

State of Louisiana
Department of Transportation and Development (DOTD)
Materials and Testing Section Approved Materials Procedure
for

**FORM RELEASE AGENTS
FOR PORTLAND CEMENT CONCRETE MATERIALS**

MATERIAL SPECIFICATION REFERENCE:

DOTD Standard Specifications, Subsection 707.04, 805.03.2, 805.09.2, 1018.06, Supplemental Specifications and Special Provisions.

APPROVED MATERIAL EVALUATION SUBMITTAL:

The manufacturer shall submit a completed Approved Materials Evaluation Submittal to the DOTD Materials and Testing Section Coordinator listed below.

PRELIMINARY REQUIREMENTS:

The complete submittal must include:

- Complete Approved Materials Evaluation Form
- Letter requesting evaluation of the material
- Product Data Sheets
- Safety Data Sheet (SDS)
- Independent Laboratory Test Results (FTIR Curve)
- Sample

NOTE: Evaluation will not begin until all required items listed above are received by the Materials Laboratory.

Certifications and/or Test Reports

The manufacturer shall provide a Certificate of Analysis (CA) by an independent laboratory showing the required physical and chemical properties for all form release agents in accordance with DOTD Standard Specifications.

Product Data Sheets shall provide all pertinent information relative to the material to be evaluated, including but not limited to:

- Manufacturer's specifications
- Shelf life
- Agitation requirements (if required)
- Recommended application procedure
- Application rate

PRELIMINARY REQUIREMENTS CONTINUED:

Sample (to be furnished at no cost to the Department)

Submit one (1) quart sample minimum of the material for evaluation to the Materials and Testing Section.

TEST REQUIREMENTS:

Laboratory Testing

The sample shall undergo an Infrared Spectrophotometric Analysis for comparison and verification purposes.

Field Testing and Evaluation

Upon completion of all the above preliminary requirements, a field evaluation will be required. Contact the DOTD Construction Structural Fabrication Section listed below and they will provide the contact information for prestress concrete facilities currently making products for state projects. The manufacturer shall make arrangements with one of these designated prestress plants and arrange the field test. It is the manufacturer's responsibility to furnish or provide for all necessary materials (minimum of five (5) gallons of form release agent and one (1) gallon of Class 3 Special Surface Finish from the Approved Materials List (AML)), equipment (new sprayer), and labor required for the field evaluation. A manufacturer's representative may be required during the field test. The form release manufacturer will be responsible for costs of all testing, equipment and labor incurred at the facilities' discretion.

The field test will require one set of steel side forms in a girder or pile pour (that will be steam cured) be cleaned to bare metal before receiving an application of the proposed material.

When pouring the girder, three concrete test cylinders will be made in molds treated with an application of the proposed material. The girder and cylinders will be cured according to DOTD practice. After curing, de-tensioning, and girder removal from the bed, the steel forms that received the proposed form release agent will be examined for build-up. If there is minimal build-up, the same steel forms are not cleaned, and the proposed form release agent will be re-applied and used again to form a second girder. If there is more than minimal build-up after the first pour, the proposed material fails. If there is excessive build-up after the first or second pour, the proposed material fails.

After the concrete cylinders have been cured in the same manner as the girders, they will be removed from the molds. At that time, a DOTD inspector will apply to one cylinder an application of Special Surface Finish material conforming to the requirements of Sections 805.08.3 and 1011.03 of the Standard Specifications. A second cylinder will receive an application of the Special Surface Finish at seven days. The third cylinder will receive an application of the Special Surface Finish at twenty-eight days. After the Special Surface Finish has been allowed to cure, the surface will be rubbed and an examination of the cylinders will be made to determine if the Special Surface Finish satisfactorily adheres to the concrete.

All costs and liability for the application and evaluation will be borne by the manufacturer.

Evaluation Time (4 Months)

GENERAL:

Upon completion of the evaluation, the submitter will be notified in writing concerning the results of the evaluation and whether the material will or will not be added to the Approved Materials List (AML). The DOTD Materials and Testing Section Coordinator shall be notified in writing of any change from the original material submittal. The Department reserves the right to re-evaluate any material at any time. A Certificate of Analysis (CA) of the material shall be submitted every two (2) years to the DOTD Materials and Testing Section Coordinator to remain on the AML.

It is also the manufacturer's responsibility to supply the contact information of the representative responsible for the material to the Materials Section Coordinator to remain on the AML. This is done by completing the Approved Materials Evaluation Form every two (2) years or when there is a change in the manufacturing representative responsible for the material.

PROJECT ACCEPTANCE REQUIREMENTS:

The inclusion of any material on the AML is not blanket approval for its use. All materials, regardless of prior approval, shall be sampled in accordance to the Materials Sampling Manual.

DISQUALIFICATION AND REMOVAL:

Any material may be removed from the AML at any time. Causes for removal from the AML may include, but are not limited to the following:

- Non-conformance with specifications
- Performance requirements
- Failure to notify the Department of any change in material formulation
- Failure of the supplier to provide proper certifications as required by this procedure
- Failing test results obtained by the Materials Section of project verification samples
- Failure to supply current contact information for the material representative in accordance with this procedure

REQUALIFICATION:

Any material which has been disqualified and/or removed from the AML will be considered for re-evaluation only after submission of a formal request along with acceptable evidence that the problems causing the disqualification and/or removal have been resolved.

**DOTD CONSTRUCTION FABRICATION
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Approved 04/04/2022



4/4/2022

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DOTD MATERIALS ENGINEER ADMINISTRATOR