DELIVERING TRENCH SHORING PRODUCTS TO THE GLOBAL MARKET

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NAXSA North American Excavation Shoring Association

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ESC TRENCH SHORING

TRENCH SHORING CATALOG

2021 Edition

ESC TRENCH SHORING, INC.

ESC has fully developed its Trench Shield Series (also known as Trench Boxes)

a two-sided, high-quality and economical excavation support system that provides a safe working environment in trenches up to 40 feet deep.

ESC's trench shields are a heavy duty and robust product designed and manufactured in compliance with both national and International Standards.

All shields are certified by third party professional engineers, following the guidelines and recommendations of NAXSA (North American Excavation Shoring Association) and complies with all OSHA Standards.

ESC trench shields are available for sale or rent.

Hotline: (980) 689 4389 Email: info@esctrenchshoring.com

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All About Trench Shoring

The ESC trench shield product range is specifically designed to cater to the unique requirements of the US and North American markets construction practices, as it has been verified and certified by a third-party professional engineer in the USA.

Features

- ✓ Designed & manufactured in accordance with OSHA 29 CFR 1926.650, 29 CFR 1926.651 and CFR 1926.652, Sub-part P, Excavations
- ✓ 3rd party product certificates available for all products
- ✓ Heavy duty robust design
- ✓ Flat pack delivery
- ✓ Fixed or adjustable spreaders available in any required length.
- ✓ Custom box sizes are available.
- ✓ Follow NAXSA - Approved shoring shield Tab Data Sheet
- ✓ Panels are fully welded for maximum strength. No stitch welds or spot welds used.
- ✓ 3/4" standard push pads
- ✓ Reinforced knife edge supplied as standard on 8ft and 10ft height shields. 4ft and 6ft shields supplied with flat bottoms as standard. Knife edge and flat bottom interchangeable on request

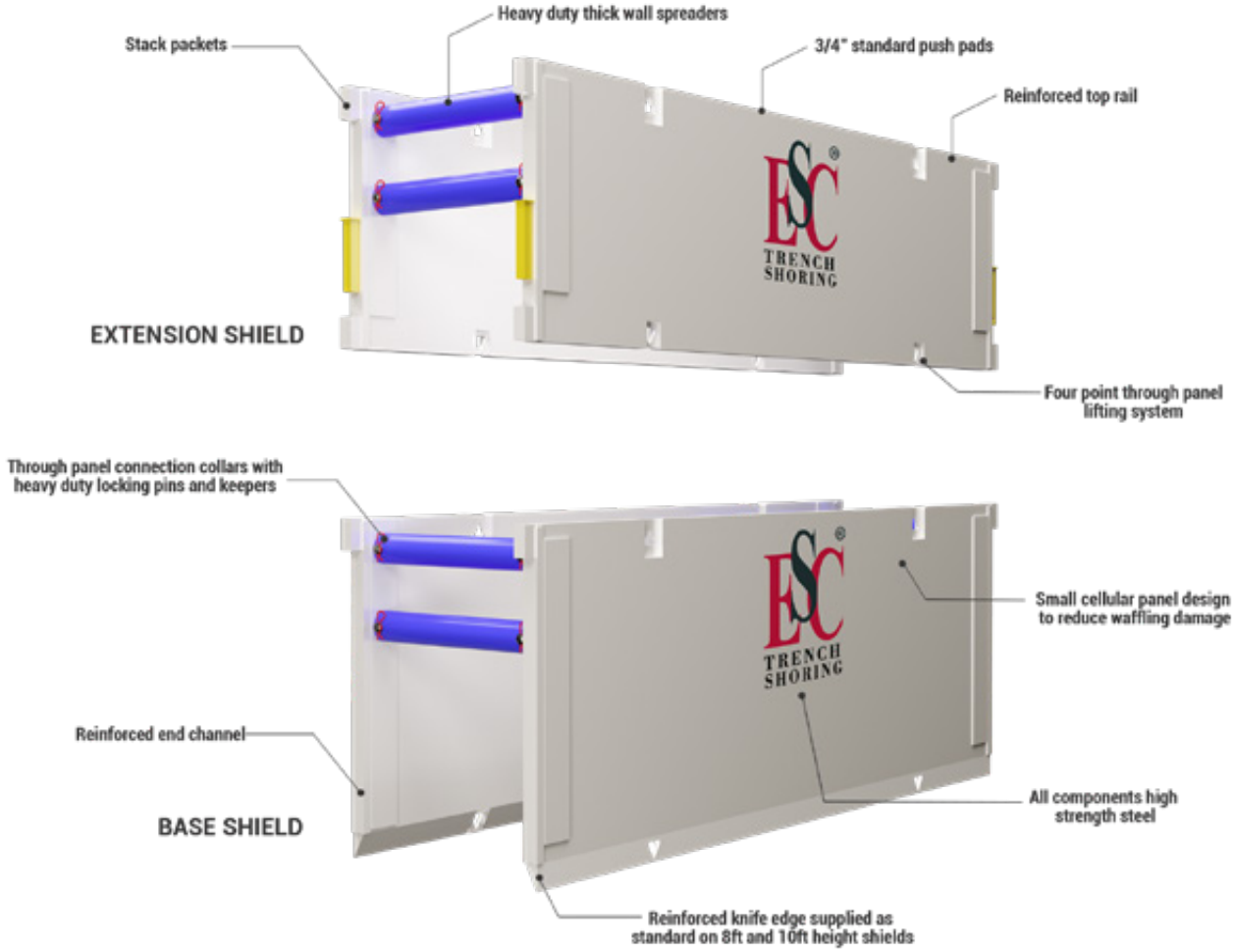
Options

- ✓ Additional Stack pockets
- ✓ Fifth lower spreader
- ✓ Pulling Lugs

Safety Guide

- ✓ Soil type to be determined by qualified competent person.
- ✓ Assembly as per ESC procedures.
- ✓ As member of NAXSA (North American Excavation Shoring Association), ESC adheres to all industry norms and regulations.

ESC
TRENCH SHIELD

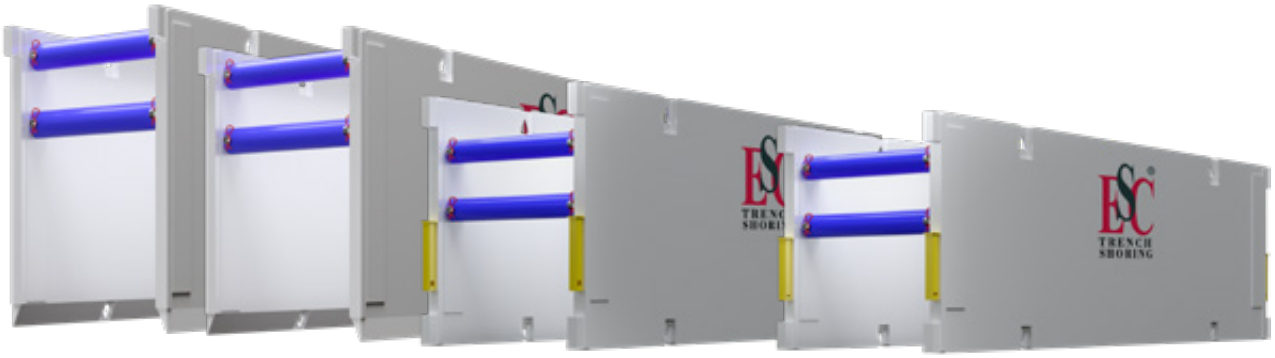


BUILT TO LAST
ROBUST CELLULAR DESIGN

TSB4

TSB6

TSB8



ESC
Trench Shield Series

ESC's trench shoring product line comprises of 4ft, 6ft, 8ft and 10ft panel heights and a range of panel lengths from 10ft to 24ft. Each panel size is available in 4", 6" or 8" thickness depending on the end user requirements. All the shields are stackable and may be used as extension shields to achieve protection in deeper trench cuts.

Heavy duty spreaders are available in a variety of fixed lengths, or alternatively adjustable length spreaders may be used to achieve a range of excavation widths.

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ESC
Trench Shield Series
4” TRENCH SHIELD SERIES

TECHNICAL SPECIFICATIONS								
SERIES	HEIGHT BY LENGTH	WEIGHT	PIPE CLEARANCE	LENGTH BETWEEN SPREADERS	SHIELD CAPACITY	MAX EXCAVATION DEPTH		
	H X L	(2 x panels)	CH	CL		B-Soil	C-60 Soil	C-80 Soil
	ft	lb	in	ft	psf	ft	ft	ft
TSB4-410	4 x 10	2992	18	7’11”	4486	40	40	30
TSB4-412	4 x 12	3402	18	9’11”	2871	40	40	30
TSB4-416	4 x 16	4221	18	13’11”	1465	33	25	19
TSB4-420	4 x 20	5665	18	17’11”	1053	24	18	14
TSB4-610	6 X 10	4074	40	7’11”	3000	40	40	30
TSB4-612	6 x 12	4594	40	9’11”	2748	40	40	30
TSB4-616	6 x 16	5738	40	13’11”	1402	33	25	20
TSB4-620	6 x 20	7871	40	17’11”	1020	24	19	15
TSB4-810	8 x 10	4906	60	7’11”	2150	40	39	30
TSB4-812	8 x 12	5627	60	9’11”	1780	40	32	25
TSB4-816	8 x 16	7068	60	13’11”	1334	40	25	20
TSB4-820	8 x 20	9923	60	17’11”	971	24	19	15

- ✓ All 4’ and 6’ shields can be used as Extension Shields.
- ✓ Depth ratings include consideration of surcharge load of 72 psf.
- ✓ As per NAXSA recommendations, depth of cut has been limited to 40ft for types A, B and C60 soil, and 30ft for C80 soil regardless of the capacity of the shield. If deeper cuts are required, it is recommended that a professional engineer is engaged to evaluate the site and soil conditions and specify a suitable trench shield or other shoring solution.

ESC
Trench Shield Series

6” TRENCH SHIELD SERIES

TECHNICAL SPECIFICATIONS								
SERIES	HEIGHT BY LENGTH	WEIGHT	PIPE CLEARANCE	LENGTH BETWEEN SPREADERS	SHIELD CAPACITY	MAX EXCAVATION DEPTH		
	H X L	(2 x panels)	CH	CL		B-Soil	C-60 Soil	C-80 Soil
	ft	lb	in	ft	psf	ft	ft	ft
TSB6-416	4 x 16	4896	18	13’11”	2518	40	40	30
TSB6-420	4 x 20	5857	18	17’11”	1523	34	26	20
TSB6-424	4 x 24	7605	18	21’11”	1181	27	20	16
TSB6-616	6 X 16	6532	40	13’11”	2358	40	40	30
TSB6-620	6 x 20	7842	40	17’11”	1426	33	26	20
TSB6-624	6 x 24	10411	40	21’11”	1127	26	21	16
TSB6-816	8 x 16	7922	64	13’11”	2030	40	37	28
TSB6-820	8 x 20	10897	64	17’11”	1573	37	29	23
TSB6-824	8 x 24	12762	64	21’11”	1053	26	20	16
TSB6-1016	10 x 16	9403	76	13’11”	1501	37	29	23
TSB6-1020	10 x 20	13330	76	17’11”	1338	33	26	21
TSB6-1024	10 x 24	15624	76	21’11”	1046	27	21	17

8” TRENCH SHIELD SERIES

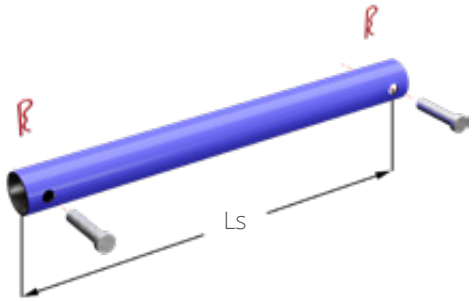
TECHNICAL SPECIFICATIONS								
SERIES	HEIGHT BY LENGTH	WEIGHT	PIPE CLEARANCE	LENGTH BETWEEN SPREADERS	SHIELD CAPACITY	MAX EXCAVATION DEPTH		
	H X L	(2 x panels)	CH	CL		B-Soil	C-60 Soil	C-80 Soil
	ft	lb	in	ft	psf	ft	ft	ft
TSB8-416	4 x 16	5720	18	13’11”	3878	40	40	30
TSB8-420	4 x 20	6876	18	17’11”	2346	40	40	30
TSB8-424	4 x 24	8033	18	21’11”	1571	35	27	21
TSB8-616	6 X 16	7563	40	13’11”	3150	40	40	30
TSB8-620	6 x 20	9119	40	17’11”	2172	40	38	29
TSB8-624	6 x 24	10676	40	21’11”	1454	34	26	20
TSB8-816	8 x 16	9175	64	13’11”	2030	40	37	28
TSB8-820	8 x 20	12380	64	17’11”	1620	38	30	23
TSB8-824	8 x 24	14526	64	21’11”	1350	32	25	20
TSB8-1016	10 x 16	11252	76	13’11”	1680	40	32	25
TSB8-1020	10 x 20	13547	76	17’11”	1345	33	26	21
TSB8-1024	10 x 24	18142	76	21’11”	1120	28	22	18

- ✓ All 4’ and 6’ shields can be used as Extension Shields.
- ✓ Depth ratings include consideration of surcharge load of 72 psf.
- ✓ As per NAXSA recommendations, depth of cut has been limited to 40ft for types A, B and C60 soil, and 30ft for C80 soil regardless of the capacity of the shield. If deeper cuts are required, it is recommended that a professional engineer is engaged to evaluate the site and soil conditions and specify a suitable trench shield or other shoring solution.

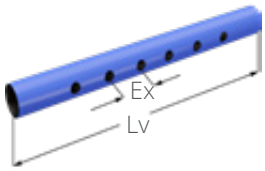
Spreader Solutions

Heavy duty spreaders are available in a variety of fixed lengths, or alternatively adjustable length spreaders may be used to achieve a range of excavation widths.

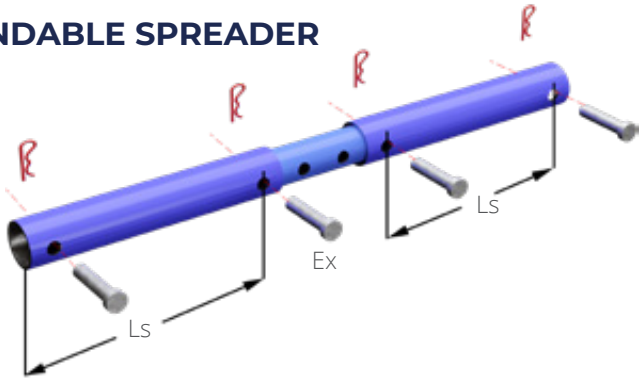
SN8 SERIES



SI7 SERIES



EXTENDABLE SPREADER



* spreader weights exclude weights of pins and keepers

SN8 SERIES
FIXED LENGTH SPREADERS

TECHNICAL SPECIFICATIONS		
MODEL	LENGTH	WEIGHT
	LS	(per spreader)*
	in	lbs
SN8-24	24	87
SN8-30	30	108
SN8-36	36	130
SN8-42	42	152
SN8-48	48	174
SN8-54	54	195
SN8-60	60	217
SN8-66	66	239
SN8-72	72	260
SN8-78	78	282
SN8-84	84	304
SN8-96	96	347
SN8-108	108	391
SN8-120	120	434
SN8-144	144	521
SN8-168	168	607

SI-7 SERIES
EXTENSION SPREADERS

TECHNICAL SPECIFICATIONS					
MODEL	LENGTH	EXTENSION LENGTH (Ex)			
	Lv	Min	Max	Increments	Increments Length
	in	in	in	nos	in
SI7-32	32	0	16	2	8
SI7-54	54	0	32	4	8
SI7-72	72	0	48	6	8

S17 SERIES
EXTENSION SPREADERS

TECHNICAL SPECIFICATIONS		
MODEL	LENGTH	WEIGHT
	LV	(per spreader)*
	in	lbs
SI7-32	32	102
SI7-54	54	171
SI7-72	72	229

COMMON ADJUSTABLE SPREADER COMBINATIONS

TECHNICAL SPECIFICATIONS					
SN SPREADER	SI SPREADER	EXTENSION LENGTH (Ex)*			
		Min	Max	Increments	Increments Length
x2	x1	in	in	nos	in
SN8- 24	SI7- 32	48	64	2	8
SN8- 36	SI7- 54	72	104	4	8
SN8- 48	SI7- 72	96	144	6	8

* Length of Extension Spreader (Lv) must be at least 16” less than combined length of SN spreaders
* Adjustable struts not recommended for lengths over 156”
* Shield pressure capacity should be reduced by 20% when using adjustable spreaders

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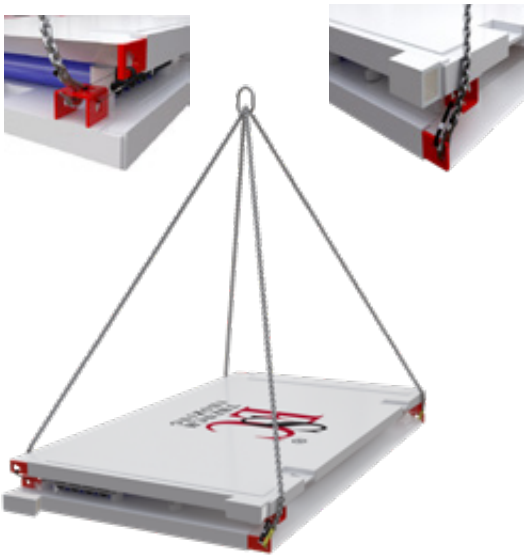
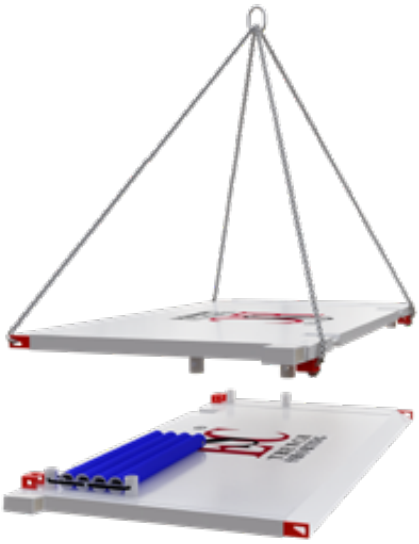
ESC Trench Shield Assembly Guide

ESC Trench Shields are easy to assemble. It is advisable for users to strictly follow the procedures supplied by ESC.

A. Flat pack delivery.



B. Cut packing straps/lift top panel.



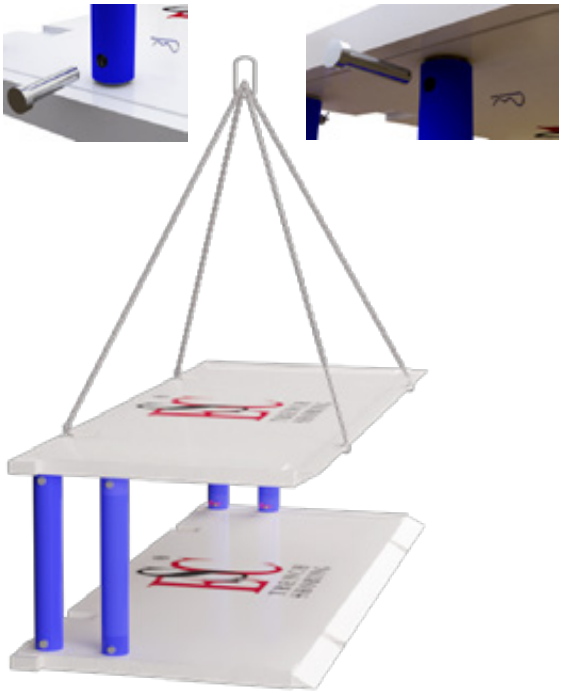
SAFETY TIPS

- ✓ Remember to inspect lifting points prior to every lifting operation and ensure that all personnel are well informed of the operation.
- ✓ Ensure all pins and retaining clips are correctly fitted.
- ✓ Use only certified lifting slings.
- ✓ Assemble on flat ground.

C. Erect 4 spreaders, insert pin and R-clip.

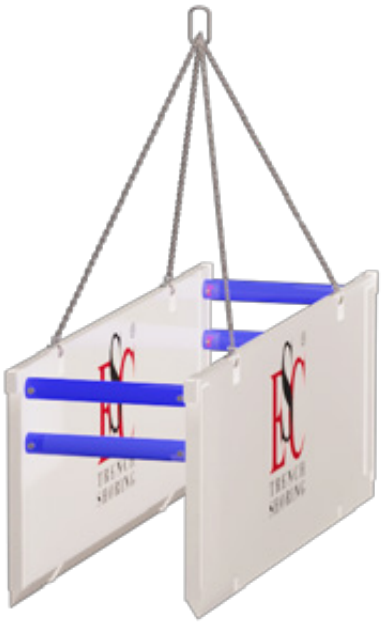
ESC Trench Shield Assembly Guide

D. Place top panel, pins and R-clips.



E. Rotate shield.

F. Install completed shield on site



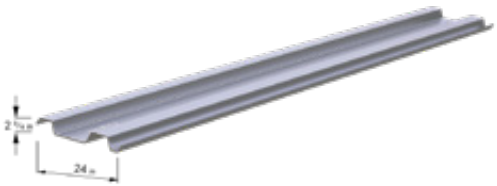
SAFETY TIPS

- ✓ Do not allow personnel to enter the box/shield while excavator is moving the trench shield/box
- ✓ Always ensure the shield/box is evenly supported by the ground to avoid shield/box becoming unstable.
- ✓ Do not use box if panel, pins or spreaders are damaged.
- ✓ Use only components supplied by ESC.

Common Trench Sheets

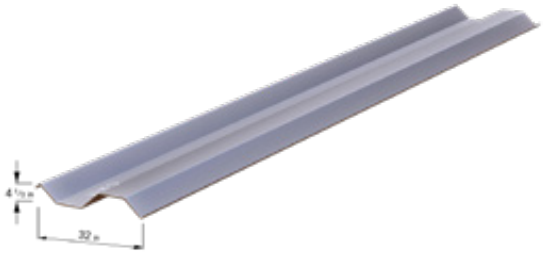
ESC trench sheet products offer a highly efficient retention system for shallow excavations. ESC trench sheet can be used to support earth banks for the safety of construction workers, and are ideal for reinforcement of waterway banks and services trenches. The strength, speed and flexibility of light trench sheets makes it ideal for all forms of temporary and permanent works. The trench piles also offer good durability and ease of installation and extraction allows sustainable construction.

ESC T24i SERIES



ESC T30i SERIES

ESC T32i SERIES

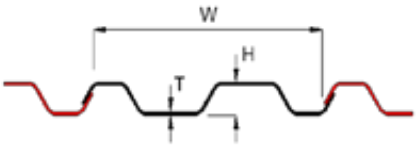


TECHNICAL SPECIFICATIONS

SECTION	WIDTH	HEIGHT	THICKNESS	UNIT WEIGHT		SECTION MODULUS	MOMENT OF INERTIA
	W	H	T	Section	Wall		
	in	in	in	lb/ft	lb/ft²	in³	ft

ESC-T24iA	23 ¾	2 ¾	3/16	18.84	9.5	4.33	5.8
ESC-T24iB	23 ¾	2 ¾	1/4	25.10	12.7	5.6	7.6

ESC-T30iA	30	3 ¾	1/4	33.5	13.4	10.2	18.4
ESC-T30iB	30	3 ¾	3/8	50.3	20.1	13.9	26.1

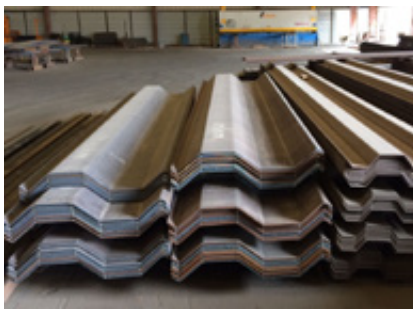


ESC-T32i	32	4 ½	3/8	50.2	18.8	17.3	38.1

Product & Project Photos









ESC Product Catalogs

You may download all our product catalogs on this https://www.escsteel.com/construction-product-catalogs or request via email: info@escsteel.com. If you are viewing online, you may click on the image below to download.

ESC Capability Statement

Marine & Foundation Piling Catalog

Vinyl Sheet Pile Catalog

Vinyl Sheet Pile Installation Guide

Sheet Pile Installation Procedures

Steel Structures Brochure

Marine Mooring Bollards Catalog

Port & Offshore Structures Capability Statement

Marine Fender Catalog

Project Case Study - Book I

Project Case Study - Book II

Project Case Study - Book III

Combination Walls Project Case Study

Steel Pipes Projects Case Study

- ESC CAPABILITY STATEMENT
- MARINE & FOUNDATION PILING CATALOG
- SHEET PILE INSTALLATION PROCEDURES
- VINYL SHEET PILE CATALOG
- VINYL SHEET PILE INSTALLATION GUIDE
- STEEL STRUCTURES CAPABILITIES
- MOORING BOLLARDS CATALOG
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- PORTS & OFFSHORE STRUCTURES
- ESC PROJECT CASE STUDIES
- COMBINATION WALL PROJECTS
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