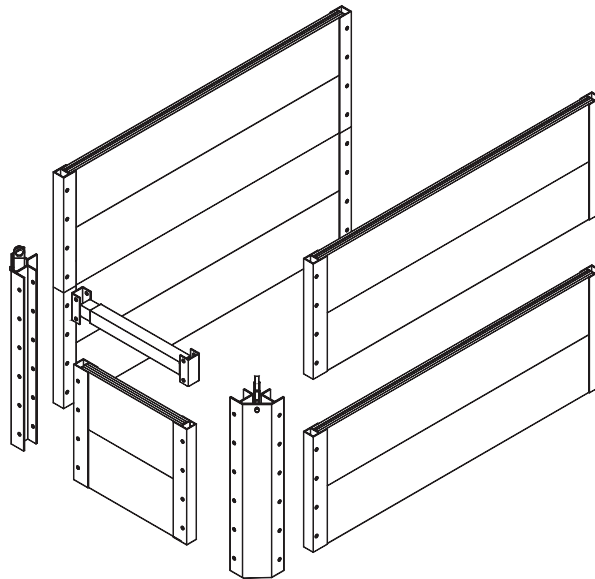


TABULATED DATA

MODULAR ALUMINUM PANEL SHIELDS - "MAPS"



EXP 6/30/24

April 16, 2009

PAGE 1 OF 6
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WARNING

EXCAVATION PROCEDURES MAY BE VERY DANGEROUS

- A TRAINED *COMPETENT PERSON* SHALL SUPERVISE ALL EXCAVATION OPERATIONS, ENSURE THAT ALL PERSONNEL ARE WORKING IN SAFE CONDITIONS, AND HAVE THOROUGH KNOWLEDGE OF THIS TABULATED DATA. THE *COMPETENT PERSON* SHALL HAVE THE AUTHORITY TO STOP WORK WHEN IT IS UNSAFE FOR WORKERS TO ENTER AN EXCAVATION.
- ALL PERSONNEL SHALL BE TRAINED IN CORRECT EXCAVATION PROCEDURES, PROPER USE OF THE PROTECTIVE SYSTEM AND ALL SAFETY PRECAUTIONS.
- EXCAVATIONS AND PROTECTIVE SYSTEMS SHALL BE INSPECTED AT LEAST DAILY AND WHENEVER THERE IS A CHANGE OF SOIL, WATER OR OTHER JOB SITE CONDITIONS.
- ALL LIFTING AND PULLING EQUIPMENT, INCLUDING CABLES, SLINGS, CHAINS, SHACKLES AND SAFETY HOOKS SHALL BE EVALUATED FOR SUITABILITY AND CAPACITY, AND SHALL BE INSPECTED FOR DAMAGE OR DEFECTS PRIOR TO USE.
- ALL INSTALLATION AND REMOVAL OF SHORING AND SHIELDING SHALL BE FROM ABOVE GROUND ONLY.
- DO NOT ALLOW PERSONNEL TO ENTER AN EXCAVATION THAT IS NOT PROPERLY SHORED, SHIELDED OR SLOPED.
- PERSONNEL SHALL ALWAYS WORK WITHIN THE SHORING AND SHIELDING. PERSONNEL SHALL NOT STAND ON THE EDGE OF AN UNSHORED EXCAVATION.
- ALL PERSONNEL SHALL ENTER AND EXIT EXCAVATIONS ONLY WITHIN SHIELDED OR SHORED AREAS.

SPEED SHORE'S "MANUFACTURER'S TABULATED DATA" IS A GENERAL SET OF GUIDELINES AND TABLES TO ASSIST THE *COMPETENT PERSON* IN SELECTING A SAFETY SYSTEM AND THE PROPER SHORING OR SHIELDING EQUIPMENT. THE *COMPETENT PERSON* HAS SOLE RESPONSIBILITY FOR JOB SITE SAFETY AND THE PROPER SELECTION AND INSTALLATION AND REMOVAL OF THE SHORING OR SHIELDING EQUIPMENT.

THIS TABULATED DATA IS NOT INTENDED TO BE USED AS A JOB SPECIFIC EXCAVATION SAFETY PLAN, BUT SHALL BE USED BY THE *COMPETENT PERSON* TO SUPPLEMENT HIS TRAINING, HIS EXPERIENCE AND HIS KNOWLEDGE OF THE JOB CONDITIONS AND SOIL TYPE.



SPEED SHORE
TABULATED DATA

1.0 SCOPE

- 1.1 Speed Shore's Tabulated Data complies with the OSHA Excavation Standards as stated in the Code of Federal Regulations 29, Part 1926, Subpart P - Excavations, Section 1926.652(c)(2). The contractor's competent person in the selection of Speed Shore Modular Aluminum Panel Shields, MAPS, shall only use this data. The *competent person* shall be experienced and knowledgeable in trenching and excavation procedures, soil identification and in the use of Speed Shore Aluminum Panel Shields.
- 1.2 Employers shall train all personnel involved in the installation, removal and use of MAPS and advised of appropriate safety procedures.
- 1.3 Table MAPS-1 is based upon safety requirements stated in CFR 29, Part 1926 and applicable portions of CFR 29, Part 1910. The *competent person* shall know and understand the requirements of those standards before using this data.
- 1.4 Whenever there is a variance between this Tabulated Data and CFR 29, Part 1926, Subpart P - Excavations, this Tabulated Data shall take precedence. Whenever a topic, subject, or issue is not contained in this Tabulated Data, the *competent person* shall refer to CFR 29, Part 1926, Subpart P - Excavations.
- 1.5 This data refers to the Code of Federal Regulations, 29, Parts 1910 and 1926. Where states have their own state OSHA plan, refer to similar regulations in the current construction rules published by the state office of Occupational Health and Safety.
- 1.6 Table MAPS-1 shall be used only in excavations with soil conditions as noted. For other soil and excavation conditions and depths, site-specific engineered designs are required. Contact Speed Shore Corporation for assistance.
- 1.7 This Tabulated Data is applicable for standard products manufactured exclusively by Speed Shore and may only be used with Speed Shore manufactured products. Any modification of Speed Shore products not specifically authorized by Speed Shore Corporation voids this data.

2.0 DEFINITIONS (RE: CFR 29, Part 1926.32 Definitions) - RESTATED FOR EMPHASIS

- 2.1 1926.32 (F) "competent person" means one who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous or dangerous to employees; and who has authorization to take prompt corrective measures to eliminate them.
- 2.2 1926.32 (p) "Shall" means mandatory.

3.0 SOIL CLASSIFICATIONS

- 3.1 In order to use the data presented in Table MAPS-1 the soil type, or types, in which the excavation is cut shall first be determined by the *competent person* according to the OSHA soil classifications as set forth in CFR 29, Part 1926, Subpart P, Appendix A.
- 3.2 Table MAPS-1 are also reference Type C-60 soil (see 3.3 for definition).
- 3.3 Type C-60 soil is a moist, cohesive soil or a moist dense granular soil, which does not fit into the OSHA Type A or Type B classifications, and is not flowing or submerged. This material can be cut with near vertical sidewalls and will stand unsupported long enough to allow the shields to be properly installed. The *competent person* must monitor the excavation for signs of deterioration of the soil as indicated by, but not limited to, freely seeping water or flowing soil entering the excavation around or below the MAPS. An alternate design for less stable Type C soil may be required where there is evidence of deterioration.



- 3.4 Water flowing into an excavation, from either above or below ground, will cause a decrease in the stability of the soil. Therefore, the **competent person** shall take action to prevent water from entering the excavation and promptly remove any water that accumulates in the excavation. Closer monitoring of the soil is required under wet conditions, particularly in the less cohesive (weaker) soil conditions. A small amount of water, or flowing conditions may downgrade the soil classification to a less stable classification. A large amount of water, or flowing conditions will downgrade all soils to O.S.H.A. Type C. Speed Shore shoring and shielding systems may be used safely in wet conditions when the excavation is monitored by the **competent person**. Example: When repairing a leak in utility lines, it is often difficult or even impossible to keep water out of the excavation.

4.0 PRESENTATION OF INFORMATION

- 4.1 Information presented in tabular form in Table MAPS-1 is for use in OSHA. Types A, B and C soils, and for use in Type C-60 soil (see 3.3 for definition).
- 4.2 Table MAPS-1 is not considered adequate when loads imposed by structures or by stored material adjacent to the excavation weigh in excess of the load imposed by 3 feet of soil surcharge. The term "adjacent" as used here means the area within a horizontal distance from the edge of the excavation equal to the depth of the excavation.
- 4.3 Using Table MAPS-1, the **competent person** determines the maximum depth the MAPS may be used.

5.0 ASSEMBLY

- 5.1 A competent person before assembly shall inspect all MAPS components.
- 5.2 Any damage shall be evaluated and repairs made under the direction of a registered professional engineer. All missing or damaged components shall be replaced with genuine Speed Shore parts.
- 5.3 All lifting and pulling equipment, (including cables, slings, chains, shackles and safety hooks) used to handle shields or components shall be evaluated for lifting capacity, and inspected for damage or defects, prior to use, by experienced personnel and shall meet OSHA requirements.
- 5.4 Tag lines or other approved safety devices shall be utilized to keep employees away from loads handled by lifting equipment.
- 5.5 PINS: Each two foot high panel shall be pinned to each end member using two pins, unless a horizontal joint occurs in the end member at the panel.
- 5.6 END MEMBERS: All horizontal joints in the end members shall occur at the mid-height of a two-foot panel. The two foot high panel shall be pinned to the two butting end members using two pins above the joint and two pins below the joint.
- 5.7 MAPS PANELS: A system shall consist of 2, 3 or 4-sided configurations.
- 5.8 Adjustable legs or end members can be used for supporting the shield to a maximum of 2' height off the bottom of the trench. See section 7.4 for limitations
- 5.9 End Members can be stacked to increase the height of the system. Panels must be staggered across the stacked End Members to bridge the system.
- 5.10 Spreaders can be vertically spaced up to a maximum of three feet.
- 5.11 All assembly of the MAPS system shall be done in a safe area. This can be the area adjacent to the excavation or assembly of the MAPS system from the top down in the excavation. No personnel shall be in an unprotected area of the excavation during assembly.



6.0 INSPECTION

- 6.1 The competent person must evaluate the soils to assure the rated capacity of the MAPS is not exceeded by the lateral pressure of the soil. Soils shall be evaluated in accordance with Part 3.0.
- 6.2 The *competent person* shall monitor all phases of the assembly, installation and use of this product to evaluate and eliminate methods, which could endanger employees utilizing this product.
- 6.3 The *competent person* must perform daily inspections of the MAPS and accessories. Any deficiencies must be promptly corrected without exposure to personnel.
- 6.4 Inspections shall be conducted as necessary for hazards associated with water accumulation, changing soil conditions, or changing site weather conditions.

7.0 SAFETY SPECIFICATIONS

- 7.1 Employees shall be protected from loose or falling material. MAPS must always be used in a manner that loose or falling soil cannot enter over the top or through the end of the shield. End protection may be required. Spoil piles must be kept back from the edge of the excavation at least 2 feet.
- 7.2 Employees shall not enter or exit shields through unprotected areas and shall remain in shields at all times while working.
- 7.3 Employees shall not be in or under a shield while it is being lifted or moved.
- 7.4 Bottom of MAPS may be a maximum of 2 feet above the bottom of the trench if there are no signs of deterioration of the trench face below or at the end of the shield. This may be accomplished by the use of the adjustable legs furnished with the MAPS, END MEMEBERS, or as per O.S.H.A. standards as stated in the Code of Federal Regulations 29, Part 1926, Subpart P - Excavations, Section 1926.652 (g)(2).
- 7.5 Use of the spreader system for any purpose other than supporting the sidewall panels, or for pulling them forward is prohibited without written permission from the manufacturer.
- 7.6 The sides of the excavation should be cut vertical and narrow to prevent lateral movement of the MAPS. The width of the excavation shall be no wider than the width of the shield plus 12 inches. If soil conditions do not allow the sides of the excavation to be cut vertical and narrow, the competent person shall install the shield in a safe manner to restrict lateral movement or other hazardous movement of the shield in the event of the application of sudden lateral loads. The competent person shall make the final determination to ensure lateral movement of the shield has been controlled.
- 7.7 Only use Speed Shore supplied standard spreaders.
- 7.8 Water shall be prevented from entering the excavation and any water that does accumulate in the excavation shall be pumped out. See sections 3.4 and 6.4.
- 7.9 Contact Speed Shore for any non-typical use of the MAPS.

8.0 EXAMPLE TO ILLUSTRATE THE USE OF TABLES MAPS-1:

Problem: The excavation for water tap is 6 feet deep in soil that has been classified by the competent person to be Type C-60 soil. The contractor requires four-sided protection, area of 6' x 10'. Which MAPS may be used?

Studying Table MAPS-1 shows that an MAPS-0210 is a dequate down to 16' deep and MAPS-0206 to 45' deep. Using four 8' end members, 6 each MAPS 0210 and 6 each MAPS-0206, the contractor will be able to assemble a 6' x 10' four sided box that is rated to 16' deep in C-60 soil.



TABLE MAPS-1

MODEL	PANEL SIZE (FEET)		PANEL CAPACITY P.S.F.	MAXIMUM DEPTH RATING FOR SPOIL TYPE (FEET)				PANEL WEIGHT APPX. POUNDS
	HEIGHT	LENGTH		A-25	B-45	C-60	C-80	
MAPS-0203	2	3	12,000	50	50	50	50	36
MAPS-0204	2	4	6,400	50	50	50	50	49
MAPS-0205	2	5	4,500	50	50	50	50	62
MAPS-0206	2	6	2,700	50	50	45	34	76
MAPS-0208	2	8	1,500	50	33	25	19	102
MAPS-0210	2	10	960	36	21	16	12	129
MAPS-0212	2	12	660	24	14	11	8	155
MAPS-0214	2	14	570	21	12	9	7	180
MAPS-0216	2	16	420	15	9	7.5		205

Notes to table MAPS-1.

- (1) This table is applicable to 4-sided boxes, 3-sided boxes, and 2-sided boxes. Open sides must be supported by spreaders.
- (2) Maximum bottom spreader clearance for 2-sided and 3-sided boxes is 34". Spreaders shall be spaced apart vertically no more than 36" on center.
- (3) Weights are approximate.

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SPEED SHORE

MANUFACTURER'S TABULATED DATA

MODULAR ALUMINUM PANEL SHIELDS B



EXP 6/30/2024

5/14/22
22165

"MAPS-B"



TEXAS ENGINEERING FIRM
F-21014

August 01, 2009

PAGE 1 OF 6

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- 3.4 Water flowing into an excavation, from either above or below ground, will cause a decrease in the stability of the soil. Therefore, the *competent person* shall take action to prevent water from entering the excavation and promptly remove any water that accumulates in the excavation. Closer monitoring of the soil is required under wet conditions, particularly in the less cohesive (weaker) soil conditions. A small amount of water, or flowing conditions may downgrade the soil classification to a less stable classification. A large amount of water, or flowing conditions will downgrade all soils to O.S.H.A. Type C. Speed Shore shoring and shielding systems may be used safely in wet conditions when the excavation is monitored by the *competent person*. Example: When repairing a leak in utility lines, it is often difficult or even impossible to keep water out of the excavation.

4.0 PRESENTATION OF INFORMATION

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- 4.2 Table MAPS-B-1 is not considered adequate when loads imposed by structures or by stored material adjacent to the excavation weigh in excess of the load imposed by 3 feet of soil surcharge. The term "adjacent" as used here means the area within a horizontal distance from the edge of the excavation equal to the depth of the excavation.
- 4.3 Using Table MAPS-B-1, the *competent person* determines the maximum depth the MAPS-B may be used.

5.0 ASSEMBLY

- 5.1 A competent person before assembly shall inspect all MAPS-B components.
- 5.2 Any damage shall be evaluated and repairs made under the direction of a registered professional engineer. All missing or damaged components shall be replaced with genuine Speed Shore parts.
- 5.3 All lifting and pulling equipment, (including cables, slings, chains, shackles and safety hooks) used to handle shields or components shall be evaluated for lifting capacity, and inspected for damage or defects, prior to use, by experienced personnel and shall meet OSHA requirements.
- 5.4 Tag lines or other approved safety devices shall be utilized to keep employees away from loads handled by lifting equipment.
- 5.5 PINS: Each two foot high panel shall be pinned to each end member using two pins, unless a horizontal joint occurs in the end member at the panel.
- 5.6 END MEMBERS: All horizontal joints in the end members shall occur at the mid-height of a two-foot panel. The two foot high panel shall be pinned to the two butting end members using two pins above the joint and two pins below the joint.
- 5.7 MAPS-B PANELS: A system shall consist of 2, 3 or 4-sided configurations.
- 5.8 Adjustable legs or end members can be used for supporting the shield to a maximum of 2' height off the bottom of the trench. See section 7.4 for limitations
- 5.9 End Members can be stacked to increase the height of the system. Panels must be staggered across the stacked End Members to bridge the system.
- 5.10 Spreaders can be vertically spaced up to a maximum of three feet.
- 5.11 All assembly of the MAPS-B system shall be done in a safe area. This can be the area adjacent to the excavation or assembly of the MAPS-B system from the top down in the excavation. No personnel shall be in an unprotected area of the excavation during assembly.

6.0 INSPECTION

- 6.1 The competent person must evaluate the soils to assure the rated capacity of the MAPS-B is not exceeded by the lateral pressure of the soil. Soils shall be evaluated in accordance with Part 3.0.
- 6.2 The *competent person* shall monitor all phases of the assembly, installation and use of this product to evaluate and eliminate methods, which could endanger employees utilizing this product.
- 6.3 The *competent person* must perform daily inspections of the MAPS-B and accessories. Any deficiencies must be promptly corrected without exposure to personnel.
- 6.4 Inspections shall be conducted as necessary for hazards associated with water accumulation, changing soil conditions, or changing site weather conditions.

7.0 SAFETY SPECIFICATIONS

- 7.1 Employees shall be protected from loose or falling material. MAPS-B must always be used in a manner that loose or falling soil cannot enter over the top or through the end of the shield. End protection may be required. Spoil piles must be kept back from the edge of the excavation at least 2 feet.
- 7.2 Employees shall not enter or exit shields through unprotected areas and shall remain in shields at all times while working.
- 7.3 Employees shall not be in or under a shield while it is being lifted or moved.
- 7.4 Bottom of MAPS-B may be a maximum of 2 feet above the bottom of the trench if there are no signs of deterioration of the trench face below or at the end of the shield. This may be accomplished by the use of the adjustable legs furnished with the MAPS-B, END MEMEBERS, or as per O.S.H.A. standards as stated in the Code of Federal Regulations 29, Part 1926, Subpart P - Excavations, Section 1926.652 (g)(2).
- 7.5 Use of the spreader system for any purpose other than supporting the sidewall panels is prohibited without written permission from the manufacturer.
- 7.6 The sides of the excavation should be cut vertical and narrow to prevent lateral movement of the MAPS-B. The width of the excavation shall be no wider than the width of the shield plus 12 inches. If soil conditions do not allow the sides of the excavation to be cut vertical and narrow, the competent person shall install the shield in a safe manner to restrict lateral movement or other hazardous movement of the shield in the event of the application of sudden lateral loads. The competent person shall make the final determination to ensure lateral movement of the shield has been controlled.
- 7.7 Only use Speed Shore supplied standard spreaders.
- 7.8 Water shall be prevented from entering the excavation and any water that does accumulate in the excavation shall be pumped out. See sections 3.4 and 6.4.
- 7.9 Contact Speed Shore for any non-typical use of the MAPS-B.

8.0 EXAMPLE TO ILLUSTRATE THE USE OF TABLES MAPS-B-1:

Problem: The excavation for water tap is 6 feet deep in soil that has been classified by the competent person to be Type C-60 soil. The contractor requires four-sided protection, area of 6' x 10'. Which MAPS-B may be used?

Studying Table MAPS-B-1 shows that an MAPS-B-0210 is adequate down to 16' deep and MAPS-B-0206 to 40' deep. Using four 8' end members, 6 each MAPS-B-0210 and 6 each MAPS-B-0206, the contractor will be able to assemble a 6' x 10' four sided box that is rated to 16' deep in C-60 soil.

TABLE MAPS-B-1

MODEL	PANEL SIZE (FEET)		PANEL CAPACITY P.S.F.	MAXIMUM DEPTH RATING FOR SPOIL TYPE (FEET)				PANEL WEIGHT APPX. POUNDS
	HEIGHT	LENGTH		A-25	B-45	C-60	C-80	
MAPS-0202-B	2	2	2,400	50	50	40	30	30
MAPS-0203-B	2	3	2,400	50	50	40	30	44
MAPS-0204-B	2	4	2,400	50	50	40	30	58
MAPS-0205-B	2	5	2,400	50	50	40	30	73
MAPS-0206-B	2	6	2,400	50	50	40	30	87
MAPS-0207-B	2	7	1,740	50	38	29	22	102
MAPS-0208-B	2	8	1,440	50	33	24	18	116
MAPS-0209-B	2	9	1,200	46	26	20	15	131
MAPS-0210-B	2	10	960	36	21	16	12	145
MAPS-0211-B	2	11	840	32	18	14	11	160
MAPS-0212-B	2	12	780	31	17	13	9	174
MAPS-0213-B	2	13	660	25	14	11	8	189
MAPS-0214-B	2	14	600	24	13	10	7	203
MAPS-0215-B	2	15	540	20	11	9	7	218
MAPS-0216-B	2	16	480	19	11	8	6	232

Notes to table MAPS-B-1.

- (1) This table is applicable to 4-sided boxes, 3-sided boxes, and 2-sided boxes. Open sides must be supported by spreaders.
- (2) Maximum bottom spreader clearance for 2-sided and 3-sided boxes is 34". Spreaders shall be spaced apart vertically no more than 36" on center.
- (3) Weights are approximate.
- (4) Panel length is actual length of panel prior to assembly with end member. Add 8" to length of panel for outside dimensions.
- (5) Panels, spreaders, lifting devices and other parts of this system produced by other manufacturers may be used with the MAPS-B as long as the competent person is satisfied that the quality of manufacturing and the materials used to manufacture are equal to that of the MAPS-B.

5/7/2013
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