



**Transport**  
Roads & Maritime  
Services

# Test method T331

Making and curing epoxy mortar and epoxy resin test specimens for compressive flexural strength testing

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## Revision Summary

Ed/Rev Number	Clause Number	Description of Revision	Authorisation	Date
		Reformatted and Revision Summary Added	D.Dash	May 1999
		Date on Test Method Revised to Agree with Date on Revision Summary	D.Dash	Feb 2001
Ed 2/ Rev 0	All	Reformatted RMS template	J Friedrich	October 2012

Note that Roads and Maritime Services is hereafter referred to as 'RMS'.

The most recent revision to Test method T331 (other than minor editorial changes) are indicated by a vertical line in the margin as shown here.

## Test method T331

# Making and curing epoxy mortar and epoxy resin test specimens for compressive flexural strength testing

### 1. Scope

This test method sets out the procedure for making and curing compression and flexural strength test specimens from epoxy or epoxy resin.

### 2. Apparatus and Equipment

- (a) Moulds of 50 mm in diameter and 100 mm in height of steel or rigid plastic for compressive strength tests. Metal moulds 25 mm x 25 mm x 300 mm long for flexural strength tests.
- (b) Petroleum Jelly
- (c) Steel rod 300 mm long 10 mm diameter
- (d) A 150 mm plasterer's trowel
- (e) Controlled temperature room or cabinet capable of maintaining a temperature of  $23 \pm 2^{\circ}\text{C}$

### 3. Procedure

#### A. Epoxy Mortar:

- (a) Assemble the required mould using a light coating of petroleum jelly on all faces to facilitate release of the specimen.
- (b) Place the epoxy mortar prepared in accordance with Test Method T330 in the mould in a minimum of three layers. Tamp each layer with thirty strokes of the steel rod in a uniform manner over the cross-section of the mould. The final layer should slightly over- fill the mould.
- (c) Use a trowel to level off the mortar with the top of the mould.
- (d) Cure the specimen in the mould in air at a temperature of  $23 \pm 2^{\circ}\text{C}$  for a period of 24 hours unless otherwise specified.
- (e) Remove the mould and cure the specimen at  $23 \pm 2^{\circ}\text{C}$  for the specified period required to develop full strength.
- (f) Unless otherwise specified prepare six specimens for each test.

#### B. Epoxy Resin:

- (g) Assemble the required mould using a light coating of petroleum jelly on all faces to facilitate release of the specimen.
- (h) Pour the epoxy resin mixed in accordance with the manufacturer's instructions into the mould, so that the mould is filled level with the top of the mould and all air bubbles are eliminated.
- (i) Cure the specimen in accordance with the manufacturer's direction for the period required to develop the full strength of the epoxy resin.
- (j) Unless otherwise specified prepare six specimens for each test.

#### **4. Safety Procedures**

In common with many materials used in industry epoxy resins and their hardeners may cause dermatitis reactions in sensitive persons, particularly when there is repeated contact. The following practices should therefore be followed.

- (a) Use a skin forming barrier cream on clean hands before commencing each working session and wash it off at the end of each session.
- (b) Use rubber or plastic coated gloves when there is a likelihood of touching the products. Disposable plastic gloves are generally suitable for laboratory work. Remove the gloves by pulling at the fingers and put gloves on clean hands only.
- (c) Use goggles if there is a likelihood of splashing occurring.
- (d) Do not use solvents to clean material spilt on the skin but use soapy water.
- (e) Do not leave rags or paper which have been used to wipe up these products where they will be subsequently handled by persons without protective clothing. Use small pieces of rag for cleaning and discard each pieces as it is used.

#### **5. Cleaning of Equipment**

Use a mixture of toluol and acetone (80:20 by volume) to clean resin from tools, equipment etc, before it cures. No common solvent will remove cured resin.