

**HOLDEN**

Holden Limited
Engineering Department

MATERIAL SPECIFICATION

NUMBER : HN 2186
SHEET : 1 of 5
RELEASE : August, 1995
REVISION : July, 2000

NAME: ADHESIVE - EPOXY - TWO PART

1. SCOPE

This specification covers the performance requirements for an epoxy adhesive system suitable for bonding moulded ABS and steel surfaces.

2. REFERENCES

ASTM D3163 HN 0241 HN 1000

3. MATERIAL AND EQUIPMENT REQUIRED

- 3.1 ABS and Steel coupons approximately 25 x 100 x 2.5 mm.
- 3.2 Suitable bonding fixture.
- 3.3 Water soak chamber capable of maintaining 54 ± 2 °C.
- 3.4 Universal Tensile Testing Machine capable of measuring loads at an accuracy of 1%.

4. REQUIREMENTS

4.1 Physical Properties (uncured Adhesive System)

- 4.1.1 The adhesive and bonding method must be compatible with all production systems. Properties such as viscosity and open time must be satisfactory to the production system that operates at 35 °C.

4.1.2 Slump Resistance

Material mixed according to the manufactures recommended ratio and extruded to a 10 mm x 5 mm section 100 mm long on to a steel panel shall not slump more than 1 mm. The panel shall be in the vertical plane with the long edge horizontal.

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4. REQUIREMENTS (continued)

4.1 Physical Properties (uncured Adhesive System)

4.1.3 Slump Resistance

Working Life. Material mixed according to the manufactures recommended ratio shall have a working life of a minimum of 20 minutes at 35 °C

4.2 Physical Properties/Requirement (Cure System)

4.2.1 Process Compatibility

The cured adhesive system must meet all the performance criteria specified in this standard (See 4.6) after going through the production process for the intended application.

4.2.2 Cure Time

The adhesive shall be fully cured after 48 hours at 23°C.

4.3 Procedures

4.3.1 Specimen must be prepared and post cured according to the procedures outlined in HN 0241.

4.3.2 A sample set shall consists of minimum of 5 specimens.

4.3.3 Lap - shear specimens shall be tested according to the procedure outlined in ASTM D3163 except the cross head speed shall be between 10 to 12.7 mm/minute.

4.3.4 All samples must demonstrate cohesive failure of the adhesive or surface delamination of the ABS in all test conditions.

4.3.5 ABS fracture, below minimum performance requirements (4.5) is to be considered a 'no test' condition and the test repeated or sample rejected.

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