

Detectable Warning Systems, Inc.

SURFACE APPLIED DETECTABLE WARNING MATS

With Pre-applied Sealant/Adhesive

PART 1 GENERAL

1.01 SECTION CONTENTS

- A. Description
- B. Related Work Specified Elsewhere.
- C. Submittals
- D. Quality Assurance.
- E. Delivery, Storage & Handling
- F. Site Conditions
- G. Extra Stock
- H. Guarantee
- I. Manufacturers
- J. Materials.
- K. Installation.
- L. Cleaning & Protecting

1.02 DESCRIPTION

- A. This Section specifies furnishing and installing surface applied polyurethane detectable warning mat where indicated, using an exterior grade tactile warning surface described herein.

1.03 RELATED WORK SPECIFIED ELSEWHERE

- A. Drawings and general provisions of Contract, including General and Special Conditions and Division 1 Specifications Section, apply to this Section.

1.04 SUBMITTALS

- A. Product Data: Submit manufacturer's literature describing products, installation procedures and routine maintenance.
- B. Samples for Verification Purposes: Submit three (3) samples of surface applied polyurethane tactile mat of the kind proposed for use.
- D. Material Test Reports: Submit test reports from qualified independent testing laboratory indicating that materials proposed for use are in compliance with requirements and meet the properties indicated.
- A. Maintenance Instructions: Submit copies of manufacturer's specified maintenance practices for each type of tactile tile and accessory as required.

1.05 QUALITY ASSURANCE

- A. Provide surface applied tactile mat and accessories as produced by a single manufacturer.
- B. Installer's Qualifications: Engage an experienced Installer qualified for installation, who has successfully completed tile installations similar in material, design, and extent to that indicated for Project. .
- C. Americans with Disabilities Act (ADA): Provide tactile warning surfaces which comply with the detectable warnings on walking surfaces section of the Americans with Disabilities Act (Title 49 CFR TRANSPORTATION, Part 37.9 STANDARDS FOR ACCESSIBLE TRANSPORTATION FACILITIES, Appendix A, Section 4.29.2 DETECTABLE WARNINGS ON WALKING SURFACES. In addition products must comply with CALIFORNIA TITLE 24 requirements regarding patterns, color and sound on cane contact.
- D. Polyurethane tactile mat incorporating truncated domes shall conform to the following:
 - 1. Water Absorption of mat when tested by ASTM-D570 not to exceed 0.35% -after vacuum.
 - 2. Compressive Strength-ATM D695-96 5,000 psi
 - 3. Slip Resistance- ASTM F1679-96
 - Top of Domes Dry .99
 - Top of Domes Wet .79
 - Surface Dry .82
 - Surface Wet .65
 - 4. Impact Resistance ASTM D5420-96 No cracking up to 80 inch pounds
 - 5. Accelerated Weathering ASTM G154/ASTM D4587 $\Delta E < 6.5$ after 500 hours
 - 6. Flexural Strength ASTM 790-96a 13,000 psi
 - 7. Stain & Chemical Resistance ASTM 1308-87 No Change
 - 8. Tensile Strength ASTM D412 Not less than 1,100 psi
 - 9. Hardness of mat when tested to ASTM-D2240: 90 (Shore A).
 - 10. Specific Gravity of mat when tested to ASTM-D792: 1.22
 - 11. Weight loss of mat when tested to ASTM- D1044 (Taber Abrasion H-22 Wheel, 1000gms/1000 cycles) 150 mgs.
 - 12. Proprietary sealant/adhesive shall be pre applied over entire back surface of each mat. Protective paper or plastic sheeting must cover entire sealant surface, Do not remove backing until all trimming and placement have been completed and the mats are ready for final installation.

1.06 DELIVERY, STORAGE AND HANDLING

- A. Mat and adhesive materials shall be packaged durable cartons to prevent damage in shipment or handling. Mats should remain in the factory cartons until reaching the job site and installation has begun. Mats shall be kept dry and away from sources of heat. Store at 80 degrees F or less. Store on flat level surface.
- B. Mats shall be delivered to location at building site for storage prior to installation.

1.07 SITE CONDITIONS

- A. Environmental Conditions and Protection: Maintain minimum air and surface temperature of 40 degrees F and rising in spaces to receive tactile tiles prior to installations, during installation, and for not less than 2 hours after installation.
- B. Provide barricades or screens to protect passengers or public.

1.08 EXTRA STOCK

- A. Deliver extra stock to the Owner. Furnish new materials from same manufactured lot as materials installed and enclose in protective packaging with appropriate identification. Furnish not less than two or (10)% of the supplied materials for each type, color and pattern installed.

1.09 Warranty

- A. Surface applied detectable warning mat shall be warranted in writing for a period of five years from date of final completion.

Part 2 PRODUCTS

2.01 MAT MANUFACTURER

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated in the Work include, but are not limited to, the following:
- B. The polyurethane detectable warning mat specified is based on the Detectable Warning Mat manufactured Detectable Warning Systems, Inc. (866-999-7452). Existing engineered ADA and California Title 24 field tested products in service for a minimum of 2 years which are subject to compliance with requirements, may be incorporated in the work and shall meet or exceed the specified test criteria and characteristics.
 - 1. Color: Yellow conforming to Federal Color No. 33538. Color shall be homogenous throughout the mat. Other colors that provide light-on-dark or dark-on-light may be used in some jurisdictions.

2.02 INSTALLATION MATERIALS

- A. Stainless steel concrete screws 3/16" x 1 1/4"
- B. Nylon finishing washers colored to match mat color.
- C. Screws to be positioned in the preformed holes at the rate of 6 anchors for each 2' x 4' mat and 8 anchors for each 3' x 4' mat and 4 anchors per 2x2 mat.

PART 3 EXECUTION

3.01 INSTALLATION

- A. During all surface preparation and mat installation procedures ensure adequate safety guidelines are in place and that they are in accordance with the applicable industry and government standards.

- B. Throughout the installation phases of surface preparation and mat setting, ensure that care is taken to prevent damage to any work.
- C. Immediately prior to installing the surface applied tactile tiles, all surfaces must be inspected to ensure that they are clean, dry, free of voids, curing compounds, projections, loose material, dust, oils, grease, sealers and determined to be structurally sound before the application warning mat. . All new substrate concrete paving must have been cured for at least 7 days prior. If present, all concrete curing compounds shall be removed with sandblasting and cracks or holes larger than 1/8" shall be patched. The proprietary sealant/adhesive requires that the substrate and the ambient temperature are 40 degree F minimum and rising, and completely dry with no precipitation during 24 hours prior to installation. Assure that sprinklers or other water sources will not be turned on during the installation and adhesive curing process.
- D. Cut and pre-position the mats as shown on the drawings. Inspect the mats and clean all dust and other contaminants from the surfaces to be adhered. Set the mats in place one at a time, true and square, following the manufacturers written instructions.
- E. Carefully remove the paper backing being. Use care to avoid peeling the sealant/adhesive from the mat. Place mats tight against each other in their pre-laid positions leaving a 1/16" gap. Press firmly from the center out to remove all trapped air. Using, hand, foot and/or roller apply pressure over the entire surface of the mat to insure complete contact with the concrete substrate.
- F. After the mats have been installed stainless steel concrete screws shall be installed. Drill holes true and straight to the depth required using the recommended bit with holes located by the preformed holes in the mats. Clean dust from the holes to provide clear passage for the anchor. Mechanically fasten tiles to the floor by had using Phillips screwdriver. Set screws to a depth that will allow the washer to turn. Ensure the fastener has been set to full depth, straight and true.
- G. After the mats have been fully installed, and sealer has cured, the surface shall be cleaned, following the recommended maintenance and cleaning procedures.

3.02 CLEANING AND PROTECTING

- A. Protect mats against damage during construction period to comply with manufacturer's specification.
- B. Protect mats against damage from rolling loads following installation by covering with plywood.
- C. Clean mats by method specified by the manufacturer.

-END OF SECTION-