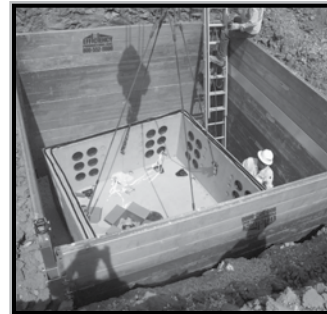
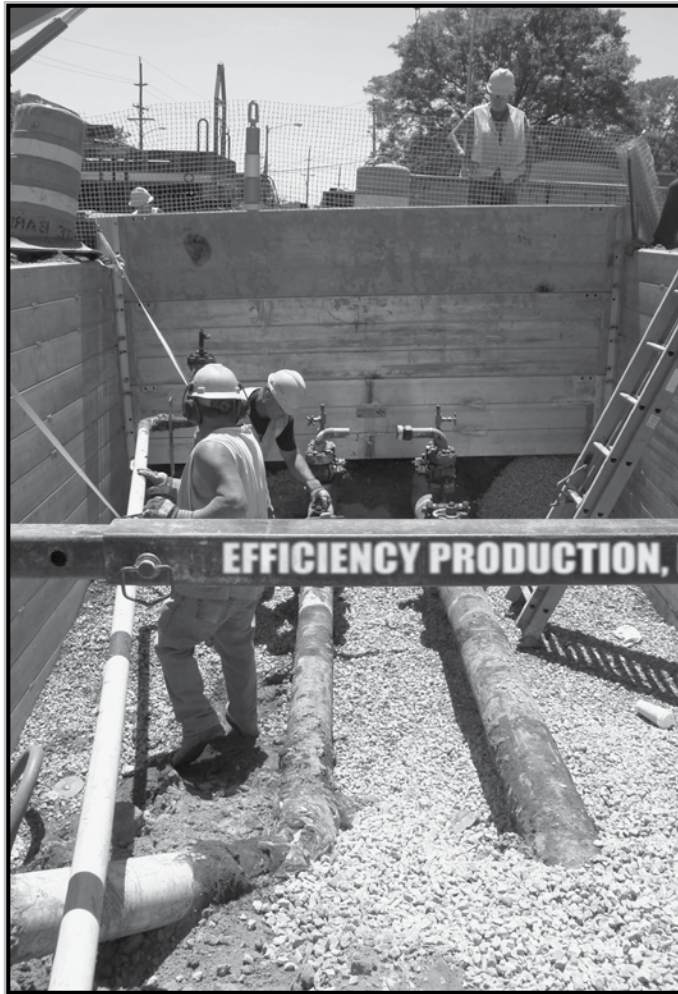


EFFICIENCY PRODUCTION

AMERICA'S TRENCH BOX BUILDER™

Build-A-Box™

Modular Trench Shielding System



Tabulated Data - EU Units Edition

Effective December 1, 2016

EFFICIENCY PRODUCTION
Build-A-Box™ Tabulated Data



America's Trench Box Builder™

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Code Compliance:

The Build-A-Box™ Modular Aluminum Trench Shielding System complies with requirements of EN 12221-1&2: 2002, DIN 4124, DIN EN 12811, and DIN EN 14693

General Information

This tabulated data is a general set of guidelines and tables to assist the competent person in selecting a safety system and the proper shoring or shielding equipment. The competent person has sole responsibility for job site safety and the proper selection and installation and removal of the shoring or shielding equipment.

This tabulated data is not intended to be used as a job specific excavation safety plan, but shall be used by the competent person to supplement his training, his experience and his knowledge of the job conditions and soil type.

1. The BUILD-A-BOX™ Modular Trench Shielding System tabulated data is based on the OSHA Safety requirements defined in 29 CFR, Part 1926, Subpart P - Excavations and Trenches.
2. This data is to be used by a soils engineer, or a competent person. The competent person shall be experienced and knowledgeable of trenching and excavation procedures, the use of modular trench shielding systems, soils identification, and the OSHA standards.
 - a. A trained competent person shall: supervise all excavation operations; ensure that all personnel are working in safe conditions; and have thorough knowledge of this tabulated data. The competent person shall have the authority to stop work when it is unsafe for workers to enter an excavation.
 - b. All personnel shall be trained in correct excavation procedures, proper use of the protective system and all safety precautions.
 - c. Excavations and protective systems shall be inspected a minimum of once each working day and whenever there is a change of soil, water, or other job site conditions.
 - d. All lifting and pulling equipment, including cables, slings, chains, shackles and safety hooks shall be evaluated for suitability and capacity, and shall be inspected for damage or defects prior to use.
3. The competent person shall continually monitor the excavation for signs of deterioration such as seepage of water or flowing soil into the excavation. Promptly dewater any accumulated water and reassess the trench for safety. Changing soil conditions may require adjustments to the shoring system.
 - a. All installation and removal of shielding or shoring shall be from above ground only.
 - b. Do not allow personnel to enter an excavation that is not properly shored, shielded or sloped.
 - c. Personnel shall always work within the shielding or shoring. Personnel shall not stand on the edge of an un-shored excavation.
 - d. All personnel shall enter and exit excavations only within shielded or shored areas.
4. The tabulated data shall only be used for those soil conditions indicated. The data is not considered adequate when loads imposed by structures, equipment, traffic, or stored materials adjacent to the trench exceed the assumed design surcharge loads of 9,080 kg, or the imposed load of a 600 mm spoil pile located less than 600 mm from the edge of the excavation. An engineered shielding or shoring design is required for conditions other than those assumed in the tables.
5. Proper backfill sufficient to stabilize the BUILD-A-BOX™ and to minimize ground surface and/or foundation settlements is required. Where such settlements are not a concern, over digging may be performed, however, the clear distance shall not exceed 150 mm.
6. No vertical or horizontal loads shall be applied to the adjustable strut or static braces except as specified by Efficiency Production. Any mishandling, such as pounding with the backhoe bucket, will void the tabulated data.

Classification of Soil Types

The soil descriptions for OSHA Type "A", "B", & "C" Soils are based on Appendix A to OSHA Subpart P of 29CFR Part 1926, "Excavations and Trenches". The Type "C-60" Soil referred to in Efficiency's Tabulated Data represents a more stable soil condition than the Type "C" described in Appendix A.

Type "A" Soil - Effective lateral weight of **25 PSF** per foot of depth.

Description: Cohesive soil (i.e., clay, silty clay, sandy clay, clay loam) with an unconfined compressive strength of 1.5 TSF (tons per square foot) or greater; or cemented soils such as caliche and hardpan. No soil is Type A if the soil is fissured; subject to vibration from heavy traffic, pile driving or similar effects; has been previously disturbed; or part of a sloped, layered system where the layers dip into the excavation on a slope of four horizontal to one vertical (4H:1V) or greater.

Type "B" Soil - Effective lateral weight of **45 PSF** per foot of depth.

Description: Cohesive soil with an unconfined compressive strength greater than .5 TSF but less than 1.5 TSF; and granular cohesionless soils including angular gravel, silt, silt loam, sandy loam, and in some cases, silty clay loam and sand clay loam; previously disturbed soils except those which would otherwise be classed as Type C; soil that meets requirements for Type A, but is fissured or subject to vibration; dry rock that is unstable; and material that is part of a layered system where layers dip into the excavation on a slope less steep than four horizontal to one vertical (4H:1V), but only if the material would otherwise be classified as Type B.

Type "C-60" Soil - Effective lateral weight of **60 PSF** per foot of depth.

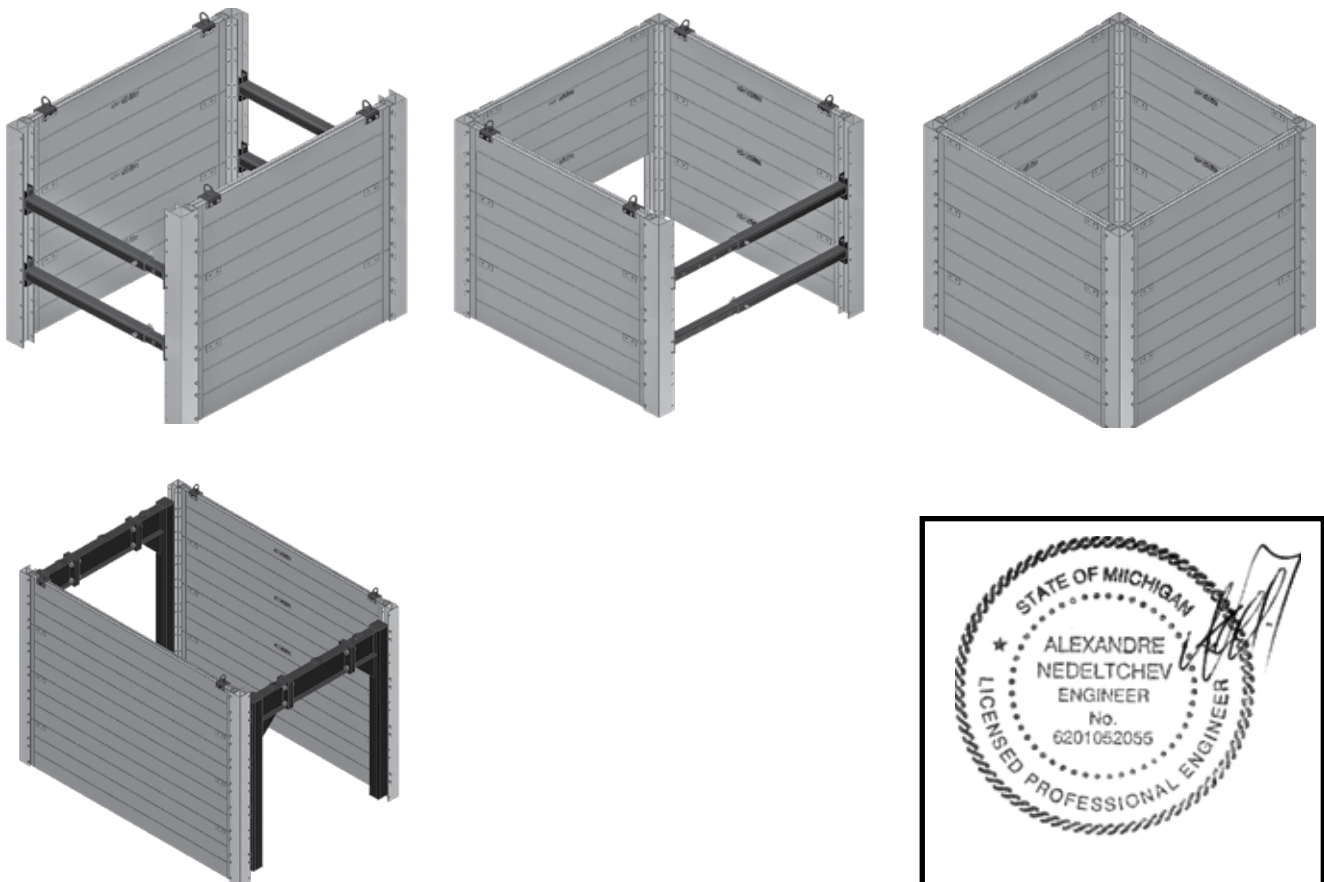
Description: Soft cohesive to moist soil with an unconfined compressive strength less than .5 TSF; moist cohesive soil or moist dense sand which is not flowing or submerged. When cut with near vertical side walls, soil can stand with unsupported vertical sidewalls long enough for shoring installation. (see "1.c.")

Type "C-80" Soil - Effective lateral weight of **80 PSF** per foot of depth.

Description: Cohesive soil with an unconfirmed compressive strength of .5 TSF or less; granular soils including gravel, sand, and loamy sand; submerged soil or soil from which water is freely seeping; submerged rock that is not stable; and material in a sloped, layered system where the layers dip into the excavation on a slope of four horizontal to one vertical (4H : 1V) or steeper.

Data Limitations

- A. When only the lower portion of a trench is to be shored and the remaining portion is benched or sloped at an angle steeper than three horizontal to one vertical (3H:1V), the allowable depth of excavation shall be measured from the top of the overall trench and not the toe of the sloped portion.
- B. In sloped excavations, the top of the shield must be a minimum of 460 mm above the bottom of the slope and the top struts/braces must be located below the bottom of the slope. In un-sloped excavations, the top of the shield may be flush with the ground surface, provided that the competent person determines that there is no hazard of objects rolling into the excavation.
- C. BUILD-A-BOX™ Modular Trench Shield Systems shall be used with Efficiency Production adjustable struts and static braces pinned in place with two (2) Efficiency Production supplied 20 mm diameter pins at each end of the strut or brace as illustrated on page 5.
- D. BUILD-A-BOX™ Modular Trench Shield Systems shall be assembled and installed as shown and in accordance with these instructions. Note that installation videos and training at Efficiency Production are available upon request.
- E. BUILD-A-BOX™ Modular Trench Shield Systems shall be handled by using the lifting lugs installed in holes provided in each panel or corner post. Stacking Brackets shall be used when stacking modular systems.
- F. The bottom of the BUILD-A-BOX™ shall be located no more than two feet from the bottom of the excavation in soil Types "A", "B" and "C-60\80" as long as no loss of soil from behind or below the shield is encountered. Proper benching of trench wall is required.



Two-Sided Configurations



Two-sided configuration with telescoping spreaders and full length corner posts



Two-sided configuration with full length corner posts and arches



A series of two-sided configured Build-A-Box shielding a long pipeline

Three-Sided Configurations



Three-sided configuration with telescoping spreaders and removed bottom panel



A three-sided configuration with end panels pinned 305 mm up in corner posts allowing gas utility to run through



Large, three-sided configuration with hi-clearance arches

Four-Sided Configurations



Four-sided configuration with sectional corner posts and removed bottom panel



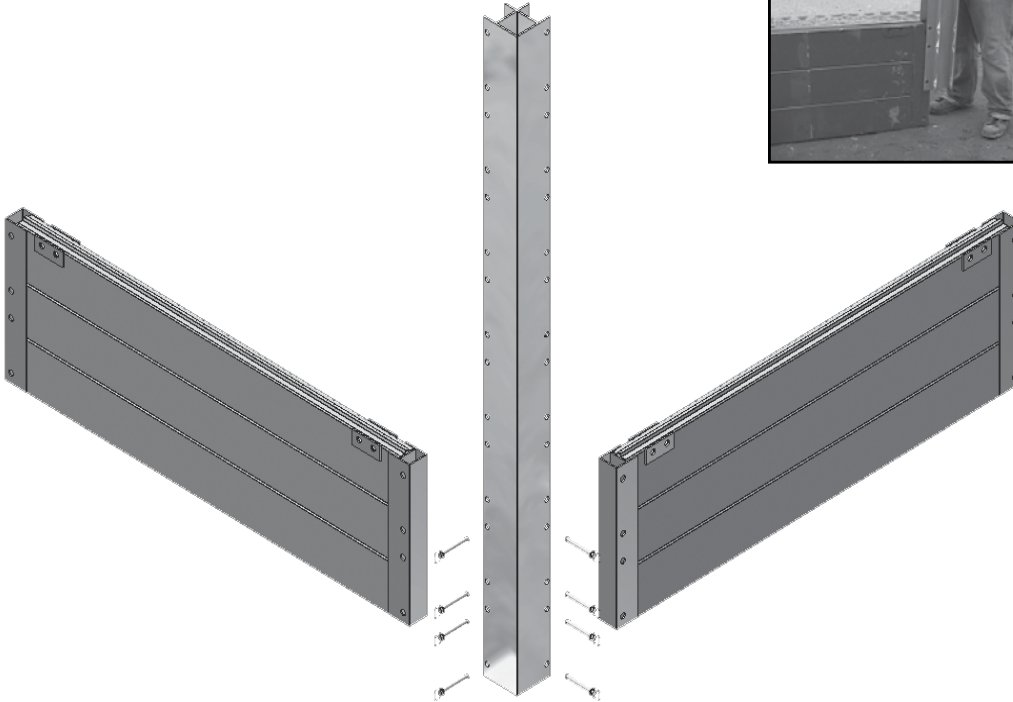
Long paneled four-sided configuration with sectional corner posts



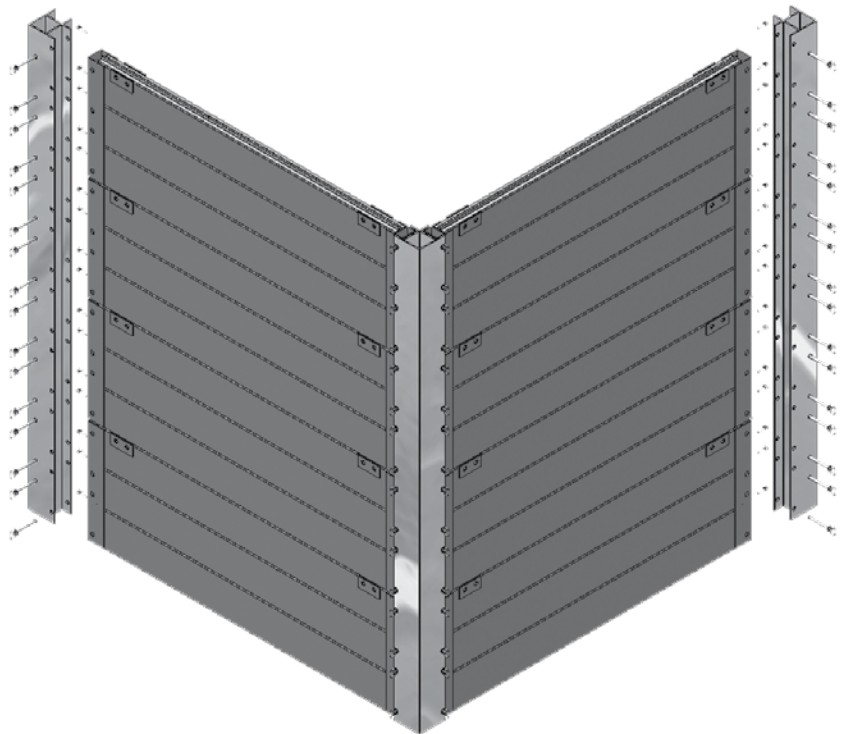
Four-sided Build-A-Box with Sheeting Guide Frame and sheets

Step 1

Slide first panel into corner post and pin in place. Slide perpendicular panel into the corner posts and pin in place. Continue with as many panels as necessary to achieve desired height. Be sure to secure with pins and keepers.

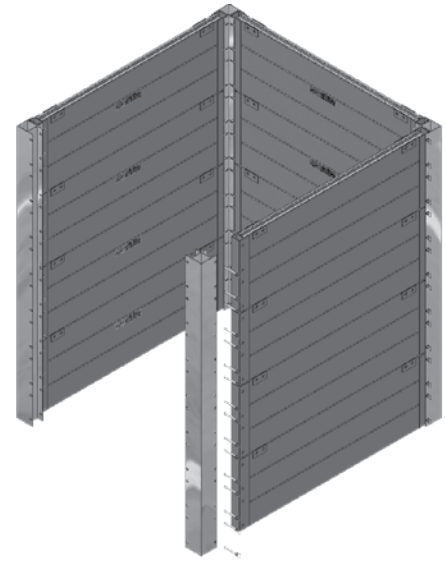
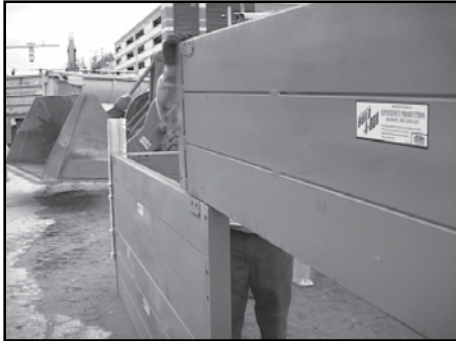
**Step 2**

Slide corner posts onto panels and pin in place. Be sure to secure with pins and keepers.



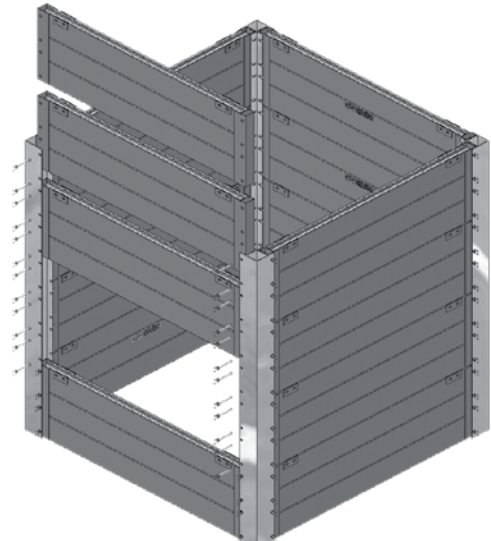
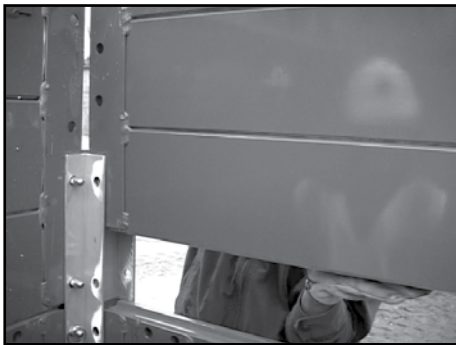
Step 3

To complete the third side, slide panels into the corner posts and pin in place. Add corner posts onto the panel and pin in place. Be sure to secure with pins and keepers.



Step 4a

To assemble last side, slide panels down into corner posts until desired height is achieved. Pin panels to corner posts. Be sure to secure with pins and keepers.



Step 4b

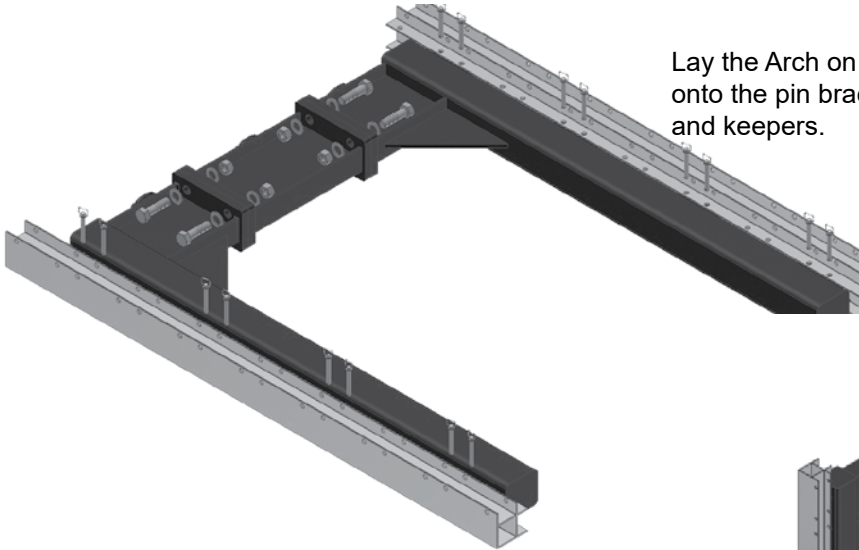
Or, slide a pair of telescoping spreaders into corner posts and secure with pins and keepers. Note: At least two spreaders are required.



Assembly - BAB & Arch

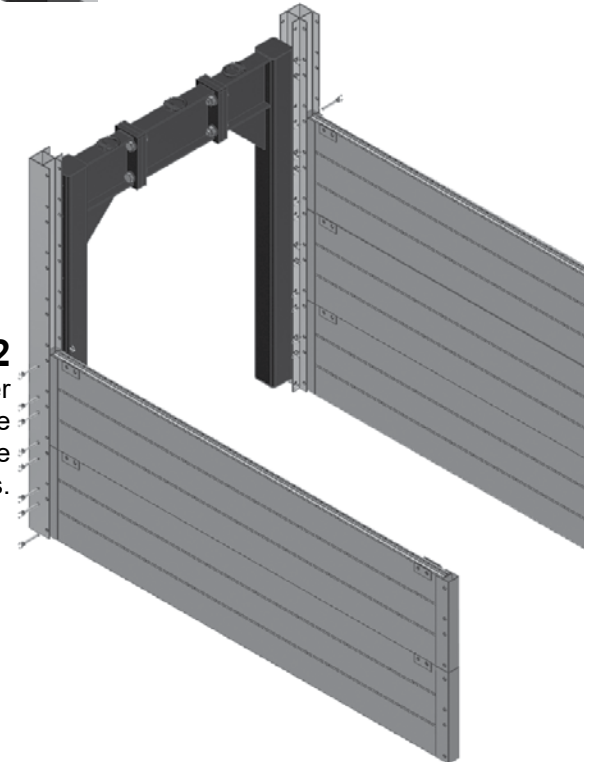
Step 1

Lay the Arch on the ground and slide the corner posts onto the pin brackets on the arch and secure with pins and keepers.



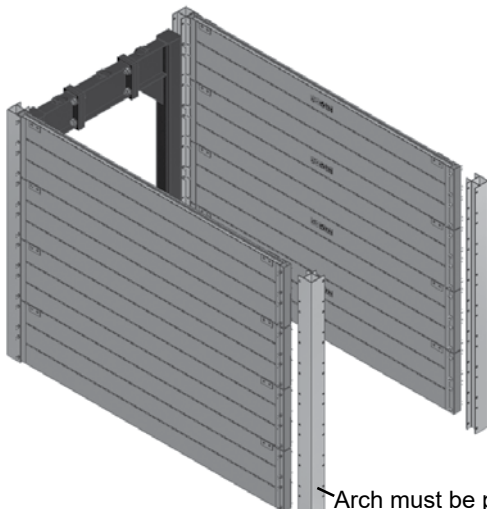
Step 2

Stand the Arch up, and slide panels into the corner posts. Continue with as many panels on each side as necessary to reach desired height. Secure with pins and keepers.

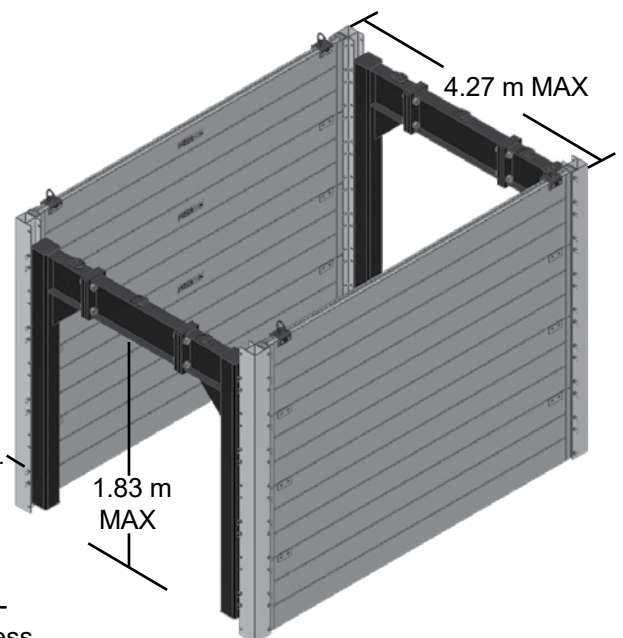


Step 3

Slide corner posts onto panels and secure with pins and keepers. Complete the fourth side by installing either panels, spreaders, or another Arch.



Arch must be pinned completely within a **Full Length** corner post.



Note:

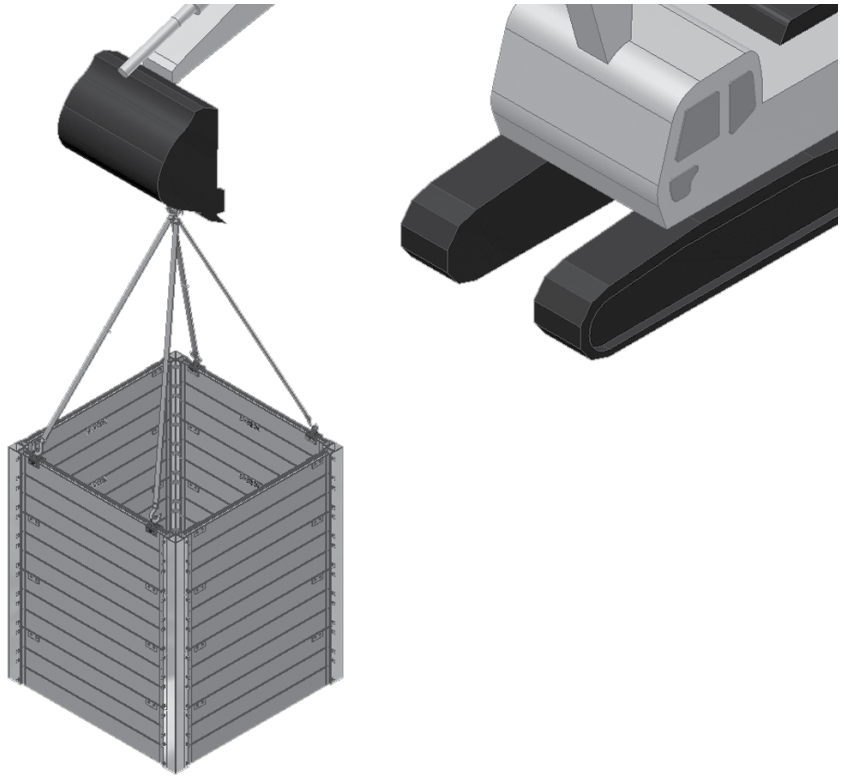
Use Build-A-Box tabulated data charts providing vertical clearance is 1.83 m or less and horizontal clearance is 4.27 m or less.

Revised: August 27, 2012 - CHANGE TWO

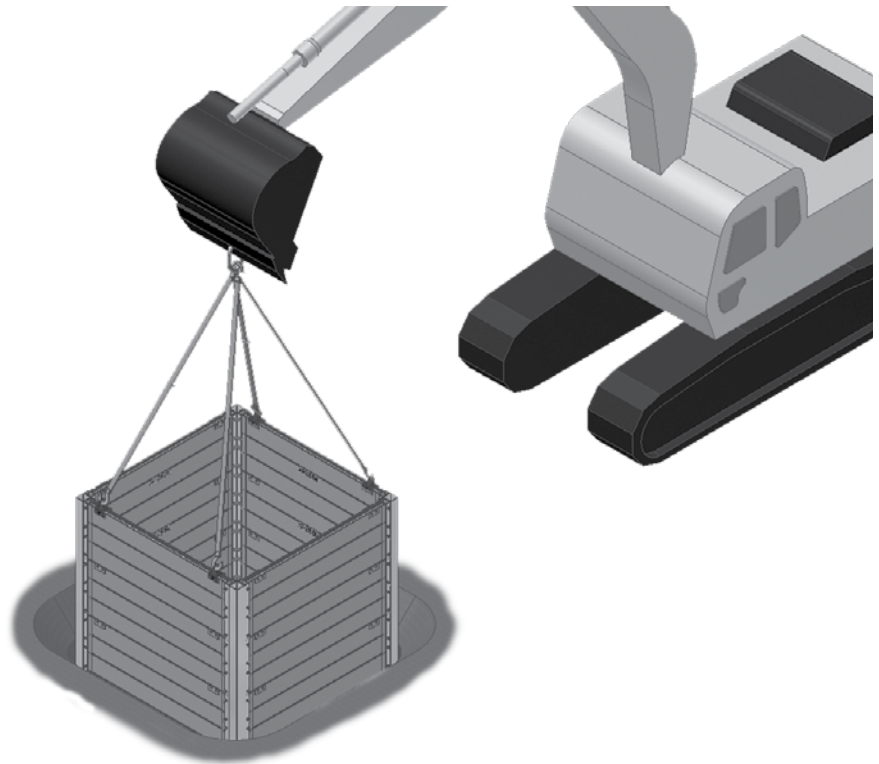
Build-A-Box™ - Tabulated Data

Step 1

Excavate to grade just slightly wider than Build-A-Box dimension. Dig walls vertical to minimum of 460 mm below the top of the box. Slope soil above box according to manufacturer's tabulated data.

**Step 2**

Lower box into trench. Backfill between outside wall of the box and wall of the trench before use.



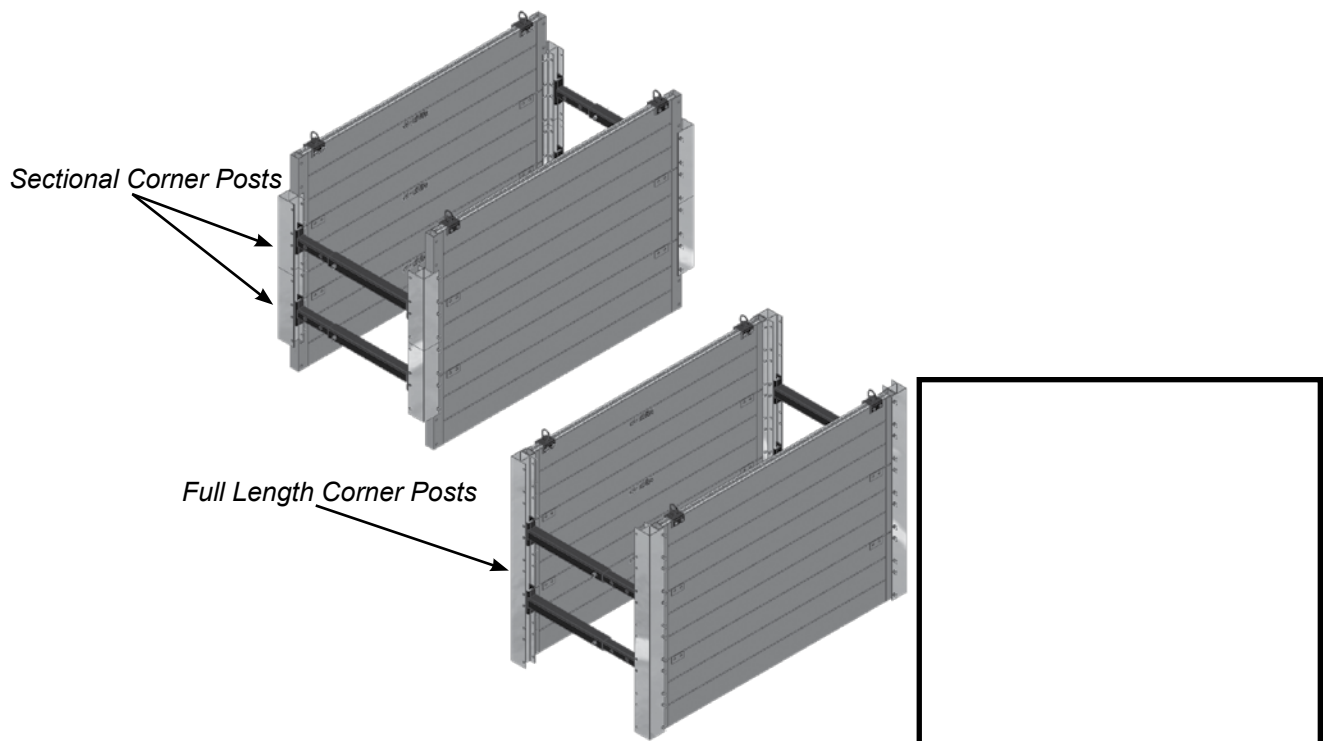
All Lifting Devices should be properly sized, designed, and used in compliance with all industry regulations and in conjunction with a trained and knowledgeable rigging and lifting expert's recommendations.

- 1) Numerous other combinations of panels, corner posts, t-posts, 4-way posts and struts, other than those shown on page 7, are permissible with approval from Efficiency Production.
- (2) Build-A-Box panels each have four or six holes for connector pins on each side. A minimum of two of the four pins must be used in order for the manufacturer's tabulated data to remain valid. If sectional corner posts are used intersecting at the mid-point of the panel on the 2' high side, then a minimum of one pin must be used per on each of the two intersecting corner posts (two per panel). The other pins add rigidity and redundancy, but are not required.
- (3) Build-A-Box™ Modular Trench Shielding Systems, are designed for use with Efficiency Production adjustable struts and static braces.
- (4) Depth ratings are based on one strut per sectional corner post pair on 610 mm centers for the entire height of the system. Sectional corner posts must be installed in a manner to have the struts centered on the posts and in line with the panel joints. Alternately, struts may be used on 920 mm vertical centers if used with full length end posts. The full length end posts must extend to within 305 mm of the top and bottom of the panels. Full length corner posts may extend below the bottom of the panels to serve as legs; however depth of cut remains the same.
- (5) When t-posts or 4-way corner posts are used, struts must be installed at every t-post and/or corner post, on the same maximum vertical centers as the ends.
- (6) Each wheel kit assembly may be used to lift a maximum of 681 kg. Two wheel kits are required per panel section.
- (7) 1.2 or 1.8 mm tall panels with or without factory installed cutouts may be substituted for two or three, 0.6 mm panels with no penalty in depth of cut.



Sectional or Full Length Corner Posts Struts on 610 or 915 mm vertical centers

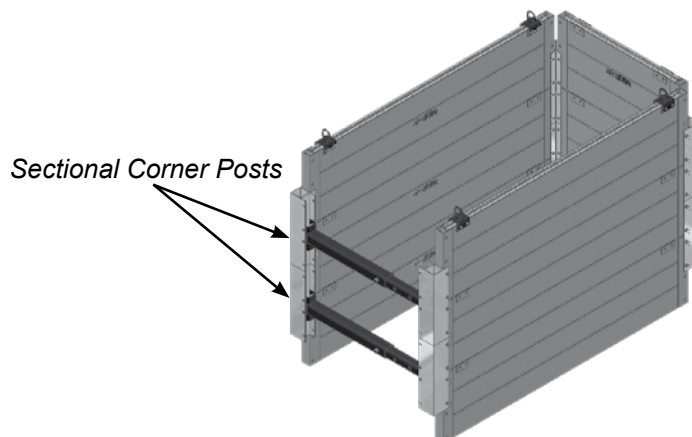
2-Sided Build-A-Box™ Modular Trench Shield System						
Panel Selection Chart			Shield Cap. (kPa)	Depth of Cut (m) - Soil Type		
Part No. (Ft.)	Ht. x Lg. (mm)t	Weight (kg)		B	C-60	C-80
BBP-22	610 x 610	15	115	16	12	9
BBP-23	610 x 915	20	115	16	12	9
BBP-24	610 x 1,220	27	115	16	12	9
BBP-25	610 x 1,525	32	115	16	12	9
BBP-26	610 x 1,830	38	115	16	12	9
BBP-27	610 x 2,135	44.5	84	12	9	6.5
BBP-28	610 x 2,440	49.5	69	10	7	5.5
BBP-29	610 x 2,740	56	58	8	6	4.5
BBP-210	610 x 3,050	62	46	6	5	3.5
BBP-212	610 x 3,660	74	37	5	4	3
BBP-214	610 x 4,270	85.5	30	4	3	2.5
BBP-216	610 x 4,880	94.5	23	3	2.5	2



915 mm and 1,220 mm Configurations

Struts on 610 mm vertical centers on open end

3-Sided Build-A-Box™ Modular Trench Shield System					
Width x Length (mm)	Shield Capacity (kPa)	Depth of Cut (m) - Soil Type			
		A	B	C-60	C-80
915 X 610	108	26	14.5	11	8
915 X 915	108	26	14.5	11	8
915 X 1,220	108	26	14.5	11	8
915 X 1,525	105	25	14	10.5	8
915 X 1,830	102	24.5	13.5	10	7.5
915 X 2,135	87	21	12	9	6
915 X 2,440	72	17.5	9.5	7	5.5
915 X 2,740	60	14.5	8	6	4.5
915 X 3,050	48	11.5	6	5	3.5
915 X 3,660	39	9	5	4	3
915 X 4,270	30	7	4	3	2
915 X 4,880	24	6	3	2.5	2
1,220 X 610	108	26	14.5	11	8
1,220 X 915	108	26	14.5	11	8
1,220 X 1,220	108	26	14.5	11	8
1,220 X 1,525	105	25	14	10.5	8
1,220 X 1,830	102	24.5	13.5	10	7.5
1,220 X 2,135	81	19.5	11	8	6
1,220 X 2,440	66	16	9	6.5	5
1,220 X 2,740	60	14.5	8	6	4.5
1,220 X 3,050	45	11	6	4.5	4
1,220 X 3,660	39	9	5	4	4
1,220 X 4,270	30	7	4	3	2
1,220 X 4,880	24	6	3	2.5	2

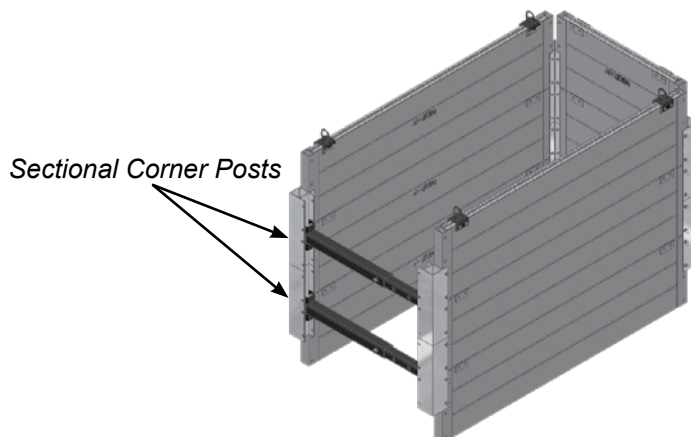


Notes: See Page 5

1,525 mm and 1,830 mm Configurations

Struts on 610 mm vertical centers on open end

3-Sided Build-A-Box™ Modular Trench Shield System					
Width x Length (mm)	Shield Capacity (kPa)	Depth of Cut (m) - Soil Type			
		A	B	C-60	C-80
1,525 X 610	105	25	14	10.5	8
1,525 X 1,525	102	25	14	10.5	8
1,525 X 1,830	81	24.5	13.5	10	7.5
1,525 X 2,135	60	19.5	11	8	6
1,525 X 2,440	52.5	14.5	8	6	4.5
1,525 X 2,740	45	12.5	7	5.5	4
1,525 X 3,050	39	11	6	4.5	3
1,525 X 3,660	30	9	5	4	3
1,525 X 4,270	24	7	4	3	2
1,525 X 4,880	18	6	3	2.5	2
1,830 X 610	102	25	14	10.5	8
1,830 X 1,830	81	24.5	13.5	10	7.5
1,830 X 2,135	63	19.5	11	8	6
1,830 X 2,440	45	15	8.5	6	4.5
1,830 X 2,740	42	11	6	4.5	3
1,830 X 3,050	39	10	6	4	3
1,830 X 3,660	30	9	5	4	3
1,830 X 4,270	24	7	4	3	2
1,830 X 4,880	18	6	3	2.5	2



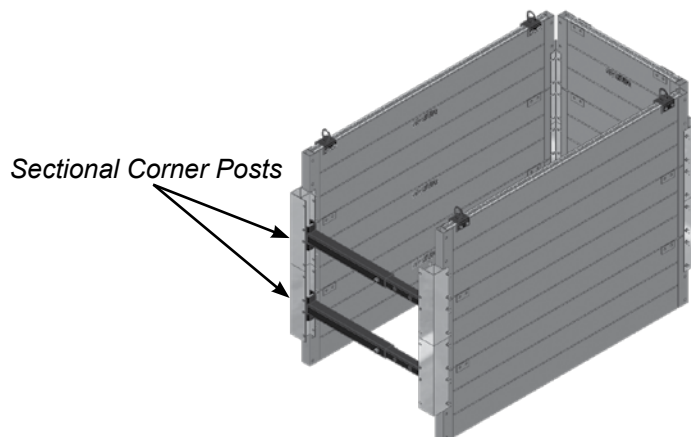
Notes: See Page 5

Sectional Corner Posts

2,135 mm; 2,440 mm; and 2,740 mm Configurations

Struts on 610 mm vertical centers on open end

3-Sided Build-A-Box™ Modular Trench Shield System					
Width x Length (mm)	Shield Capacity (kPa)	Depth of Cut (m) - Soil Type			
		A	B	C-60	C-80
2,135 X 610	87	21	12	9	6
2,135 X 2,135	81	19.5	11	8	6
2,135 X 2,440	60	14.5	8	6	4.5
2,135 X 2,740	51	12	7	5	3.5
2,135 X 3,050	42	10	6	4	3
2,135 X 3,660	36	9	5	3.5	3
2,135 X 4,270	27	6.5	3.5	3	2
2,135 X 4,880	24	6	3	2.5	2
2,440 X 610	81	19.5	11	8	6
2,440 X 2,440	60	14.5	8	6	4.5
2,440 X 2,740	51	12	7	5	3.5
2,440 X 3,050	42	10	6	4	3
2,440 X 3,660	36	9	5	3.5	3
2,440 X 4,270	27	6.5	3.5	3	2
2,440 X 4,880	24	6	3	2.5	2
2,740 X 610	1,200	14.5	8	6	4.5
2,740 X 2,740	1,020	12	7	5	3.5
2,740 X 3,050	840	10	6	4	3
2,740 X 3,660	720	9	5	3.5	3
2,740 X 4,270	540	6.5	3.5	3	2
2,740 X 4,880	480	6	3	2.5	2



Notes: See Page 5

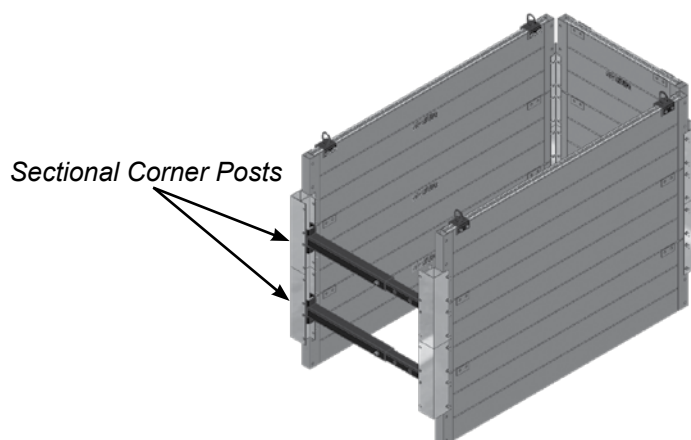
Sectional Corner Posts

3,050 mm; 3,660 mm; 4,270 mm; and 4,880 mm

Configurations

Struts on 610 mm vertical centers on open end

3-Sided Build-A-Box™ Modular Trench Shield System					
Width x Length (mm)	Shield Capacity (kPa)	Depth of Cut (m) - Soil Type			
		A	B	C-60	C-80
3,050 X 610	840	10	6	4	3
3,050 X 3,050	780	9	5	4	3
3,050 X 3,660	720	9	5	3.5	3
3,050 X 4,270	540	6.5	3.5	3	2
3,050 X 4,880	480	6	3	2.5	2
3,660 X 610	39	9	5	4	3
3,660 X 3,660	33	8	4.5	3	2.5
3,660 X 4,270	27	6.5	3.5	3	2
3,660 X 4,880	24	6	3	2.5	2
4,270 x 610	30	7	4	3	2
4,270 X 4,270	30	7	4	3	2
4,270 X 4,880	24	6	3	2.5	2
4,880 X 610	24	6	3	2.5	2
4,880 X 4,880	24	6	3	2.5	2

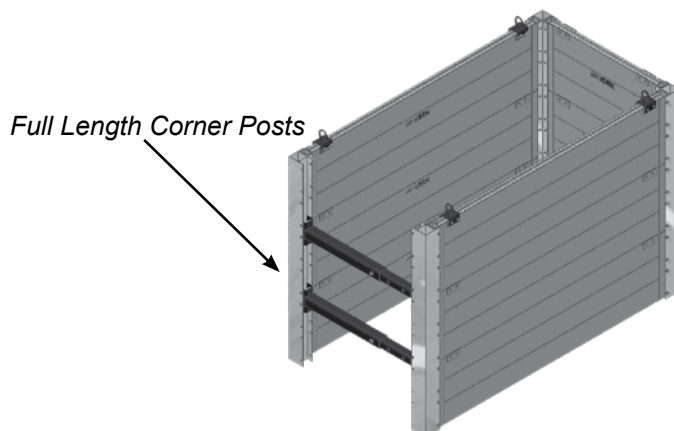


Notes: See Page 5

915 mm and 1,220 mm Configurations

Struts on 915 mm vertical centers on open end

3-Sided Build-A-Box™ Modular Trench Shield System					
Width x Length (mm)	Shield Capacity (kPa)	Depth of Cut (m) - Soil Type			
		A	B	C-60	C-80
915 X 610	84	20	11	8.5	6
915 X 915	84	20	11	8.5	6
915 X 1,220	81	19.5	11	8	6
915 X 1,525	75	18	10	7.5	5.5
915 X 1,830	66	16	9	6.5	5
915 X 2,135	57	14	7.5	6	1
915 X 2,440	51	12	7	5	3.5
915 X 2,740	45	11	6	4.5	3
915 X 3,050	39	9	5	4	3
915 X 3,660	30	7	4	3	2
915 X 4,270	27	6.5	3.5	3	2
915 X 4,880	24	6	3	2.5	2
1,220 X 610	84	20	11	8.5	6
1,220 X 915	81	19.5	11	8	6
1,220 X 1,220	81	19.5	11	8	6
1,220 X 1,525	75	18	10	7.5	5.5
1,220 X 1,830	66	16	9	6.5	5
1,220 X 2,135	57	14	7.5	6	4
1,220 X 2,440	51	12	7	5	3.5
1,220 X 2,740	45	11	6	4.5	3
1,220 X 3,050	39	9	5	4	3
1,220 X 3,660	30	7	4	3	2
1,220 X 4,270	27	6.5	3.5	3	2
1,220 X 4,880	24	6	3	2.5	2

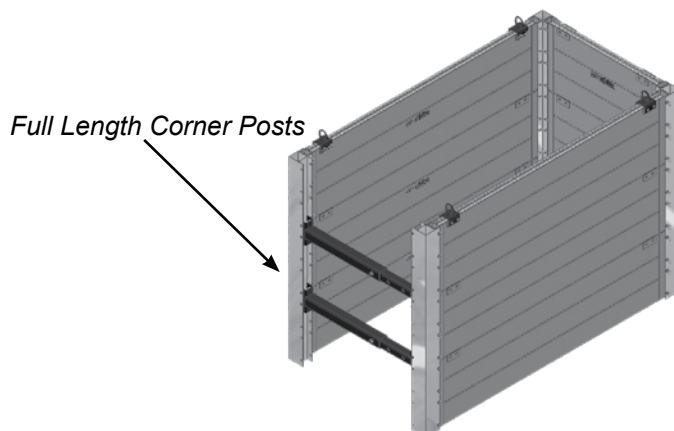


Notes: See Page 5

1,525 mm and 1,830 mm Configurations

Struts on 915 mm vertical centers on open end

3-Sided Build-A-Box™ Modular Trench Shield System					
Width x Length (mm)	Shield Capacity (kPa)	Depth of Cut (m) - Soil Type			
		A	B	C-60	C-80
1,525 X 610	81	19.5	11	8	6
1,525 X 1,525	75	18	11	7.5	5.5
1,525 X 1,830	66	16	9	6.5	5
1,525 X 2,135	57	14	7.5	6	4
1,525 X 2,440	51	12	7	5	3.5
1,525 X 2,740	43.5	10.5	6	4.5	3
1,525 X 3,050	36	9	5	3.5	3
1,525 X 3,660	30	7	4	3	2
1,525 X 4,270	27	6.5	3.5	3	2
1,525 X 4,880	24	6	3	2.5	2
1,830 X 610	78	18.5	10.5	8	6
1,830 X 1,830	66	16	9	6.5	5
1,830 X 2,135	57	14	7.5	6	4
1,830 X 2,440	51	12	7	5	3.5
1,830 X 2,740	43.5	10.5	6	4.5	3
1,830 X 3,050	36	9	5	3.5	3
1,830 X 3,660	30	7	4	3	2
1,830 X 4,270	27	6.5	3.5	3	2
1,830 X 4,880	24	6	3	2.5	2



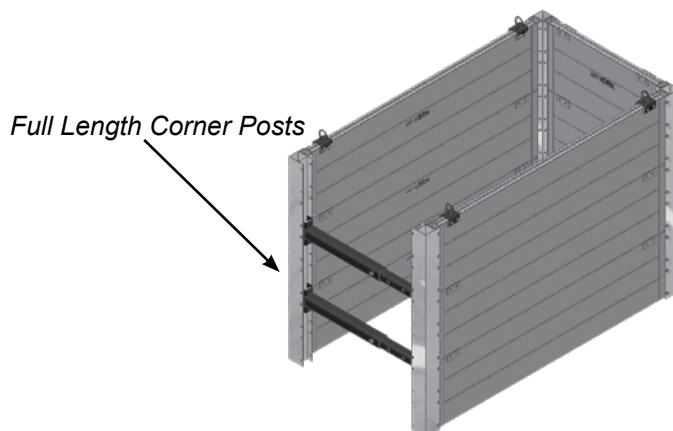
Notes: See Page 5

Full Length Corner Posts

2,135 mm; 2,440 mm; and 2,740 mm Configurations

Struts on 915 vertical centers on open end

3-Sided Build-A-Box™ Modular Trench Shield System					
Width x Length (mm)	Shield Capacity (kPa)	Depth of Cut (m) - Soil Type			
		A	B	C-60	C-80
2,135 X 610	78	10.5	10.5	8	6
2,135 X 2,135	57	7.5	7.5	6	4
2,135 X 2,440	51	7	7	6	3.5
2,135 X 2,740	43.5	6	6	4.5	3
2,135 X 3,050	36	5	5	3.5	3
2,135 X 3,660	30	4	4	3	2
2,135 X 4,270	27	53.5	53.5	3	2
2,135 X 4,880	24	3	3	2.5	2
2,440 X 610	7.2	1	1	0.5	1
2,440 X 2,440	51	7	7	5	3.5
2,440 X 2,740	43.5	6	6	4.5	3
2,440 X 3,050	36	5	5	3.5	3
2,440 X 3,660	27	3.5	3.5	3	2
2,440 X 4,270	24	3	3	2.5	2
2,440 X 4,880	24	3	3	2.5	2
2,740 X 610	60	8	8	6	4.5
2,740 X 2,740	40.5	5.5	5.5	4	3
2,740 X 3,050	36	5	5	3.5	3
2,740 X 3,660	27	3.5	3.5	3	2
2,740 X 4,270	24	3	3	2.5	2
2,740 X 4,880	24	3	3	2.5	2



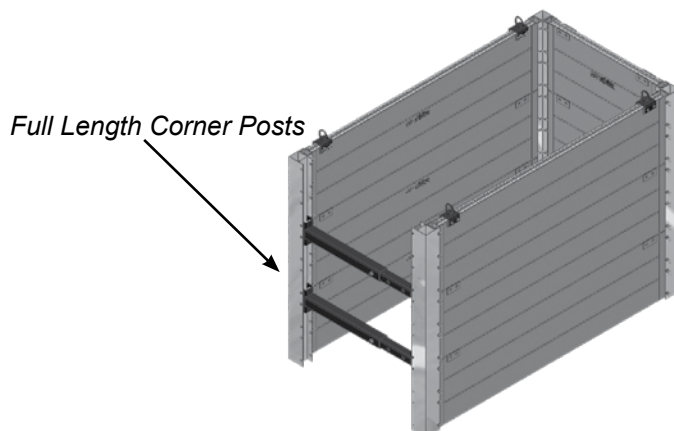
Notes: See Page 5

Full Length Corner Posts

3,050 mm; 3,660 mm; 4,270 mm; 4,880 mm
Configurations

Struts on 915 mm vertical centers on open end

3-Sided Build-A-Box™ Modular Trench Shield System					
Width x Length (mm)	Shield Capacity (kPa)	Depth of Cut (m) - Soil Type			
		A	B	C-60	C-80
3,050 X 610	48	11.5	6	5	3.5
3,050 X 3,050	33	8	4.5	3	2.5
3,050 X 3,660	27	6.5	3.5	3	2
3,050 X 4,270	24	6	3	2.5	2
3,050 X 4,880	24	6	3	2.5	2
3,660 X 610	39	9	5	4	3
3,660 X 3,660	27	6.5	3.5	3	2
3,660 X 4,270	24	6	3	2.5	2
3,660 X 4,880	24	6	3	2.5	2
4,270 x 610	30	7	4	3	2
4,270 X 4,270	24	6	3	2.5	2
4,270 X 4,880	24	6	3	2.5	2
4,880 X 610	24	6	3	2.5	2
4,880 X 4,880	24	6	3	2.5	2

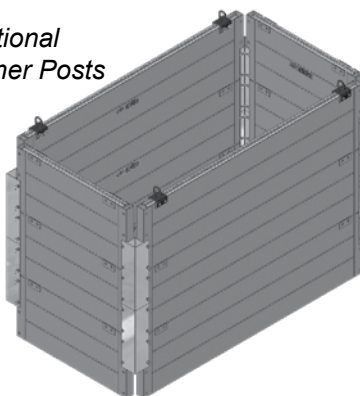


Notes: See Page 5

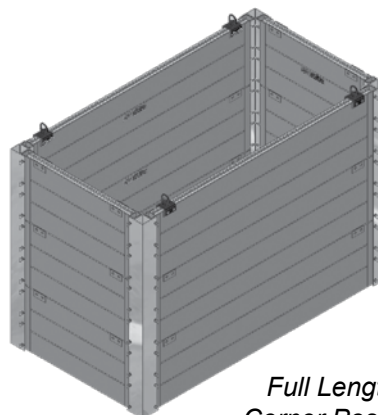
Sectional or Full Length Corner Posts 915 mm and 1,220 mm Configurations

4-Sided Build-A-Box™ Modular Trench Shield System					
Width x Length (mm)	Shield Capacity (kPa)	Depth of Cut (m) - Soil Type			
		A	B	C-60	C-80
915 X 610	108	26	14.5	11	8
915 X 915	108	26	14.5	11	8
915 X 1,220	108	26	14.5	11	8
915 X 1,525	105	25	14	10.5	8
915 X 1,830	102	24.5	13.5	10	7.5
915 X 2,135	87	21	12	9	6
915 X 2,440	72	17.5	9.5	7	5.5
915 X 2,740	60	14.5	8	6	4.5
915 X 3,050	48	11.5	6	5	3.5
915 X 3,660	39	9	5	4	3
915 X 4,270	30	7	4	3	2
915 X 4,880	24	6	3	2.5	2
1,220 X 610	108	26	14.5	11	8
1,220 X 915	108	26	14.5	11	8
1,220 X 1,220	108	26	14.5	11	8
1,220 X 1,525	105	25	14	10.5	8
1,220 X 1,830	102	24.5	13.5	10	7.5
1,220 X 2,135	81	19.5	11	8	6
1,220 X 2,440	66	16	9	6.5	5
1,220 X 2,740	60	14.5	8	6	4.5
1,220 X 3,050	45	11	6	4.5	4
1,220 X 3,660	39	9	5	4	4
1,220 X 4,270	30	7	4	3	2
1,220 X 4,880	24	6	3	2.5	2

*Sectional
Corner Posts*



*Full Length
Corner Posts*



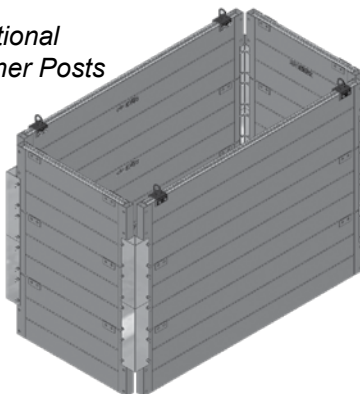
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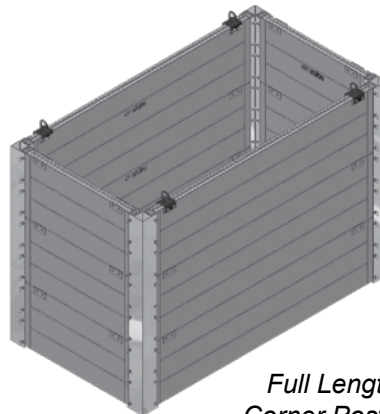
Sectional or Full Length Corner Posts 1,525 mm and 1,830 mm Configurations

4-Sided Build-A-Box™ Modular Trench Shield System					
Width x Length (mm)	Shield Capacity (kPa)	Depth of Cut (m) - Soil Type			
		A	B	C-60	C-80
1,525 X 610	105	25	14	10.5	8
1,525 X 1,525	102	25	14	10.5	8
1,525 X 1,830	81	24.5	13.5	10	7.5
1,525 X 2,135	60	19.5	11	8	6
1,525 X 2,440	52.5	14.5	8	6	4.5
1,525 X 2,740	45	12.5	7	5.5	4
1,525 X 3,050	39	11	6	4.5	3
1,525 X 3,660	30	9	5	4	3
1,525 X 4,270	24	7	4	3	2
1,525 X 4,880	18	6	3	2.5	2
1,830 X 610	102	25	14	10.5	8
1,830 X 1,830	81	24.5	13.5	10	7.5
1,830 X 2,135	63	19.5	11	8	6
1,830 X 2,440	45	15	8.5	6	4.5
1,830 X 2,740	42	11	6	4.5	3
1,830 X 3,050	39	10	6	4	3
1,830 X 3,660	30	9	5	4	3
1,830 X 4,270	24	7	4	3	2
1,830 X 4,880	18	6	3	2.5	2

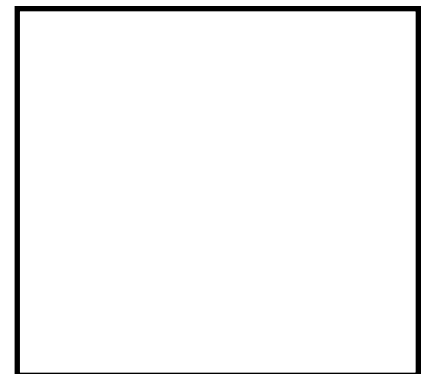
*Sectional
Corner Posts*



*Full Length
Corner Posts*



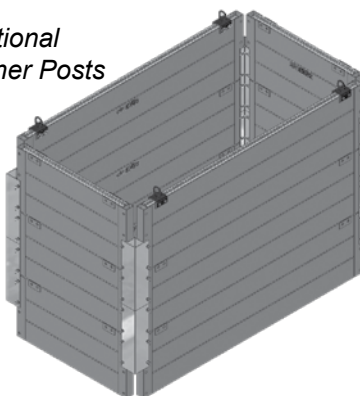
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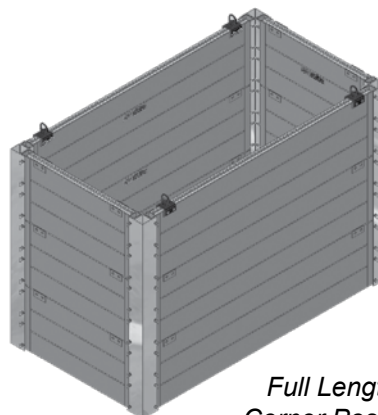
Sectional or Full Length Corner Posts 2,135 mm; 2,440 mm; and 2,740 mm Configurations

4-Sided Build-A-Box™ Modular Trench Shield System					
Width x Length (mm)	Shield Capacity (kPa)	Depth of Cut (m) - Soil Type			
		A	B	C-60	C-80
2,135 X 610	87	21	12	9	6
2,135 X 2,135	81	19.5	11	8	6
2,135 X 2,440	60	14.5	8	6	4.5
2,135 X 2,740	51	12	7	5	3.5
2,135 X 3,050	42	10	6	4	3
2,135 X 3,660	36	9	5	3.5	3
2,135 X 4,270	27	6.5	3.5	3	2
2,135 X 4,880	24	6	3	2.5	2
2,440 X 610	81	19.5	11	8	6
2,440 X 2,440	60	14.5	8	6	4.5
2,440 X 2,740	51	12	7	5	3.5
2,440 X 3,050	42	10	6	4	3
2,440 X 3,660	36	9	5	3.5	3
2,440 X 4,270	27	6.5	3.5	3	2
2,440 X 4,880	24	6	3	2.5	2
2,740 X 610	1,200	14.5	8	6	4.5
2,740 X 2,740	1,020	12	7	5	3.5
2,740 X 3,050	840	10	6	4	3
2,740 X 3,660	720	9	5	3.5	3
2,740 X 4,270	540	6.5	3.5	3	2
2,740 X 4,880	480	6	3	2.5	2

*Sectional
Corner Posts*



*Full Length
Corner Posts*



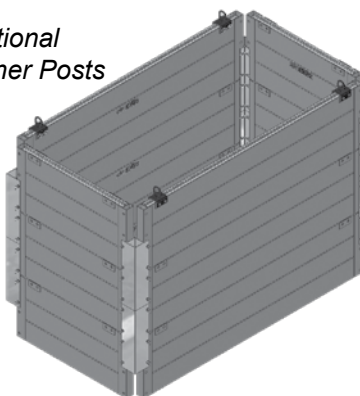
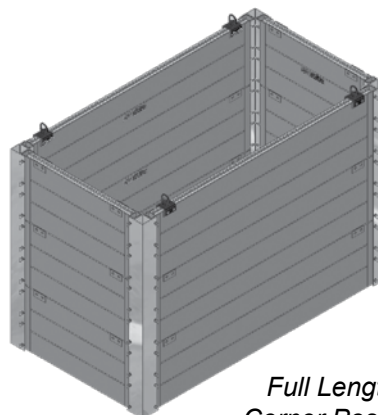
Notes: See Page 5



Sectional or Full Length Corner Posts

3,050 mm; 3,660 mm; 4,270 mm; 4,880 mm
Configurations

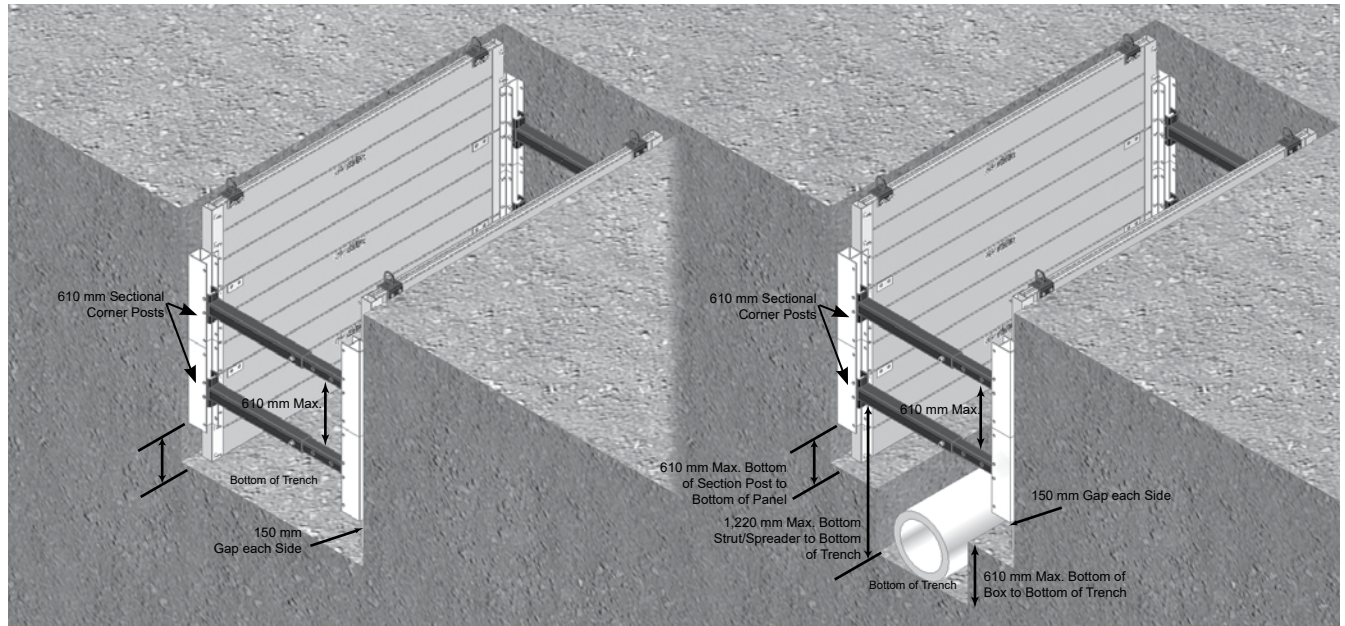
4-Sided Build-A-Box™ Modular Trench Shield System					
Width x Length (mm)	Shield Capacity (kPa)	Depth of Cut (m) - Soil Type			
		A	B	C-60	C-80
3,050 X 610	840	10	6	4	3
3,050 X 3,050	780	9	5	4	3
3,050 X 3,660	720	9	5	3.5	3
3,050 X 4,270	540	6.5	3.5	3	2
3,050 X 4,880	480	6	3	2.5	2
3,660 X 610	39	9	5	4	3
3,660 X 3,660	33	8	4.5	3	2.5
3,660 X 4,270	27	6.5	3.5	3	2
3,660 X 4,880	24	6	3	2.5	2
4,270 x 610	30	7	4	3	2
4,270 X 4,270	30	7	4	3	2
4,270 X 4,880	24	6	3	2.5	2
4,880 X 610	24	6	3	2.5	2
4,880 X 4,880	24	6	3	2.5	2

 Sectional
 Corner Posts

 Full Length
 Corner Posts


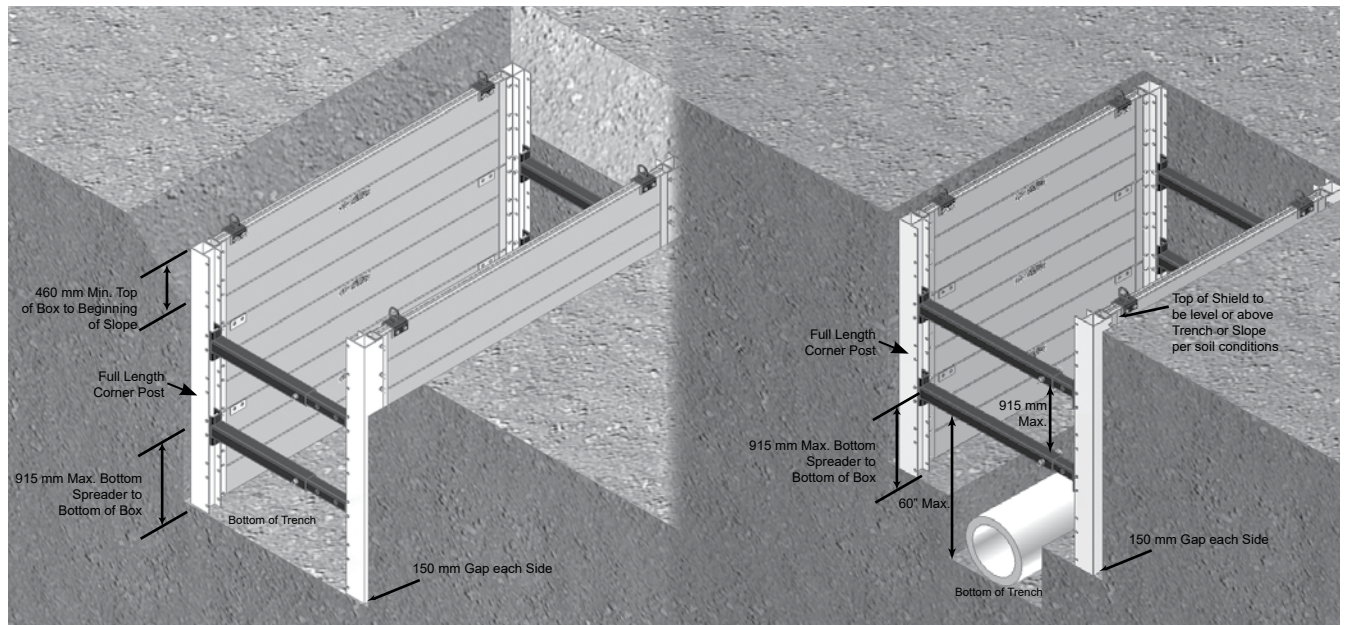
Notes: See Page 5



Sectional Corner Posts

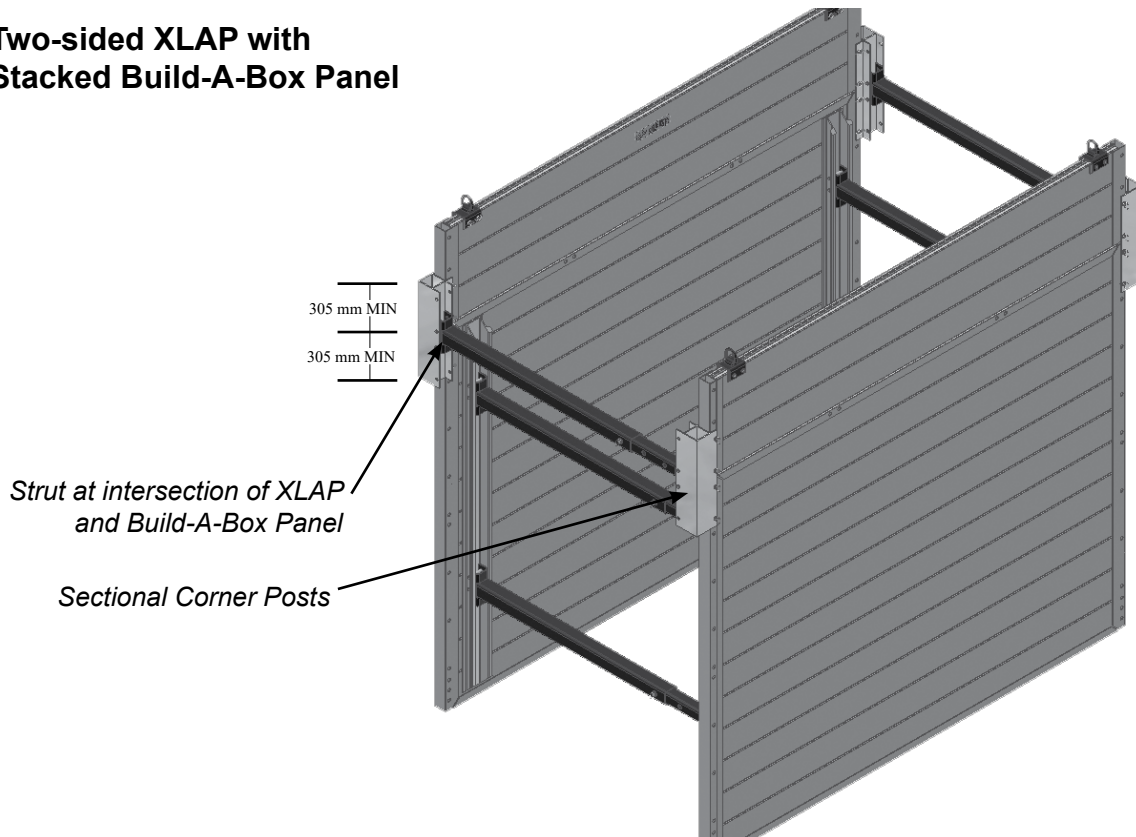


Full Length Corner Posts

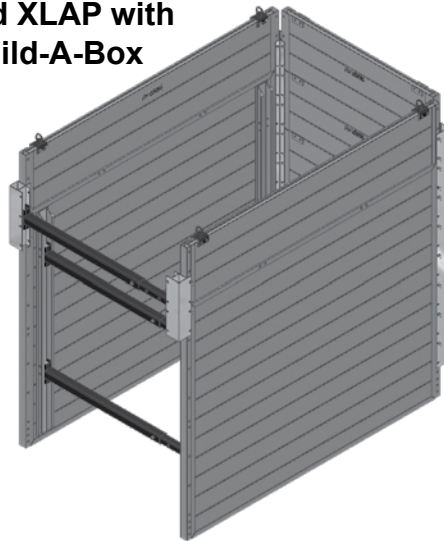


Stacking Build-A-Box on XLAP Alum. Shield

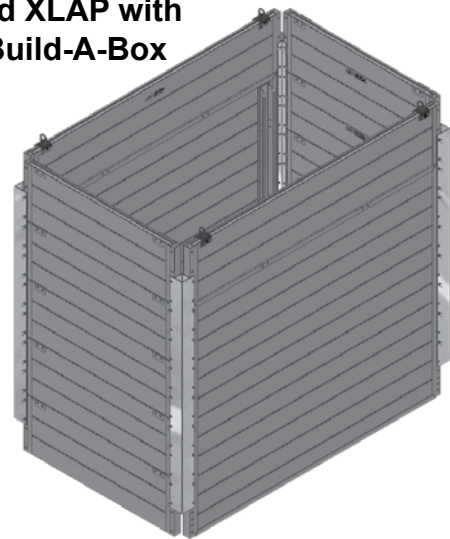
**Two-sided XLAP with
Stacked Build-A-Box Panel**



**Three-sided XLAP with
Stacked Build-A-Box
Panel**



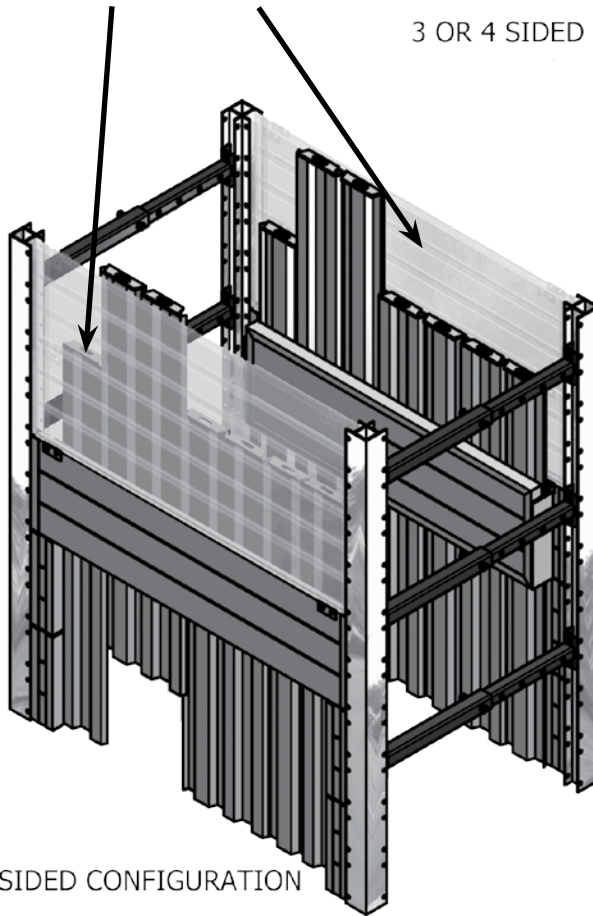
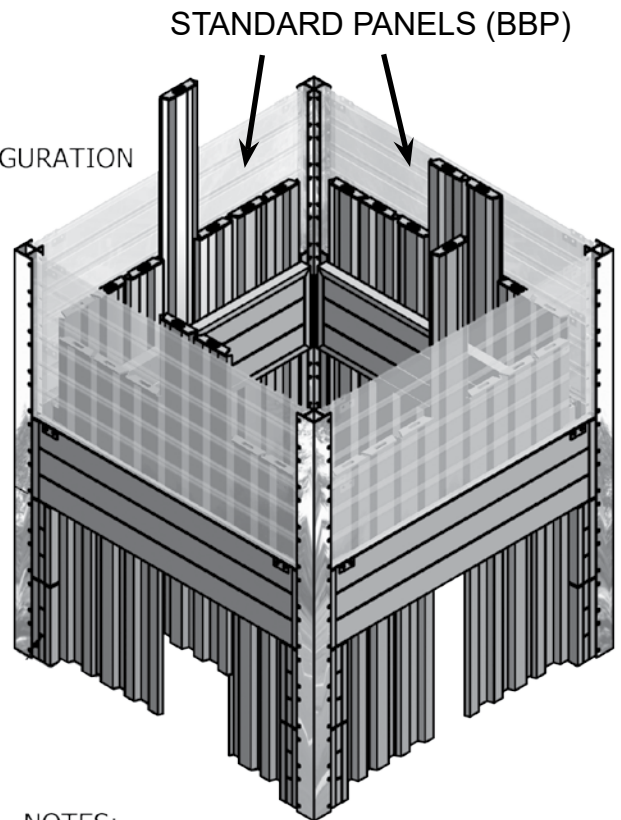
**Four-sided XLAP with
Stacked Build-A-Box
Panel**



1. Corner Posts must extend a minimum of 1 ft. both below and above the intersection of the Build-A-Box panel on the XLAP Aluminum Trench Shield.
2. One (1) pin per foot with BAB Corner Posts is required, or 2 pins per seam.
3. For two and three-sided systems, struts (spreaders) must be located at the intersection of the Build-A-Box panel and the XLAP Aluminum Trench Shield, and vertically per the Tabulated Data.
4. Follow the Tabulated Data charts for additional stacked Build-A-Box assemblies.

. Revised: June 26, 2018 - CHANGE SEVEN

. Revised: August 16, 2012 - CHANGE ONE

Guide Frames with Aluminum Sheets
STANDARD PANELS (BBP)

2-SIDED CONFIGURATION
3 OR 4 SIDED CONFIGURATION

NOTES:

- 1) BUILD-A-BOX GUIDE FRAMES WILL REPLACE STANDARD PANELS IN ANY CONFIGURATION.
- 2) FOR USE WITH FULL LENGTH CORNER POSTS ONLY.
- 3) ALL PINS AND KEEPERS MUST BE INSTALLED INTO GUIDE FRAME.

Build-A-Box™ Sheeting Guide Frame

Frame Selection Chart		Shield Capacity & Maximum Depth of Cut (ft.)											
		4 ft. Cantilever				3 ft. Cantilever				2 ft. Cantilever			
Length (Ft.)	Weight (kg)	Sh. Cap	B	C-60	C-80	Sh. Cap	B	C-60	C-80	Sh. Cap	B	C-60	C-80
BBAC-GF-4	58.5	30	4	3	2.5	39	5	4	3	48	6	5	3.5
BBAC-GF-5	71	30	4	3	2.5	39	5	4	3	48	6	5	3.5
BBAC-GF-6	82.5	30	4	3	2.5	39	5	4	3	48	6	5	3.5
BBAC-GF-7	101	30	4	3	2.5	39	5	4	3	48	6	5	3.5
BBAC-GF-8	119	30	4	3	2.5	39	5	4	3	48	6	5	3.5
BBAC-GF-9	161.5	30	4	3	2.5	39	5	4	3	48	6	5	3.5
BBAC-GF-10	204	30	4	3	2.5	39	5	4	3	48	6	5	3.5
BBAC-GF-12	284	30	4	3	2.5	39	5	4	3	39	5	4	3

Octagon Configuration

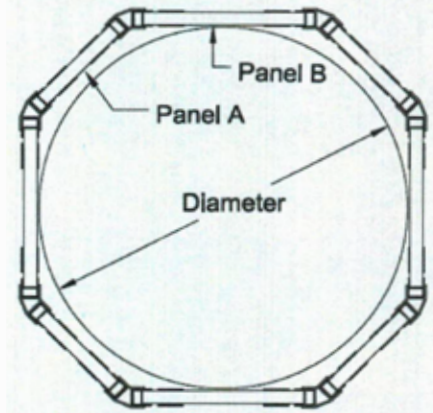
DATE: May 29, 2019

SUBJECT: Build-A Box System Octagon Configuration

General Notes:

This Technical Data Sheet is in addition to EPI's Tabulated Data for **Build-A-Box Modular Trench Shielding System**.

- All personnel involved with the use of the *Build-A Box System Octagon Configuration* shall be trained in the proper use and installation procedures and other applicable safety requirements.
- The maximum depth of the excavation shall not exceed **20-ft.** and the soil is classified as **C60 soil** in accordance with the above referenced Tabulated Data.
- The Build-A Box System Octagon Configuration shall have a **minimum height of 6-ft.**
- All components shall be positioned in accordance with **Figure(1.1)** and **Table (1.1)** prior to employees entering the excavation. Refer to the installation procedures for typical installation figures.
- The system shall be installed in a manner to prevent lateral or otherwise hazardous movement. The Build-A Box panels shall backfilled against at least 2/3 of the total height of the configuration.
- This data is valid for components in structurally sound condition. Any significant damage will void this data, and all manufacturers' warranty. The damaged components shall not be used.
- Bottom panels may be left out as indicated in **Figure(1.2)**.
- Surcharge loads are not included in the maximum depth tables. Surcharge loads are possible due to heavy equipment, vibrations, or soil piles adjacent to the trench. (Adjacent is defined as within a distance equal to the depth of the trench.)



Plan View

Figure (1.1)

Diameter	Panel A	Panel B
61-in	BBP-22	BBP-22
73-in	BBP-22	BBP-23
85-in	BBP-22	BBP-24
90-in	BBP-23	BBP-23
97-in	BBP-22	BBP-25
102-in	BBP-23	BBP-24
114-in	BBP-23	BBP-25
119-in	BBP-24	BBP-24
131-in	BBP-24	BBP-25
148-in	BBP-25	BBP-25

Table (1.1)

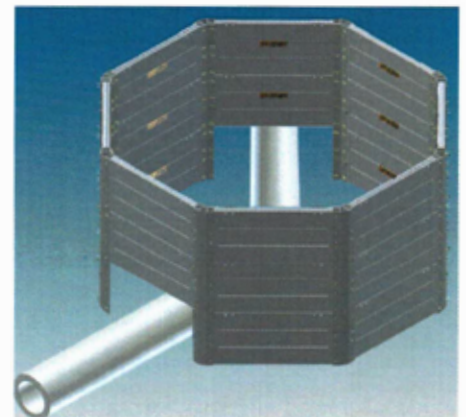
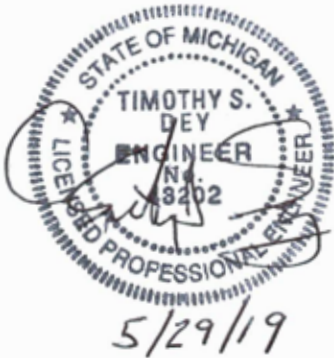
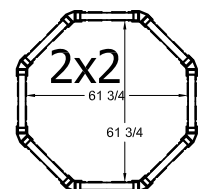
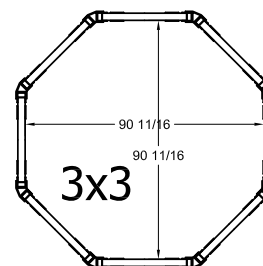
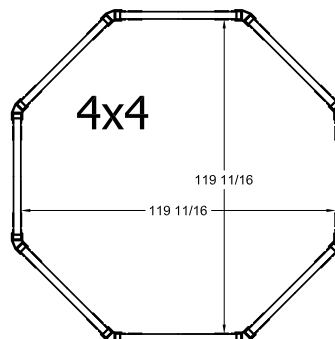
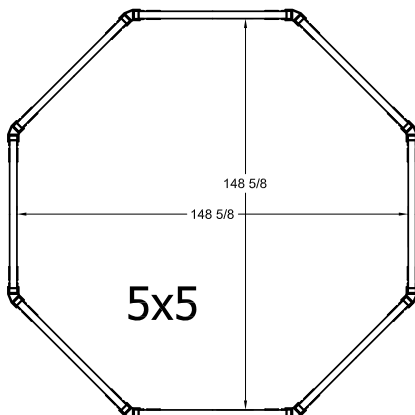
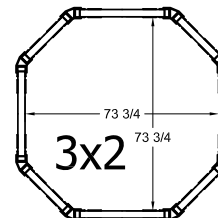
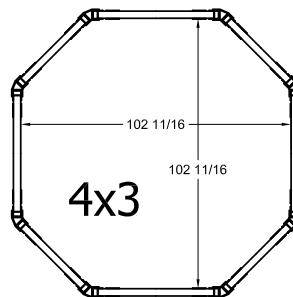
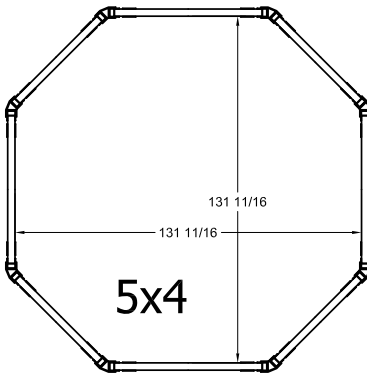
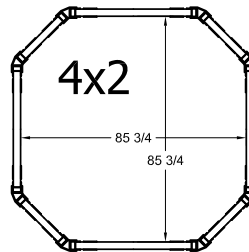
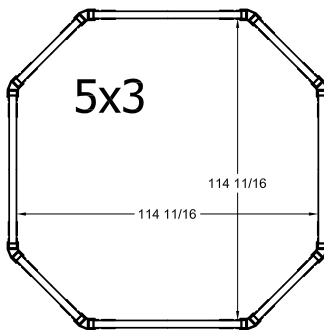
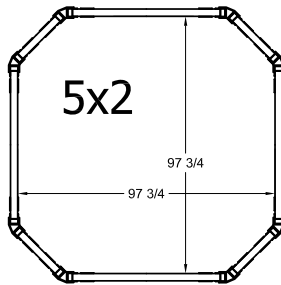


Figure (1.2)



Octagon Configuration



The Build-A-Box™ Modular Aluminum Trench Shielding System complies with requirements of EN 12221-1&2: 2002, DIN 4124, DIN EN 12811, and DIN EN 14693



Additional Certifications

A 3x3 grid of squares. The central square is highlighted in a light gray color, while the other eight squares are white. The grid is composed of thin black lines.