



Transport
Roads & Maritime
Services

Test method T330

Preparation of epoxy mortars

OCTOBER 2012



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 T330 (other than minor editorial changes) are indicated by a vertical line in the margin as shown here.

Test method T330

Preparation of epoxy mortars

1. Scope

This method sets out the procedures for the preparation of epoxy mortars to determine the physical properties of the cured mortar.

2. Apparatus and Equipment

- (a) Scales capable of weighing to 5 kg with an accuracy of 0.1 g
- (b) A 4 litre capacity mechanical mixer with planetary movement and a flat beater
- (c) 150 mm long steel spatula with squared end
- (d) 300 mm long steel spatula with round end
- (e) Fine aggregate consisting of clean, hard, tough, durable, uncoated grains, uniform in quality, complying with the following grading:

Australian Standard Sieve	Percent Passing
9.45mm	100
4.75mm	90-100
1.18mm	40-80
300 μ m	8-25
150 μ m	1-8
75 μ m	0-3

- (f) Portland cement Type A or other fine filler as specified for the application.
- (g) 1 litre tin with the top removed.

3. Procedure

- (a) From the loose unit mass of the fine aggregate and the density of the resin, calculate the quantities required to make a suitable volume of mortar of the required mix to fill the moulds. If the composition of the mortar is not otherwise specified the proportions to be used are:

Fine aggregate.....4 parts by Volume

Portland cement..... $\frac{1}{2}$ part by Volume

Resin plus hardener.....1 part by Volume

- (b) Weigh out sufficient resin and hardener in the specified proportions into a litre tin, to provide about 100 g in excess of the amount needed for the total mix of mortar. Blend the two components using a 150 mm steel spatula with the end squared, moving in a figure 8 pattern with upward and downward displacement of material, at the same time avoiding excessive incorporation of air bubbles. Mix consistently for a period of 5 minutes.

- (c) Weigh into the tared mixing bowl the mass of mixed resin/hardener, calculated in *Procedure (a)* above. (The balance of the resin/hardener mixture may be cast in a rigid PVC tube (conduit) approximately 50 mm long by 25 mm diameter for a qualitative examination of the cured resin.)
- (d) With the mixer running at its low speed setting add the sand followed by the filler (cement). Mix for a period of two minutes. Use the round end spatula to ensure that all the materials have been removed from the bottom and sides of the mixing bowl and incorporated by the mixing blade.
- (e) Use the mixed mortar for the preparation of specimens as described in Test Method T331, for the particular tests to be carried out.

4. Safety Procedures

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 warm 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 piece 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.