

**HOLDEN**

GM Holden Limited
Engineering Department

MATERIAL SPECIFICATION

NUMBER : HN 2321
SHEET : 1 of 8
RELEASE : November, 1998
REVISION : March, 2006

NAME: BODY SIDE MOULDINGS ADHESION REQUIREMENTS

1. SCOPE

This specification covers requirements for performance of polyolefinic and Polycarbonate/Acrylonitrile Butadiene Styrene (PC/ABS) body side mouldings, which are attached to the vehicle by high viscosity urethane adhesive and/or pressure sensitive tape. To improve the adhesion properties, the parts are to be treated by the SICOR process (Refer HN 2268) or primed with HN 1831.

2. GENERAL

The body of the mouldings shall be made of a polyolefin or PC/ABS suitable extrusion or injection moulding grade and shall conform to dimensions, section, colour and gloss as specified in individual part drawings.

The moulding, shall not exhibit any blistering, blooming or plastic migration after normal storage, or after any of the tests described in Section 5 of this specification. In the case of co-extruded mouldings, no separation or delamination shall occur between the sections.

When mouldings are to have a bright decorative strip, the filament layer shall be embedded at its edge at least 0.5mm into the body of the mouldings to prevent the penetration of water and the delamination of the strip.

3. REFERENCES

HN 1261	HN 1307	HN 0121	GM4298P
HN 2268	HN 2294	HN 0160	HN 0212
HN 0122	HN 0068	HN 1000	HN 1831
HN 1890	HN 2021		

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NUMBER : HN 2321
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4. MATERIAL SPECIFICATION

Sicor Process – Patented Technology owned by Commonwealth Scientific and Industrial Research Organisation (CSIRO).

4.1 Polyolefin

The Polyolefin material used in the body of these mouldings shall conform to the requirements of HN 1261 Type 15 as well as any additional requirements specified on individual part drawings. Other approved grades will be considered. Also the parts must conform to the requirements of HN 2268 following the SICOR treatment.

4.2 Adhesive

The polyurethane adhesive must conform to HN 2294 or to HN 1890 as well as to the particular adhesion requirements of this specification, described in Section 5.

The pressure sensitive adhesive tape must conform to HN 2021.

4.3 Primer

Where SICOR treatment is not performed, mouldings must be primed with HN 1831.

5. PERFORMANCE REQUIREMENTS

5.1 Preparation of Bonded Assemblies

5.1.1 Panels 50mm x 250mm painted to the procedure used in GM Holden's Paint Shop are required.

5.1.2 Mouldings or sections of moulding 250mm x 40mm are required or the full width of the moulding if this is smaller than 40mm.

5.1.3 Mouldings are bonded to the panel with approved urethane adhesive and/or pressure sensitive adhesive tape specified or part drawing leaving an overhang of 75mm on one end. Roll the moulding on to the panel with a force equivalent to 13.6 kg/25mm width of contact.

5.1.4 Assembled test panels shall be held for 72 hours at 25 °C prior to testing.

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5. PERFORMANCE REQUIREMENTS (continued)

5.2 Tests and requirements

Attachment Method		Urethane		Urethane		Pressure Sensitive Adhesive Tape	
	Property	Adhesive Width 10 – 25 mm		Adhesive Width 26 – 40 mm		Tape Width 10 – 25 mm	
		Breakaway Peel	Continuing Peel	Breakaway Peel	Continuing Peel	Breakaway Peel	Continuing Peel
5.2.1	Cleavage Peel Strength Initial	200N min	40 N min	300 N min	60 N min	150 N min	30 N min
5.2.2	Accelerated Ageing Store in bonded assemblies an air circulating oven at 70 °C for 14 days. Condition at ambient temperature 21°C for one hour then test cleavage peel to HN 0121	200 N min	40 N min	300 N min	60 N min	150 N min	30 N min
5.2.3	Humidity Exposure to 100% relative humidity environment at 38°C for 7 days. Peel test to HN 0121 within two minutes of removal.	200 N min	40 N min	300 N min	60 N min	150 N min	25 N min
5.2.4	Solvent Resistance Immerse sample in Shell X55 or equivalent for 10 seconds, allow drying in air for 20 seconds then repeating 3 times. Peel test to HN 0121 within two minutes.	200 N min	40 N min	300 N min	60 N min	100 N min	20 N min

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