

## STEEL TRENCH BOX

### XLS

#### 4 IN. STEEL SINGLE WALL TRENCH SHIELD

##### USES:

XLS 4 in. single wall steel trench shields are designed for use with medium crawler excavators in trenches where weight and space are critical.

##### FEATURES:

- Reinforced top rails.
- Adjustable and stackable.
- Thru-wall lifting lugs.
- Four-point lifting system.
- Thru-wall collars.
- Integral spreader collar post design.
- Pinned spreader connections.
- Strongest knife edge in the industry.
- High strength mill certified steel.
- Professional Engineer design and depth certification.

##### OPTIONS:

- Pushing blocks
- Pulling lugs
- Mud plate
- Corner brackets
- Custom spreader location
- Custom paint
- Stacking Pockets
- T-connection cut-outs

##### SPREADER OPTIONS:

- 4" schedule 40 (standard).
- 6" schedule 80.
- 4-pipe independent set.
- 5-pipe independent set.
- Custom collar sizes available.



**XLS Sidewalls 4 in. Steel Single Wall Trench Shield**

Model (Ht. x Lg.)	Weight (Lbs.)	Pipe Clearance "C" (In.)	Shield Capacity (PSF)	Depth of Cut (Ft.) Soil Type		
				B	C-60	C-80
46 XLS	1,510	22	2,220	49	37	28
48 XLS	1,800	22	2,220	49	37	28
410 XLS	2,140	22	1,500	33	25	19
412 XLS	2,460	22	1,020	23	17	13
414 XLS	2,710	22	780	17	13	10
416 XLS	3,060	22	660	15	11	8
418 XLS	3,300	22	600	13	10	7
420 XLS	3,560	22	480	11	8	6
66 XLS	2,070	41	2,220	49	37	28
68 XLS	2,460	41	2,220	49	37	28
610 XLS	2,900	41	1,320	29	22	16
612 XLS	3,470	41	1,080	24	18	13
614 XLS	4,010	41	780	17	13	10
616 XLS	4,530	41	660	15	11	8
618 XLS	4,900	41	600	13	10	7
620 XLS	5,370	41	480	11	8	6
86 XLS	2,560	52	2,220	49	37	28
88 XLS	2,930	52	1,500	33	25	19
810 XLS	3,520	52	1,140	25	19	14
812 XLS	4,140	52	840	19	14	10
814 XLS	4,670	52	780	17	13	10
816 XLS	5,290	52	660	15	11	8
818 XLS	5,820	52	600	13	10	7
820 XLS	6,340	52	480	11	8	6



## STEEL TRENCH BOX

### XLD

#### 4 IN. STEEL DOUBLE WALL TRENCH SHIELD



#### Uses:

The XLD 4 in. double wall steel shield is the most popular shield in the TrenchTech line. They are designed for use with medium crawler excavators in trenches where weight and space are critical.

#### Features:

- Reinforced top rails.
- Adjustable and stackable.
- Thru-wall lifting lugs.
- Four-point lifting system.
- Thru-wall collars.
- Triple vertical tube collar post design.
- Pinned spreader connections.
- Strongest knife edge in the industry.
- Plug welding on double wall shields.
- High strength mill certified steel.
- Professional Engineer design & depth certification.

#### Options:

- Pushing blocks.
- Pulling lugs.
- Foam filler.
- Mud plate.
- Corner brackets.
- Custom spreader location.
- Custom paint.
- Stacking Pockets.
- T-connection cut-outs.

#### Spreader Options:

- 8" schedule 80 (standard).
- 6" schedule 80.
- 4-pipe independent set.
- 5-pipe independent set.
- Custom collar sizes available.



**XLD Sidewalls 4 in. Steel Double Wall Trench Shield**

Model (Ht. x Lg.)	Weight (Lbs.)	Pipe Clearance "C" (In.)	Shield Capacity (PSF)	Depth of Cut (Ft.) Soil Type		
				B	C-60	C-80
48 XLD	2,520	22	2,760	61	46	34
410 XLD	2,850	22	2,760	61	46	34
412 XLD	3,380	22	2,760	61	46	34
414 XLD	3,740	22	2,040	45	34	25
416 XLD	4,130	22	1,500	33	25	19
420 XLD	4,970	22	1,200	27	20	15
424 XLD	6,130	22	840	19	14	10
68 XLD	3,430	41	2,760	61	46	34
610 XLD	4,120	41	2,760	61	46	34
612 XLD	4,790	41	2,460	55	41	31
614 XLD	5,380	41	1,920	43	32	24
616 XLD	5,970	41	1,440	32	24	18
618 XLD	6,690	41	1,260	28	21	16
620 XLD	7,220	41	1,380	31	23	17
622 XLD	8,100	41	1,024	23	17	13
624 XLD	8,680	41	900	20	15	11
88 XLD	4,380	60	2,760	61	46	34
810 XLD	5,090	60	2,640	59	44	33
812 XLD	5,800	60	2,040	45	34	25
814 XLD	6,580	60	1,740	39	29	22
816 XLD	7,270	60	1,560	35	26	20
818 XLD	8,250	60	1,380	31	23	17
820 XLD	8,920	60	1,320	29	22	16
822 XLD	9,830	60	900	20	15	11
824 XLD	11,420	60	840	19	14	10
108 XLD	5,220	69	2,760	61	46	34
1010 XLD	6,020	69	2,640	59	44	33
1012 XLD	7,000	69	1,980	44	33	25
1014 XLD	7,940	69	1,320	29	22	16
1016 XLD	9,040	69	1,320	29	22	16
1020 XLD	10,890	69	960	21	16	12
1024 XLD	12,910	69	900	20	15	11



## STEEL TRENCH BOX



### HT6

### 6 IN. HI-TENSILE STEEL DOUBLE WALL TRENCH SHIELD

#### USES:

The HT6 is the most versatile steel shield available. It combines depth capability with lightweight narrow sidewalls. Designed for medium range excavators.

#### FEATURES:

- Reinforce Top Rails
- Heavy Duty 3/8" top tube
- Adjustable and stackable
- Thru-wall lifting lugs
- Four-point lifting system
- Thru-wall collars
- Triple vertical tube collar post design
- Pinned spreader connections
- Strongest knife edge in the industry
- Plug welding on double wall shields
- High strength mill certified steel
- Professional Engineer design and depth certification

#### OPTIONS:

- Pushing blocks
- Pulling lugs
- Foam filler
- Mud plate
- Corner brackets
- Custom spreader location
- Custom paint
- Stacking Pockets
- T-connection cut-outs

#### SPREADER OPTIONS:

- 8" schedule 80 (standard)
- 3-pipe and mud plate set
- 4-pipe independent set
- 4-pipe connected set
- 5-pipe independent set
- 5-pipe connected set



**HT6 Sidewalls 6 in. Steel Double Wall Trench Shield**

Model (Ht. x Lg.)	Weight (Lbs.)	Pipe Clearance "C" (In.)	Shield Capacity (PSF)	Depth of Cut (Ft.) Soil Type		
				B	C-60	C-80
412 HT6	4,090	22	2,100	47	35	26
416 HT6	5,310	22	1,860	41	31	23
418 HT6	5,890	22	1,680	37	28	21
420 HT6	6,370	22	1,440	32	24	18
424 HT6	7,510	22	1,140	25	19	14
427 HT6	8,350	22	780	17	13	10
616 HT6	7,000	41	2,340	52	39	30
618 HT6	7,680	41	1,680	37	28	21
620 HT6	8,330	41	1,440	32	24	18
622 HT6	9,130	41	1,200	27	20	15
624 HT6	10,210	41	1,140	25	19	14
626 HT6	10,890	41	900	20	15	11
627 HT6	11,140	41	900	20	15	11
88 HT6	4,860	64	2,880	64	48	36
812 HT6	6,800	64	2,280	50	38	28
814 HT6	7,580	64	2,100	47	35	26
816 HT6	8,440	64	1,980	44	33	25
818 HT6	9,350	64	1,860	41	31	23
820 HT6	10,410	64	1,560	34	26	19
822 HT6	11,230	64	1,200	27	20	15
824 HT6	12,290	64	1,140	25	19	14
826 HT6	13,110	64	960	21	16	12
827 HT6	13,240	64	780	17	13	10
1012 HT6	8,460	85	2,400	53	40	30
1016 HT6	10,380	85	1,680	37	28	21
1018 HT6	11,560	85	1,560	34	26	19
1020 HT6	12,900	85	1,440	32	24	18
1022 HT6	14,220	85	1,200	27	20	15
1024 HT6	15,890	85	1,200	27	20	15
1027 HT6	17,630	85	960	21	16	12

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## STEEL TRENCH BOX

### HT8

#### 8 IN. HI-TENSILE STEEL DOUBLE WALL TRENCH SHIELD

##### USES:

The HT8 is an excellent choice for deeper, more demanding work. The 8 in. double wall construction minimizes sidewall deflection and provides extended shield durability.

##### FEATURES:

- Reinforced top rails.
- Heavy Duty 3/8" top tube
- Adjustable and stackable.
- Thru-wall lifting lugs.
- Four-point lifting system.
- Thru-wall collars.
- Triple vertical tube collar post design.
- Pinned spreader connections.
- Strongest knife edge in the industry.
- Plug welding on double wall shields.
- High strength mill certified steel.
- Professional Engineer design and depth certification.

##### OPTIONS:

- Pushing blocks.
- Pulling lugs.
- Foam filler.
- Mud plate.
- Corner brackets.
- Custom spreader location.
- Custom paint.
- Stacking Pockets.
- T-connection cut-outs.

##### SPREADER OPTIONS:

- 8" schedule 80 (standard).
- 3-pipe and mud plate set.
- 4-pipe independent set.
- 4-pipe connected set.
- 5-pipe independent set.
- 5-pipe connected set.



**HT8 Sidewalls 8 in. Steel Double Wall Trench Shield**

Model (Ht. x Lg.)	Weight (Lbs.)	Pipe Clearance "C" (In.)	Shield Capacity (PSF)	Depth of Cut (Ft.) Soil Type		
				B	C-60	C-80
416 HT8	6,150	22	2,580	57	43	32
420 HT8	7,120	22	1,800	40	30	22
424 HT8	8,360	22	1,260	28	21	16
427 HT8	9,280	22	1,020	23	17	13
430 HT8	10,080	22	840	10	14	10
616 HT8	7,930	41	2,640	59	44	33
620 HT8	9,210	41	1,800	40	30	22
624 HT8	11,080	41	1,260	28	21	16
627 HT8	12,330	41	1,020	23	17	13
630 HT8	13,560	41	1,020	23	17	13
814 HT8	8,570	64	2,520	56	42	31
816 HT8	9,150	64	2,580	57	43	32
820 HT8	10,960	64	2,100	46	35	26
822 HT8	12,320	64	1,560	19	26	19
824 HT8	13,420	64	1,500	33	25	19
827 HT8	14,570	64	1,140	25	19	14
830 HT8	15,930	64	840	19	14	10
1016 HT8	12,480	85	2,220	49	37	28
1020 HT8	14,740	85	1,920	42	32	24
1024 HT8	16,270	85	1,680	37	28	21
1027 HT8	18,780	85	1,200	27	20	15
1030 HT8	20,570	85	1,020	23	17	13

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## STEEL TRENCH BOX

### HDHT8

**8 IN. HEAVY DUTY HI-TENSILE STEEL DOUBLE WALL TRENCH SHIELD**

#### USES:

This 8 in. double wall trench shield is available with panels up to 12 ft. high and 36 ft. long. The HDHT8 offers maximum depth ratings to handle the most demanding jobs with larger excavators.

#### FEATURES:

- Reinforced top rails.
- Heavy Duty 3/8" top tube
- Adjustable and stackable.
- Thru-wall lifting lugs.
- Four-point lifting system.
- Thru-wall collars.
- Triple vertical tube collar post design.
- Pinned spreader connections.
- Strongest knife edge in the industry.
- Plug welding on double wall shields.
- High strength mill certified steel.
- Professional Engineer design and depth certification.

#### OPTIONS:

- Pushing blocks.
- Pulling lugs.
- Foam filler.
- Mud plate.
- Corner brackets.
- Custom spreader location.
- Custom paint.
- Stacking Pockets.
- T-connection cut-outs.

#### SPREADER OPTIONS:

- 8" schedule 80 (standard).
- 10" schedule 120.
- 3-pipe and mud plate set.
- 4-pipe independent set.
- 4-pipe connected set.
- 5-pipe independent set.
- 5-pipe connected set.

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**HDHT8 Sidewalls 8 in. Heavy Duty Steel Double Wall Trench Shield**

Model (Ht. x Lg.)	Weight (Lbs.)	Pipe Clearance "C" (In.)	Shield Capacity (PSF)	Depth of Cut (Ft.) Soil Type		
				B	C-60	C-80
616 HDHT8-58	7,500	41	3,480	77	58	43
620 HDHT8-40	9,700	41	2,400	53	40	30
624 HDHT8-30	12,340	41	1,800	40	30	22
626 HDHT8-27	14,300	41	1,620	36	27	20
627 HDHT8-25	14,870	41	1,500	33	25	19
628 HDHT8-24	14,975	41	1,440	32	24	18
630 HDHT8-20	16,460	41	1,200	27	20	15
816 HDHT8-58	9,770	64	3,480	77	58	43
820 HDHT8-40	12,300	64	2,400	53	40	30
824 HDHT8-30	14,500	64	1,800	40	30	22
826 HDHT8-30	20,100	64	1,800	40	30	22
827 HDHT8-27	18,215	64	1,620	36	27	20
828 HDHT8-24	21,300	64	1,440	32	24	18
830 HDHT8-20	19,995	64	1,200	27	20	15
1016HDHT8-60	13,790	85	3,600	80	60	45
1020HDHT8-41	16,920	85	2,460	55	41	31
1024HDHT8-31	17,490	85	1,860	41	31	23
1026HDHT8-28	19,560	85	1,620	36	27	20
1027HDHT8-25	20,110	85	1,500	33	25	19
1028HDHT8-24	22,310	85	1,440	32	24	18
1030HDHT8-20	23,400	85	1,200	27	20	15



## STEEL TRENCH BOX



### PREMIUM XL

#### 10 IN. & 12 IN. HI-TENSILE STEEL DOUBLE WALL TRENCH SHIELD

##### USES:

Premium XL shields are engineered to withstand heavy soil pressure. This model is designed to be used with high capacity excavators. With 10 or 12 in. thick sidewalls and heavy duty spreaders, the shield is capable of handling deep, wet soil pressures on tough jobs.

##### FEATURES:

- Extra heavy steel plate and structural members.
- Extra heavy duty spreader system.
- Reinforced top rails.
- Heavy Duty 3/8" top tube
- Adjustable and stackable.
- Thru-wall lifting lugs.
- Four-point lift system.
- Thru-wall collars.
- Triple vertical tube collar post design.
- Pinned spreader connections.
- Strongest knife edge in the industry.
- Plug welding on double wall shields.
- High strength mill certified steel.
- Professional Engineer design and depth certification.

##### OPTIONS:

- Pushing blocks.
- Pulling lugs.
- Foam filler.
- Mud plate.
- Corner brackets.
- Custom spreader location.
- Custom paint.
- Stacking Pockets.
- T-connection cut-outs.

##### SPREADER OPTIONS:

- 10" schedule 120 (standard).
- 3-pipe and mud plate set.
- 4-pipe independent set.
- 4-pipe connected set.
- 5-pipe independent set.
- 5-pipe connected set.



HT12 - 1050

#### PXL Sidewall 10 in. Steel Double Wall Trench Shield

Model (Ht. x Lg.)	Weight (Lbs.)	Pipe Clearance "C" (In.)	Shield Capacity (PSF)	Depth of Cut (Ft.) Soil Type		
				B	C-60	C-80
420 PXL	9,180	22	2,820	63	47	35
424 PXL	10,670	22	2,460	55	41	31
427 PXL	13,200	22	1,980	44	33	25
430 PXL	14,630	22	1,620	36	27	20
432 PXL	15,050	22	1,440	32	24	18
620 PXL	12,910	41	2,280	51	38	28
624 PXL	14,500	41	1,560	35	26	19
627 PXL	16,600	41	1,200	27	20	15
630 PXL	18,060	41	960	21	16	12
632 PXL	19,070	41	840	19	14	10
820 PXL	15,050	65	2,460	55	41	31
824 PXL	17,450	65	1,680	37	28	21
827 PXL	19,400	65	1,260	28	21	16
830 PXL	21,070	65	1,020	23	17	13
832 PXL	22,320	65	900	20	15	11
1020 PXL	18,318	85	2,160	48	36	27
1024 PXL	21,380	85	1,800	40	30	22
1027 PXL	23,700	85	1,380	31	23	17
1030 PXL	25,940	85	1,020	23	17	13

#### HT12 Sidewall 12 in. Steel Double Wall Trench Shield

1050 HT12	41,050	85	600	13	10	8
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## STEEL TRENCH BOX

### INNER SHIELD LINER

#### 4 IN. HI-TENSILE STEEL DOUBLE WALL TRENCH SHIELD

##### USES:

TrenchTech's Inner Shield Liner™ is used to prevent under-box caving of unstable or wet soil. The ISL fits inside of a regular trench shield and is much faster and safer to use than steel plates and sheeting which are not recommended. It also increases the speed of placing pipe to grade.

##### FEATURES:

- Reinforced top rails.
- Foam filler.
- Mud plate.
- Adjustable.
- Thru-wall lifting lugs.
- Four-point lift system.
- Thru-wall collars.
- Triple vertical tube collar post design.
- Pinned spreader connections.
- Strongest knife edge in the industry.
- Plug welding.
- High strength mill certified steel.
- Professional Engineer design and depth certification.

##### OPTIONS:

- Pushing blocks.
- Custom spreader location.

##### SPREADER OPTIONS:

- 8" schedule 80 (standard).
- 3-pipe and mud plate set (standard).
- 4-pipe independent set.



#### Inner Shield Liner 4 in. Steel Double Wall Shield

Model	Size (ft.)	Weight (Lbs.)	Shield Capacity (PSF)	Depth of Cut (Ft.)		Recom. Length Outer Shield (Ft.)
	(Ht. x Lg.)			C-60	C-80	
614SL4-20	6 x 14	5,040	1,200	20	15	18 - 20
614SL4-25	6 x 14	5,380	1,500	25	19	18 - 20
616SL4-20	6 x 16	5,970	1,200	20	15	20 - 22
616SL4-25	6 x 16	6,480	1,500	25	19	20 - 22
618SL4-20	6 x 18	6,690	1,200	20	15	22 - 24
618SL4-25	6 x 18	7,570	1,500	25	19	22 - 24
620SL4-20	6 x 20	7,220	1,200	20	15	24 - 26
620SL4-25	6 x 20	8,190	1,500	25	19	24 - 26

# HOW TO SIZE A TRENCH SHIELD

## SOIL CLASSIFICATIONS, CALCULATING DEPTH RATINGS, AND SIZING A SHIELD

### HOW TO SIZE A TRENCH BOX

Depth of cut\* \_\_\_\_\_  
Soil conditions\* \_\_\_\_\_  
Type A (25#) \_\_\_\_\_  
Type B (45#) \_\_\_\_\_  
Type C-60 (60#) \_\_\_\_\_  
Type C-80 (80#) \_\_\_\_\_  
Hydrostatic \_\_\_\_\_ \* see depth certification chart  
Outside Pipe Diameter \_\_\_\_\_  
(Shield must be a minimum of 12 in. wider than the pipe.)  
Pipe Length \_\_\_\_\_ (Shield must be 2 to 4 ft. longer than the pipe)  
Bucket Width \_\_\_\_\_ (Inside shield: 12 in. less than shield.)  
Machine Lift Capacity \_\_\_\_\_ (1.5 times shield weight at 20 degree radius.)

The following will explain how to determine the specifications listed above.

### HOW TO DETERMINE THE DEPTH OF CUT:

- Slope must start 18 in. or 1½ ft. below the top of the Shield

### HOW TO DETERMINE THE WIDTH OF A TRENCH SHIELD:

- Trench Shield width determined by Outside Diameter (OD) of the pipe or the OD of the excavator bucket
- Allow 6 in. of clearance on each side of pipe bell
- Shield should be a minimum of 12 in. wider than the excavator bucket OD

### HOW TO DETERMINE THE LENGTH OF A TRENCH SHIELD:

- Inside length clearance of pipe is approximately 2 ft. less than the overall length of the shield
- Shield must be 2 to 4 ft. longer than the pipe

### HOW TO DETERMINE THE MACHINE LIFT CAPACITY:

- Lift capacity is 1.5 times the shield weight at 20 ft. radius at grade

### CALCULATING DEPTH RATINGS:

PSF ratings and depths are based on temporary loading.

### LATERAL PRESSURE PER FOOT OF DEPTH:

- Type "A" Soil = 25 lbs.
- Type "B" Soil = 45 lbs.
- Type "C-60" Soil = 60 lbs.
- Type "C-80" Soil = 80 lbs.

### DEPTH RATING USING SHIELD CAPACITY (E.G. 1200 LBS.):

- 1200 / 25 = 48 ft.
- 1200 / 45 = 27 ft.
- 1200 / 60 = 20 ft.
- 1200 / 80 = 15 ft.

### SOIL DEFINITIONS:

- Apparent cohesion
- Cemented soil
- Layered soil
- Plastic
- Saturated soil
- Submerged soil

### NO SOIL IS TYPE "A" IF:

- It is fissured
- It is subject to vibration
- It has been previously disturbed
- It is part of a sloped, layered system which dips into the excavation on a slope of four horizontal to one vertical 4H:1V] or greater
- It is subject to other factors requiring classification as less stable

### TYPE "B" SOIL:

- Cohesive soil with unconfined compressive strength greater than 0.5 tons per square foot (tsf). but less than 1.5 tsf.
- Granular cohesion-less soils, e.g., gravel, silt, silt loam, sandy loam
- Type "A" fissured or subject to vibration
- Unstable dry rock
- It is part of a sloped, layered system which dips into the excavation on a slope less steep than 4H:1V, but only if the material would otherwise be classified as Type "B"

### TYPE "C" SOIL:

- Cohesive/non-cohesive soils with unconfined compressive strength of 0.5 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
- Sloped, layered system which slopes into an excavation at an angle of 4H:1V or steeper.