

# SUGGESTED MASTER SPECIFICATION

## HydraCure™ Wet Curing Covers



### PART 1 - GENERAL

#### 1. SUMMARY

- A. Products supplied under this section: wet curing covers.
- B. Related sections:
  - 1) Section 03100 - Concrete forms and accessories.
  - 2) Section 03200 - Concrete reinforcement.
  - 3) Section 03300 - Cast-in-place concrete.
  - 4) Section 03390 - Concrete curing.

#### 2. REFERENCES

- A. American Concrete Institute (ACI):
  - 1) ACI Detailing Manual SP-66.
  - 2) ACI 302.1R-04 Guide for Concrete Floor and Slab Construction
  - 3) ACI 360R-06 Guide for Design of Slabs-on-Ground.
  - 4) ACI 308R-01 Guide to Curing Concrete
- B. American Society for Testing and Materials International (ASTM):
  - 1) C 171 Specification for Sheet Materials for Curing Concrete.
  - 2) D 751 Test Method for Coated Fabrics.
  - 3) D 2103 Specification for Polyethylene Film and sheeting.
  - 4) D 1682 Test Methods for Breaking Load and Elongation of Textile Fabric.
  - 5) D 1777 Standard Test Method for Thickness of Textile Materials.
  - 6) D 3776 Standard Test Method for Mass Per Unit Area (weight) of Fabric.
  - 7) D 3786 Test Method for Hydraulic Bursting Strength of Textile Fabrics-Diaphragm bursting Strength Tester Method.
  - 8) D 4533 Test Method for Trapezoid Tearing Strength of Geotextiles.
  - 9) D 5034 Test Method for Breaking Strength and Elongation of Textile Fabrics (Grab Test).
  - 10) D 5199 Test Method for Measuring Nominal Thickness of Geotextiles and Geomembranes.
  - 11) D 5733 Test Method for Tearing Strength of Non-Woven Fabrics by the Trapezoidal Procedure.
  - 12) D 6701 Test Method for Determinating Water Vapor Transmission Rates Through Nonwoven and Plastic Barriers.
  - 13) E 313 Practice for Calculating Yellowness and Whiteness Indices from Instrumentally Measured Color Coordination.
  - 14) E 1347 Test Method for Color and Color-Difference Measurement by Tristimulus (Filter) Colorimetry.
- C. Worldwide (Nonwoven Manufacturers) Standards Partnership (WSP).
  - 1) 10.1

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### 3. SUBMITTALS

- A. Product data: Manufacturer's product data with application and installation instructions for proprietary materials and items, including but not limited to wet curing covers.
- B. Shop drawings: Indicate placement of concrete wet curing covers.
  - 1) Comply with ACI 320.1R-04, ACI 308 R-01, ACI Detailing Manual (SP-66) and PNA installation guides indicating arrangement of covers.

### 4. QUALITY ASSURANCE

- A. Pre-installation meeting:
  - 1) Convene a pre-installation meeting \*\* two (2) \*\* \_\_\_\_ \*\* weeks before installation of PNA products. Require attendance of parties affecting the work of this section, including Contractor, Engineer, and installers.
  - 2) Review installation procedures and coordinate with other work.

### 5. DELIVERY, STORAGE AND HANDLING

- A. Deliver concrete wet curing covers in manufacturer's packaging.
- B. Deliver and handle materials to prevent damage to covers.
- C. Keep dry and prevent accumulation of debris or deleterious materials on covers during storing. Store off ground and under cover.

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### PART 2 – PRODUCTS

#### 1. MANUFACTURER

- A. Acceptable manufacturer: PNA Construction Technologies, [www.pna-inc.com](http://www.pna-inc.com);  
800-542-0214.

#### 2. WET CURING COVERS

- A. Single-use wet curing cover:

- 1) Acceptable product: PNA Hydracure™ S16 Single-Use Wet Curing Cover.
- 2) Material: Inorganic rayon and polyester blended fabric with a polyethylene coating. Fabric backing shall trap and retain water to provide high humidity condition below cover.
- 3) Physical properties:
  - i. Functional:
    - a. Absorbency: 400% in accord with NWSP 10.1.
    - b. Wicking:
      - i. MD: 6.7" in accord with NWSP 10.1.
      - ii. XD: 4" in accord with NWSP 10.1.
    - c. Vapor Permeation: max. 10 g/m<sup>2</sup>/24 hrs in accord with ASTM E96
    - d. Reflectance (whiteness index): >80% in accord with ASTM E1164.
  - ii. Durability:
    - a. Basis weight: 2.11-2.44 oz/yd<sup>2</sup> in accord with ASTM D3776.
    - b. Tensile grab strength:
      - i. MD: 18 lb in accord with ASTM D5034.
      - ii. XD: 10 lb in accord with ASTM D5034.
    - c. Grab elongation:
      - i. MD: 25-40% in accord with ASTM D5034.
      - ii. XD: 107-185% in accord with ASTM D5034.
  - iii. Descriptive:
    - a. Thickness: 0.012-0.023" in accord with ASTM D1777.
  - iv. Handling:
    - a. Width: 126 +/- 0.5".
    - b. Standard weight: 60 lbs/roll.
- 4) Fabrication: Fabricate fabric backing to trap and retain water within mass of entangled fibers thus providing 100% humidity condition below cover.
- 5) Cover shall comply with requirements of C171.

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### PART 3 - EXECUTION

#### 1. EXAMINATION

- A. Notify Engineer at least 72 hours prior to placing concrete wet curing covers to allow time for examination of covers. Place no concrete in forms without Engineer's acceptance of covers.

#### 2. INSTALLATION

- A. Install concrete wet curing covers in accordance with manufacturer's product data and in accordance with shop drawings.
- B. Single use wet curing cover installation:
  - 1) Remove roll from shipping pallet and bag.
  - 2) Thoroughly wet slab surface to provide a complete and continuous cover of water in accordance with ACI guidelines. Water temperature shall be within 20 degrees F of temperature of the concrete and free of aggressive impurities.
  - 3) Unroll curing cover right onto slab. The non-woven material side (fuzzy side) shall be in contact with slab surface. The coated side shall be face up. Edges of cover at construction joints shall extend 2 times the slab depth. For example, on a 6" slab curing cover shall extend 6" out from base of slab.
  - 4) Each roll shall overlap adjacent rolls by 3" to 4" on each side. If windy the curing covers should be weighted down to prevent shifting.
  - 5) Use a non-absorbent roller squeegee, soft/fine bristled push broom, or similar to remove air bubbles. Take care not to tear or puncture the top layer of the HydraCure™
  - 6) When curing is complete (after 7 days), remove curing cover from slab. Discard cover upon removal from slab.