

**HOLDEN**

Holden Limited
Engineering Department

MATERIAL SPECIFICATION

NUMBER : HN 2268
SHEET : 1 of 2
RELEASE : July, 1997
REVISION : November, 1998

NAME: SURFACE PREPARATION OF POLYOLEFIN FOR ADHESION BONDING

1. SCOPE

This specification details the required surface condition of a Polyolefin in order to achieve satisfactory adhesion for bonding and/or painting components.

The preparation technique must be able to permanently change the surface energy of the polymer so as to achieve satisfactory adhesion to the polymer substrate.

2. REQUIREMENTS

2.1 Surface Energy (Refer ASTM D2578)

After the full Sicor treatment, the surface energy of the treated area shall be 45 ± 3 mJ/m².

2.2 Adhesion

Satisfactory adhesion is deemed to have been achieved when the three conditions detailed below are satisfied.

- a. Destructive testing of the bonded assembly results in a minimum of 85% adhesion failure of the adhesive or the substrate.
- b. Destructive testing of the bonded assembly after soaking for 10 days in 60°C water results in a minimum of 70% cohesive failure of the adhesive or the substrate.
- c. The bonded assembly meets or exceeds the specified strength requirements, as shown on the part drawing.

3. RECOMMENDED TECHNOLOGY

Sicor Process – Patented technology belonging to Commonwealth Scientific Industrial Research Organisation.

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4. APPROVAL, INSPECTION AND REJECTION

Refer HN 1000, Clauses A and C.

5. HAZARDOUS MATERIALS

Refer HN 1000, Clause H.

6. RESTRICTED CHEMICALS

Refer HN 1000, Clause J.

7. REFERENCES

ASTM D2578 HN 1000

8. REVISIONS

November, 1998 Added sections 2.1, 2.2(b), 4, 5, 6, and 7.

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