



Tempe, Arizona  
PHONE (800) 380-0103

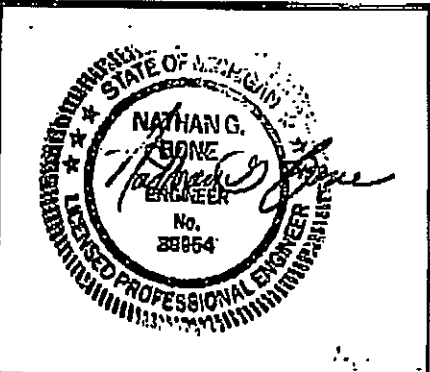
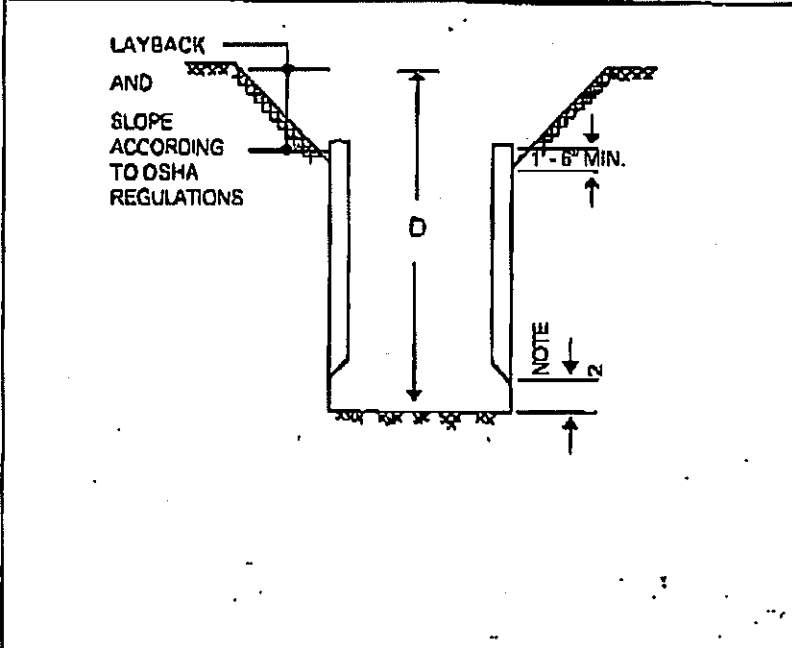
MODEL **S4D8X16** SERIAL NUMBER **21194**

REFERENCE TO OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION RULES AND REGULATIONS, 29 CFR, NO 209, PART 1926, SUBPART P

| SHIELD SIZE   |               | PSF RATING   | MAXIMUM ALLOWABLE DEPTH OF CUT (FEET)                        |   |  |
|---------------|---------------|--|--|---|--|
|               |               |  | D  |   |  |
| HEIGHT (FEET) | LENGTH (FEET) | MAXIMUM LATERAL EARTH PRESSURE CAPACITY AT TRENCH BOTTOM IN POUNDS PER SQUARE FOOT | SOIL TYPE TO BE EXCAVATED                                    |   |  |
|               |               |  | TYPE A<br>STIFF, COHESIVE SOIL.<br>25 PSF PER FOOT OF DEPTH. | TYPE B<br>MEDIUM COHESIVE TO GRANULAR SOIL. 45 PSF PER FOOT OF DEPTH. | TYPE C<br>SOFT COHESIVE TO SUBMERGED SOIL. 60 PSF PER FOOT OF DEPTH. |
| 8             | 16            | 1440   | 58   | 32  | 24   |

- LIMITATIONS IN USE OF TABLE**
1. TRENCH SHIELD TO BE ASSEMBLED AND INSTALLED AS SHOWN AND IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
  2. EXCAVATION 2 FEET BELOW BOTTOM OF SHIELD IS PERMITTED WHEN NO LOSS OF SOIL FROM BEHIND OR BELOW THE BOTTOM OF SHIELD IS ENCOUNTERED.
  3. CONSULT MANUFACTURER WHEN RESTRICTION ON NOTE 2 IS NOT MET.
  4. ADDITIONAL SHIELDS MAY BE STACKED WITH NO PENALTY IN DEPTH OF CUT.
  5. DEPTHS OF CUTS SHOWN ARE BASED ON EXAMPLES OF VARIOUS SOIL CONDITIONS. VERIFY ACTUAL SOIL PRESSURES PRIOR TO EACH USE.
  6. ANY MODIFICATIONS OR ALTERATIONS NOT ALLOWED UNLESS APPROVED IN WRITING BY EFFICIENCY PRODUCTION, INC.
  7. DEPTH CERTIFICATION IS BASED ON SHORT TERM EXPOSURE WITH EXCAVATION OPEN A PERIOD NOT EXCEEDING 24 HOURS.
- CONTINUED ON REVERSE SIDE**

| DESCRIPTION   | DESCRIPTION   | DESCRIPTION   |
|---|---|---|
| Clay, silty clay, sandy clay, clay loam, unconfined compressive strength of 1.5 tons per square foot or greater. (see note 8 on reverse side) | Clay with unconfined compressive strength greater than .5 TSF but less than 1.5 TSF, cohesionless gravel, silt, silt loam or sandy loam. (see note 9 on reverse side) | Clay with unconfined compressive strength less than .5 TSF submerged sand, clay or fractured rock that is not stable. (see note 10 on reverse side) |



**CERTIFIED BY:**  
EFFICIENCY PRODUCTION, INC.  
AUG. 14, 2001

**COPYRIGHT:**  
1991 EFFICIENCY PRODUCTION, INC.  
ALL RIGHTS RESERVED

MANUFACTURED UNDER ONE OR MORE OF THE FOLLOWING U.S. PATENT NUMBERS:  
4,080,365-4,114,383-4,259,028  
ONE OR MORE OF THE FOLLOWING CANADIAN PATENT NUMBERS: 1,082,863-1,062,684

**USE THIS PRODUCT ONLY IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE, OR LOCAL LAWS**

9. NOT TYPE A IF FISSURED, SUBJECT TO VIBRATION, PREVIOUSLY DISTURBED OR LAYERS DIP INTO EXCAVATION ON A SLOPE OF FOUR HORIZONTAL TO ONE VERTICAL (4H:1V) OR GREATER.
10. PREVIOUSLY DISTURBED SOILS MAY BE TYPE B UNLESS THEY WOULD BE CLASSIFIED 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.
11. 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. SUBMERGED SOIL IS MATERIAL WITH WATER FREELY SEEPING AND ENTERING THE TRENCH, BUT ONLY PART OF THE DEPTH OF THE RETAINED SOIL IS SUBMERGED. CONDITIONS MORE SEVERE WOULD REQUIRE DEWATERING OR SEALING FOUR 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.
12. SHIELD MUST BE BACKFILLED TO A MINIMUM OF 1/3 OF THE TOTAL HEIGHT PRIOR TO ENTERING THE SHIELD.

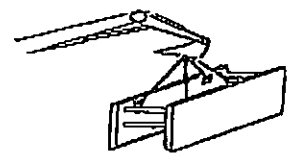
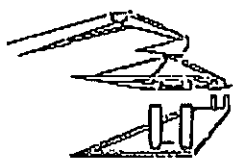
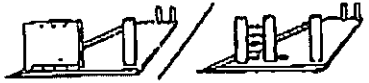
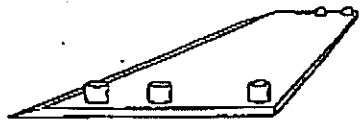
**Assembly**

Lay side panel flat on ground with collar sockets up ...

Place spreader pipe and/or plate onto collars or into brackets and pin in place. Secure pins with keepers.

Lower second sidewall onto spreaders and pin.

Stand trench shield in upright position and prepare for installation.



Mud Plate Spreader System

5 Pipe Spreader System

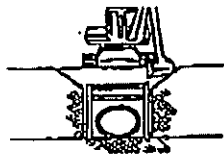
4 Pipe Spreader System Shown

**Using a trench shield in stable soil**

Excavate to grade just slightly wider than the trench shield. Dig walls vertical to minimum of 18" below the top of the shield. Slope soil above shield according to OSHA regulations. Install shield in trench.

Excavate in front of the trench shield

Pull shield forward by front top spreader pipe or with pulling eyes. (pulling eyes shall be used with spreaders wider than 72" or when soil pressure is severe enough to cause spreader to deflect).



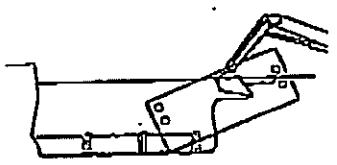
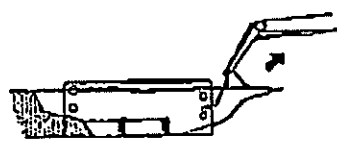
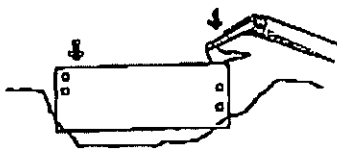
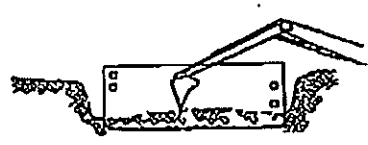
**Using a shield in unstable soil**

Excavate until soil begins to crumble beyond desired trench width. Place shield on line of excavation.

Press down on corners to push shield down to grade

Pull shield forward and up on appropriate angle.

Excavate soil within the shield a repeat previous process.

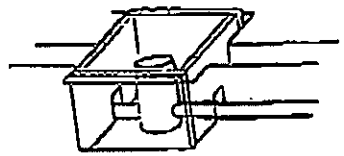
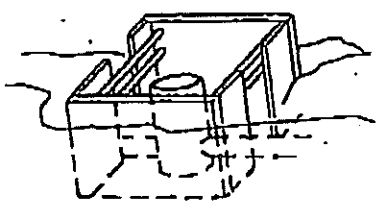
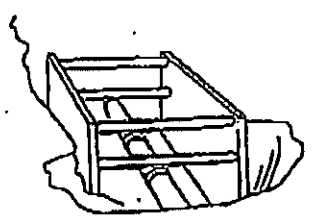


**Using shields for patchwork, repairs or tie-ins**

- Center shield over work area.
- Lay soil at ends back according to OSHA regulations or use manufacturer's designed end plates to protect from cave-ins.

**Manhole box with corner end plates**  
Corner end plates help prevent loose material from running into the end of the shield. Soil at ends should be sloped according to OSHA regulations.

**Using 4-sided shields**  
When using shields as protection during manhole assembly work, insure that proper end panels are used, or lay soil at the ends back according to OSHA regulations.



• This material is intended to provide basic assembly and installation information only.  
 • Always use trench shield in accordance with applicable local, state, and federal safety laws and regulations. Failure to do so could cause severe injury or death.  
 • Manufacturer's recommendations and limitations is allowed without EPI's written approval.