



SECTION 07 16 13
Arisfor ToughDeck®

1.1 GENERAL

- A. Arisfor ToughDeck® is a three component polymerized cementitious protective coating that can be applied to a variety of horizontal interior and exterior substrates including: concrete, metal, pool decks and tile. Arisfor ToughDeck® has superior adhesive properties and is extremely durable. This unique coating is abrasion resistant, impact resistant and water resistant while also allowing for transmission of moisture vapor from within the substrate.
- B. It is the responsibility of both the specifiers and the purchaser to determine if a product is suitable for its intended use. The designer selected by the purchaser shall be responsible for all decisions pertaining to design, details structural integrity, attachment details, shop drawings and etc.
- C. Furnishing and installing metal flashings, drains, vents, ducts, curbs, expansion joints or any
 - Section 03 30 00 - Cast-in-Place Concrete
 - 1. Section 03 41 16 - Precast Concrete Slabs
 - 2. Section 04 20 00 - Unit Masonry
 - 3. Section 05 40 00 – Cold Form Metal Framing
 - 4. Section 06 11 16 - Mechanically Graded Lumber
 - 5. Section 07 62 00 – Sheet Metal Flashing and Trim
 - 6. Section 07 90 00 – Joint Protection
 - 7. Section 07 91 26 - Joint Fillers
 - 8. Section 09 90 00 - Painting and Coating

1.2 REFERENCES

- A. ACI (American Concrete Institute).
- B. ASTM International (ASTM):
 - 1. ASTM C 150 - Standard Specification for Portland Cement
 - 2. ASTM C 920 - Standard Specification for Elastomeric Joint Sealants
 - 3. ASTM C 926 - Standard Specification for Application of Portland Cement Based Plaster
 - 4. ASTM C 979 - Standard Specification for Pigments for Integrally Colored Concrete
 - 5. ASTM C 1059 - ASTM C1059/C1059M-13 Standard Specification for Latex Agents for Bonding Fresh To Hardened Concrete
 - 6. ASTM C 1063 - Standard Specification for Installation of Lathing and Furring for Portland Cement Plaster
 - 7. ASTM E 1042 - 02 Standard Classification for Acoustically Absorptive Materials Applied by Trowel or Spray
 - 8. ICC (International Code Council)
- C. NWCBC (NW Wall & Ceiling Bureau) - Stucco Resource Guide
- D. PCA (Portland Cement Association)
- E. NCMA TR-88 - Hot & Cold Weather Masonry Construction Manual
- F. MPI (Master Painters Institute)

1.3 SUBMITTALS

- A. Submit under provisions of Section 01 30 00 - Administrative Requirements



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- B. Product Data: Manufacturer's data sheets on each product to be used, including:
 1. Mixing and preparation instructions and recommendations
 2. Storage and handling requirements and recommendations
 3. Installation methods
 4. Material Safety Data Sheet
 5. Certificate of Completion – Arisfor® Training

- C. LEED Submittals:
Product Certificates for Credit MR 5: For products and materials required to comply with requirements for regional materials, certificates indicating location of material manufacturer and point of extraction, harvest, or recovery for each raw material. Include statement indicating distance to Project, cost for each regional material, and fraction by weight that is considered regional.

- D. Selection Samples: For each finish product specified, two complete sets of color chips representing manufacturer's full range of available colors.

- E. Verification Samples: For each finish product specified, two samples, minimum size 6 inches (150 mm) long representing actual product, in color selected.

1.4 PERFORMANCE REQUIREMENTS

A. Testing Results

Test	Method	Results
Chemical Resistance	ASTM D 1308	No Surface Deterioration
Scrub Resistance	ASTM D 2486	At 10,000 scrub cycles: no signs of deterioration or wear
Resistance of Organic Coating to the Effect of Rapid Deformation (Impact)	ASTM D 2794	No cracking an 270 inch-pounds
Test	Method	Results
Adhesive/Cohesive Strength	ASTM D 4541	406 psi
Wind-Driven Rain for Exterior Coatings Applied on Masonry	ASTM D 6904	0.11 lbs
Pull-off Adhesion Strength of Coatings on Concrete	ASTM D 7234	222 psi
Fire Test	ASTM E 84	Flame Spread Index 5 Smoke Developed Value 10
Water Vapor Transmission of Material	ASTM E 96	11.99 grains/h-ft ² Hg
Accelerated Weathering	ASTM G 26	No blistering, cracking, checking, adhesion loss or degradation.



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1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Firm specializing in manufacture of masonry materials with minimum 10 years' experience.
- B. Installer Qualifications: Minimum 5 year experience installing similar products.
- C. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
 - 1. Finish areas designated by Architect.
 - 2. Do not proceed with remaining work until Architect approves workmanship.
 - 3. Refinish mock-up area as required to produce acceptable work.

1.6 PRE-INSTALLATION MEETINGS

- A. Pre-Installation Meeting: At least three weeks prior to commencing work conduct a meeting at the project site to discuss contract requirements and job conditions
- B. Require the attendance of plastering contractor and installers of related materials.
- C. Notify Architect in advance of meeting.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Deliver stucco mix to site in manufacturer's original unopened sealed bags with labels clearly indicating manufacturer and material.
- B. Store materials indoors in an area protected from freezing, excessive heat and damage. Refer to "Store Materials" ASTM C 926.
- C. Any damaged materials must be replaced.

1.8 PROJECT CONDITIONS

- A. Do not apply when air or substrate temperature is below 40 degrees F (4 degrees C) .
- B. Do not apply to frozen substrate or to a substrate containing frost.
- C. Application must comply with referenced standards and manufacturer's published recommendations.
- D. Do not store or apply materials when temperatures are below 40 degrees F (4 degrees C) or above 90 degrees F (32 degrees C).
- E. Protect from uneven and excessive evaporation during dry weather and from strong blasts of dry air.

1.9 SEQUENCING

- A. Ensure that products of this section are supplied to affected trades in time to prevent interruption of construction progress.



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PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Arisfor, LLC, which is located at: 100 Forta Drive; Grove City, PA 16127-6399; Toll Free Tel: 800-245-0306; Tel: 724-264-1050; Fax: 724-458-8331; Web: www.Arisfor.com

Representative: Jarrod Russell – Technical Sales Representative
100 Forta Dive, Grove City PA 16127-6399
Tel: 724-264-1050
jarrodrussell@arisfor.com

- B. Substitutions: Not permitted.

2.2 MATERIALS

- A. Arisfor ToughDeck®: Portland cement stucco by Arisfor® comprised of the following base finish materials:
1. Arisfor® Bond (liquid component) Six (6) gallon pail
 2. Arisfor ToughDeck® (cement based component) 50-lb bags
 3. Arisfor® Mesh (fiberglass mesh component) 475 sq. ft. roll (38 inches x 150 feet)

2.3 MIXING

- A. Mixing Procedure: Follow product mixing instructions from technical data sheets
- B. Re-tempering: Use Arisfor ToughDeck® within 1 hour of initial mixing.
- C. Hot Weather: Follow National Concrete Masonry Association recommendations for hot weather construction.
- D. Cold Weather: Follow National Concrete Masonry Association recommendations for cold weather construction.

PART 3 EXECUTION

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 of unsatisfactory preparation. Corrections of the substrate must be made before proceeding.

3.2 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces in accordance with ASTM C 926 and products published information in the technical data sheet.
- C. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.



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3.3 INSTALLATION

- A. Install in accordance with manufacturer's instructions per the Arisfor® Fact Data Sheet and in accordance applicable IBC, IRC, ASTM, ICC, and local requirements.
- B. Arisfor ToughDeck® may be applied by roller, trowel, or spray.
- C. The base material should be approximately 3/16" to 1/8" thick. Additional layers may be applied to ensure mesh is uniformly covered and the desired finish is achieved.
- D. Apply one layer of Arisfor ToughDeck® to substrate and then embed the mesh, working from the center to the edges, while mixture is still wet. Lightly use trowel to fully encapsulate mesh.
- E. Expansion joints are required where there are existing expansion joints in the substrate.

3.4 DRYING / CURING

- A. Dries to the touch in 4-8 hours.
- B. Cure and provide time between coats in accordance with ASTM C 926 and manufacturer's instructions.
- C. Provide sufficient moisture in the plaster mix by curing to permit continuous hydration of the cementitious materials.
- D. Allow sufficient time between coats to permit each coat to cure and develop sufficient strength to resist cracking or other physical damage before the next coat is applied.
- E. Where allowed by local jurisdictions, the IBC 'Alternative Method' may be used as the standard for time between coats and curing.

3.5 FIELD QUALITY CONTROL

- A. Architect or qualified third party will inspect the application at the following stages to confirm the Arisfor ToughDeck® is being applied and cured as specified - and as indicated on the drawings.
 - 1. Completion of substrate installation, preparation, flashing and lathing.
 - 2. Completion of base/finish coat application.

3.6 CLEANING

- A. Remove and dispose of all temporary materials used to protect adjacent work and surrounding areas.
- B. Clean tools with water before product permanently adheres.
- C. Remove and clean from surfaces not intended to receive the Arisfor ToughDeck®. Floors, windows, metal door frames or any surface not intended to be coated, should be wiped clean using a wet cloth within minutes of application to avoid permanent adhesion.

3.7 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.



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3.8 LIMITATION

- A. Do not apply over expansion joints. Moving cracks/joints may reflect through finished product.

3.9 WARRANTY

- A. Warranty: Upon request, at completion of installation, provide manufacturer's Limited Warranty.

END OF SECTION

(Rev. July 2018)