



3M VHB™ 4991 Tape

Austral Plywoods “Ariaply” Panels to Galvanised Steel or Mill finished Aluminium

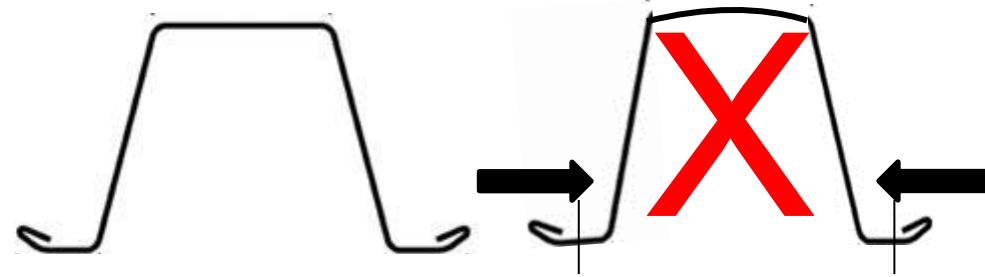


Surface Preparation & Application Methods

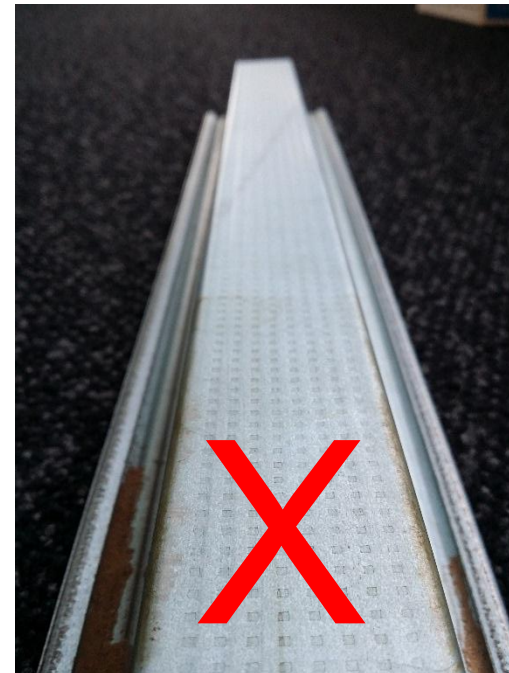


Frame & Panel flatness Check

- Ensure that the fastening of the frame structure has not cause the bond surface to bow or deform

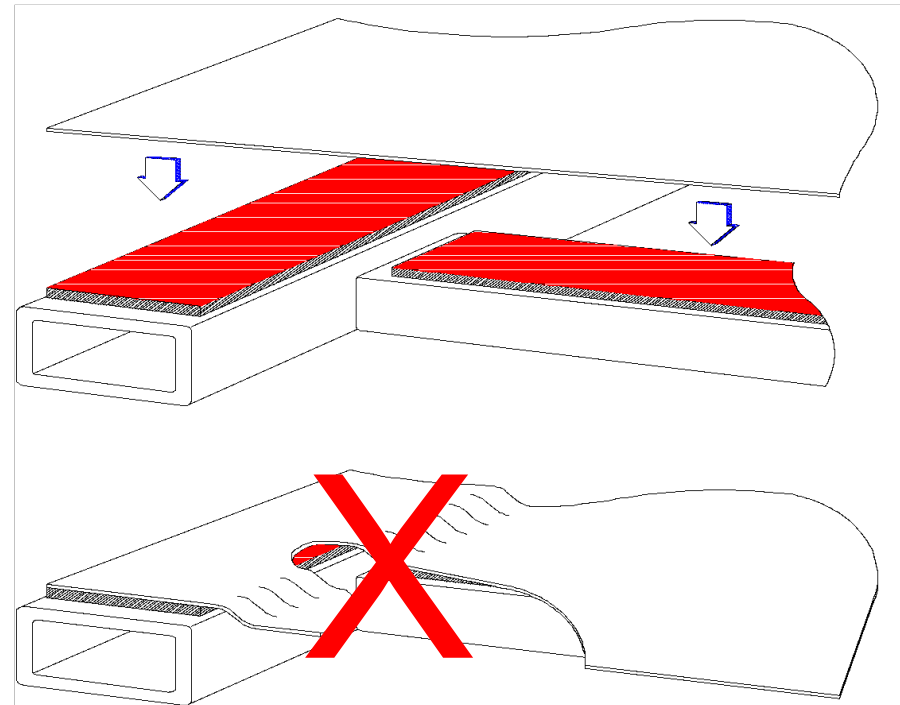


- Ensure that there are no dimples in the frame surface:



Frame & Panel flatness Check

- Ensure that the frame is completely flat – especially joins & corners.
- Lay the panel down on the frame prior to tape application
- Observe any areas of non-contact and correct
- Do not attempt to force panels into position



Work Area

- Should as free from excessive dust, dirt and other airborne contaminants as possible.
- Surface preparation & bonding should be performed in a minimum of time to avoid surface contamination
- The workplace, substrates & tape at a minimum temperature 10 ° C, covered & weatherproof conditions. Do not apply tape to panels or frame if the temperature is < 10 ° C.

Surface Preparation - General

- Be sure to remove any loose debris from bond surfaces before starting specific surface preparation procedure.
- If significantly contaminated with oil or grease , clean first with 3M™ 700 or 100 cleaner.

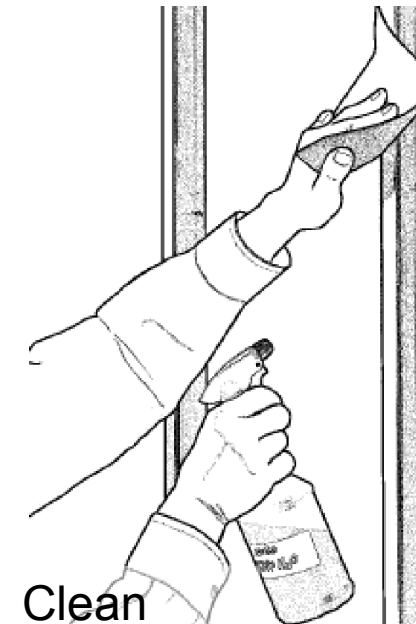


- Bonds should be made within 15 minutes of preparing surfaces

Application Procedure for VHB™ 4991

Surface Preparation – Mill Finish Aluminium or Galvanised Steel

1. Thoroughly abrade the area to be bonded, with a Scotch-Brite 7447 hand pad or equivalent on a power tool , such as orbital sander, leaving a finely Scratched surface
2. Dry wipe metal oxide dust from the surface.
3. Clean 3M hIPA 300 (or 50:50 IPA :Water) by spraying onto the surface and wiping in one direction, ensuring all contaminants are removed. Use lint free disposable cloths , ensuring frequent changing of cloths.
4. Wipe **again** with a dry clean disposable cloth, ensuring no contaminant residues are left behind
 - Alternative : 3M AP-111 primer instead of abrasion – contact 3M

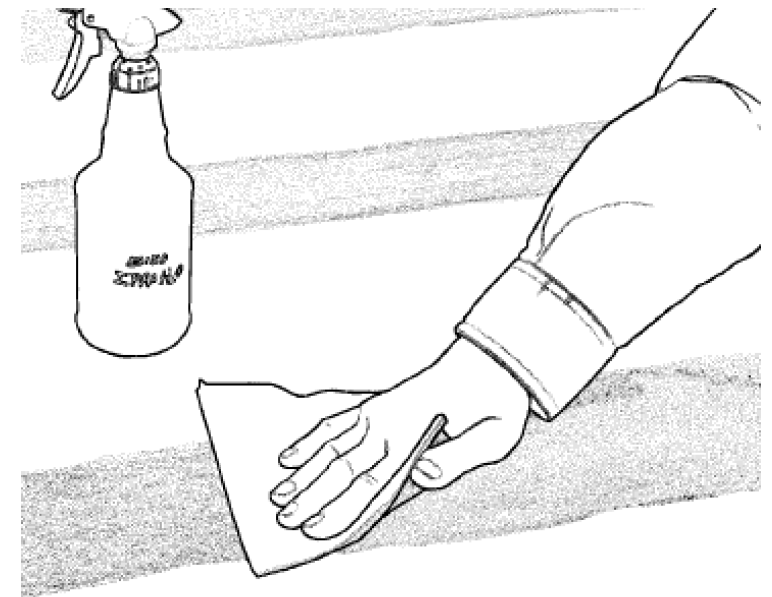


Application Procedure for VHB™ 4991

Surface Preparation –

Preservative treated / dipped plywood surface - Ariaply

1. Clean with 3M hIPA 300 wiping in one direction, ensuring all contaminants are removed. Use lint free disposable cloths , ensuring frequent changing of cloths.
2. Wipe **again** with a dry clean disposable cloth, ensuring no contaminant residues are left behind

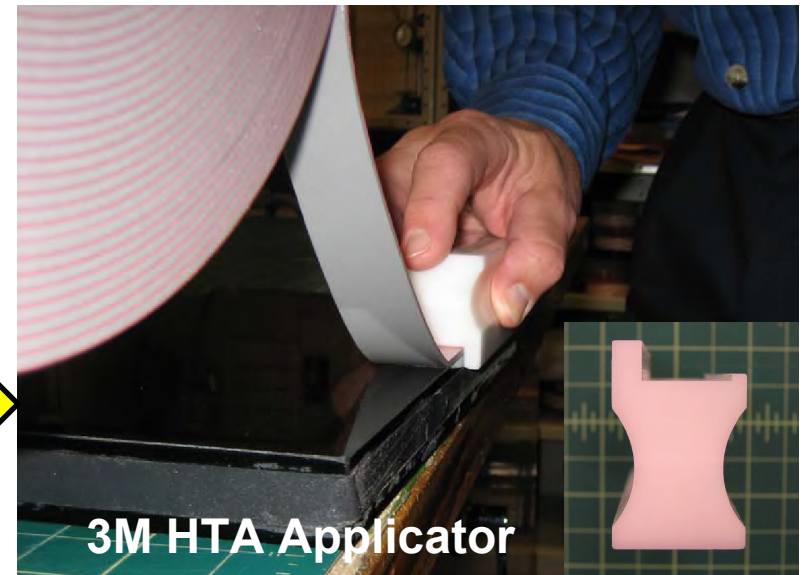
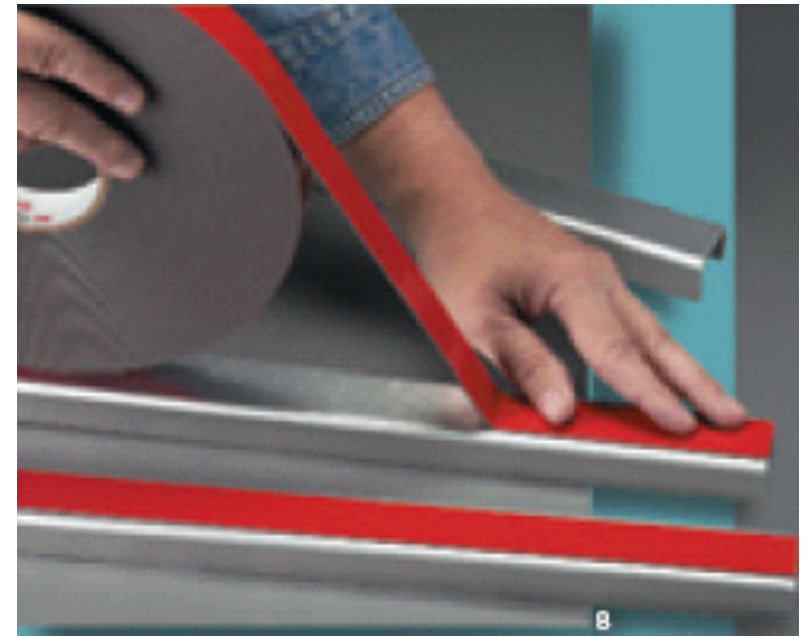


Clean

Application Procedure for VHB™ 4991

Tape Application –Frame

- Handle tape at the edges or by the protective liner - avoid contact with the face of tape (contamination).
 - 1. Apply the tape to the prepared metal surface working down the entire length of the section.
 - 2. Apply light pressure to the tape as its making first contact with the metal to avoid air entrapment (bubbles) between the tape and the frame with a roller, squeegee or even fingers may be used for this step.
 - 3. Roll down to further squeeze out bubbles.
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- Note : For improved tape application efficiency , contact 3M for a 3M HTA Applicator to suit the particular frame system.



Application Procedure for VHB™ 4991

Final application pressure

- *Ensure that there minimal surface mismatch between the frame & panel. Panel fit must be checked before final attachment to ensure complete contact of the tape with the panel . The panel must not be forced into position with excessive load to make contact with the tape. Welded joints must be completely flat.*
1. Remove the protective liner from the VHB tape.
 2. Panel should be positioned accurately before making contact with the tape – never attempt to remove the panel and re-attach.
 3. Once in correct position, push the panel onto the tape .
 4. Apply at least 15 psi over **all** of the tape bond area using a roller (about 10-20 kg of rolling force). There is no cure of the tape, rather the process is a physical “Wetting”, which requires pressure application.
- Note: When using VHB tape in conjunction with , align the bead of polyurethane on the frame away from the VHB tape such that it cannot



Amount of VHB tape to Use

| Weight (m²) | Weight (2400x1200) | Min VHB 4991 Tape width (mm) @ 600 mm spacing : (3 x 2400 mm length Strips) | Weight (2700x1200) | Min VHB 4991 Tape width(mm) @ 600 mm spacing : (3 x 2700 mm length Strips) |
|-----------------------------------|-------------------------------|---|-------------------------------|--|
| 5.7kg | 16.4kg | 15 | 18.5kg | 15 |
| 7.5kg | 21.6kg | 20 | 24.3kg | 20 |
| 9.6kg | 27.6kg | 24 | 31.1kg | 24 |
| 11.4kg | 32.8kg | 28 | 36.9kg | 28 |
| Weight (m²) | Weight (2400x1200) | Min VHB 4991 Tape width (mm) @ 600 mm spacing : (3 x 2400 mm length Strips) + 12mm bead of 3M 550 FC | Weight (2700x1200) | Min VHB 4991 Tape width(mm) @ 600 mm spacing : (3 x 2700 mm length Strips)) + 12mm bead of 3M 550 FC |
| 5.7kg | 16.4kg | 12 | 18.5kg | 12 |
| 7.5kg | 21.6kg | 15 | 24.3kg | 15 |
| 9.6kg | 27.6kg | 18 | 31.1kg | 18 |
| 11.4kg | 32.8kg | 24 | 36.9kg | 24 |



Optional – 3M 550 FC polyurethane

- Note – if using VHB 4991 & 550 FC combination, apply the 12 mm bead of sealant on the frame away from the VHB tape, such that it doesn't interfere with the VHB bond when squeezed down.

