BELDEN

THE BELDEN BRICK COMPANY

THRU-WALL BRICK

THE FOUNDATION TO BUILD YOUR NEXT MASTERPIECE

TECHNICAL DATA - BELDEN THRU-WALL UNITS

R VALUE	6 INCH THRU-WALL	8 INCH THRU-WALL	8 INCH DOUBLE THRU-WALL
	Hollow ASTM C 652 R =. 95	Hollow ASTM C 652 R = 1.10	Hollow ASTM C 652 R = 1.10

These two values are calculated using the dual path procedure outlined in Brick Industry Association (BIA) Technical Notes 4. (Path A was through the face shells and webs, Path B was through the face shells and cells. A weighted average was then determined for each path and added together.)

Higher value may be obtained by calculating the walls' U-Value, taking into account outside and inside air films.

STC RATING	6 INCH THRU-WALL	8 INCH THRU-WALL	8 INCH DOUBLE THRU-WALL
	Decibels	Decibels	Decibels
HOLLOW	41	50	50
SOLID	50	52	52

FIRE RATING	6 INCH THRU-WALL	8 INCH THRU-WALL	8 INCH DOUBLE THRU-WALL
HOLLOW	2 Hour Rating	2 Hour Rating	2 Hour Rating
	3.424 Equivalent Thickness	4.05 Equivalent Thickness	4.05 Equivalent Thickness

Fire Rating information can be found in the International Building Code (IBC) Chapter 7, Section 721.4 and IBC Chapter 7, Table 721.4.1(1)

Fire Rating info can also be found in the Brick Industry Association Technical Note #16 (BIA)

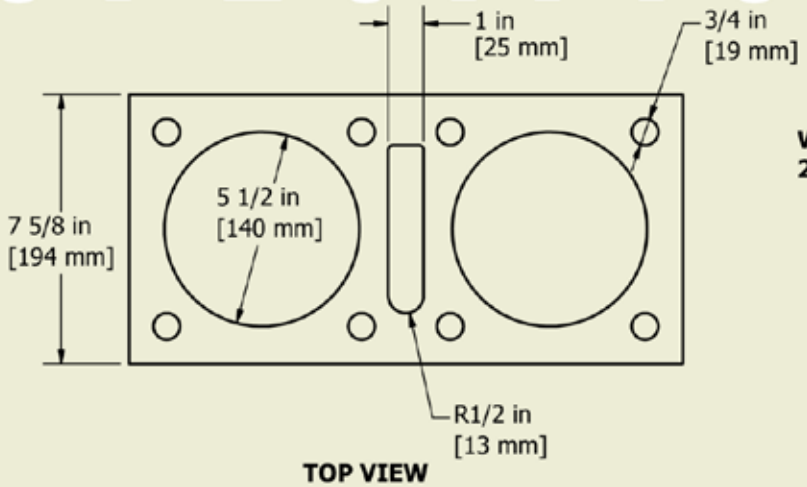
*Other information in regards to structural brick masonry can be found in BIA Technical Note 26 – Single Wythe Bearing Walls and Technical Notes 41 – Hollow Brick Masonry.

**All values listed in tables above are based upon an unfilled and ungrouted Hollow Brick unit; except where noted on STC Table.

Cover Photo: Canyon Velour, Nutmeg Velour & Brandywine Velour

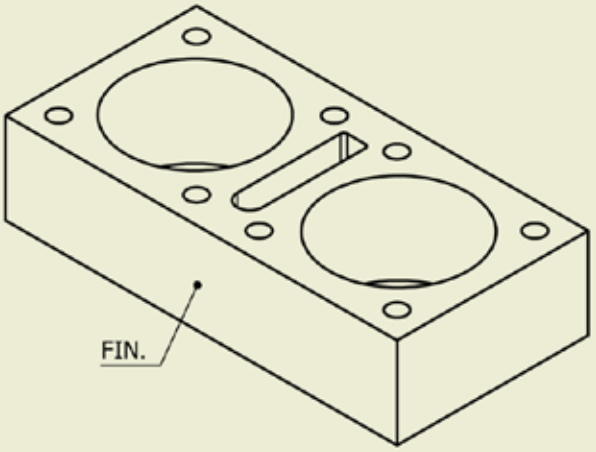
Sienna Blend Velour & Lighthouse Velour

SPECIFICATIONS

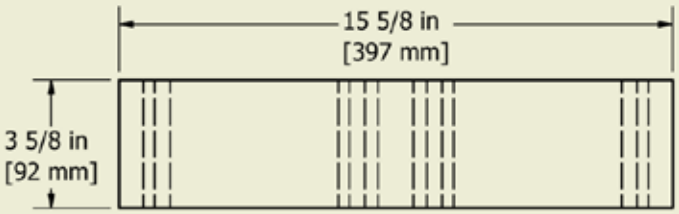


TOP VIEW

WEIGHT
22 LBS.

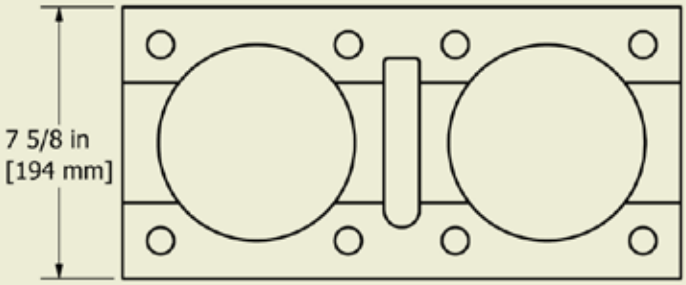


ISOMETRIC VIEW

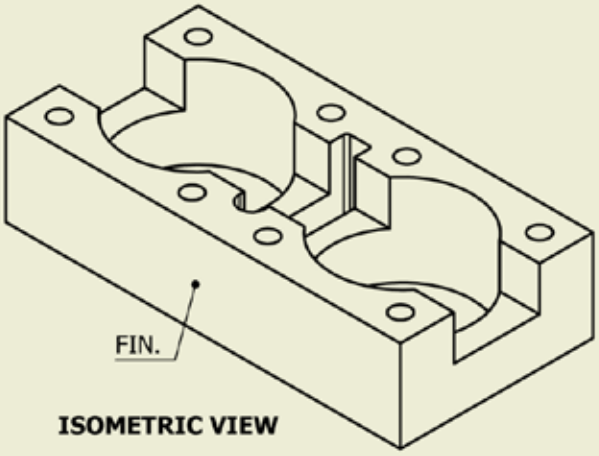


FRONT VIEW

7-5/8" THRU-WALL (46.8% VOID)



TOP VIEW



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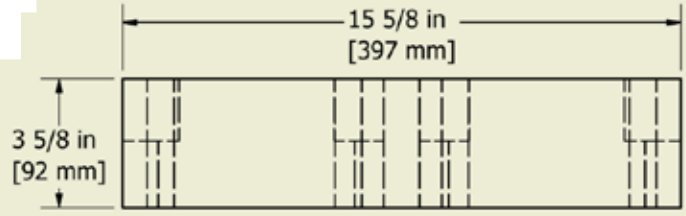
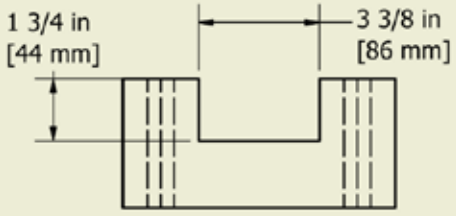
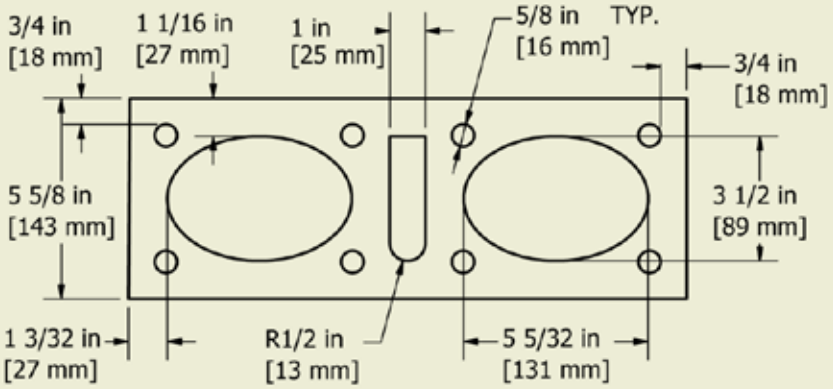


FRONT VIEW



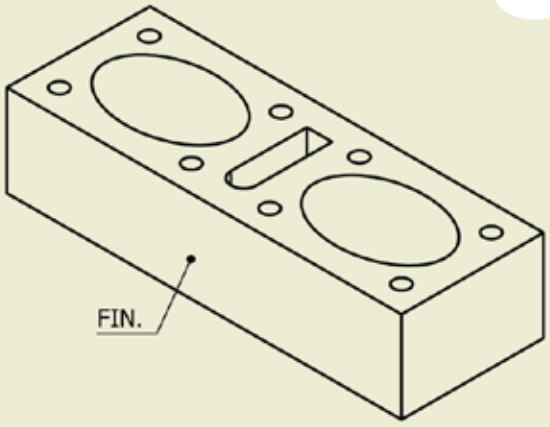
SIDE VIEW

7-5/8" BED BOND BEAM



TOP VIEW

WEIGHT
16 LBS.



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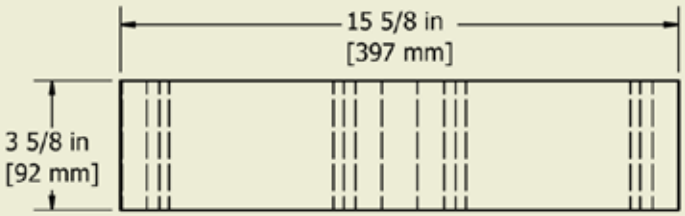
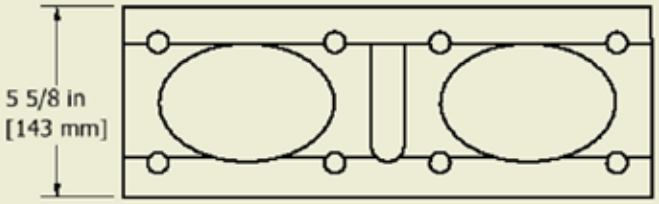
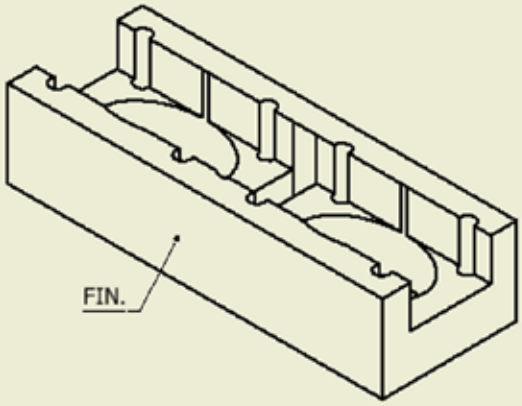


FRONT VIEW

5-5/8" THRU-WALL (39.1% VOID)



TOP VIEW



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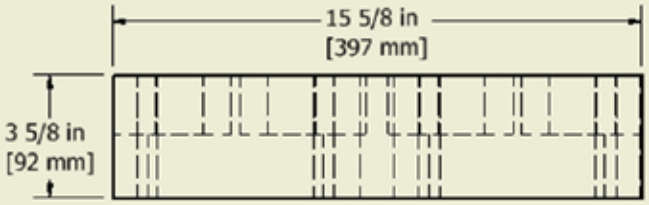
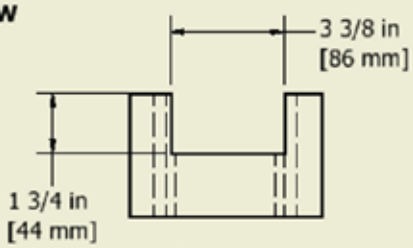


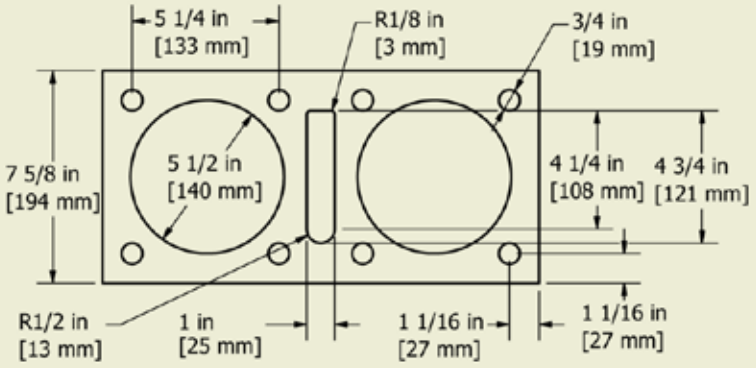
FRONT VIEW



SIDE VIEW

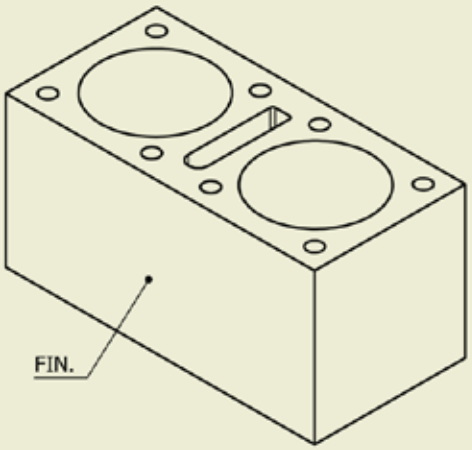
5-5/8" BED BOND BEAM

SPECIFICATIONS

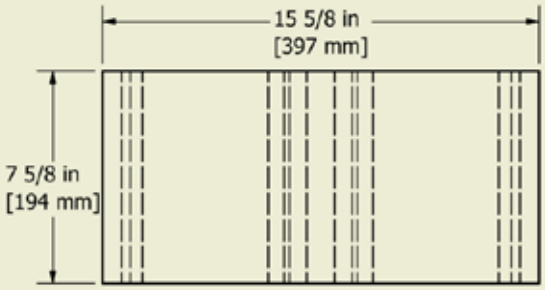


TOP VIEW

WEIGHT
42 LBS.



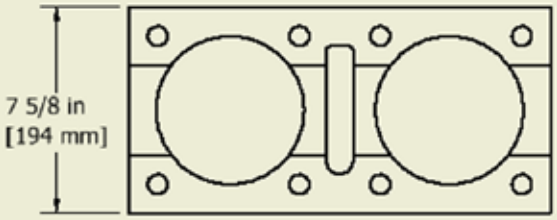
ISOMETRIC VIEW



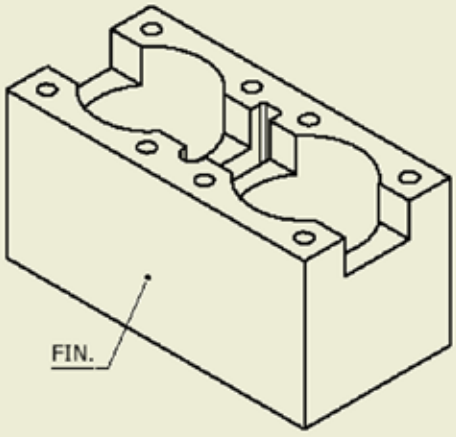
FRONT VIEW

7-5/8" THRU-WALL (48.7% VOID)

6



TOP VIEW



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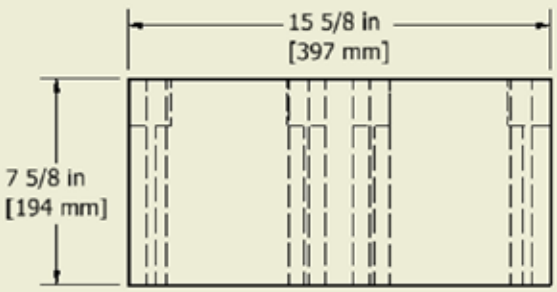
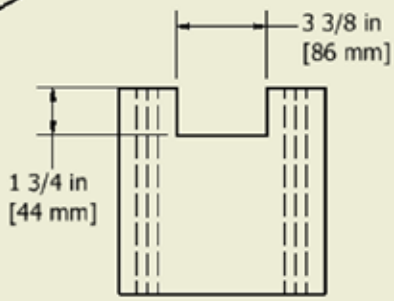


FRONT VIEW



SIDE VIEW

7-5/8" BED BOND BEAM

Mojave Blend

7

TEST DATA

THRU-WALL SHALE 6 x 4 x 16 — Meets ASTM C 652-H40V

ABSORPTION	1	2	3	4	5	AVERAGE
24 Hour Submersion in Cold Water (%)	1.75	1.77	1.72	1.58	1.56	1.68
5 Hour Submersion in Boiling Water (%)	1.96	2.04	2.02	2.00	1.76	1.95
Saturation Coefficient (Ratio of 24H to 5H)	0.89	0.87	0.85	0.79	0.89	0.86

COMPRESSIVE STRENGTH	1	2	3	4	5	AVERAGE
PSI – Gross Area	12,907	12,160	11,668	15,177	15,434	13,469
PSI – Net Area	20,817	19,612	18,819	24,479	24,893	21,724

AVERAGE % VOID	38

IRA	6	7	8	9	10	AVERAGE
g/min/30 in.²	2.4	3.0	2.4	2.2	2.4	2.5

THRU-WALL SHALE/FIRECLAY 8 X 4 X 16 — Meets ASTM C 652 – H60V

ABSORPTION	1	2	3	4	5	AVERAGE
24 Hour Submersion in Cold Water (%)	0.53	0.48	0.52	0.56	0.59	0.53
5 Hour Submersion in Boiling Water (%)	0.78	0.70	0.76	0.90	0.98	0.83
Saturation Coefficient (Ratio of 24H to 5H)	0.67	0.68	0.68	0.62	0.60	0.65

COMPRESSIVE STRENGTH	1	2	3	4	5	AVERAGE
PSI – Gross Area	10,089	10,537	8,800	7,772	11,235	9,687
PSI – Net Area	18,343	19,158	16,000	14,130	20,427	17,612

AVERAGE % VOID	45

IRA	6	7	8	9	10	AVERAGE
g/min/30 in.²	1.9	1.9	2.3	2.3	2.1	2.1

THRU-WALL FIRECLAY 8 X 4 X 16 — Meets ASTM C 652 – H60V

ABSORPTION	1	2	3	4	5	AVERAGE
24 Hour Submersion in Cold Water (%)	2.73	2.81	2.78	2.73	2.77	2.76
5 Hour Submersion in Boiling Water (%)	3.29	3.44	3.38	3.32	3.30	3.35
Saturation Coefficient (Ratio of 24H to 5H)	0.83	0.82	0.82	0.82	0.84	0.83

COMPRESSIVE STRENGTH	1	2	3	4	5	AVERAGE
PSI – Gross Area	8,265	8,628	7,458	9,726	8,262	8,468
PSI – Net Area	15,027	15,687	13,560	17,683	15,021	15,396

AVERAGE % VOID	45

IRA	6	7	8	9	10	AVERAGE
g/min/30 in.²	3.0	3.2	3.7	3.0	3.2	3.2

TEST DATA

THRU-WALL SHALE 8 X 4 X 16 — Meets ASTM C 652-H60V

ABSORPTION	1	2	3	4	5	AVERAGE
24 Hour Submersion in Cold Water (%)	0.91	0.66	0.88	0.84	0.78	0.81
5 Hour Submersion in Boiling Water (%)	2.86	1.67	2.25	2.19	2.01	2.20
Saturation Coefficient (Ratio of 24H to 5H)	0.32	0.39	0.39	0.38	0.39	0.37
COMPRESSIVE STRENGTH	**1**	**2**	**3**	**4**	**5**	**AVERAGE**
PSI – Gross Area	6,205	9,453	10,218	10,785	7,819	8,896
PSI – Net Area	10,516	16,022	17,318	18,279	13,252	15,077
AVERAGE % VOID	41					
IRA	**6**	**7**	**8**	**9**	**10**	**AVERAGE**
g/min/30 in.²	1.7	1.7	1.9	1.3	1.9	1.7

THRU-WALL SHALE/FIRECLAY W/ADDITIVE 8 X 8 X 16 — Meets ASTM C 652 – H60V

ABSORPTION	1	2	3	4	5	AVERAGE
24 Hour Submersion in Cold Water (%)	0.32	0.36	0.34	0.33	0.33	0.34
5 Hour Submersion in Boiling Water (%)	0.42	0.48	0.37	0.40	0.44	0.42
Saturation Coefficient (Ratio of 24H to 5H)	0.75	0.76	0.90	0.82	0.76	0.80
COMPRESSIVE STRENGTH	**1**	**2**	**3**	**4**	**5**	**AVERAGE**
PSI – Gross Area	9,301	12,135	8,931	8,446	10,188	9,800
PSI – Net Area	16,910	22,063	16,238	15,356	18,523	17,818
AVERAGE % VOID	45					
IRA	**6**	**7**	**8**	**9**	**10**	**AVERAGE**
g/min/30 in.²	1.1	1.4	0.9	1.6	1.6	1.3

MOMENT OF INERTIA (I) AND RADIUS OF GYRATION ® TABLE

6" TTW	INERTIA PER LINEAR FOOT	GYRATION
HOLLOW	154.43 in^4	1.99 in
@ 48 in OC	159.13 in^4	1.88 in
@ 40 in OC	159.9 in^4	1.86 in
@ 32 in OC	160.98 in^4	1.83 in
@ 24 in OC	162.6 in^4	1.79 in
@ 16 in OC	165.31 in^4	1.73 in
SOLID	170.71 in^4	1.63 in

MOMENT OF INERTIA (I) AND RADIUS OF GYRATION ® TABLE

8" TTW	INERTIA PER LINEAR FOOT	GYRATION
HOLLOW	358.76 in^4	2.8 in
@ 48 in OC	377.95 in^4	2.61 in
@ 40 in OC	381.15 in^4	2.58 in
@ 32 in OC	385.63 in^4	2.54 in
@ 24 in OC	392.45 in^4	2.5 in
@ 16 in OC	403.68 in^4	2.4 in
SOLID	426.14 in^4	2.3 in

The brick represented by the test results shown here comply with the standards listed below:
ASTM C 652 Standard Specification for Hollow Brick (Hollow Masonry Units made from Clay or Shale) Grade SW

BRICK MASONRY STRENGTH

The net compression strength of masonry (f'm) can be found in Table 1 of ACI 53.1 (Specification for Masonry Structures) when the compressive strength of the unit and mortar are known. The Thru-Wall units shown in this brochure will have the following f'm values when using Type S mortar. 3000 p.s.i. (grouted) | 4000 p.s.i. (ungrouted) | *Strength of the grout will control the f'm value.

BRICK

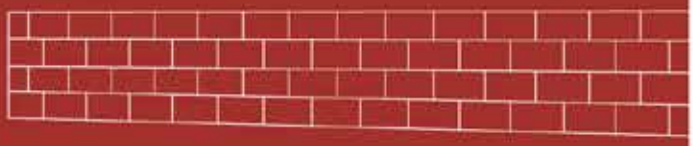
Admiral Full Range Velour & Landmark

10

Nutmeg Velour, Brandywine Velour & Tumbleweed Velour

Reinforced brick masonry is not a new wall system. Reinforcing steel and grout have been used with brick masonry for over 100 years. With brick masonry's high compressive strength, reinforcing makes for an economical, high-strength wall in comparison to other reinforced masonry systems.

DOUBLE MONARCH THRU-WALL



Thru-Wall Brick offer:

- Greater design flexibility.
- Reduced backup requirements.
- Reduced number of tie connections, which provides a more continuous moisture barrier.
- Greater seismic resistance and more ductility.
- Less restrictive deflection requirements of the backup structure.
- Reduced cost of the backup system.
- Often lower construction cost.
- Greater resistance to cracking.
- Fire resistant structure.

Available in 6 and 8 inch thickness and nominal face sizes of 4 x 16 and 8 x 16 inches.

BELDEN
THE BELDEN BRICK COMPANY

The Standard of Comparison
beldenbrick.com / (330) 456-0031