



## TRENCH SHIELD TABULATED DATA

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

**MODEL NUMBER:** 4ATS-416SF

**SERIAL NUMBER:**

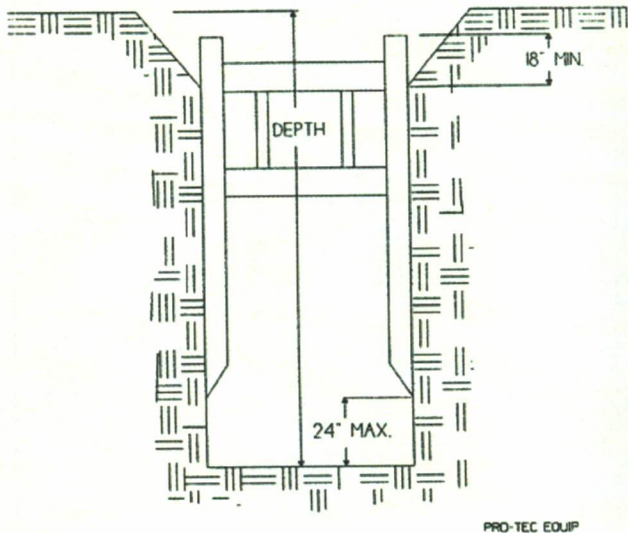
**DATE MANUFACTURED:**

SOIL	MAX DEPTH	*PSF
TYPE A	30 - FT	840
TYPE B	17 - FT	
TYPE C60	14 - FT	
TYPE C80	11 - FT	

\*Shield Capacity based on C60 soil at  
bottom of the excavation.

**SHIELD SIZE:** 4 - FT X 16 - FT  
**SPREADER SIZE:** 8 IN SCH 80  
**MAX SPREADER LENGTH:** 20 - FT  
**SHIELD WEIGHT:** 2000 LBS

### LIMITATIONS:



1. Soil above shield must be sloped according to OSHA Subpart P. Slope must begin no less than 18" below the top of shield.
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. A minimum of 2 spreader pipes are required on each end with manufacturer approved **2-in diameter pins** and keepers.
4. Repairs and modifications shall be approved in writing by the manufacturer and a registered professional engineer.
5. Shields may be stacked as long as each is rated to the depth it is used and manufacturer approved stack connections are utilized.
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 all surcharge loading which occurs adjacent to the trench. (Adjacent is defined as within a distance equal to the depth of the trench.)
7. The Soil Types A, B, and C - 80 are as defined in the OSHA Standard. Soil Type C - 60 is a moist, cohesive soil or a moist dense granular soil, which is not flowing or submerged and has an Equivalent Fluid Pressure (EFP) of 60 PSF per foot of depth. The competent person must monitor the excavation for signs of deterioration that may alter soil pressures and produce the Soil Type C - 80 condition. Such signs are indicated by, but not limited to, freely seeping water or flowing soil entering the excavation around or below the shield.
8. PRO-TEC trench shields have been designed by a registered professional engineer as required to comply with Occupational Safety and Health Administration (OSHA) standard 29 CFR Part 1926, Subpart P.
9. Maximum depths are based on shields being in structurally sound condition. Trench Shields should be inspected prior to each use for any damage or deterioration. If a shield has sustained major structural damage or permanent deformation of a structural member or connection, the Tabulated Data is void until repairs are made as specified by a registered professional engineer.



38641 - 10/24/19

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

**ARCOSA**  
SHORING PRODUCTS

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Mailing Address: 4837 W. Grand River Drive, Lansing, MI 48905

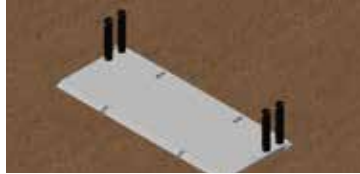
# TRENCH SHIELD ASSEMBLY & USAGE

- ANY USE OF A TRENCH SHIELD WITHOUT MANUFACTURER'S SPREADERS AND PINS OR EQUAL WILL VOID THE TABULATED DATA AND WARRANTY.
- TRENCH SHIELD WAS 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.
- 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.
- 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.
- A MINIMUM OF 2 SPREADERS, 1 ARCH, OR 1 SPREADER AND 1 MUDPLATE MUST BE INSTALLED ON EACH END OF TRENCH SHIELD PRIOR TO USE.
- DEPTH AND PSF RATING ARE FOR LATERAL EARTH PRESSURES ONLY AND DO NOT TAKE ANY SURCHARGES INTO ACCOUNT.
- 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 SPREADER OR DIGGING ALONG SIDES BEFORE USING LIFT EYES.

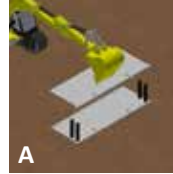
## ASSEMBLY



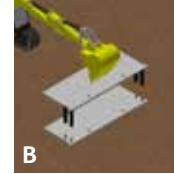
1) REMOVE FROM TRUCK BY LIFTING PANELS WITH 4 POINT LIFT LUGS. ALWAYS USE OSHA APPROVED SLINGS. PLACE ONE SIDEWALL FLAT ON THE GROUND WITH COLLARS FACING UP.



2) PLACE SPREADER PIPE AND/OR MUD PLATE 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.