

**HOLDEN**

Holden Limited
Engineering Department

MATERIAL SPECIFICATION

NUMBER : HN 2201
SHEET : 1 of 4
RELEASE : January, 1997
REVISION : August, 2002

NAME: PERFORMANCE REQUIREMENTS FOR ADHESIVELY BONDED RAILS TO
SLIDING GLASS

1. SCOPE

This specification defines the adhesion and durability requirements for sliding glass attachment to lifting and guiding rails.

2. ADHESIVE MATERIAL

The adhesive system used in this application is a two part silicone, comprising of HN 2008 and HN 2009 mixed in the ratio of 12 parts of HN 2008 to 1 part by weight of HN 2009 to form HN 2010.

Note: It is important that HN 2008 and HN 2009 are machine mixed so as to avoid air entrapment, which will cause low results.

3. TEST PIECES

Unless otherwise specified, the test pieces shall be taken from a 70 mm Aluminium Channel or guide rail section.

Glass test pieces shall be 100 mm x 100 mm x designed window glass thickness (refer to part drawing).

A minimum of three test pieces shall be tested for initial sample approval and arbitration purposes, and at least one test piece for routine quality control.

4. REQUIREMENTS OF MIXED UNCURED MATERIAL

4.1 Slump Resistance

There shall be no perceptible slump of a 10 mm diameter bead of material placed on a glass surface and held horizontally with the glass in the vertical plane.

4.2 Specific Gravity 1.32 ± 0.02

*THIS DOCUMENT MUST NOT BE REPRODUCED. IF USED IN RELATION TO
THE COMPANY'S PRODUCTS THE RECIPIENT IS RESPONSIBLE TO
CONFIRM THE DOCUMENT ISSUE DATE IS STILL VALID*

**HOLDEN**

Holden Limited
Engineering Department

MATERIAL SPECIFICATION

NUMBER : HN 2201
SHEET : 2 of 4
RELEASE : January, 1997
REVISION : August, 2002

NAME: PERFORMANCE REQUIREMENTS FOR ADHESIVELY BONDED RAILS TO
SLIDING GLASS

4. REQUIREMENTS OF MIXED UNCURED MATERIAL (continued)

4.3 Porosity

A bead 10 mm diameter extruded from production dispensing equipment on to a glass surface, shall exhibit no porosity. When cured, slice the bead along its diameter to observe for porosity.

5. REQUIREMENTS FOR THE ADHESIVE SEALING COMPOUND IN THE CURED STATE

All measurement taken after curing 3 days at 25 °C.

5.1 Hardness ASTM D 2440 40±5 Shore A

5.2 Modulus of Rigidity 0.55 MPa min.
In Shear

Method for computing Modulus (G)

$$G = \frac{P_s t}{A d_s}$$

P_s = Shear Load (N)
at deflection d_s

d_s = Deflection (mm)

A = Area of bond (mm²)

t = Thickness of adhesive (mm)

6. REQUIREMENTS OF THE ADHESIVE BOND

6.1 Pull Off Load

All final joint assemblies are required to achieve a pull-off load of 1.6kN (unless specified) when tested using the following method.

Test pieces are assembled from parts (aluminium channels and guide rails) 70 mm long bonded to glass test pieces described in Clause 3, with 1 part polyurethane adhesive and allowed to cure 72 hrs at 25 °C. All failures shall be a cohesive failure of the sealant.

*THIS DOCUMENT MUST NOT BE REPRODUCED. IF USED IN RELATION TO
THE COMPANY'S PRODUCTS THE RECIPIENT IS RESPONSIBLE TO
CONFIRM THE DOCUMENT ISSUE DATE IS STILL VALID*