SUGGESTED MASTER SPECIFICATION

HydraCure™ S16 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 315R-18 Detailing Manual (SP-66)
2) ACI 302.1R-15 Guide for Concrete Floor and Slab Construction
3) ACI 360R-10 Guide for Design of Slabs-on-Ground
4) ACI 308R-16 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 302.1R-15, ACI 360R-10, ACI 308R-16, ACI 315R-18 (SP-66), and PNA installation guides indicating arrangement of covers.

4. QUALITY ASSURANCE

A. Pre-construction meeting:

1) Convene a pre-construction meeting 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; 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/m²/24 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/yd² 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 ASTM C171.

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" down at the edge of the slab and another 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.

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