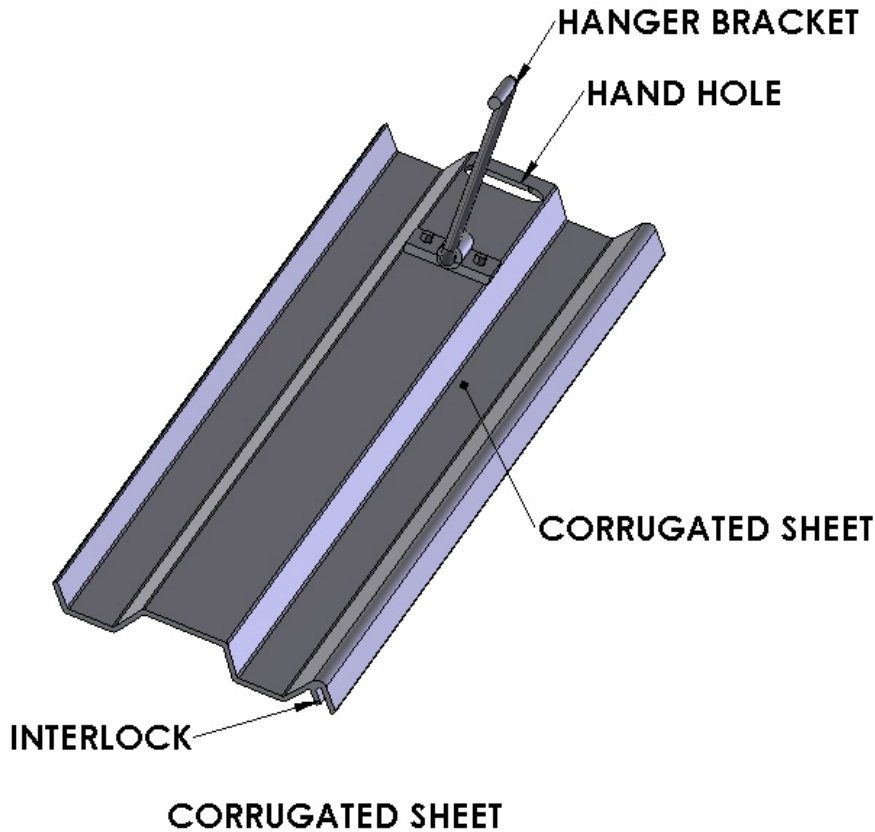


CORRUGATED SHEETING

TABULATED DATA Effective January 1, 2012



*Note -HANGER
BRACKET AND
HAND HOLE ARE
OPTIONAL

Contents

Description.....	2
General Information for use of Pacific Shoring Corrugated Sheeting.....	2
Classification of Soil Types.....	4
Corrugated Sheet Geometric Properties.....	5
Allowable Corrugated Sheet Depth and Configurations	5
Toed in Sheeting System With Multiple Wales.....	6
Two Point Waled With No Toe In.....	7

Description

Pacific Shoring Corrugated Sheets are lightweight aluminum sheet piles that are intended for general use in shoring applications. Typical applications are:

- End of shoring shield sheeting
- Small brace and sheeting systems similar to timber wale and strut systems
- Lagging applications such as where pipes enter shored excavations
- Sheeting at ends of corrugated shields and end shores

Corrugated Sheets are available in any length to 25 ft.

General Information for use of Pacific Shoring Corrugated Sheeting

1. The corrugated sheeting applications tabulated here are based on requirements of Federal OSHA 29CFR, Part 1926, Subpart P-Excavations, and Trenches

1926.652(c)(2)-Option (2) - Designs Using Manufacturer's Tabulated Data. 1926.652(c)(2)(i) -Design of support systems, shield systems, or other protective systems that are drawn from manufacturer's tabulated data shall be in accordance with all specifications, recommendations, and limitations issued or made by the manufacturer.

All provisions of Subpart P apply when utilizing this tabulated data. The contractor's competent person shall use this data to select allowable trench depth, and sheeting configuration. The competent person utilizing this tabulated data shall be experienced and knowledgeable of all requirements of Subpart P, and trained in the use and safety procedures for shoring shield applications.

2. Use of this tabulated data is dependent on first classifying the soil in accordance with OSHA Appendix A, Soil Classification. Classification shall be just prior to installing sheeting and on a continuing basis as required by OSHA. Soil conditions may change at a later date and require reevaluation of the strength and allowable depth.

3. Corrugated aluminum sheeting is tabulated data based on the effect of a 20,000 lb surcharge load set back 2 ft from the edge of the trench and the equivalent weight effect of the OSHA soil type, see classification of soil types, 2.
4. Large impact loads are not considered in the tabulation given here. Sheeting shall be set within 6 inches of trench walls or backfill with loose soil so that the trench wall cannot collapse on to the sheeting.
5. Corrugated sheeting shall not be used as a foot bridge or ramp unless designed by a registered engineer. The intended application for the corrugated sheets is to shore and protect workers from cave in. All uses aside from the tabulations given here shall be designed by an engineer.
6. The competent person shall continually monitor the shored excavations for changed conditions such as water seepage, soil movement cracks at the surface, sloughing or raveling, proper surcharge load weight less than 20,000 lbs and setback a minimum of 2 ft that may exceed the sheeting limitations.
7. Workers shall always enter, exit, and work inside the shored area of the trench.

Classification of Soil Types

1. Soil classification shall be in accordance with OSHA Appendix A and classified just prior to installing hydraulic vertical shores. Soil conditions may change at a later date and require hydraulic vertical shores to be reset at a different spacing.
2. The equivalent weight of OSHA soil types* is assumed to be as follows:
 - OSHA Type "A" Soil 25 PSF per ft of depth
 - OSHA Type "B" Soil 45 PSF per ft of depth
 - Type "C-60" Soil 60 PSF per ft of depth**
 - OSHA Type "C" Soil 80 PSF per ft of depth

* These equivalent weights were adapted from OSHA 1926 Subpart P App C, Timber Shoring for Trenches, Tables C-1.1, C-1.2, and C-1.3

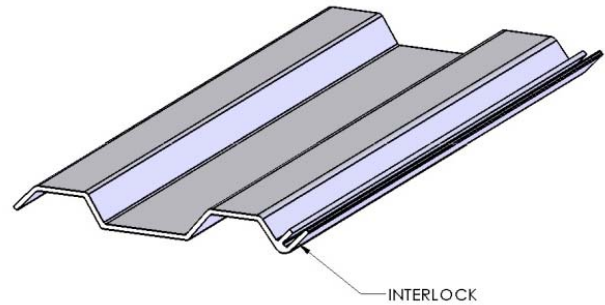
** Type C-60 soil is not identified or classified in OSHA Appendix A

3. Type C-60 soil is soil that does not qualify as OSHA Type A, or Type B, can be cut with vertical walls and will stand up long enough to safely insert and pressurize the hydraulic shore.
4. Corrugated shields may be used in C-80 soil provided they are dug into the excavation and not driven into the soil. Shields shall be set to the bottom of the excavation.

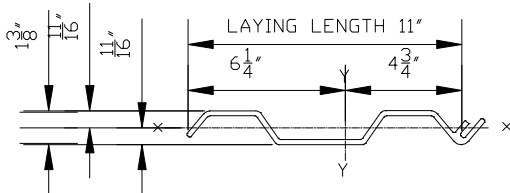
Corrugated Sheet Geometric Properties

Material

Extruded Aluminum 6061-T6
 Ultimate Tensile Strength $F_{tu} = 45,000$ psi
 Tensile Yield Strength $F_{ty} = 40,000$ psi
 Modulus of Elasticity = 10,000 ksi



CORRUGATED SHEET



AREA = 3.0 in²
 MOMENT OF INERTIA X-X = 0.65 IN⁴
 SECTION MODULUS X-X = 1.04 IN³
 WEIGHT = 3.624 LBS/FT

PS -A4 CORRUGATED SHEET PILE												
Section Designation	Shape	MFG	interlock	area	Nominal width	weight		Wall Depth	Web Thicknes	Flange Thicknes	Moment of Inertia	Section Modulus
				in ² /ft of wall	in/sheet	Lb / LF of sheet	Lb / sf of sheet	in	in	in	per lf of wall, (in ⁴)	per lf of wall, (in ³)
PSA4	A	Pacific Shoring	lap/T&G	3.000	11	4.0	3.6	1.35	0.2	0.2	0.6	1.13

Maximum Allowable Moment = 1.8 K-ft

Timber equivalent = 4x12 DF#1

Corrugated sheets are available in lengths up to 25 ft

Allowable Corrugated Sheet Depth and Configurations

Typical corrugated sheet use falls into two categories;

1. Single or multiple point waled with toe in. **Table 1-1**
 - With this system, the soil acts as a wale.
2. Two point waled with no toe in. **Table 1-2**
 - With no toe in two continual brace, points are required. The brace point does not necessarily need to be a wale; it can be any solid surface that cannot move.

Toed in Sheeting System With Multiple Wales

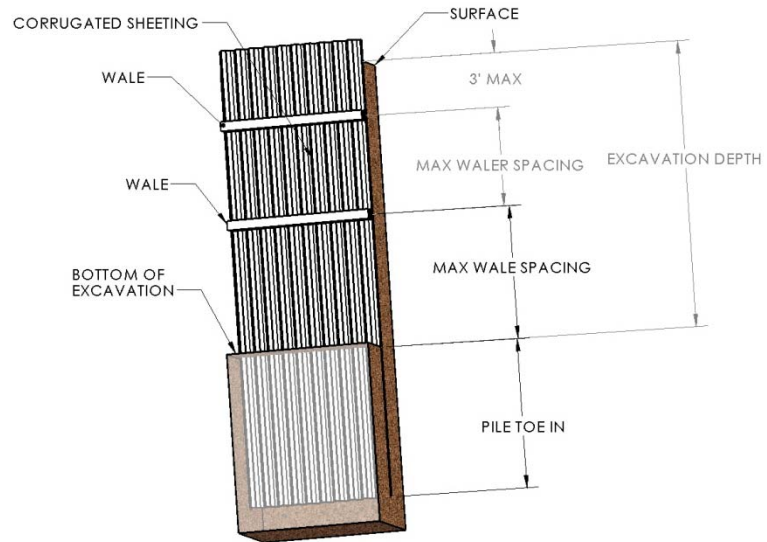


Table 1-1 PILE SUPPORT SPACING-MULTIPLE WALE WITH TOE IN									
Depth (ft)	sheet pile	Maximum Wale Spacing (ft)				Pile Toe In (ft)			
		A25	B45	C60	C80	A25	B45	C60	C80
6	PS A4	6	6	5	4	2	3	4	6
8	PS A4	7	5	4	4	2	3	4	6
10	PS A4	7	5	4	3	2	3	4	6
12	PS A4	6	4	3	3	2	3	4	6
14	PS A4	5	4	3	3	2	3	4	6
16	PS A4	5	3	3	2	2	3	4	6

Table 1-1 Notes

1. The maximum wale spacing applies between wales and from the bottom of the excavation to the first wale.
2. This tabulated data only applies to corrugated sheeting spans and does not apply to wale design, size, and support. Waling shall be designed by an engineer or from other tabulated data for wale applications.

Two Point Waled With No Toe In

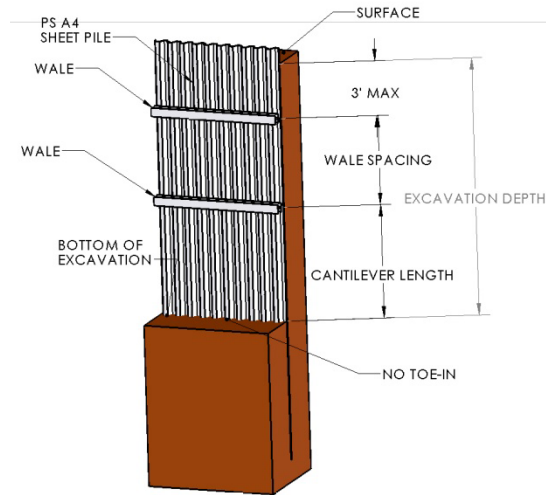


TABLE 1-2 PILE SUPPORT SPACING 2 WALE W/CANTILEVERED BOTTOM									
Depth (ft)	sheet pile	Wale Spacing (ft)				Cantilever Length (ft)			
		A25	B45	C60	C80	A25	B45	C60	C80
6	PSA4	5	4	4	4	4	4	3	2
8	PSA4	5	4	4	4	4	3	3	2
10	PSA4	5	4	4	3	4	3	2	2
12	PSA4	4	4	3	3	3	3	2	2
14	PSA4	4	4	3	3	3	2	2	2
16	PSA4	4	3	3	3	3	2	2	2

Table 1-2 Notes

1. The maximum wale spacing applies between wales.
2. The maximum cantilever length is from the bottom of the wale to the first wale
3. This tabulated data only applies to corrugated sheeting spans and does not apply to wale design, size, and support. Waling shall be designed by an engineer or from other tabulated data for wale applications.

Use of tables:

To determine the allowable depth for a corrugated shield use **Table 1-1** or **1-2**

Example - Pacific Shoring Corrugated Sheeting is going to be used vertically at the end of an 8 ft tall x 12 ft wide trench shield set at a depth of 14 ft below the surface in OSHA Type B soil. The sheeting will not be toed into the ground. Determine the spacing of wales and distance from the bottom to the first wale.

From **Table 1-2** at 14 ft depth under cantilever length the first wale must be set maximum 2 ft from the bottom. Under wale spacing it is determined that the wale spacing can be 4 ft maximum. The wale size and strength must be determined by a competent person from other tabulated data on an engineer using the sheet geometric properties