

TECHNICAL SPECIFICATIONS

FORM P927



CERTAIN-TEED PRODUCTS CORPORATION
PIPE DIVISION

SPECIFICATIONS CLASSIFICATION:

Standard Purchasing Specification

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SUPERSEDES		July 25, 1966 September 9, 1966	DATE OF ISSUE May 21, 1971

DESCRIPTION:

Epoxy Hardener for Epoxy Lining of CPC A/C Pipe

1. General1.1 Description

This specification describes the hardener used in Epoxy Lining of A/C Pipe. This hardener is an aliphatic amine type which when blended with the specific amounts of the proper epoxy resins, fillers and coloring agents will form a hard, durable, chemically stable lining. The hardener shall not contain any diluent, solvent or other additives. Triethylene tetramine (TETA) is the desired product. Other hardeners, which meet the requirements of this specification and perform satisfactorily in service, may also be included with proper authorization.

Safety Note:

Hardeners, in general, are considered toxic upon prolonged or repeated exposure. The use of protective clothing, gloves, and use of protective cream on hands, combined with frequent washing of hands and face, is mandatory.

1.2 Use

This material is intended to be the activating agent for the curing of the epoxy resin which when mixed in proper proportion and admixed with epoxy resin and fillers form a suitable protective lining for A/C pipe.

1.3 Lot Size

For sampling and inspection purposes, a lot shall be defined as the number of drums (drum) shipped on one order, received at one time, at one location, and identified by a code number.

2. Requirements2.1 Special

All hardener suppliers shall be approved in writing by the Technical Service Manager - Materials of CERTAIN-TEED Pipe and Plastics Group (P&PG). Any change in the hardener must be authorized in writing by the Technical Service Manager - Materials before the end product may be supplied to CPC plants. When such change is authorized, the change shall be recorded by date of manufacture. The manufacturer shall notify the Purchasing Department and Technical Service Department when such an authorized change is actually effected.

CTD015136

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2.2 Manufacturer's Inspection

The manufacturer shall perform such inspection and testing that all defective material is removed from each shipment before shipment is made to CPC.

2.3 Manufacturer's Control Data

The manufacturer shall maintain records of the control data on each batch of hardener from which product is shipped to CPC. These records shall be such that when requested, the manufacturer shall be able to furnish a notarized statement that the requirements of this specification have been complied with for any given shipment.

2.4 Physical Characteristics

Physical characteristics shall be in accordance with the requirements as shown in Table A.

3. Test Methods

The following tests will be conducted in accordance with the applicable test methods.

3.1 Physical

Color	ASTM D-1544
Density	TM-34
Viscosity	Brookfield Viscosimeter
Refractive Index	Standard Commercial Refractometer
Boiling Point	ASTM D 86 Group 4

3.2 Chemical

Pot Life	TM-32
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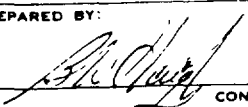
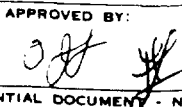
4. Packaging and Marking

The hardener shall be packaged in non-returnable lined fifty-five (55) gallon drums with a bung and bung vent on the top of the drum. Each drum shall be marked (stenciled) to show the vendor's name, brand name and number, batch number, weight and CPC order number.

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5. <u>Acceptance and Rejection</u> CPC reserves the right to reject any lot, or lots, not conforming to the requirements of this specification. Such rejection or acceptance of lot, lots, or portions thereof shall not be limited to the time of shipment, but shall be made within 30 days of receipt of the shipment. In the event of a rejection, the vendor shall be immediately advised and the reason for the rejections explained. The vendor shall be given the opportunity to inspect representative samples of the rejected materials in the Materials Laboratory, North Wales, Pennsylvania prior to final dispositions. The vendor must express his desire to inspect rejected material within seven days after notification of the rejections and the physical inspection of the rejected material must be performed within 30 days after the notification of rejections. 6. <u>Addendum</u> As a corollary to the stated requirements of this specification, the manufacturers are entreated to become reasonably knowledgeable as to the conditions of successful usage of the hardener so that they may employ their best technology to assist in providing a hardener which will perform satisfactorily the usage intended. <u>Table A</u> <table border="0"> <tr> <td>Color</td> <td>Clear and Amber</td> </tr> <tr> <td>Density @ 25°C</td> <td>Min. 0.978 Max. 0.984</td> </tr> <tr> <td>Boiling Point @ 760 mm HG, °C</td> <td>265° - 285°C</td> </tr> <tr> <td>Viscosity @ 25°C Brook-Field No. 1</td> <td></td> </tr> <tr> <td>Spindle Centipoises</td> <td>18-25</td> </tr> <tr> <td>Refractive Index @ 25°C</td> <td>1.496</td> </tr> <tr> <td>Pot Life @ 25°C minutes, Min.</td> <td>20</td> </tr> <tr> <td>Shelf Life, Min.</td> <td>1 Year</td> </tr> </table>				Color	Clear and Amber	Density @ 25°C	Min. 0.978 Max. 0.984	Boiling Point @ 760 mm HG, °C	265° - 285°C	Viscosity @ 25°C Brook-Field No. 1		Spindle Centipoises	18-25	Refractive Index @ 25°C	1.496	Pot Life @ 25°C minutes, Min.	20	Shelf Life, Min.	1 Year
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SPECIFICATION NO.

Addendum 540

PAGE NO.

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DESCRIPTION:

Epoxy Hardener for Epoxy Lining of CPC A/C Pipe

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1. General

This addendum is designed to show the special sampling plan employed as a means for conducting surveillance over the quality of the hardener. This addendum also lists the approved vendors and their approved products.

2. Sampling

This material is shipped in fifty-five (55) gallon drums. If more than one batch is in the shipment, each batch must be sampled, in accordance with the following table. Each sample shall be one pint.

<u>No. of Drums of Each Batch in Shipment</u>	<u>No. of Samples Taken</u>	<u>Acceptable Defectives</u>	<u>Defectives Constituting Rejection Basis</u>
1 - 3	1	0	1
4 - 6	2	0	1
7 - 9	3	0	1
10 - 12	4	0	1
13 - 15	5	1	2

3. Inspection

On each sample selected, test for pot life in accordance with Standard Test Method 32.

4. Rejections

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The following procedure shall be followed on all rejected shipments.

4.1 Quality Control Headquarters and Technical Service Manager - Materials shall be notified and a sample of the defective material shall be sent to the Materials Laboratory, North Wales, Pennsylvania. This will be an aid in discussing the rejection with the vendor.

4.2 The Headquarters Purchasing Department shall be notified. They will issue instructions on how and when the shipment is to be returned.

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5. Approved Vendors

Bakelite Corporation
270 Park Avenue
New York, New York - 10017

Triethylene tetramine
(TETA)

Dow Chemical Company
Plastics Department
Midland, Michigan

Triethylene tetramine
(TETA)

CTD015140

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