

TRENCH SHIELD CERTIFICATION

A COPY OF THIS SHEET MUST ACCOMPANY EACH CORRESPONDING
TRENCH SHIELD AT EVERY JOB SITE



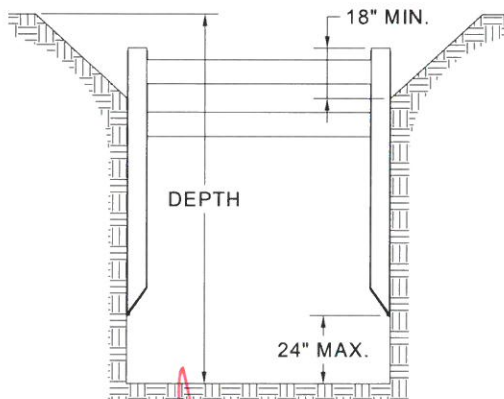
MODEL NUMBER	WEIGHT	SERIAL NUMBERS	SIZE
PRO4-412DNKE	3,416	30762	4' x 12'

*Shield capacity is based on a triangular pressure distribution with the maximum pressure at the bottom of the excavation.

SOIL	MAX DEPTH (FT)	CAPACITY (PSF)
TYPE A	40	3000*
TYPE B	40	
TYPE C-60	30	
TYPE C-80	20	

LIMITATIONS

- 1.) This tabulated data has been prepared by a registered professional engineer as required to comply with OSHA standard 29 CFR part 1926, subpart P.
- 2.) Shield may be suspended no more than 2 feet above bottom of the trench and only if there is no possible loss of soil from behind or below bottom of shield.
- 3.) Surcharge loads have not been included in the above depth ratings. The allowable working depth of the shield must be reduced to account for any surcharge loading which occurs within the influence line of the shield. Otherwise, site specific engineering is required.
- 4.) Shoring shields shall be installed in a manner that will prevent lateral or otherwise hazardous movement of soils. Shoring shields are not intended to provide stability to adjacent buildings or other structures.
- 5.) Shield to be used with pipe 8 x-Strong spreaders with a minimum yield strength of 35 ksi, and limited to a maximum length of 20'.
- 6.) Soil above shield must be sloped according to OSHA Subpart P, & must begin no less than 18" below top of panel. Excavations over 20'-deep with slopes require site specific approval.
- 7.) Shields may be stacked as long as each panel is rated to the depth it is used and manufacturer approved stack connections are utilized to prevent lateral movement of the shields.
- 8.) No steel plates, sheet piles, or sheathing of any kind may be leaned against, or otherwise supported by pipe spreaders at any time. Do not suspend load from pipe spreaders.
- 9.) Contractors' competent person is fully responsible for classifying soils in accordance with OSHA guidelines, prior to use of system.
- 10.) Any modifications to panels will void tabulated data unless otherwise specified or allowed in writing by Pro-Tec Equipment.
- 11.) Shields must be inspected prior to each use for any damage or deterioration. If any assembly has sustained damage or permanent deformation, the tabulated data is void until repairs are made as specified by a registered professional engineer.
- 12.) Pro-Tec shoring systems are to be used in accordance with Federal, state and local laws. Refer to Occupational Safety and Health Administration (OSHA) rules and regulations Vol. 54, No. 209, 10/31/89. Subpart P.
- 13.) Contractor is fully responsible for ensuring groundwater level on all sides of shoring is maintained below base of excavation at all times, otherwise certification is invalid.
- 14.) Tab data is only valid for trench shield model and serial number shown above with framing shown on Pro-Tec fabrication drawings dated 02/10/2015 for trench shield model number TSR4-412DN4R1468E.



SEP 29 2015

2" DIAM. PINS SHALL HAVE MIN $F_u = 92$ KSI.
CONTRACTOR RESPONSIBLE FOR ENSURING
PROPER GRADE PINS ARE IN PLACE PRIOR TO
SHIELD USE.

Capacity and depth ratings account for 33%
overstress for short-term loading condition

**Usage of shields other than specified could cause failure
or cave-ins resulting in serious injury or death.**

Phone (517) 541-0303 ~ 1-800-292-1225 ~ Fax (517) 541-0329
Address: 4837 West Grand River Ave. ~ Lansing, MI 48906



TRINITY SHORING PRODUCTS, INC.
A TRINITY MINING & CONSTRUCTION EQUIPMENT, INC. COMPANY



NAXSA

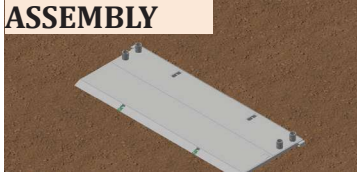
North American
Excavation Shoring Association

STEEL TRENCH SHIELD ASSEMBLY & USAGE

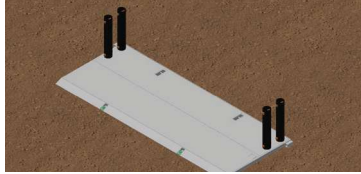
A guide to key steps for steel trench shield assembly and usage.

1. ANY USE OF A TRENCH SHIELD WITHOUT MANUFACTURER'S SPREADERS AND PINS OR EQUAL WILL VOID THE TABULATED DATA AND WARRANTY.
2. TRENCH SHIELDS ARE DESIGNED TO BE USED WITHOUT PLATES EXTENDING BELOW, ABOVE, OR NEXT TO IT. ANY USE OF SUCH PLATES OR PANELS MAY VOID THE TABULATED DATA AND MAY REQUIRE SITE SPECIFIC ENGINEERING.
3. TRENCH SHIELDS ARE DESIGNED TO BE PUSHED TO GRADE IF NECESSARY. AS NOTED BELOW, ANY UNNECESSARY ABUSE BY THE EXCAVATOR AND OR OPERATOR (SUCH AS POUNDING WITH THE BUCKET) WILL VOID THE TABULATED DATA AS WELL AS THE WARRANTY.
4. CONDITION OF SHIELD, SPREADER PIPES, AND SPREADER PINS MUST BE CHECKED/ INSPECTED FOR SERVICEABILITY BY THE COMPETENT PERSON PRIOR TO EACH USE. PSF RATING IS NOT VALID IF THERE IS ANY VISIBLE DAMAGE TO, OR REPAIRS MADE TO THE SHIELD THAT HAS NOT BEEN DOCUMENTED AND CERTIFIED BY A REGISTERED PROFESSIONAL ENGINEER.
5. A MINIMUM OF 4 SPREADERS OR A MANUFACTURER-APPROVED ALTERNATIVE, MUST BE INSTALLED ON THE TRENCH SHIELD PRIOR TO USE.
6. WARNING: LIFTING EYES ARE DESIGNED AND INTENDED FOR ASSEMBLY/DISASSEMBLY AND LIFTING ONLY. DO NOT PULL OR LIFT BY EYES WHEN SHIELD IS STUCK OR HAS PRESSURE AGAINST IT. LOOSEN SHIELD BY PULLING ON PULLING EYES OR DIGGING ALONG SIDES.

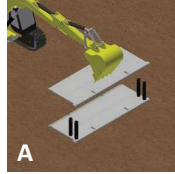
ASSEMBLY



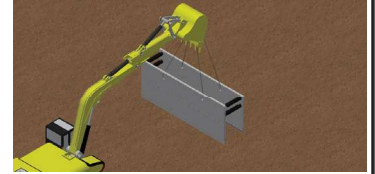
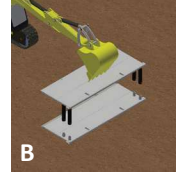
1) REMOVE FROM TRUCK BY LIFTING PANELS WITH 4 POINT LIFT LUGS. ALWAYS USE OSHA APPROVED SLINGS. PLACE ONE SIDEWALL FLAT ON THE GROUND WITH COLLARS FACING UP.



2) PLACE SPREADER PIPE ON TO COLLARS OR BRACKETS AND PIN IN PLACE. SECURE PINS WITH KEEPERS.

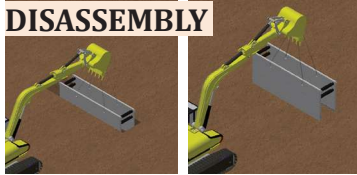


3A) LOWER SECOND SIDEWALL ONTO SPREADERS AND PIN IN PLACE.
3B) FOR SPREADERS LONGER THAN 72" LIFT SIDEWALL WITH SPREADERS OVER MATCHING SIDEWALL PRIOR TO PINNING IN PLACE.

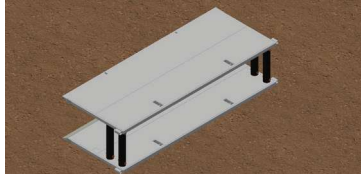


4) PLACE SLING IN TOP 4 LIFT LUGS. STAND SHIELD IN UPRIGHT POSITION AND PREPARE FOR INSTALLATION.

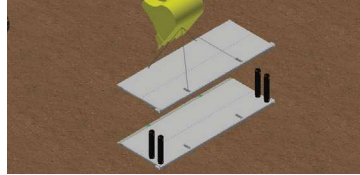
DISASSEMBLY



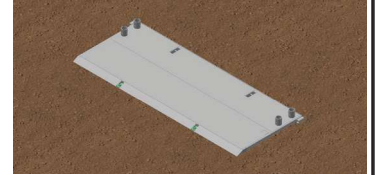
1) PLACE OSHA APPROVED SLING IN TOP 4 LIFT LUGS. STAND SHIELD IN UPRIGHT POSITION AND LIFT BOX FROM EXCAVATION. WARNING: LIFT LUGS ARE INTENDED FOR LIFTING ONLY.



2) PLACE SHIELD ON EITHER SIDEWALL.

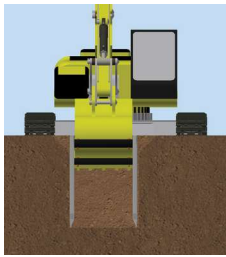


3) CONNECT SLING TO 4 LIFTING EYES OF TOP SIDEWALL. REMOVE SPREADER PINS FROM THE UPPER PORTION OF THE SPREADERS. LIFT THE TOP SIDEWALL FROM THE SPREADERS.

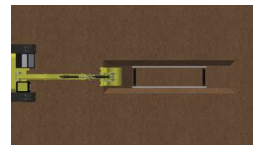
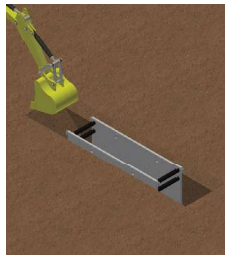


4) UNPIN SPREADERS FROM THE LOWER SIDEWALL AND REMOVE SPREADERS.

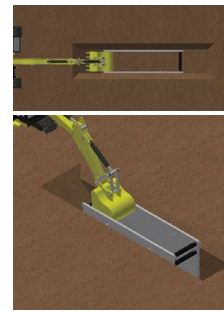
USING A TRENCH SHIELD IN STABLE SOIL



1) EXCAVATED TO GRADE JUST SLIGHTLY WIDER THAN THE TRENCH SHIELD. DIG WALLS VERTICAL TO MINIMUM OF 18" BELOW THE TOP OF THE SHIELD. SLOPE SOILS ABOVE SHIELD ACCORDING TO MANUFACTURER'S TABULATED DATA. INSTALL SHIELD IN TRENCH.

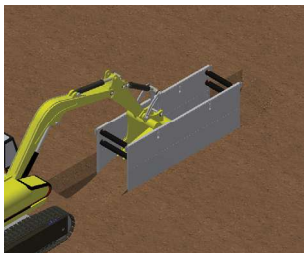


2) PERFORM DESIRED WORK, THEN EXCAVATE IN FRONT OF THE TRENCH SHIELD.

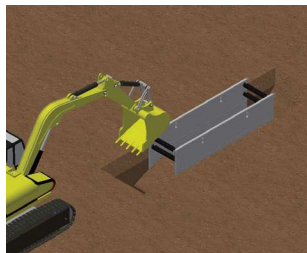


3) PULL SHIELD FORWARD BY FRONT TOP SPREADER PIPE OR PULLING EYES. PULLING EYES SHALL BE USED WITH SPREADERS WIDER THAN 72" OR WHEN SOIL PRESSURE IS SEVERE ENOUGH TO CAUSE SPREADER TO DEFLECT. CONTINUE EXCAVATING AND PULL SHIELD FORWARD, BACKFILL AS WORK PROGRESSES.

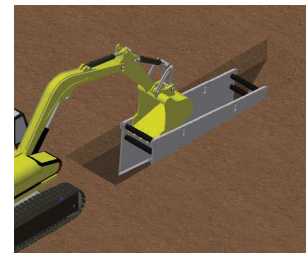
USING A TRENCH SHIELD IN UNSTABLE SOIL



1) EXCAVATE UNTIL SOIL BEGINS TO CRUMBLE BEYOND DESIRED TRENCH WIDTH. PLACE SHIELD IN LINE OF EXCAVATION AND EXCAVATE FROM WITHIN.



2) CONTINUE EXCAVATING WITHIN SHIELD WHILE ALTERNATELY PUSHING DOWN ON SHIELD CORNERS UNTIL PROPER GRADE IS REACHED.



3) PERFORM DESIRED WORK, THEN PULL SHIELD FORWARD AND UP AT APPROPRIATE ANGLE AND REPEAT PREVIOUS STEPS AS NECESSARY.

WARNING: ANY USE OF THIS PRODUCT NOT SPECIFICALLY DESCRIBED ON THIS CERTIFICATE COULD CAUSE CAVE-IN, COLLAPSE, OR STRUCTURAL FAILURE, AND MAY RESULT IN INJURY OR DEATH