



Republic of the Philippines
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
CENTRAL OFFICE
Manila



January 3, 2025

Engr. REIS ESTROCIO

Technical Research Manager
Cyanclay Incorporated
909 Highstreet South Corporate Plaza 1
26th Street corner 9th Avenue, BGC, Taguig City
<reis.estrocio@cyanclay.com>

Dear Engr. Estrocio:

This has reference to your letter (with attached documents) dated December 17, 2024, requesting for the evaluation of your product, **CCI Concrete Curing Agent**, which is a liquid film-forming curing compound that enhances the durability and performance of concrete, for possible use in DPWH infrastructure projects.

Be informed that upon review/evaluation of the submitted documents/product information, it was found out that the said product no longer needs to undergo our Product Accreditation Scheme (PAS) inasmuch as it is already covered by existing specifications. However, like any other construction materials, the said product must pass the specification requirements of **Curing Materials (Liquid Membrane Forming Compounds) under Subsection 311.2.9 of Item 311 – Portland Cement Concrete Pavement** of the DPWH Standard Specifications for Highways, Bridges and Airports, Volume II, 2012 Edition, copy hereto attached, prior to incorporation into the works.

Furthermore, you may register at the Philippines Government Electronic Procurement System (PhilGEPS) as one of the prospective bidders/suppliers in case the need of said products arises in the future.

Very truly yours,

JULIANA D. VERGARA

Director IV
Bureau of Research and Standards

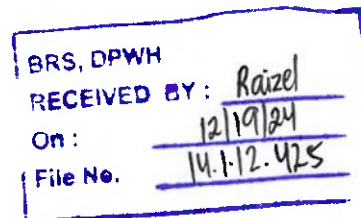
14.1.1 MJAP/TDVj/GAM



909 Highstreet South Corporate Plaza 1
26th St corner 9th Ave. BCG,
Taguig City, Philippines 1634

Dec 17, 2024

Juliana D. Vergara,
Director
Bureau of Research and Standard
Department of Public Works and Highways
Quezon City, Metro Manila



SUBJECT: Request for Evaluation and Approval of Curing Compound for Concrete

Respected Director,

Greetings! We are writing to formally request your evaluation of our curing compound to determine if it meets the necessary requirements for concrete applications as specified under Philippine construction standards. Our product has been developed to enhance the durability and performance of concrete, and we are keen to ensure its compliance with all regulatory and technical standards set by your esteemed organization.

To facilitate your review, we have enclosed:

1. A detailed product technical data sheet (TDS)
2. Laboratory test results and certificates demonstrating the product's performance.

Additionally, we kindly request guidance on the procedures and any additional testing required to assess the product's compliance. Should our curing compound meet the necessary requirements, we would also like to seek permission to market and distribute the product within the Philippines. We are committed to providing any further documentation or samples required for your review. Please let us know a convenient time to discuss this further or if a meeting is necessary.

Thank you for your time and attention to this matter. We greatly value your expertise and assistance in ensuring our product adheres to the highest standards.

We look forward to your favorable response.

Sincerely,

A handwritten signature in black ink, appearing to read 'Reis Estrocio'.

Engr. Reis Estrocio
Technical Research Manager
Cyanclay Incorporated.
reis.estrocio@cyanclay.com
09455284283

CCI Concrete Curing Agent

1. Product Description

The concrete curing agent, also known as a concrete protective agent or concrete curing liquid, is a new type of polymer preparation developed using modern high technology. It is a highly adaptable liquid film-forming compound. The product is water-based, non-toxic, non-flammable, and easy to use. When sprayed on the surface of concrete or mortar, it quickly forms a colorless, waterproof film after a certain amount of water has evaporated. This film prevents the evaporation of water from the concrete or mortar, reducing concrete shrinkage and cracking. One ton of the curing agent can save 2,000 tons of water.

2. Curing Effect

Concrete treated with this curing liquid has excellent water retention. When applied in conditions ranging from 5°C to 40°C, the concrete strength surpasses that of concrete cured with wet burlap covering, with shrinkage reduced by about 45% and noticeable improvement in flexural strength. The surface wear resistance of concrete cured with this agent improves by approximately 30-40%. The product does not affect the finishing work of the concrete surface. It is non-toxic, non-flammable, non-corrosive, easy to apply, and keeps the worksite clean.

3. Application Range

- Suitable for curing concrete in dry, waterless, hot, and windy climate conditions.
- In summer, the film turns nearly white after forming, reflecting sunlight and effectively reducing the surface temperature of the concrete, thereby minimizing temperature-induced shrinkage and reducing surface cracks.
- Applicable for large exposed concrete surfaces such as road pavements, airport runways, slabs, dams, canal linings, pipes, chimneys, and cooling towers.
- Suitable for concrete surfaces that are difficult to cure by water spraying, such as various concrete panels and indoor concrete floors.
- Also used for the surface curing of various mortars.



MEGATESTING CENTER INC.

CIVIL ENGINEERING LABORATORY
No. 26 Congressional Ave., Brgy. Bahay Toro, Quezon City
DPWH-BRS Accredited Laboratory
Tel. No.: (02) 8289 - 8305



Valid Until: 2025-10-11

Date: November 15, 2024

Lab. Report No. : MNL-2401031-0005

TEST REPORT ON CURING COMPOUND

Project : DATEM PRECAST SLAB

Location : Cavite

Contractor : DATEM INCORPORATED

Kind of Material : Curing Compound Liquid

Sample identification : Curing Compound Liquid

Quantity represented : not stated

Sampled at : -

Original source : Cyanclay Inc.

Supplied by : Cyanclay Inc.

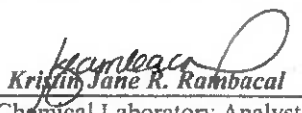
Proposed use : For Prevention of hydration loss & Better appearance of precast

Spec's Item No. : AASHTO M 148

Sampled by : Engr. Reis Estrocio (Name & Designation) Cyanclay Inc. (Office) - (Date Sampled)

Submitted by : Engr. Reis Estrocio (Name & Designation) Cyanclay Inc. (Office) 10/31/2024 (Date Received)

Tested by : K. J. Rambacal (Name & Designation) MTCI-Main (Office) 11/11/2024 (Date Tested)

TESTS	SPECIFICATION	RESULTS
Appearance on Concrete Surface	Clear / Translucent	Clear / Translucent
Character of the film Wet Dry	Readily distinguishable Inconspicuous	Readily distinguishable Inconspicuous
Drying Time, hours	4 Maximum	3.24
Water retention test: Moisture loss, kg/m ²	0.55 Maximum	0.47
REMARKS: 1. The above results were obtained at the time of testing and refer only to the sample tested. 2. The report shall not be reproduced except in full, without the approval of the laboratory. 3. This Laboratory is Responsible for test only.		
Prepared by:  Kristin Jane R. Rambacal Chemical Laboratory Analyst	Certified by:  ENGR. CHRISTOPHER V. CASINILLO MATERIALS ENGINEER I PRC LICENSE # 0132560 DPWH-BRS ACCREDITATION # 0775	
Witnessed by:	Checked By:  Reniel B. Delaño Laboratory Manager	

shall be fabricated by welding or binding at each crossing point and shall meet the requirements of ASTM A 185.

311.2.6.2 Installation of Wire Mesh

After placement of slip bar placed at every 9.0 m maximum interval for weakened plane joint, wire mesh shall be placed at a depth of 5.0 cm to 7.5 cm below the surface of the slab or at 2/3 of thickness from the bottom of the pavement. It shall be supported by any approved support assemblies or spacers against displacement and shall be tied to it using tie wires. The sheets of the welded wire mesh shall be flat, and proper care shall be observed in handling and placing it to ensure its installation in the proper position.

Welded wire mesh that have become bent or kinked shall be rejected.

311.2.7 Joint Fillers

Poured joint fillers shall be mixed asphalt and mineral or rubber filler conforming to the applicable requirements of Item 705, Joint Materials.

Preformed joint filler shall conform to the applicable requirements of Item 705. It shall be punched to admit the dowels where called for in the Plans. The filler for each joint shall be furnished in a single piece for the full depth and width required for the joint.

311.2.8 Admixtures

Air-entraining admixture shall conform to the requirements of AASHTO M 154.

Chemical admixtures, if specified or permitted, shall conform to the requirements of AASHTO M 194.

Fly Ash, if specified or permitted as a mineral admixture and not exceeding 20% partial replacement of Portland Cement in concrete mix shall conform to the requirements of ASTM C 618.

Admixture/s maybe added to the concrete mix to produce some desired modifications to the properties of concrete if necessary, but not as partial replacement of cement. If specified, monofilament polypropylene synthetic fibrin fibers, which are used as admixture to prevent the formation of temperature/shrinkage cracks and increase impact resistance of concrete slabs shall be applied in the dosage rate recommended by its manufacturer.

311.2.9 Curing Materials

Curing materials shall conform to the following requirements as specified;

- | | |
|--------------------------------------|----------------|
| a) Burlap cloth | - AASHTO M 182 |
| b) Liquid membrane forming compounds | - AASHTO M 148 |
| c) Sheeting (film) materials | - AASHTO M 171 |

Cotton mats and water-proof paper can be used.

311.2.10 Calcium Chloride/Calcium Nitrate

It shall conform to AASHTO M 144, if specified or permitted by the Engineer, as accelerator.

311.2.11 Storage of Cement and Aggregate

All cement shall be stored, immediately upon delivery at the Site, in weatherproof building which will protect the cement from dampness. The floor shall be raised from the ground. The buildings shall be placed in locations approved by the Engineer. Provisions for storage shall be ample, and the shipments of cement as received shall be separately stored in such a manner as to allow the earliest deliveries to be used first and to provide easy access for identification and inspection of each shipment. Storage buildings shall have capacity for storage of a sufficient quantity of cement to allow sampling at least twelve (12) days before the cement is to be used. Bulk cement, if used, shall be transferred to elevated air tight and weatherproof bins. Stored cement shall meet the test requirements at any time after storage when retest is ordered by the Engineer. At the time of use, all cement shall be free-flowing and free of lumps.

The handling and storing of concrete aggregates shall be such as to prevent segregation or the inclusion of foreign materials. The Engineer may require that aggregates be stored on separate platforms at satisfactory locations.

In order to secure greater uniformity of concrete mix, the Engineer may require that the coarse aggregate be separated into two or more sizes. Different sizes of aggregate shall be stored in separate bins or in separate stockpiles sufficiently removed from each other to prevent the material at the edges of the piles from becoming intermixed.

311.2.12 Proportioning, Consistency and Strength of Concrete

The Contractor shall prepare the design mix based on the absolute volume method as outlined in the American Concrete Institute (ACI) Standard 211.1, "Recommended Practice for Selecting Proportions for Normal and Heavyweight Concrete".

It is the intent of this Specification to require at least 364 kg of cement per cubic meter of concrete to meet the minimum strength requirements. The Engineer shall determine from laboratory tests of the materials to be used, the cement content and the proportions of aggregate and water that will produce workable concrete having a slump of between 40 and 75 mm if not vibrated or between 10 and 40 mm if vibrated, and a flexural strength of not less than 3.8 MPa when tested by the third-point method or 4.5 MPa when tested by the mid-point method at fourteen (14) days in accordance with AASHTO T 97 and T 177, respectively; or a compressive strength of 24.1 MPa for cores taken at fourteen (14) days and tested in accordance with AASHTO T 24.