REGIONAL HEAT CURE CYCLES FOR ADHESIVES, DEADENERS, FOAMS AND SEALERS

Application

This method defines the regional heat cure cycles for laboratory testing of adhesives, deadeners, foams, and sealers. The cure cycle employed is dependent on the regional vehicle assembly site and material application site during the assembly process. The cure tables specified in this updated method shall take precedence over the tables referenced in the prior editions of this Test Method and in prior Engineering Material Specifications.

Table 1 – APA
Table 2 - Europe
Table 3 - North America
Table 4 - South America

The specific curing cycle to be applied is stated in the applicable Engineering Material Specification.

Apparatus Required

Mechanical Convection Oven

Preferable with horizontal airflow.
Capable of maintaining temperatures up to 300 +/- 3 °C.
Approximate internal volume 0.1 m3. Electrical rating 3 Kw.

Temperature Recorder

Electric - Multi-dotted line type, or equivalent.
Range 20 °C to 300 °C.
Indicator deflection 4 mm/10 °C or equivalent.
The instrument must also be capable of recording the temperature at a minimum of 2 locations.

Thermo-couples

Suitable in size and type for this application.

Conditioning and Test Conditions

All test values indicated herein are based on material conditioned in a controlled atmosphere of 23 +/- 2 °C and 50 +/- 5% relative humidity for not less than 24 h prior to testing and tested under the same conditions unless otherwise specified.

Date	Action	Revisions	
2010 08 12	Revised		W. Janitschke, FoE
2009 02 03	Revised		M. Mehandru, FNA
2001 03 28	Revised	Editorial – no technical change	A. Cockman

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Method

1. Prepare test assemblies in accordance with the applicable Material Specifications and Laboratory Test Methods.

2. Insert a thermocouple into the material under test to record the material temperature.

3. Place thermocoupled assemblies in an oven preheated to the specified air temperature for the applicable cure oven and phase. The specified material temperature for each assembly must be reached within the designated time and air temperature for a given phase.

4. The material temperature must not exceed the specified temperature. If necessary, adjust the oven air temperature to meet the material temperature requirements.

5. Remove assemblies and allow to cool to 23 +/- 2 °C for at least 30 minutes between each individual phase of the heat cure cycle.

Chemicals, materials, parts, and equipment referenced in this document must be used and handled properly. Each party is responsible for determining proper use and handling in its facilities.

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See attached Tables.

All temperatures will be +/- 2 °C.

TABLE 1 – Asia Pacific and Africa (APA)

TABLE 2 - Europe

TABLE 3 - North America

TABLE 4 - South America

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