

# CASTinTACT® | Full Depth Retrofit/Block Out Specs

## PART 1 - GENERAL

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### 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 of concrete, standard ACI procedures for storing, mixing, and placing concrete in hot or cold weather are recommended. See ACI 305 "Standards on Hot Weather Concreting," or ACI 306 "Standard on Cold Weather Concreting."
- B. Protect adjacent work surfaces during work.
- C. Safety: Observe the manufacturer's safety instructions including those pertaining to ventilation.

## Part 2 – PRODUCTS

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### 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

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*Consult contract documents for details on areas to receive detectable warning panels. Place CASTinTACT® panels at the bottom of curb ramps. 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 installation details. Lay out panels and determine measurements prior to cutting. Oversize area minimum 2" in each direction of warning panel layout. Provide adequate drainage to prevent the accumulation of water and debris on or at the bottom of ramp.*

*Note: For Blended transitions in excess of 10' in length CASTinTACT recommend thin setting panels. (Refer Thin Set Specifications) For installations using more than one panel in depth consult technical services.*

### 3.1 Examination

- A. Do not begin installation until substrates have been properly prepared.
- B. If substrate preparation is the responsibility of another installer, notify architect or engineer of unsatisfactory preparation before proceeding.
- C. Expansion joints and control joints shall be located in compliance with ACI recommendations. Joint materials shall follow manufacturer's directions and instructions.

### 3.2 Panel Location

- A. Consult contract documents for more information on locations to receive detectable warning panels.
  - i. Monolithic poured curb and sidewalk - place panels 6" to 8" from curb line.
  - ii. Existing curbs - place panels 8" from curb line to allow 2" of new concrete in front of panels.
  - iii. Install across the full width of ramp or blended transition a minimum 24" in depth.

### 3.3 Preparation

- A. Temperature affects the setting time and rate of strength of concrete, standard ACI procedures for storing, mixing, and placing concrete in hot or cold weather are recommended. See ACI 305 "Standards on Hot Weather Concreting," or ACI 306 "Standard on Cold Weather Concreting."
- B. Thickness of concrete under panels shall be increased 1" in depth. Prepare a well drained and properly compacted subgrade. Leave no puddles, standing water, ice, frost, or mud. Consult contract documents for information on subgrade and compaction details.

### 3.4 Cast in Place Installation

- A. Saw cut existing concrete full depth using a diamond blade. Oversize area a minimum 2" in each direction of warning panel layout. Contain slurry and dispose of properly. Partial depth and breakout will not be allowed. Do not chip the concrete on perimeter of cut out. The perimeter chips and over cuts must be filled and patched with a gray epoxy gel adhesive approve by manufacturer.
- B. Provide expansion and control joints indicated in drawings. All joint materials used follow manufacturer's directions and instructions.
  - i. Expansion joints must be carried through all layers of installation materials including warning panels, concrete substrate and steel reinforcing. Joints should be spaced typically 8' to 12' in both directions. All perimeter edges of ramps or blended transitions should have expansion joints. (Refer to ACI 360R guidelines for details on placement, size and specifications of material)
- C. Dowel into existing concrete as necessary.
- D. The concrete specified shall conform to contract documents with a maximum slump of 4". Concrete shall be poured and finished to the proper grade and slope prior to warning panel placement. Concrete thickness shall be increased 1" in depth beneath area receiving warning panels. Prepare a well drained and properly compacted subgrade. Leave no puddles, standing water, ice, frost or mud. Consult contract documents for information on subgrade and compaction details.
- E. Concrete shall be poured, floated and recessed 3/8" below finish grade to proper grade and slope.
- F. Concrete shall be finished with wood float to leave an open surface.
- G. Pre-dampen back of CASTinTACT® panels with potable water. Apply one of the following:
  - i. Apply 1/8" thickness of CASTinTACT® Wet Set PreMix (3:1 ratio of powder to potable water)
  - ii. Apply 1/8" thickness of (1:1:1/2 ratio of Portland cement, clean masons sand and potable water).
  - iii. Apply 1/8" thickness of fresh concrete removed from the INSTALaTACT® tool that can be used as a parge coat.
- H. Work into textured surface on back of panel with rubber float for 100% surface coverage.
- I. Install Tactile Panels immediately in fresh concrete and lightly tap panels to grade using a rubber mallet to insure bond and 100% surface contact. **Wedge or flared edge of panel facing the curb and square edges of panel joints butted together.** Base of truncated dome should be flush with adjacent surfaces to permit proper drainage and eliminate tripping hazard between surfaces. Tolerance between tactile panels and surrounding surfaces is 1/16" maximum. Immediately after placement re-check slope and elevation for proper grade. *ALTERNATE (FOR EXTREME CLIMATES) Leave a 3/16" gap between square cut panels joints and seal with a compatible elastomeric sealant conforming to ASTM C920. Follow sealant's manufacturer's recommendations for joint preparation and installation procedures. Protect from traffic until sealant cured.*
- J. Finish surrounding concrete flush with tactile panels. Edge around panels with 1/8" radius edger, install control joints and finish in accordance with project specifications.
- K. Finish joints per specifications. Follow all manufacturer's recommendations for joint preparation and installation procedures.

- L. Clean fresh concrete residue off panels with a stainless steel wire brush and rinse with clean water and hydra sponge to ensure a clean appearance.
- M. Fresh concrete surrounding tactile panels should be cured in accordance with ACI 308. Use a curing compound meeting ASTM C 309. PROTECT PANELS WITH PROTECTaTACT OR SIMILAR WHILE SPRAYING CURING COMPOUND.

### 3.5 Cleaning

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

### 3.6 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.

### 3.7 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.