

CASTinTACT® | Thin Set Specifications

PART 1 - GENERAL

1.1 Related Documents

Drawings and general sections for specifications and supplementary conditions.

1.2 Description of Work

The work shall consist of all labor, material, tools, equipment and services necessary to satisfactorily complete the installation of detectable/tactile warning surfaces in non-vehicular areas, at the bottom of curb ramps and other locations such as depressed corners, raised crosswalks, raised intersections, borders of medians and islands, the edge of transit platforms, and sidewalks where railroad tracks cross to warn pedestrians of an upcoming change from pedestrian to vehicular way (as required under Section 504 of the Rehabilitation Act of 1973 and the American with Disabilities Act – 28 CFR Part 35 Title II and 28 CFR 36 Title III).

1.3 Submittals

- A. Product Data: Manufacturer's data sheets on each product to be used, including:
 - i. Material Test reports from independent testing laboratory indicating that the material proposed for use meets the physical properties indicated herein.
 - ii. Preparation instructions and recommendations.
 - iii. Storage and handling requirements and recommendations.
 - iv. Installation methods.
 - v. Maintenance instructions for tactile warning panels as required.
- B. Shop Drawings: Provide fabrication details, tactile warning panel surface profile, and plans of placement including joints.
- C. Verification Samples: For each finish product specified, two samples, minimum size 4 inches square, representing actual product, color, and patterns.

1.4 Quality Assurance

- A. All CASTinTACT® Warning Panels are made to the highest compliance with the physical properties listed herein. Installation of CASTinTACT® Warning Panels shall only be done by a qualified contractor.
- B. Proven detectable tactile warning surfaces which comply with the Americans with Disabilities Act.
- C. Physical Properties of the CASTinTACT® Warning Panel Composite:
 - Compressive Strength (ASTM C140): 10,000 psi average.
 - Flexural Strength (ASTM C293): 1,100 psi average.
 - Water Absorption (ASTM C140): < 5% average.
 - Freeze Thaw Durability (ASTM C1262): (100 cycles), 3% NaCl, < 1%.
 - Freeze Thaw Durability (ASTM C1645): (25 cycles), 3% Saline Solution, Passed.
 - Scaling Resistance (ASTM C672): (50 cycles), 0 – 1.
 - Abrasion Resistance (ASTM C779): (1 hour), < .02".
 - Slip Resistance (ASTM C1028): Modified > .8 wet or dry.

1.5 Delivery / Storage and Handling

- A. CASTinTACT® Warning Panels shall be packaged or crated to prevent damage in shipment or handling.
- B. Store products under cover in manufacturer's unopened packaging until ready for installation.
- C. Store pallets on supported flat surface. DO NOT DOUBLE STACK PALLETS.

1.6 Project / Site Conditions

- A. Environmental Conditions and Protection: Temperature affects the setting time and rate of strength. Provide temperatures in warning panel areas during and after installation and completion as required by installation standards or manufacturer's instructions, but not less than 50° F. Consult with manufacturer for specific requirements.
- B. Do not install thin set or grout when inclement weather conditions are expected within 72 hours after work is completed unless properly protected.
- C. Protect adjacent work surfaces during panel installation.
- D. Safety: Observe the manufacturer's safety instructions including those pertaining to ventilation.

Part 2 – PRODUCTS

2.1 Manufacture

- A. Detectable Warning Tactile Panels manufactured by Masons Supply Company 2637 SE 12th Ave., Portland, Oregon 97202. Telephone (503) 234-4321.

2.2 Materials

- A. CASTinTACT® Warning Panels made with high strength concrete, enhanced with microsilica and reinforced with structural fibrillating monofilament fibers.

2.3 Accessories

- A. Grout Mix: CASTinTACT Wet Set Premix is a single component, bonding and void filling compound consisting of a premix blend of Portland cement and graded sand.
- B. Tool/Template: INSTALaTACT Tool recesses concrete for placement of panel level with concrete surface.
- C. Panel Carrier: CASTinTACT Panel Caddy is an innovative tool designed to assist the contractor with panel installation.

Part 3 – EXECUTION

Consult contract documents for details on areas to receive detectable warning panels. Place CASTinTACT® 3 panels at the bottom of curb ramps or blended transitions. Detectable warning panels must have visual contrast with adjacent walking surfaces. Install across the full width of ramp a minimum 24" in depth and set back 6"- 8" from curb line depending on drawings. Provide adequate drainage to prevent the accumulation of water and debris on or at the bottom of ramp.

3.1 Examination

- A. Examine surfaces, which are to receive detectable warning panels. Concrete substrate shall be recessed 1-3/8" below finish grade. Surfaces to receive warning panels shall have maximum variation of 1/4" in 10'.
- B. Do not proceed with work until defects or conditions which would adversely affect quality, execution and permanence of finish work are corrected. (ANSI A108.3)
- C. If substrate preparation is the responsibility of another installer, notify architect or engineer of unsatisfactory preparation before proceeding.
- D. All expansion joints and control joints must be based on TCA Specifications current issue of EJ-171. All joint materials used to follow manufacturer's directions and instructions.

3.2 Preparation

- A. Clean surfaces thoroughly prior to installation. Concrete substrate shall be structurally sound, clean and free of dust, oil, grease, curing and sealing compounds, laitance, or other surface contaminants.
- B. All concrete substrates shall be at least 28 days old, completely cured and free of hydrostatic conditions, and/or moisture problems.

- C. Concrete surface shall be mechanically abraded or rake finished to provide an acceptable surface profile.
- D. Fill cracks and voids with compound approved by the manufacturer.
- E. High spots on the substrate shall be removed by mechanical methods.
- F. Provide temperatures in warning panel areas during and after installation and completion as required by installation standards or manufacturer's instructions, but not less than 50° F. Consult with manufacturer for specific requirements. Saturate surface with clean water. Substrate should be saturated surface dry (SSD) with no standing water during application.

Excessively dry porous concrete substrate should be kept continuously moist for at least 24 hours before work begins. Remove all excess water or standing water allowing the surface to become saturated surface dry (SSD) before installing the medium-bed dry-set mortar.

3.3 Thin Set Installation

- A. Install Detectable Warning Panels in accordance with TCA Handbook for Tile Installation and ANSI A108.5 Specifications.
- B. All expansion and control joints must be carried through all layers of installation materials including warning panels, setting bed, mortar bed, concrete substrate and steel reinforcing. Joints should be spaced typically 8' to 12' in both directions. (Refer to TCA Handbook current issue of EJ-171 for details on placement, size and specifications of materials)
- C. Install Detectable Warning Panels with a polymer modified medium bed thin set material complying with ANSI A118.4 in accordance with manufacturer's installation instructions utilizing a ½"x½"x½" square notched trowel.
 - i. Using flat side of trowel, apply a skim coat of mortar. Apply additional mortar with notched side of trowel held at 45° angle to the surfaces, combing in one direction. Do not spread more thin set than can be set within working life. If material is past working life, remove and replace with fresh material.
 - ii. Pre-dampen back of tactile panels saturated surface dry (SSD) with clean water and parge back of panel with medium bed thin-set simultaneously while the mortar is being applied to the substrate. Adjust panels promptly and lightly tap panels to proper grade with rubber mallet to insure 100% surface contact with substrate. **Wedge or flared edge of panel facing the curb.**
 - iii. Base of truncated dome shall be flush with adjacent surfaces to permit proper drainage and eliminate tripping hazard between surfaces. Tolerances between tactile panels and surrounding surfaces is 1/16" maximum. Immediately after placement re-check slope and elevation for proper grade.
- D. Traffic should be kept off the detectable warning panels according to thin set manufacturer's recommendations.
- E. Provide joint widths indicated in drawings.
 - i. Panel Joints should be allowed to cure for minimum 24 hours before grouting or light traffic, depending upon temperature and humidity. Blow out all dust and debris in open panel joints.
 - ii. Before grouting mist all sides of panel joints with cool clean water. Keep panel joints in a saturated surface dry condition (SSD) before grouting. Remove ponding water from bottom of joint opening before grouting. Maximum surface temperature for open panel joints to be grouted is 90° F.
 - iii. Mix colored grout at a 1:2 ratio of gray or white portland cement (depending on panel color) and 30 mesh white sand with 1:1 ratio of acrylic admix and potable water; add integral color pigment to match CASTinTACT® panels.
 - iv. Apply colored grout into (SSD) panel joints, Forcing grout filling entire panel joint. (A mortar squeeze bag works well for dispensing the mortar and tuck pointing tool works well for compacting mortar in the joint opening.)
 - v. Immediately clean excess mortar smears off panels and adjacent surfaces with a damp sponge to ensure a clean appearance. Change rinse water often to keep surfaces clean. Usually 2 or more clean sponge rinses are required.

- vi. After initial set of colored grout, finish joints with brick jointer to produce a slightly concave polished joint, free from cracks.
 - vii. Proper curing of grout entails periodically misting the installation with clean, cool water for a period of 72 hours. Alternatively apply a cure coat to grout joints with a 1:1 ratio of acrylic admix mixed with potable water. Use a paint brush to apply a thin mil cure coat keeping off face of warning panels. Do not over apply cure coat, it will not dry clear.
- F. Expansion Joint sealing should be performed a minimum 7 days after grouting of panel joints. Compatible expansion joint sealant must conform to ASTM C920, color to match panels. Tool joints to produce a slightly concave polished joint. Follow sealant manufacturer's recommendation for joint preparation and installation procedures.

3.4 Cleaning

- A. Remove all unused material, tools, and equipment. Dispose of properly.
- B. Clean the panels in accordance with CASTinTACT® Cleaning and Maintenance Guide.

3.5 Protection

- A. Protect installed products until completion of project.
- B. Protect the CASTinTACT® Warning Panel surface from traffic until desired strength is achieved. If necessary, protect panels with plywood and an underlayment layer of non-staining, non-woven curing blanket until acceptance of work. Secure plywood if needed.
- C. Touch-up, repair or replace damaged products before substantial completion.

3.6 Warranty

Masons Supply Company warrants to the original purchaser for 5 years after the date of purchase that the CASTinTACT® panels purchased shall be free from defects in material and workmanship and shall not split or crack under normal use and conditions. Masons Supply's warranty does not cover defects, changes in color, or damages arising from: (a) failure of substrate; (b) improper or poor installation; (c) improper maintenance or neglect; (d) abnormal use or any condition resulting from other than ordinary wear and usage; (e) damage from use under vehicle, equipment, or other heavy loads; (f) natural disaster; and (g) poor design. Masons Supply reserves the right to determine cause of any problem by acceptable test methods. In the event of any breach of warranty, Masons Supply shall at its option repair or replace (but not install) the defective CASTinTACT® panels. The original purchaser must submit a written notice of warranty claim to Masons Supply not later than 90 days after original purchaser has reason to know that the CASTinTACT® panels have failed to comply with warranty. Written Notice of such warranty claim shall be sent to **Masons Supply Co. PO Box 42367, Portland, OR 97242**. Masons Supply Co. shall have 30 days after receipt of such notice to inspect the CASTinTACT® panels prior to any alterations, change, or repair by owner.

MASONS SUPPLY COMPANY EXPRESSLY DISCLAIMS ALL IMPLIED WARRANTIES, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. MASONS SUPPLY COMPANY SHALL NOT BE LIABLE FOR BREACH OF WARRANTY, IN TORT, FOR NEGLIGENCE, OR UNDER ANY OTHER THEORY OF RECOVERY FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES, AND SHALL NOT BE LIABLE IN ANY CIRCUMSTANCE FOR SPECIAL, INDIRECT, PUNITIVE, OR EXEMPLARY DAMAGES OR LOST PROFITS OF ANY KIND. ARBITRATION: ANY AND ALL CLAIMS ARISING UNDER THIS WARRANTY OR OTHERWISE OUT OF THE PURCHASE OR USE OF THE CASTINTACT® PANELS SHALL BE SUBJECT TO MANDATORY, BINDING ARBITRATION UNDER THE AUTHORITY OF THE AMERICAN ARBITRATION ASSOCIATION UNDER ITS COMMERCIAL ARBITRATION RULES BEFORE A PANEL OF THREE ARBITORS. THE LOCATION OF SUCH ARBITRATION SHALL BE PORTLAND, OR. THE SUBSTANTIVE LAWS OF THE STATE OF OREGON SHALL GOVERN IN ANY SUCH ARBITRATION.