Tabulated Data For Use in Excavations

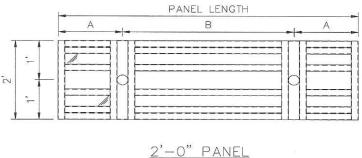


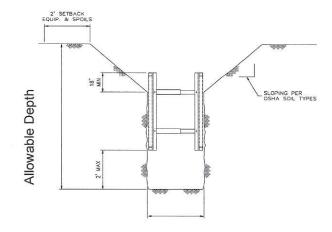
				Allowable Soil Depth		
Panel Length	Α	В	PSF Rating	A-25	B-45	C-60
(ft)	(ft)	(ft)	PSF	(ft)	(ft)	(ft)
5	0.50	4.0	1552	62	34	26
6	0.50	5.0	970	39	22	16
7	0.50	6.0	665	27	15	12
8	0.83	6.3	623	25	14	12
10	1.50	7.0	582	23	13	12
12	2.00	8.0	724	29	16	12

Maximum allowable width =

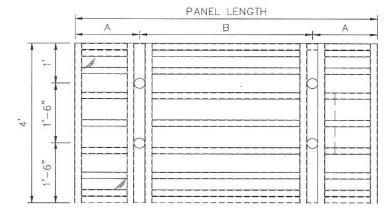
See Sheet 3 Bulkhead Depth Chart

Trench Shields may be stacked.





Z-U PANEL



<u>4'-0" PANEL</u>

Allowable width



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Tabulated Data For Use in Excavations



Notes:

- 1)Excavation and shield shoring shall be in accordance with all applicable requirements of OSHA.
- 2) Workers shall enter, exit, and work from inside shoring shield only.
- 3) A competent person shall inspect the excavation prior to workers entering the shored area.
- 4) Adhere to installation and removal procedures.
- 5) Excavation shall be dewatered to below the shoring shield, and normal surcharge loads shall be held back a minimum of 2 ft from the edge of the excavation.
- 6) These shield panels can be used with fixed or adjustable struts up to 12 ft in length.
- 7) Allow no more than 1 ft between the sides of the shield and the excavated trench wall.
- 8) Soil shall be classified in accordance with OSHA Appendix A.

Installation Procedure

- 1) Inspect the shield to ensure that there is no damage and that all pins, connectors, and struts are in place, secure and in proper working condition.
- 2) Use lifting slings and rigging with a safe working load greater than 10000 lbs. Do not exceed this load when pulling the shield out of the ground.
- 3) Position the shield in the trench. Allow no workers under or in the vicinity of the shield when it is being lifted
- 4) Bulkhead the ends or slope the soil in accordance with OSHA sloping and benching requirements.
- 5) Remove the rigging and proceed with the work.

Removal Procedure

- 1) Reattach rigging.
- 2) Loosen and remove shield. If shield is pulled from loaded trench walls do not exceed 10,000 LB pulling force and keep workers away from rigging when pulling.
- 3) Backfill or cover excavation in accordance with OSHA requirements.







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Tabulated Data For Use in Excavations

AIRSHORE | • •

STRUTS / SPREADERS

Minimum Materials for Fixed or Telescopic Struts / Spreaders

Inner Sleeve

Outside Diameter OD = 2.5 in
Inside Diameter ID = 2.224 in
Wall Thickness t = 0.276 in
Section Modulus S_x = 1.339 in³

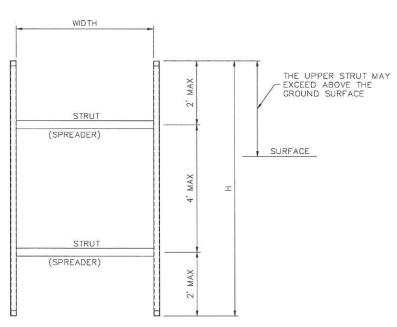
Maximum Moment M_{max} = 3.4 K-Ft
Material T6061 Aluminum

Allowable Bending $F_b = 24 \text{ ksi}$

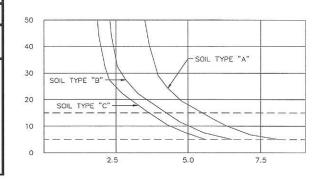
Outer Sleeve

Outside Diameter OD = 3 in
Inside Diameter ID = 2.784 in
Wall Thickness t = 0.216 in
Section Modulus S_x = 1.724 in³

Maximum Moment M_{max} = 3.4 K-Ft
Material T6061 Aluminum
Allowable Bending F_b = 24 ksi



BULKHEAD DEPTH CHART							
MAXIMUM STRUT / SPREADER WIDTH							
Excavation Depth		SOIL TYPE A		SOIL TYPE B		SOIL TYPE C	
(ft)	(m)	(ft)	(m)	(ft)	(m)	(ft)	(m)
50	15.2	2.7	0.8	2.1	0.6	1.8	0.5
40	12.2	3	0.9	2.4	0.7	2	0.6
30	9.1	3.5	1.1	2.7	0.8	2.3	0.7
20	6.1	4.3	1.3	3.3	1.0	2.9	0.9
15	4.6	4.9	1.5	3.9	1.2	3.3	1.0
10	3.0	6	1.8	4.7	1.4	4	1.2
5	1.5	8.5	2.6	6.7	2.0	5.7	1.7



Notes:

- 1) Fixed strut or spreader not to exceed the maximum extension length for the depth as shown in the bulkhead depth chart.
- 2) Telescopic cylinder or spreaders require both sleeves to be 67% of the maximum extension as noted in the bulkhead depth chart for the depth.
- 3) Bulkhead material need not be be attached to the struts / spreaders.



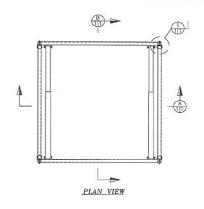


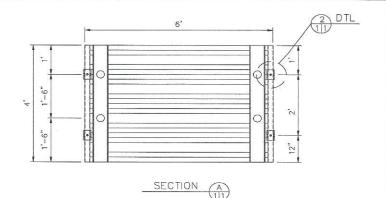


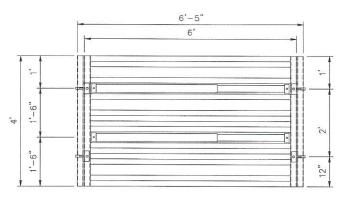
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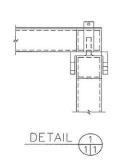
Tabulated Data For Use in Excavations
FOUR SIDED BOX CONFIGURATION



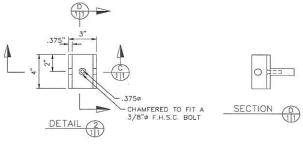


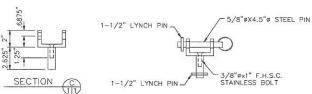












FULLY ASSEMBLED WITH PIN AND LYNCH PINS



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