NEW YORK STATE
DEPARTMENT OF TRANSPORTATION
Materials Bureau
"SAMPLING AND STOCK LOT CONTROL 
of 
EPOXY RESIN AND POLYESTER RESIN PRODUCTS"

I. INTRODUCTION

This method describes specific procedures for the SAMPLING AND STOCK LOT CONTROL OF EPOXY AND POLYESTER RESIN PRODUCTS manufactured for Department projects. It encompasses an inventory control system whereby material is accepted in stock lots for eventual shipment to Department projects thereby eliminating the need of individual shipment inspection and jobsite sampling. This procedure benefits Department projects by assuring that acceptable material is available for incorporation into project work. The control system is implemented by sampling and testing material in stock lots as it is formulated and packaged. After sampling and proper identification, thru the use of Department seals, the material is tested by the Department. If found acceptable, it is identified as such and released for shipment to Department projects as required.

II. DEFINITIONS

1. MANUFACTURER - A company actually engaged in the production of Epoxy or Polyester products at a given location.

2. DEPARTMENT - The New York State Department of Transportation.

3. MATERIALS BUREAU - A facility of the New York State Department of Transportation located in Albany, New York.

4. INSPECTION AUTHORITY - An office designated by the Materials Bureau as responsible for inspection control on behalf of the Department at specific manufacturers.

5. PLANT INSPECTOR - An individual employed by the Inspection Authority and approved by the Materials Bureau to function on inspection assignments on behalf of the Department.
DEFINITIONS (continued)

6. PROJECT INSPECTOR - An individual assigned by the Department's Project Engineer to function on inspection assignments at the project.

7. LOT - A lot shall consist of a manufacturer's single batch (or fraction thereof) of Epoxy Resin or Polyester Resin products intended for use on Department projects. Individual components of this material may be assigned different batch numbers and still be assigned the same lot number for both components, provided neither component has been submitted at a prior time for Department consideration.

Consecutive lot numbers are assigned by the manufacturer, starting with "1" at the beginning of each calendar year at each manufacturing location, regardless of type or item, to each lot offered for Department use. This lot number series shall be reserved for Department lots only.

8. CONTAINERS - Strong metal containers for packaging Epoxy and Polyester products furnished in one gallon, five gallon, thirty gallon or fifty-five gallon sizes and polyethelene bottles with screw tops used to package Polyester Catalyst. Any other type of packaging must have prior approval of the Materials Bureau.

   a. One Gallon Cans are the typical "paint can" style with double friction fit covers.

   b. Five Gallon Pails are the typical "paint pail" style using covers with or without lugs with no openings or spouts and incorporating a lever lock ring seal surrounding the cover. The lever lock seal shall have a lever handle closer with matching holes to allow the application of a sealing wire to which the Department's metal seals can be affixed.

   c. Thirty Gallon and Fifty-Five Gallon Drums are closed or open head style, with a maximum of three bungs (two in one end and one in the side) with a plastic or metal "over seal" applied by the manufacturer to each bung. Open head drums must have bolt or lever lock ring seal closers, with holes for the application of a sealing wire.

9. SEALS - Tape and metal devices, as described below, to insure content security of packages used for Epoxy and Polyester products. These seals are furnished to the Inspector by the Department.
DEFINITIONS (continued)

a. **Red Tape Seal** - A red tamper proof tape seal imprinted "N.Y.S. SAMPLED"

b. **Green Tape Seal** - A green tamper proof tape seal imprinted "N.Y.S. ACCEPTED"

c. **Red Metal Seal** - A red metal tamper proof seal imprinted "N.Y.S. SAMPLED"

d. **Green Metal Seal** - A green metal tamper proof seal imprinted "N.Y.S. ACCEPTED"

10. FORMS - The following forms are published and issued by the Department for use by the Materials Bureau and Inspection Authorities.

a. **BR-240 - Sample and Acceptance Transmittal:** This form transmits the inspector's sample information to the Materials Bureau and upon validation conveys acceptance action to the inspector. Detailed instructions for proper completion and transmittal are contained in Materials Method 18.1.

b. **BR-241 - Transmittal Envelope:** This is a heavy duty envelope used to contain the form BR-240.

11. SAMPLE - A sample for Epoxy products (resin and hardener) and Polyester Resins shall consist of one quart of material from each container sample. The number of containers to be sampled for each component in the lot is outlined in the following sampling table.

NOTE: A sample of Polyester Resin Catalyst shall consist of one unopened eight pound container for each lot of material.
SAMPLING TABLES

1. Sampling Table A shall be used for the first lot and all subsequent lots of any Epoxy products (resin and hardener) and Polyester Resins sampled until three (3) consecutive lots of a single manufacturer have all received approvals.

2. When three (3) consecutive lots have been approved, the 4th and all subsequent lots at that manufacturer shall be sampled using Sampling Table B until one (1) rejection occurs. When this occurs, the sampling shall revert to the provisions of Statement No. 1, above.

TABLE A

<table>
<thead>
<tr>
<th>Lot Size (1) (No. of Kits)</th>
<th>Number of Samples of EACH COMPONENT</th>
<th>Lot rejection will occur when number of sample failures equals: (2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - 15</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>16 - 25</td>
<td>3</td>
<td>1</td>
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<tr>
<td>26 - 90</td>
<td>5</td>
<td>1</td>
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<td>91 - 150</td>
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<tr>
<td>151 - 280</td>
<td>13</td>
<td>2</td>
</tr>
<tr>
<td>281 - 500</td>
<td>20</td>
<td>2</td>
</tr>
</tbody>
</table>

TABLE B

<table>
<thead>
<tr>
<th>Lot Size (1) (No. of Kits)</th>
<th>Number of Samples of EACH COMPONENT</th>
<th>Lot rejection will occur when number of sample failures equals: (2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - 25</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>26 - 150</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>151 - 500</td>
<td>5</td>
<td>1</td>
</tr>
</tbody>
</table>

(1) The term "kit" shall be defined as the smallest integral number of containers of Component A and Component B which will produce a final mixture blended in accordance with the instructions shown on the container label. (i.e. 200 containers of Part A and 200 containers of Part B of a 1 to 1 mix constitutes 200 kits, etc.)

(2) A sample failure shall be defined as any failure of any one sample to comply with any of the stated requirements of the specification. The Laboratory may elect to blend the samples, in which case, a failure in the blended sample shall be sufficient cause for rejection.
III. EVIDENCE OF ACCEPTABILITY

1. At Manufacturing Plant - A green copy of Form BR-240 in the possession of the Inspector, properly noted with the word "accepted" and validated by the Materials Bureau.

2. At Project Location
   a. Each Container Sealed as Follows:
      (1) One Gallon Cans and Polyethylene Bottles
          a. Two (2) red tape seals and two (2) green tape seals
      (2) Five Gallon Pails and Thirty or Fifty-five Gallon Drums:
          a. One (1) red metal seal and one (1) green metal seal where lever lock ring seals or bolt closer ring seals are used.
          b. Two (2) red tape seals and two (2) green tape seals applied to any other openings in the container.

   b. Presence of the Following Identifying Data on Each Container:
      (1) Name of Product
      (2) Item Number
      (3) Lot Number
      (4) Batch Number
      (5) Test Number
      (6) Date of Manufacture
      (7) Date of Expiration of Acceptance
      (8) The Statement (as appropriate)

      Part A - Contains Epoxy Resin
      Part B - Contains Hardener

      (9) Quantity
      (10) Mixing Proportions and Instructions
      (11) Manufacturers Name and Address

IV. STEPS IN PROCEDURE

<table>
<thead>
<tr>
<th>Responsibility</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturer</td>
<td>1. Produces and packages the required product.</td>
</tr>
</tbody>
</table>
Materials Method N.Y. 15
March 1, 1969

Manufacturer (continued)

2. Assigns a lot number to the product in accordance with definition of a lot.

3. Labels the containers in the lot with the following information:
   a. Name of Product
   b. New York State Item Number
   c. Lot Number
   d. Batch Number
   e. Date of Manufacture Mo.–Day–Year
   f. Date of Acceptance Expiration Mo.–Day–Year
   g. The statement (as appropriate)
      Part A - Contains Epoxy Resin
      Part B - Contains Hardener
   h. Quantity - (net gallons or pounds per container)
   i. Mixing proportions and instructions
   j. Manufacturers name and address

The above information shall be printed on the label using a concise format of logical sequence. The Materials Bureau reserves the right to rule labels unacceptable on this basis.

4. Stores the material in an easily accessible area.

5. Notifies the Inspection Authority designated by the Department that a lot of material is ready for sampling.

Inspection Authority

6. Schedules an inspection call.

7. Assigns an Inspector to make a call.

Inspector

8. Ascertains that the material is stored in an accessible location.

9. Determines that the containers used in packaging are in accordance with the definition of containers.

10. Checks the containers labeling for compliance with step 3 above.

11. Obtains a duplicate copy of the labels.
Inspector
(continued)

12. Determines sample quantity and frequency from definition of a sample.

13. Personally selects, according to the random number table, the containers to be sampled. The table and instruction for its use are on page No. 10.

14. Samples the material.

15. Places sample in a new one-quart double friction top can (supplied by manufacturer). Secures the covers of the sample cans with safety clips. Identifies each sample can by attaching a finished printed label and by marking the bottom of each can, using a permanent marking pen, with item number, lot number and manufacturer.

16. Supervises the refilling of one-gallon and five-gallon cans. Material from any container in the lot may be used to refill the sampled containers.

   a. No partially filled one gallon or five gallon containers will be allowed as part of the lot.

   b. Thirty and fifty-five gallon drums do not have to be refilled.

17. Seals each container in the lot as follows:

   a. ONE GALLON CANS AND POLYETHELENE BOTTLES - two (2) red tape seals applied at approximately 180° intervals equally divided between the cover and the side of the container.

   b. FIVE GALLON CANS - A red metal seal fastened to the ends of a wire that passes through the matching holes of the lever handle closer.

   c. THIRTY and FIFTY-FIVE GALLON DRUMS - A red metal seal fastened to the ends of a wire that passes through the holes of the lever type or bolt type closer. Two (2) red tape seals applied to each bung or spout in the drum.
Inspector (continued)

   a. Includes in box #16 the total gallons or pounds of each component, number of gallons per kit, and sampling table used.

19. Packages samples, Form BR-240 (enclosed in BR-241) and a label for each component, for transmittal to the Materials Bureau.
   a. If transmittal by other than rail or motor carrier, expense will be borne by the manufacturer. Box #16 of the BR-240 shall be noted "Samples sent by supplier." The sample containers must be sealed by the Inspector, using red tape seals.

20. Makes the necessary entries in his records as to manufacturer, product type, item number, date sampled, etc.

21. Transmits the samples for testing to the Materials Bureau.

Materials Bureau

22. Performs required tests and accepts or rejects the lot on the basis of the test results.

23. Indicates action on and validates Form BR-240.

24. Issues green copy and yellow copy of Form BR-240 to Inspection Authority.
   a. Telephone requests to the Materials Bureau in advance of normal notification of action, will be honored only when received from the Inspector.

Inspection Authority

25. Receives green copy and yellow copy of Form BR-240 marked accepted or rejected, from the Materials Bureau.

26. Retains the yellow copy and advances the green copy of Form BR-240 to the Inspector.

27. Notifies manufacturer of action taken by the Materials Bureau.
   a. If material is Rejected, no further action is necessary beyond notification to the manufacturer.
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Inspection Authority (continued)

28. Assigns Inspector to seal acceptable material.

Inspector

29. Applies green seals to each container as follows:

a. ONE GALLON CANS and POLYETHYLENE BOTTLES - two green tape seals applied in a similar manner as the red seals and interspersed between them.

b. FIVE GALLON CANS - A green metal seal placed on the same wire as the red metal seal previously applied.

c. THIRTY and FIFTY-FIVE GALLON DRUMS - For bolt or lever closer ring seals, applies a green metal seal to the same wire as the red seal previously applied. Two green tape seals applied to each bung or spout.

30. Supervises the manufacturer in the labeling of each container in the lot with the test number and acceptance date.

Manufacturer

31. Makes shipments from the accepted lot without further documentation or supervision of the Inspector.

32. Maintains a record of shipments of all Department accepted material. These records should include Department item number, test number, lot number, quantities shipped and shipping destination.

33. Provides shipment record to the Department upon request.

Project Inspector

34. Satisfies himself that the required seals as described under "Evidence of Acceptability" on page No. 5 are intact on each container.

35. Records the required label information according to MURK procedures.

36. Consults MURK for additional information concerning acceptances.
INSTRUCTIONS:

1. Determine number of digits to be used that correspond with number of units to be sampled.
   (e.g. 500 units - use last three digits of each number in the table - #685)

2. Starting anywhere in the table, select the units to be sampled by reading the numbers
   consecutively that do not exceed total number of units in the lot.

(EXAMPLE - 500 units to be sampled with 5 samples needed. Presume you start on line 27, column 3
(#685). Since 685 is larger than the number of units in lot, go down col. 3 selecting numbers
62, 180, 37, and 110. When counting units in lot, those units corresponding to these numbers
would be sampled.)

<table>
<thead>
<tr>
<th>1.</th>
<th>2.</th>
<th>3.</th>
<th>4.</th>
<th>5.</th>
<th>6.</th>
<th>7.</th>
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<tr>
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</tr>
</tbody>
</table>

FLOW CHART - EPOXY INSPECTION

1. Notifies Inspection Authority of lot to be sampled.
2. Samples lot and identifies by using RED seals.
4. Issues acceptance.
5. Notifies manufacturer of acceptance and identifies using green seals and labels.
6. Ships to projects for incorporation into work.

PROJECT EVIDENCE OF ACCEPTABILITY
Intact RED seals
Intact GREEN seals
Completed label