitt Tandem 90 cube contains 18 textured end veneer units per row. To form the corner, use B, C or D veneer units.

MELVILLE TANDEM

All of Melville Tandem Veneers have one textured side.

Stacking position on pallets (with a textured end)

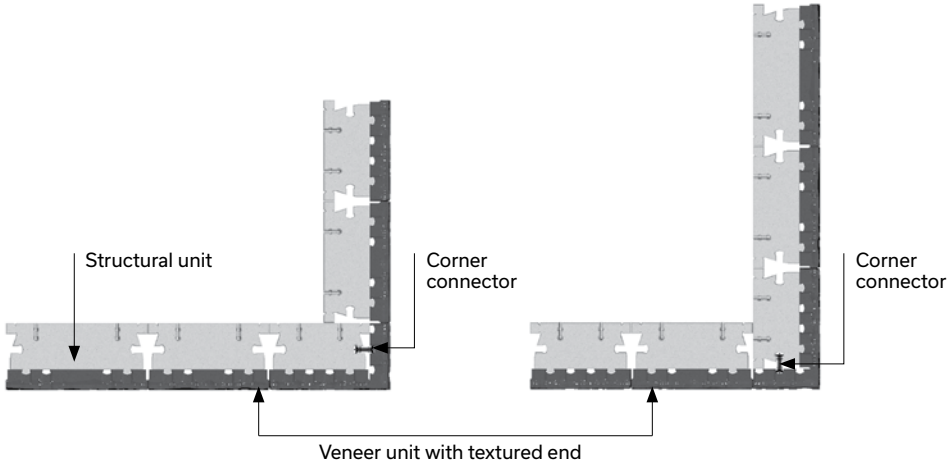


LAFITT TANDEM – 90 MM UNITS

LAFITT AND MELVILLE 90 MM 90° OUTER CORNER - BASIC PRINCIPLES

An outer corner is created using veneer units with the textured end out.

These units are reversible to form both left and right corners. For each course, the veneer that forms the corner is affixed to the structural unit using comer connectors designed specifically for this purpose. It is simply of question of alternating the placement of units from one course to the next. We recommend adhering the elements used to make the corner of each row using Techniseal concrete adhesive.



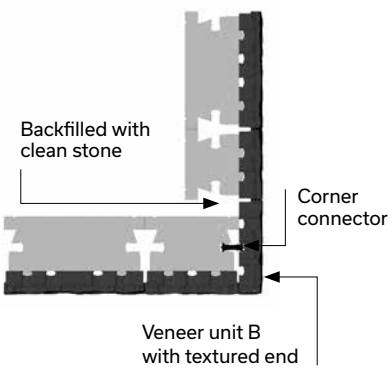
1st ROW 2nd ROW

Spread the adhesive on the veneer units, or the structural units or on both

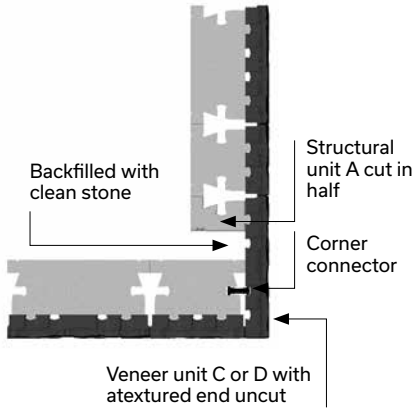
LAFITT AND MELVILLE 90 MM 90° OUTER CORNER - DETAILS

There are three ways of building a corner using Tandem 90 mm units:

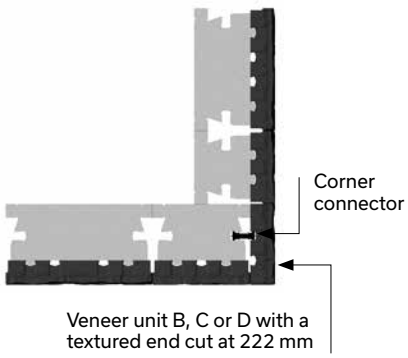
OPTION 1
Use a corner veneer unit with a textured end B uncut and begin the wall perpendicularly, leaving an empty space that will be backfilled with clean stone.



OPTION 2
Use a corner veneer unit with a textured end C or D, uncut, attached to a structural unit A cut in half.

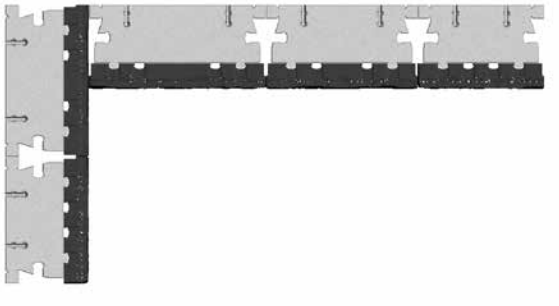


OPTION 3
Use a corner veneer unit with a textured end B, C or D, cut at 222 mm - 18 3/4 in. and begin the wall perpendicularly, pressing it up against the existing wall. Gently hammer the freshly cut side to obtain a similar finish as the other sides.

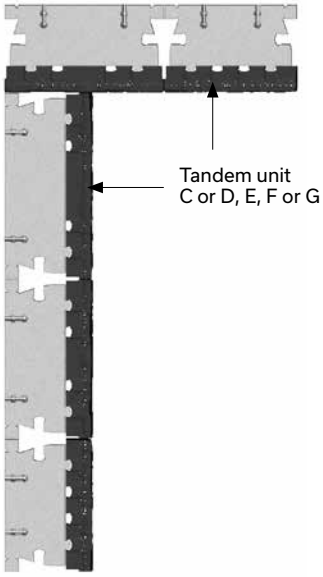


INTERIOR CORNER - BASIC PRINCIPLES

Build a Lafitt and Melville Tandem inner corner according to the principle shown here using Tandem 90 units C or D and 180 units E, F or G.



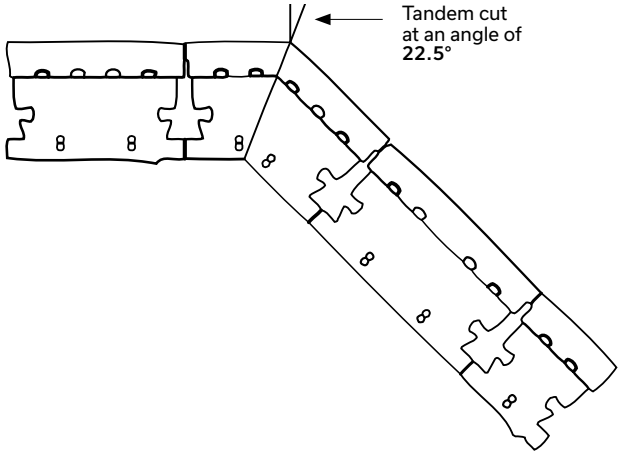
1st ROW



2nd ROW

45° CORNER

It is also possible to build corners on a 45° angle. Simply cut each Tandem unit used to make the corner on a 22.5° angle. These Tandem units must be adhered together using Techniseal concrete adhesive on the horizontal and vertical sides.



RETAINING WALL CAPPING

LAFITT AND MELVILLE TANDEM WALLS

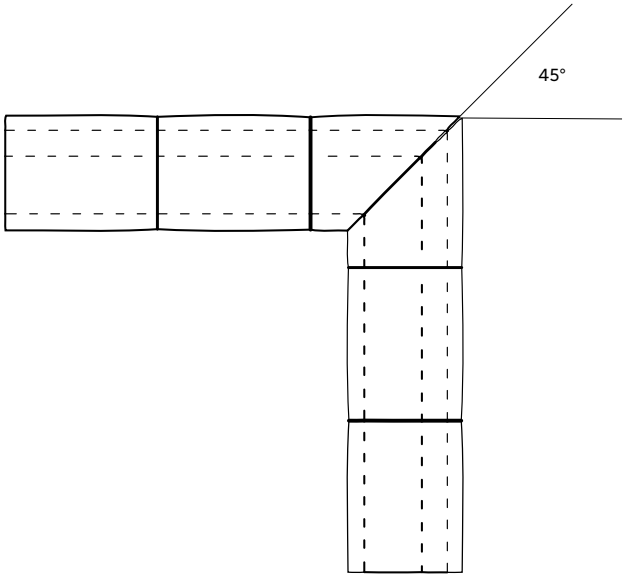
The Lafitt Tandem retaining wall is completed using **Lafitt capping units** (90 x 305 x 400 mm).

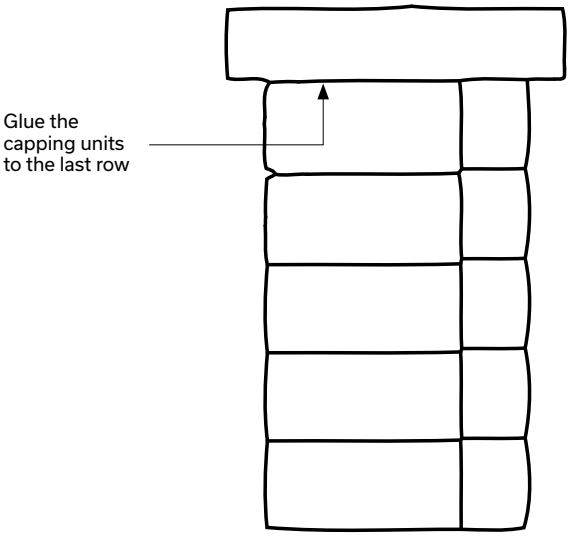
The Melville Tandem wall is finished with the use of **Melville capping units** (60 mm x 305 mm x 600 mm).

To cap a wall with a 90° corner, capping units must be cut at a 45° angle (see illustration).

Lafitt or Melville capping units are also used to cap curved walls. The units must be bevelled on site to match the final shape of the wall.

OPTIONS: Straight capping units from the Celtik wall system unit can also be used to highlight the wall's finish (different colours and textures).





NOTE: All capping units must be glued to the last row of Tandem units using Techniseal concrete adhesive. Make sure the surface is clean, so that the capping can be glued to the top course with Techniseal concrete adhesive.

Building a Double-Sided Wall

DOUBLE-SIDED TANDEM UNIT ASSEMBLY

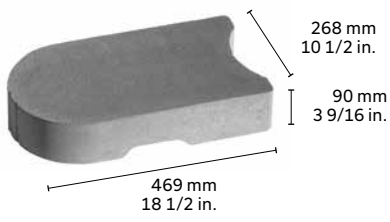
Installing a double-sided wall requires the use of two veneer units held together using connectors. Connectors are inserted into the mortises on the veneer units thus connecting them two by two in order to create the double-sided Tandem unit. The work is complete once 20 mm - 3/4 in. clean stone is placed between the veneers of every other course, and the capping unit is installed. Lafitt and Melville Tandem 90 and 180 veneer units can be used to build straight or curved double-sided walls, as well as 90° corners.

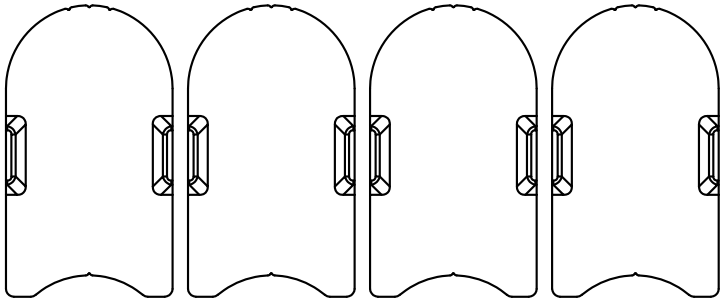
ALLOWABLE HEIGHTS

The Tandem wall system can be used to build a double-sided wall with a maximum above-ground height of 711 mm - 28 in. The wall is built completely vertical without a slope.

STARTER UNITS

To build the double-sided Tandem wall, begin by placing the starter unit directly on the granular base perpendicular to the wall and leveling it.

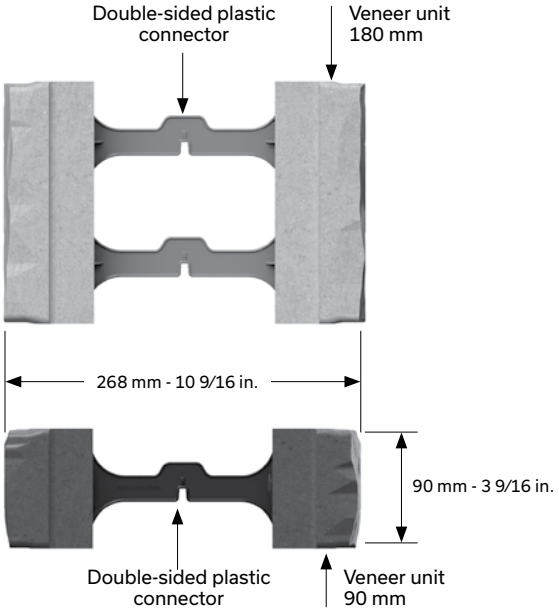




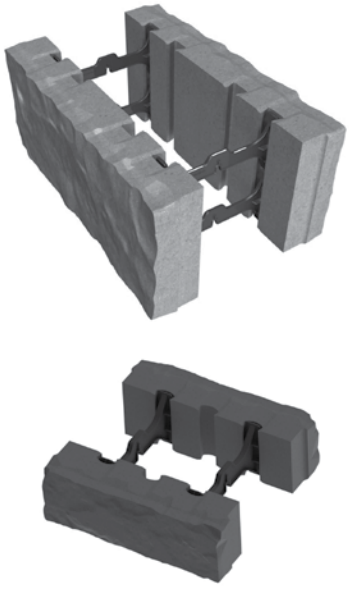
INSTALLATION OF STARTER UNITS
PLAN VIEW

PLASTIC CONNECTORS

TANDEM DOUBLE-SIDED UNITS 90 AND 180 mm

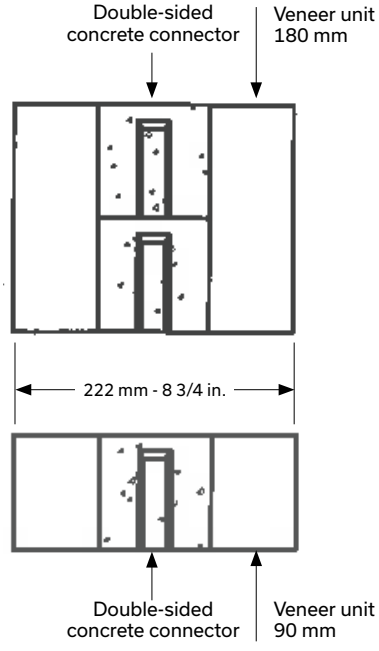


3-D VIEW

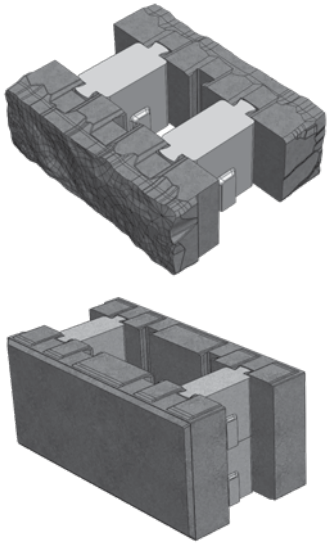


CONCRETE CONNECTORS

TANDEM DOUBLE-SIDED UNITS 90 AND 180 mm



3-D VIEW



NOTE: Lafit and Melville Tandem 180 mm walls must be assembled using pairs of double-sided concrete connectors one on top of the other for greater stability.

DETAILS

THERE ARE SEVERAL WAYS TO BUILD A DOUBLE-SIDED WALL:

> Using only Lafitt or Melville Tandem 90 units

> Using only Lafitt or Melville Tandem 180 units

> Using a combination of Lafitt or Melville Tandem 90 and 180 units together

To build a solid structure. the empty space inside the double-sided Tandem unit with plastic connectors must be filled with 20 mm - 3/4 in. clean stone on every second row. Before installing the capping, tap lightly on each side of the wall with a rubber hammer to help compact the aggregate between the veneer units. If you use concrete connectors instead, it is not necessary to fill the void with clean stone.

Double-sided Tandem units are randomly installed on starter units, using an equal number of all units. The same installation patterns as for retaining walls are used here (see the installation patterns in the RETAINING WALL section). Each veneer unit of the first row must be glued to the starter units with Techniseal concrete adhesive.

QUANTITY OF CONNECTORS REQUIRED:

Lafitt and Melville Tandem 90 wall
7 connectors per sq, ft of double-sided wall (74 connectors per m^2) based on one of the sides of the wall.

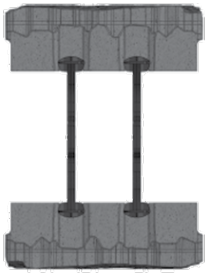
Lafitt and Melville Tandem 180 wall
5.5 connectors per sq. ft of double-sided wall (57 connectors per m^2) based on one of the sides of the wall .

WE RECOMMEND GLUING ALL OF THE ROWS TOGETHER FOR A DOUBLE-SIDED WALL USING LAFITT AND MELVILLE TANDEM.

90 mm STRAIGHT DOUBLE-SIDED WALL

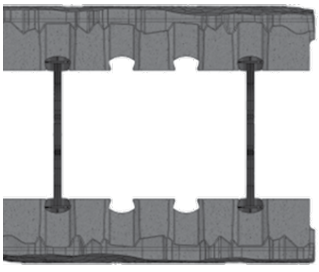
DOUBLE-SIDED LAFITT AND MELVILLE TANDEM WALL WITH 90 mm VENEER UNITS AND PLASTIC CONNECTORS

When building a straight wall, assemble veneer units of the same size using the double-sided connector. Because the veneer units come in different lengths, several layouts are possible.

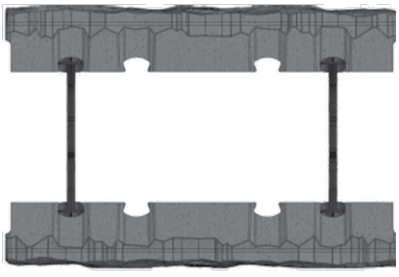


UNITS A–A
90 x 67 x 201 mm
3 9/16 x 2 5/8 x 7 7/8 in.

UNITS B–B
90 x 67 x 268 mm
3 9/16 x 2 5/8 x 10 1/2 in.

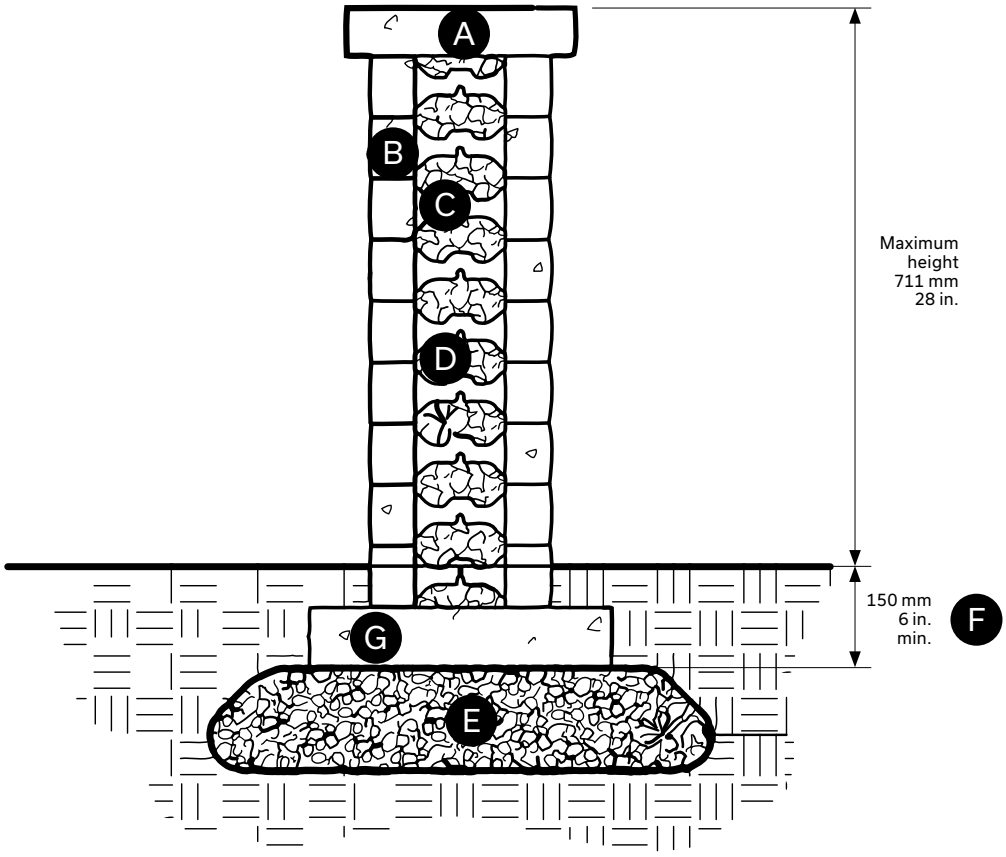


UNITS C–C
90 x 67 x 335 mm
3 9/16 x 2 5/8 x 13 3/16 in.



UNITS D–D
90 x 67 x 402 mm
3 9/16 x 2 5/8 x 15 13/16 in.

TYPICAL CROSS-SECTION - DOUBLE-SIDED 90 mm VENEER UNITS



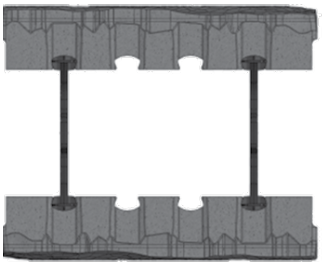
- A Melville Plus capping unit 60 x 305 x 600 mm - 2 3/8 x 12 x 23 5/8 in.
- B 90 mm veneer unit (Tandem System)
- C Double-sided connector
- D Clean stone 20 mm - 3/4 in., 300 mm minimum
- E 0 to 20 mm - 0 to 3/4 in. compacted granular foundation 300 mm - 12 in. minimum
- F Minimum buried depth 150 mm - 6 in.
- G Tandem Next starter unit 90 x 268 x 469 mm - 3 9/16 x 10 1/2 x 18 1/2 in.

180 mm STRAIGHT DOUBLE-SIDED WALL

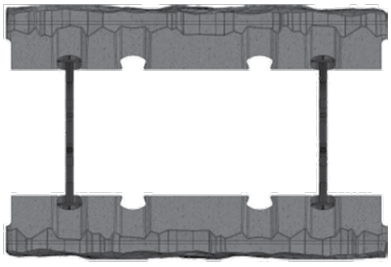
DOUBLE-SIDED LAFITT AND MELVILLE TANDEM WALL WITH 180 mm VENEER UNITS AND PLASTIC CONNECTORS

When building a straight wall, assemble veneer units of the same size using the double-sided connector. Because the veneer units come in different lengths, several layouts are possible.

UNITS E–E
180 x 67 x 335 mm
7 1/16 x 2 5/8 x 13 3/16 in.



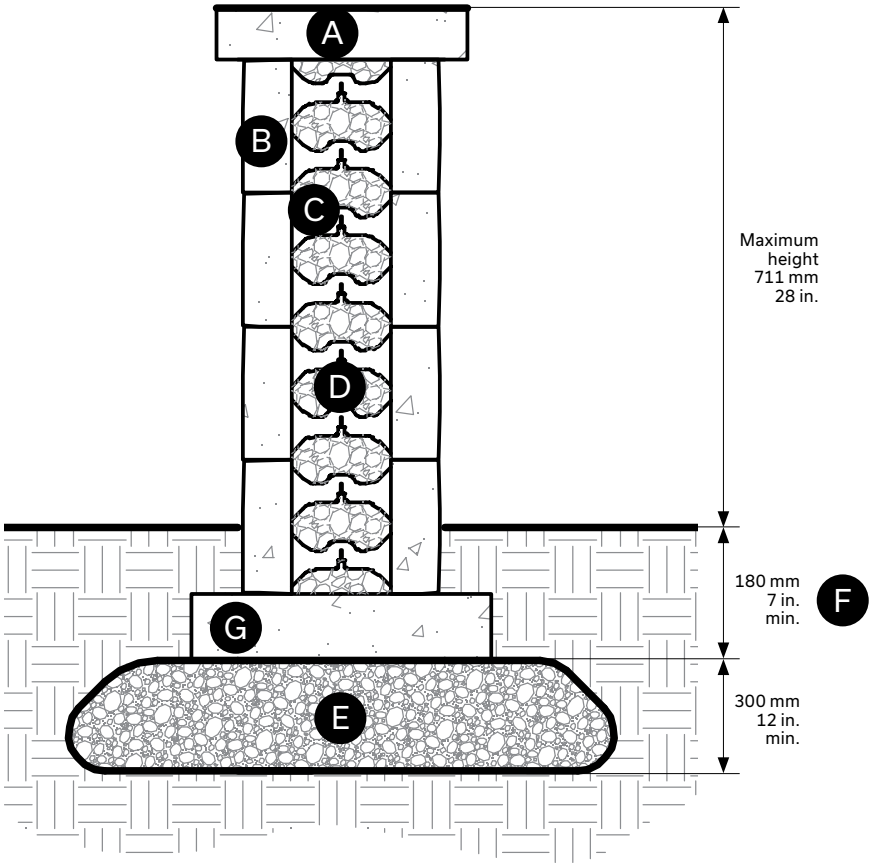
UNITS F–F
180 x 67 x 402 mm
7 1/16 x 2 5/8 x 15 3/16 in.



UNITS G–G
180 x 67 x 469 mm
7 1/16 x 2 5/8 x 18 1/2 in.

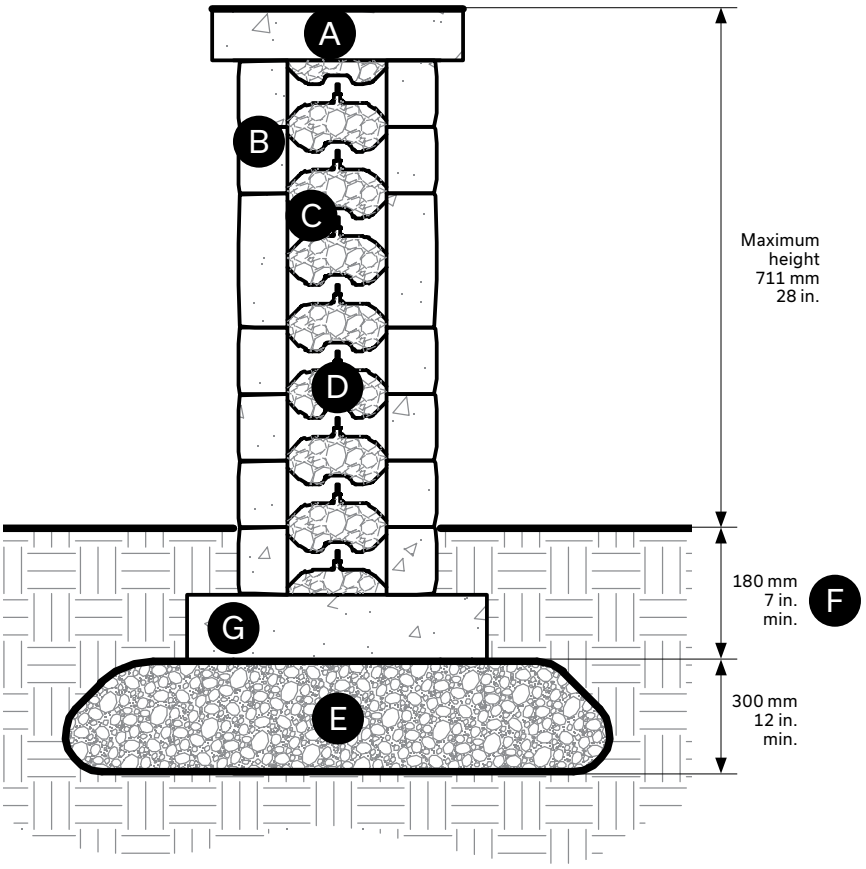
NOTE: Tandem 180 wall units must be assembled using pairs of double-sided connectors installed one on top of the other for greater stability.

TYPICAL CROSS-SECTION - DOUBLE-SIDED 180 mm VENEER UNITS



- A Melville Plus capping unit 60 x 305 x 600 mm - 2 3/8 x 12 x 23 5/8 in.
- B 180 mm veneer unit (Tandem System)
- C Double-sided plastic connector
- D Clean stone 20 mm - 3/4 in., 300 mm minimum
- E 0 to 20 mm - 0 to 3/4 in. compacted granular foundation 300 mm - 12 in. minimum
- F Minimum buried depth 150 mm - 6 in.
- G Tandem Next starter unit 90 x 268 x 469 mm - 3 9/16 x 10 1/2 x 18 1/2 in.

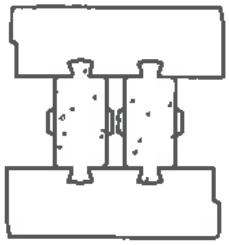
TYPICAL CROSS-SECTION - DOUBLE-SIDED 90 mm and 180 mm VENEER UNITS



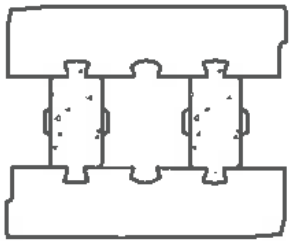
- A Melville Plus capping unit
  60 x 305 x 600 mm - 2 3/8 x 12 x 23 5/8 in.
- B 90 mm or 180 mm veneer unit (Tandem System)
- C Double-sided plastic connector
- D Clean stone 20 mm - 3/4 in., 300 mm minimum
- E 0 to 20 mm - 0 to 3/4 in. compacted granular foundation 300 mm - 12 in. minimum
- F Minimum buried depth 150 mm - 6 in.
- G Tandem Next starter unit 90 x 268 x 469 mm - 3 9/16 x 10 1/2 x 18 1/2 in.

90 mm STRAIGHT DOUBLE-SIDED WALL

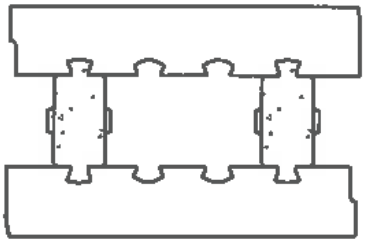
DOUBLE-SIDED LAFITT AND MELVILLE TANDEM WALL WITH 90 mm VENEER UNITS AND CONCRETE CONNECTORS



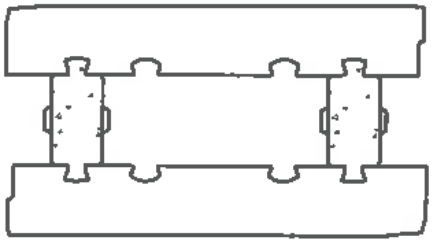
UNITS A-A



UNITS B-B



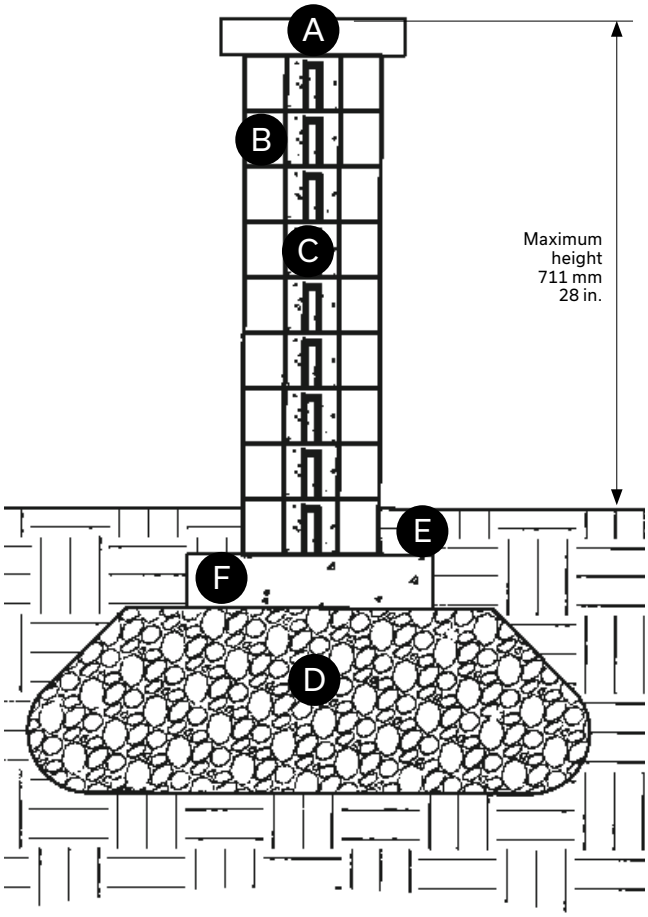
UNITS C-C



UNITS D-D

NOTE: A double-sided Tandem wall with concrete connectors doesn't need the use of clean stone.

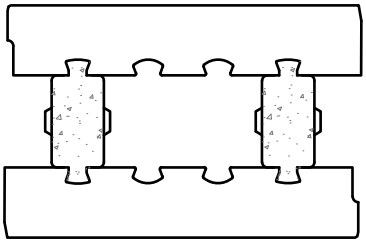
TYPICAL CROSS-SECTION - DOUBLE-SIDED 90 mm VENEER UNITS



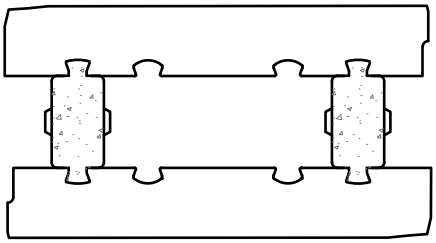
- A Melville Plus capping unit
  60 x 305 x 600 mm - 2 3/8 x 12 x 23 5/8 in.
- B 90 mm veneer unit (Tandem System)
- C Double-sided concrete connector
- D Clean stone 20 mm - 3/4 in., 300 mm minimum
- E 0 to 20 mm - 0 to 3/4 in. compacted granular foundation, 300 mm - 12 in. minimum
- F Minimum buried depth 150 mm - 6 in.
- G Tandem Next starter unit 90 x 268 x 469 mm - 3 9/16 x 10 1/2 x 18 1/2 in.

180 mm STRAIGHT DOUBLE-SIDED WALL

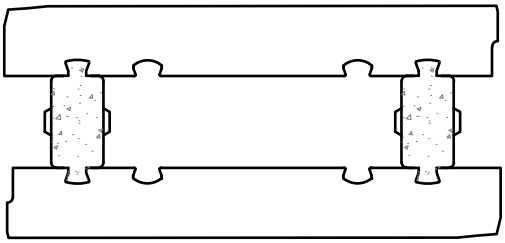
DOUBLE-SIDED LAFITT AND MELVILLE TANDEM WALL WITH 180 mm VENEER UNITS AND CONCRETE CONNECTORS



UNITS E-E



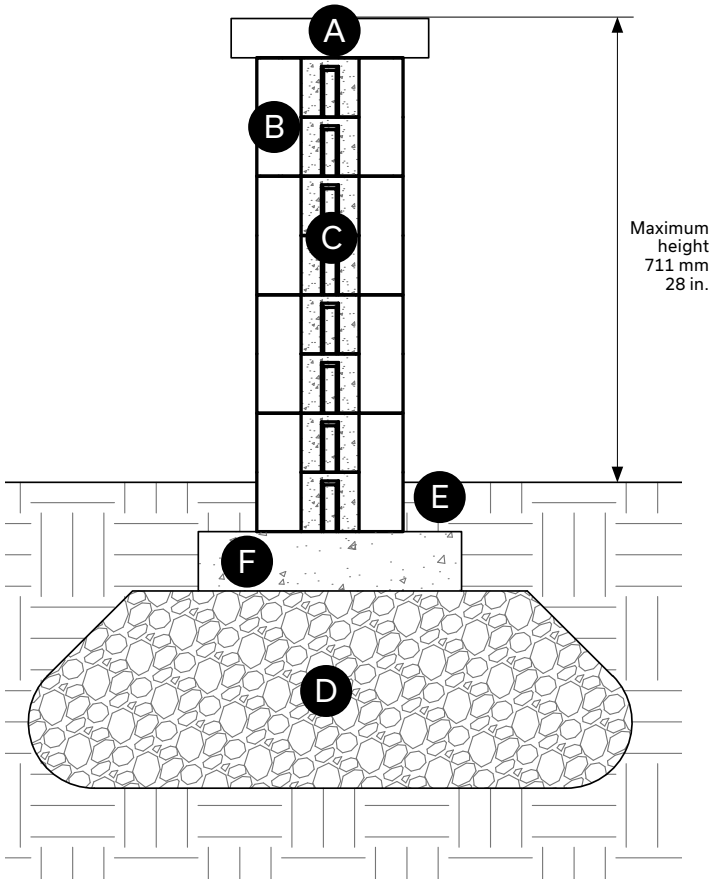
UNITS F-F



UNITS G-G

NOTE: A double-sided Tandem wall with concrete connectors doesn't need the use of clean stone.

TYPICAL CROSS-SECTION - DOUBLE-SIDED 180 mm VENEER UNITS



- A Melville Plus capping unit 60 x 305 x 600 mm - 2 3/8 x 12 x 23 5/8 in.
- B 180 mm veneer unit (Tandem System)
- C Double-sided concrete connector
- D Clean stone 20 mm - 3/4 in., 300 mm minimum
- E 0 to 20 mm - 0 to 3/4 in. compacted granular foundation 300 mm - 12 in. minimum
- F Minimum buried depth 150 mm - 6 in.
- G Tandem Next starter unit 90 x 268 x 469 mm - 3 9/16 x 10 1/2 x 18 1/2 in.

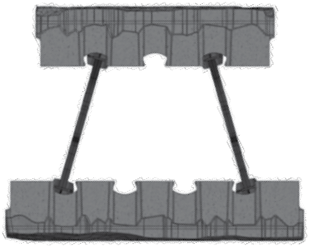
90 mm CURVED DOUBLE-SIDED WALL

CURVED DOUBLE-SIDED LAFITT AND MELVILLE TANDEM WALL WITH 90 mm VENEER UNITS AND PLASTIC CONNECTORS

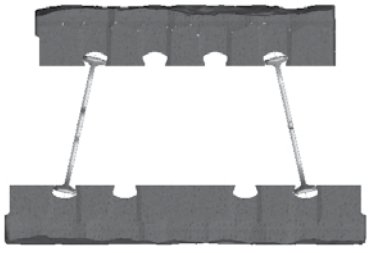
To build a curved double-sided wall, while maximizing results and minimizing sizes, only the following pairs of veneer units are recommended for use:

A-A, A-B, B-B and B-C for 90 mm units and E-E, E-F, F-F and F-G for 180 mm units. Consequently, there will be more D veneer units for the remainder of the wall. Some units may have lo be cut to fit perfectly into the selected curve. The design flexibility of double-sided units means that connectors can be inserted in all unit mortises, providing for better adjustment in creating curves with different radiuses.

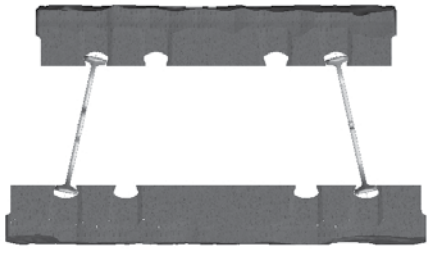
UNITS A–B



UNITS B–C

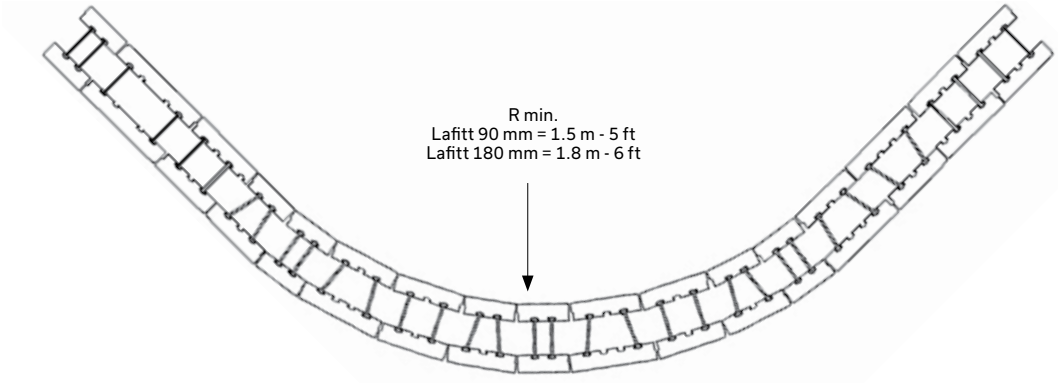


UNITS E–F

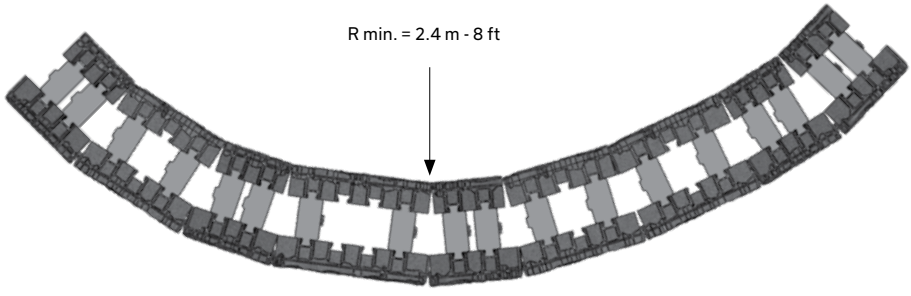


UNITS F-G

The minimum curves possible for the Lafitt Tandem wall:
90 mm = 1.5 m - 5 ft
180 mm = 1.8 m - 6 ft



CURVED TANDEM WALL WITH PLASTIC CONNECTORS



CURVED TANDEM WALL WITH CONCRETE CONNECTORS

NOTE: Lafitt and Melville Tandem 180 wall units must be assembled using pairs of double-sided connectors installed one on top of the other for greater stability.

90 mm DOUBLE-SIDED WALL END

END OF DOUBLE-SIDED LAFITT AND MELVILLE TANDEM WALL WITH PLASTIC CONNECTORS

The end of a double-sided Tandem 90 wall is built using a textured end veneer unit A installed on the end of the wall.

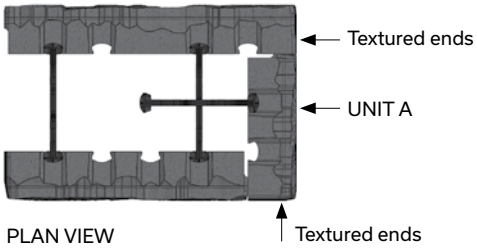
To ensure solid corner assembly, two double-sided connectors are overlapped in a cross shape and inserted into the mortises on the veneer units. The first connector connects the two double-sided wall veneer units, while the perpendicular connector connects the textured end veneer unit that forms the end of the wall. Glue every course forming the end of the wall using Techniseal concrete adhesive.

The end of a double-sided Tandem 180 wall is built using a textured end veneer unit E cut at 201 mm and installed on the end of the wall.

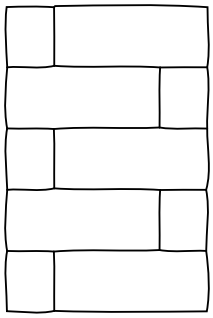
Connectors installed in a cross shape

ISOMETRIC VIEW

ASSEMBLY FOR DOUBLE-SIDED 90 mm WALL: END OF WALL

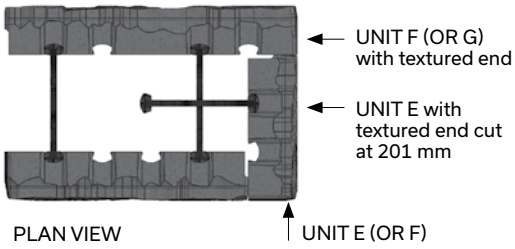


PLAN VIEW

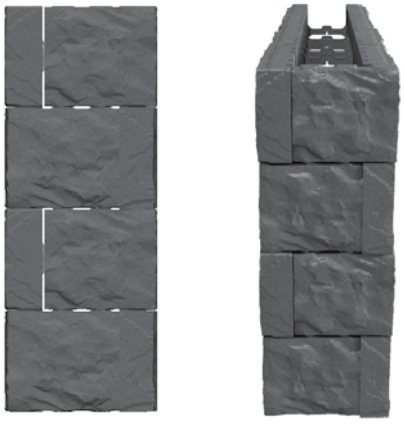


END OF WALL - SIDE VIEW

ASSEMBLY FOR DOUBLE-SIDED 180 mm WALL: END OF WALL



PLAN VIEW



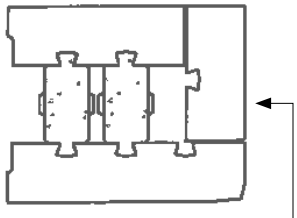
ELEVATION VIEW

END OF A DOUBLE-SIDED LAFITT AND MELVILLE TANDEM DOUBLE 90 AND 180 WALL

The end of a double-sided 90 and 180 wall is built by smoothly combining the two kinds of construction (90 and 180) for a wall end, described previously in this document. To build an end for a wall that mixes Tandem 90 and 180 units in the same wall, for each given row height, use units of the same height.

END OF DOUBLE-SIDED TANDEM WALL AND CONCRETE CONNECTORS

The end of a double-sided tandem wall is produced by using a veneer unit with a textured side, cut at 155 mm - 6 1/4 in. Make sure to glue each row.



Corner veneer cut at 155 mm

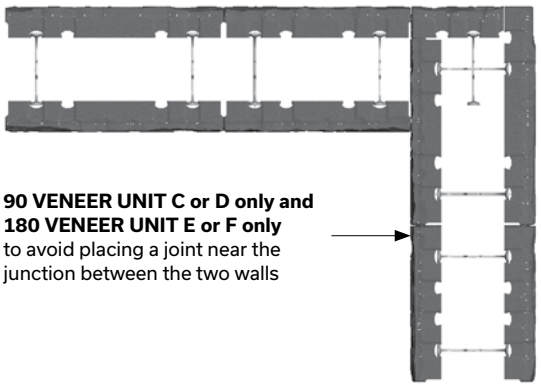
DOUBLE-SIDED WALL WITH 90° CORNERS

DOUBLE-SIDED WALL WITH 90° CORNERS AND PLASTIC CONNECTORS

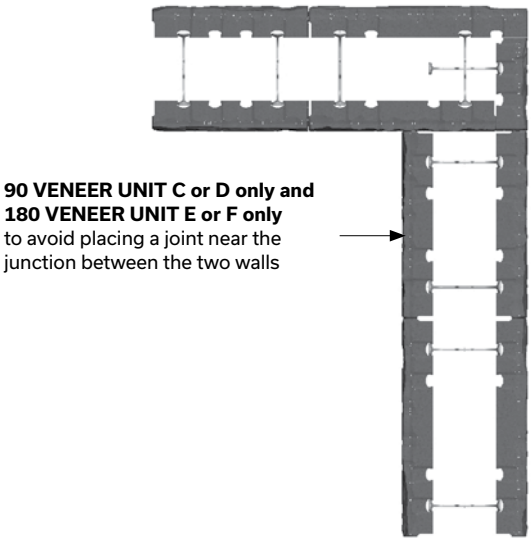
Building a 90° corner on a Lafitt and Melville Tandem wall requires installing a wall end (described earlier), then juxtaposing a second wall perpendicular to it. Glue every course in the wall corner using Techniseal concrete adhesive.

Once again, for a natural look, avoid aligning vertical joints from one row to the next on all visible surfaces.

PLAN VIEW



1st COURSE and all odd courses

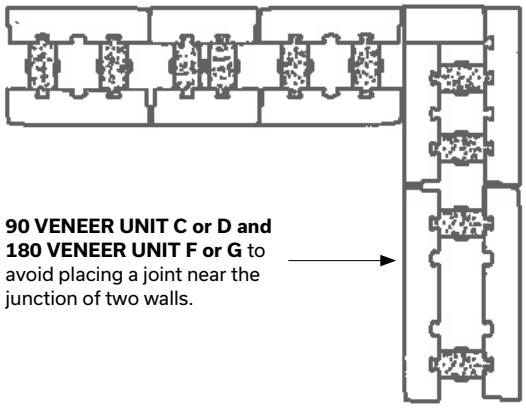


2nd COURSE and all even courses

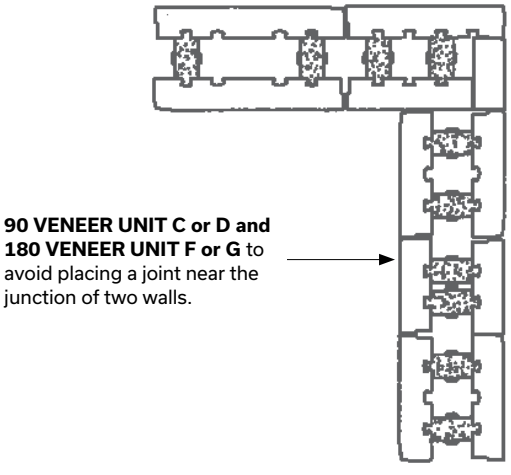
DOUBLE-SIDED WALL WITH 90° CORNERS AND CONCRETE CONNECTORS

The construction of a double-sided tandem wall corner with a concrete connector is possible by starting a second wall perpendicular to the first and ending with a wall end, as described previously. Glue all the units forming the corners, on each row, with Techniseal concrete adhesive.

PLAN VIEW



1st COURSE and all odd courses



2nd COURSE and all even courses

DOUBLE-SIDED WALL WITH 90° CORNERS (CONT'D)

90° CORNER IN A DOUBLE-SIDED 90 mm AND 180 mm WALL

Building a 90° corner on a wall requires installing a wall end (described earlier), then juxtaposing a second wall perpendicular to it. The second wall can be built starting with double-sided Tandem 90 or 180 units. Adhere every course in the wall corner using Techniseal conrete adhesive.

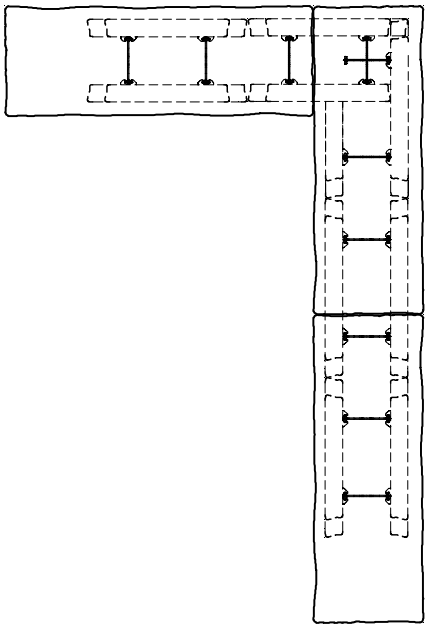
Corners are built using the options available for that height (90 or 180). These options were illustrated and explained earlier in this document. The selection of corner unit heights and their positioning in the wall is a matter of aesthetics. The 90 and 180 units must be inserted in a similar proportion to the remainder of the wall so that they harmonize.

CAPPING A DOUBLE-SIDED WALL

Double-sided Tandem walls are completed using Melville Plus capping (60 mm x 305 mm x 600 mm) laid side by side. To cap a 90° corner, simply install two capping units at a 90° angle. For curved walls, capping units must be bevelled on site to match the final shape of the wall.

Options: Celtik wall system capping units and Melville capping units can also be used.

PLAN VIEW



Note that all capping units must be attached to the last row of Tandem units using Techniseal conrete adhesive.