Recommend Approval: Assistant Division Chief 6/28/11 Date Division Chief 7/6/11 Date Approved: Director 08/08/11 Date	Maryland Department of Transportation State Highway Administration Office of Materials Technology MARYLAND STANDARD METHOD OF TESTS	
	RELEASING PROPERTIES OF FORM RELEASE COMPOUNDS	**MSMT 503**

This procedure is used to test form release compounds on standard laboratory metal molds and/or new plywood forms to determine if the compound has any adverse effect on the quality of the concrete. Form release compounds are used for the purpose of aiding the release of forms from the hardened concrete. In addition, an Infrared Spectrogram is performed on qualified samples and compared to acceptance samples.

EFFECT OF FORM RELEASE COMPOUNDS

MATERIALS AND EQUIPMENT:

1. Metal cylinder molds or beam molds.
2. New plywood single-use beam mold having inside dimensions of 6 x 6 x 21 in.
3. A 2 in. wide paint brush.
4. Concrete from a trial batch or concrete made specifically to test the quality of the compound.
5. Refer to T 126.

TEST PROCEDURE:

Compounds which are suitable for use with wood and metal shall be tested with wood and metal forms. Test all other compounds only for the type of forms specified by the manufacturer.

(a) Wooden molds – Apply the form release compound in conformance with the manufacturer's recommendations to one-half the length of the plywood mold. Apply the compound 24 hr prior to testing and allow it to drain by placing the mold upside down. The second application is used to compensate for any absorption of the compound by the plywood. Leave the other half of the mold uncoated for comparative analysis to assist in evaluating the compound.

(b) Metal molds – Coat the metal cylinder or beam molds in conformance with the manufacturer's recommendation. Coat the molds in a manner similar to (a) Wooden molds, except that only one application is necessary 2 hr prior to testing.

(c) Fill the coated molds with concrete conforming to the requirements of Mix No. 2 or Mix

No. 3, at least 2 hr after the molds have been coated with the second application of form release compound. The concrete is consolidated by rodding and tamping. Curing is accomplished in the test area.

1. The specimens shall remain in the wooden molds for a minimum of 3 days and in the metal molds for a minimum of 24 hr.

2. Observe the releasing qualities of the compound while removing the concrete from the molds.

3. Inspect the concrete surfaces for evidence of staining or an excessive amount of minute air voids that may be attributed to the use of the compound.

4. The surface of the concrete shall be rubbed with the hand, scrubbed with a wire brush or gouged with a sharp edged tool to determine if the compound has adversely affected the quality or rate of hardening of the concrete.

INFRARED SPECTROGRAM

Conduct the infrared spectrogram as specified in T 237. Retain the original test result and report acceptance samples as satisfactory if they visually match the qualification sample.

REPORT:

Report the visual inspection with a description of the failing qualities of the compound or report the material as conforming to Specification requirements.