

**STATE OF OHIO
DEPARTMENT OF TRANSPORTATION**

**SUPPLEMENT 1089
TRAFFIC MARKING MATERIAL SAMPLING REQUIREMENTS
July 17, 2009**

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1089.01 General

This supplement defines acceptance and shipping requirements for a company producing pavement marking materials accepted under ODOT Supplement 1047. The following materials are included:

740.02, Traffic paint

Type 1, Fast dry, water based, 100 percent acrylic, Type 1A, Fast dry, water based, 100 percent acrylic, for use in cold weather applications

740.03, Polyester pavement marking,

740.04, Thermoplastic pavement marking,

740.07, Epoxy pavement marking material,

740.09 Glass beads

Type A, AASHTO M 247, Type 1,

Type B, AASHTO M 247, Type 1, 50/50, MR/Floatation for polyester,

Type C, Thermoplastic,

Type D, Epoxy pavement marking material

Special specification gradations for materials approved under Supplement 1047

Do not provide 740.02, 740.03, 740.04, 740.07, 740.09 or special materials, which have not met the approval process defined in Supplement 1047.

1089.02 Requirements For Supplying Ohio Dot Traffic Marking Materials

Provide 740.02, 740.03, 740.04, 740.07, 740.09 or special specification materials by conforming to the Department's web based approval document system: Virtual Warehouse (TE-24) system.

Perform the following:

1. Either provide plant access for a Department representative for any visual inspection and sampling or provide samples of materials from the plant conforming to the Laboratory's requirements.
2. For 740.02, 740.03, 740.04, and 740.07 materials, provide certified test data and/or one (1) quart samples for each production batch to ODOT for approval. For 740.09 materials provide samples conforming to Supplement 1008.
3. Do not ship materials to Department projects or provide materials for Department purchase orders until materials are approved by the Laboratory.
4. Maintain material lot identification during storage and shipment.
5. Maintain accurate inventory records using the Department's TE-24 system for material quantities of tested, approved, shipped to the Department, shipped to Purchase order or shipped non state. Report all shipments of approved materials using the TE-24 system.
6. Document each shipment of approved material to the Department by generating a TE-24 with the following correct entries:
 1. Project number and year,
 2. Project reference number,
 3. Correct quantity,
 4. Destination producer/supplier code number,
 5. Batch number,
 6. For purchase orders, the requisition and purchase order numbers.

Assure the TE-24 is attached to all shipments. For thermoplastic materials, include a list of all skid numbers of thermoplastic shipped as part of the TE-24 documentation.

1089.03 Required Materials Documentation And Acceptance

Supply only approved materials to the Department. Only provide materials to the Department with a properly completed TE-24.

Materials delivered without a proper TE-24 will mean the materials are unidentifiable and will be sampled conforming to 1089.02 and 1089.04. Approval will be based on Laboratory testing of field samples submitted for each batch of traffic marking materials.

1089.04 Field Sampling Procedures

Sampling Procedure for Glass Bead

1. Have the contractor load the beads into the hopper.
2. Put on leather work gloves and eye protection.
3. Have the contractor start the application gun and let beads pour out for twenty seconds.
4. Have the contractor turn off the air pressure to the gun to allow sampling.
5. Place a clean one quart (4.75"x 4.25") wide mouth metal can under the gun and fill the can completely.
6. Remove the can. Tap the lid securely on with a hammer. Seal the lid with duct or packing tape.
7. Secure a TE-31 tag on the quart container with the following information;
 - Bead producer,
 - Specification number and/or type,
 - Lot or batch number,
 - Project number and year,
 - ODOT Sample number,
 - Date sampled.
8. Immediately ship the sample to Central Laboratory, Chemical Section.

Sampling Procedure for 740.02 Traffic Paint

1. Check the Approved List to see the traffic paint to be sampled is listed on the Approved List
2. Have the contractor load the application equipment and agitate for ten minutes or more
3. Put on leather work gloves and eye protection.
4. Have the contractor start the paint gun and let spray 5 gallons or more paint.
5. Have the contractor shut off pressure.
6. Place a clean one quart (4.75"x4.25") wide mouth metal can under the gun and fill the can completely.
7. Always fill the can completely as air in the can could affect the sample.
8. Remove the can. Tap the lid securely on with a hammer. Seal the lid with duct or packing tape.
9. Take a second sample following the above procedures 6 and 7.
10. Secure a TE-31 tag on the quart container with the following information:
 - Paint producer,
 - Paint specification [i.e. 740.02],
 - Paint brand name and manufacturer's ID [see the QPL/Approved list],
 - Paint batch number,
 - Date of manufacture,
 - Shelf life,
 - Project number and year,
 - ODOT Sample number,
 - Date sampled.

11. Immediately ship one sample to Central Laboratory, Chemical Section.
12. Give the other sample to the Contractor.

Sampling Procedure for Polyester Pavement Marking

1. Have the contractor load the application equipment.
2. Put on leather work gloves and eye protection.
3. Have the contractor start the paint gun and let run for ten seconds. Do not start the catalyst gun.
4. Have the contractor shut off pressure.
5. Place a clean one quart (4.75"x4.25") wide mouth metal can under the polyester paint gun and fill the can completely.
Always fill the can completely as air in the can could affect the sample.
DO NOT SAMPLE THE CATALYST.
6. Remove the can. Tap the lid securely on with a hammer. Seal the lid with duct or packing tape.
7. Secure a TE-31 tag on the quart container with the following information;
Paint producer,
Paint specification [i.e. 740.02],
Paint batch number,
Date of manufacture,
Project number and year,
Date sampled.
8. Immediately ship the sample to Central Laboratory, Chemical Section.

Sampling Procedure for Thermoplastic Pavement Marking

1. Have the contractor load the application equipment heat and agitate material @400F +/- 25F for 10 minutes.
2. Put on leather protective work gloves and eye protection.
Remember the material is heated to 400 degrees F when extruded so be careful when sampling
3. Place a disposable aluminum pan [about 14" x 10" x 2 1/2"] under the extruder and fill the pan with no more than 2 inches of molten material 1-2" deep.
4. Remove the pan.
CAUTION! MATERIAL WILL BE HOT!
Allow the pan and material to cool.
5. Secure a TE-31 tag on the pan with the following information;
Thermoplastic producer,
Thermoplastic specification,
Thermoplastic brand name and manufacturer's ID,
Thermoplastic batch number,
Date of manufacture,

- Project number Date sampled.
6. Immediately ship the sample to Central Laboratory, Chemical Section.

Sampling Procedure for Epoxy Pavement Marking

1. Have the contractor load the application equipment.
2. Put on leather protective gloves and eye protection.
3. Have the contractor shut off all pressure spray system.
4. Using a clean one quart (4.75"x4.25") wide mouth metal can, take a sample for the resin component from the resin component line prior to mixing.
Fill the can completely.
5. Remove the can. Tap the lid securely on with a hammer. Seal the lid with duct or packing tape.
6. Using a clean one quart (4.75"x4.25") wide mouth metal can, take a sample for the hardener component from the hardener component line prior to mixing.
Fill the can completely.
7. Remove the can. Tap the lid securely on with a hammer. Seal the lid with duct or packing tape.
8. Secure a TE-31 tag on the quart containers with the following information;
Epoxy Paint producer,
Epoxy Paint specification,
Epoxy resin batch number or Epoxy hardener batch number [depending on which can you are labeling],
Epoxy brand name and manufacturer's ID,
Date of manufacture,
Project number and year,
Date sampled.
9. Immediately ship the samples of the resin component and of the hardener component to Central Laboratory, Chemical Section.

APPENDIX I

1. Tests and Acceptance Ranges for Split and Check Samples of liquid paints sampled from the field

TEST	ASTM DESIGNATION	ACCEPTANCE RANGE	MATERIAL
WEIGHT/GALLON	D1475	+/-0.750	ALL LIQUIDS
VISCOSITY, KREBS UNITS	D562	ODOT: 740 spec.	All
% TOTAL SOLIDS	D2369	+/- 6.000	ALL
% PIGMENT	LATEX: D3723	+/- 2.500	ALL
% PRIME PIGMENT, by weight of paint	TiO ₂ : ASTM D1394;	+/- 10.0%,	ALL
Binder Determination	Lab method – “X marks the spot”	Positive result	Type 1A

2. Tests and acceptance Ranges for Split and Check Samples of Thermoplastic

- a. Ohio DOT 740.04
- b. AASHTO M 249
- c. ASTM D 4797

3. Tests for glass beads

- a. Supplement 1008 The allowable range difference when sampled from equipment is +/- 5% from sieve requirements
- b. Coatings tests:
 - i. AASHTO M247
 - moisture-proof test
 - floatation test
 - Adhesion test
 - ii. ODOT 740.09, Epoxy Size 1 and 2
 - iii. Supplier of the beads.