

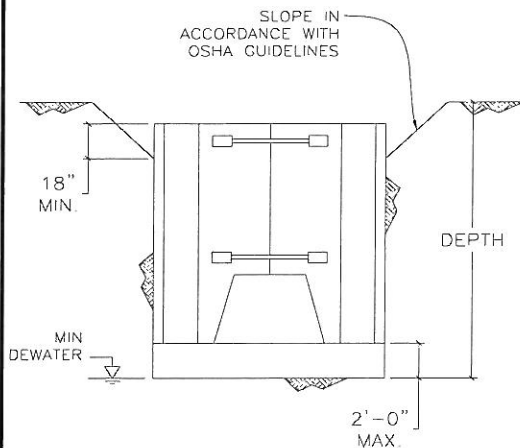
# OCTAGON MANHOLE BOX CERTIFICATION

A COPY OF THIS SHEET MUST ACCOMPANY EACH  
CORRESPONDING MANHOLE BOX AT EVERY JOB SITE



| MODEL NUMBER | HEIGHT | SERIAL NUMBER | SIZE           |
|--------------|--------|---------------|----------------|
| OMH-812-S    | 8'     | 27457         | 8' x 12' x 12' |

| SOIL   | MAX DEPTH | PSF  | SOIL DESCRIPTION                                                                                                                                                                                                  |
|--------|-----------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TYPE A | 30        | 1100 | Stiff Cohesive Soil, 25 PSF per foot, clay, silty clay, clay loam with unconfined compressive strength of 1.5 ton per square foot or greater. See note 7.                                                         |
| TYPE B | 29        | 1100 | Medium Cohesive to granular soil, 45 PSF per foot of depth. Clay with unconfined compressive strength greater than 0.5 TSF but less than 1.5 TSF. Cohesionless gravel, silt, silt loam or sandy loam. See note 8. |
| TYPE C | 21        | 1100 | Soft Cohesive to Saturated Soil, 60 PSF per foot of depth. Clay with unconfined compressive strength less than 0.5 TSF, saturated sand, clay or fractured rock that is not stable. See note 9.                    |



## IMPORTANT NOTE:

1 1/4" DIAMETER 100 KSI THREADED RODS SHALL ALL BE INSTALLED TIGHT PRIOR TO SETTING BOX WITHIN EXCAVATION. CONTRACTOR TO ENSURE EACH HALF OF BOX BEAR EVENLY ACROSS ENTIRE FACE OF SPLICE PRIOR TO ROD INSTALLATION.



## 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) Box 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) Sides of the excavation shall be cut vertical & narrow to prevent lateral movement, backfill all voids between excavation & face of shoring shield tight prior to workers entering
- 4) Soil above shield must be sloped according to OSHA Subpart P. Slope must begin no less than 18" below the top of shield.
- 5) Boxes may be stacked as long as each is rated to the depth it is used and manufacturer approved stack connections are utilized to prevent lateral movement of the shields.
- 6) 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.
- 7) Not Type A if fissured. Subject to vibration, previously disturbed or part of a sloped layered system where layers dip into excavation on a slope less steep than four horizontal to one vertical (4H:1V) are Type B if material would otherwise be classified as Type B.
- 8) Previously disturbed soils may be Type B unless they would be classed as Type C. Soil that meets requirements of Type A but is subject to vibration or fissured may be Type B. Dry rock that is not stable or soil that is part of a sloped layered system where layers dip into the excavation on a slope less steep than four horizontal to one vertical (4H:1V) are Type B if material would otherwise be classified as type B.
- 9) Soil in a sloped layered system where layers dip into the excavation on a slope of four horizontal to one vertical (4H:1V) or steeper may be Type C. Saturated soil or soils from which water is freely seeping but is not standing in the trench. Conditions more severe would require dewatering or the sealing of the sides of the excavation and pumping the trench. Such severe conditions would require the services of a soils engineer to establish the design pressure. Consult the manufacturer for pressures exceeding tabulated values.
- 10) Any modifications to boxes using parts not manufactured by Pro-Tec Equipment will void tabulated data unless otherwise specified or allowed in writing by Pro-Tec Equipment.
- 11) Boxes must be inspected prior to each use for any damage or deterioration. If any shield 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 boxes are to be used in accordance with Federal, state and local laws.
- 13) Shoring must be clear of all adjacent building structures by a distance equal to twice the maximum cut depth at all times, otherwise certification is invalid and site specific engineering is required.
- 14) 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.

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

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# 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**