

**STATE OF OHIO
DEPARTMENT OF TRANSPORTATION**

**SUPPLEMENT 1089
TRAFFIC MARKINGS SAMPLING REQUIREMENTS
March 10, 2004**

1089.01 GENERAL

**1089.02 REQUIREMENTS FOR SUPPLYING OHIO DOT TRAFFIC MARKING
MATERIALS**

1089.03 REQUIRED MATERIALS DOCUMENTATION AND ACCEPTANCE

1089.04 FIELD SAMPLING PROCEDURES

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 2, Fast dry, alkyd,

Type 3, Conventional, water based, 100 percent acrylic,

Type 4, Conventional, alkyd,

740.03, Polyester pavement marking,

740.04, Thermoplastic pavement marking,

740.07, Epoxy pavement marking material,

NTPEP Fast dry, Water based, 60 second dry material, and

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 selection 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, 740.07 and NTPEP 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.

Any materials delivered without a TE-24 and applied without laboratory approval will be rejected. Laboratory tested materials not meeting specifications will be removed from the project site.

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. Tape 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 QPL to see the traffic paint to be sampled is listed on the QPL
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.
Always fill the can completely as air in the can could affect the sample.
7. Remove the can. Tap the lid securely on with a hammer. Seal the lid with duct or packing tape.

8. Take a second sample following the above procedures 6 and 7.
9. Tape 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
10. Immediately ship one sample to Central Laboratory, Chemical Section.
11. 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.
 1. Always fill the can completely as air in the can could affect the sample.
 2. 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. Tape 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.
 - A. Remember the material is heated to 400 degrees F when extruded so be careful when sampling
3. Place a disposable aluminum roasting 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.
 - A. REMEMBER IT IS HOT!
 - B. Allow the pan and material to cool.
 5. Tape 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.
 - A. 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.
 - A. 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. Tape 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, NTPEP: +/- 10 ku	See particular material
% TOTAL SOLIDS	D2369	+/- 6.000	ALL
% NONVOLATILE VEHICLE	FED. 141C METHOD 4053.1		
% PIGMENT	SOLVENT: D2698 LATEX: D3723	+/- 2.500	ALL
%PRIME PIGMENT, by weight of paint	TiO ₂ : ASTM D1394; PbCrO ₄ , D126 or lab method	+/- 10.0%,	ALL

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

- a. Ohio DOT 740.04 and NTPEP
- b. AASHTO M 249

3. Tests for glass beads

- a. Supplement 1008 [Allowable range difference when sampled from equipment 5% from sieve requirements]
- b. Coatings tests:
 - i. AASHTO M247
 - Paint, moisture-proof
 - Paint, 50:50 mix and floatation
 - ii. ODOT 740.09, Epoxy Size 1 and 2
 - iii. Supplier of the beads.