



vitrabond[®]

ALUMINIUM COMPOSITE PANEL / MANUFACTURED BY FAIRVIEW

VITRABOND TAPE FIX INSTALLATION MANUAL
VERSION 3



IMPORTANT:

This method may not be suitable for all applications. Please refer to the installation requirements set out in the Vitrabond FR Codemark Certificate of Conformity CM40079 and the building surveyor/certifier regarding the compliance of this installation method for a specific project.

3M Australia Pty Limited
A.B.N. 90 000 100 096

Building A, 1 Rivett Road North Ryde, NSW 2113
Locked Bag 19 North Ryde NSW 1670
136 136 Telephone
612 9498 9333 Telephone
612 9498 9666 Facsimile
<http://www.3M.com.au>

15th August, 2016

3M

Test Report
3M Industrial Adhesives and Tapes

Customer: Ashley How (Fairview)
Report Reference: DG16-08
Prepared by: Duminda Gunasekara
Test Date: 15/08/2016
Test Location: 3M Australia North Ryde, NSW

Evaluation of optimum surface preparation for 3M VHB on Vitrabond Aluminium Composite Panels

The objective of the 90° Peel Adhesion test is to determine the optimum surface preparation required to bond 3M VHB tape onto the coated backing of the ACP. Accordingly peel tests were done on the panels with the old rear coating (dark grey) and new rear coating (Light grey)

Sample Preparation

The rear side with the old coating on the Vitrabond panels received from Fairview were prepared in 6 different ways as below. Similarly the panels with the new rear coating were also prepared with the same 6 different types of surface preparation.

1. Clean with 3M HIPA 300
2. Clean with 3M HIPA 300 + Prime with 3M AP111
3. Clean with 3M HIPA 300 + Prime with 3M Primer 94
4. Abrade with 3M Scotchbrite + Clean with 3M HIPA 300
5. Abrade with 3M Scotchbrite + Clean with 3M HIPA 300 + Prime with 3M AP111
6. Abrade with 3M Scotchbrite + Clean with 3M HIPA 300 + Prime with 3M Primer 94

Test Method

Peel Adhesion

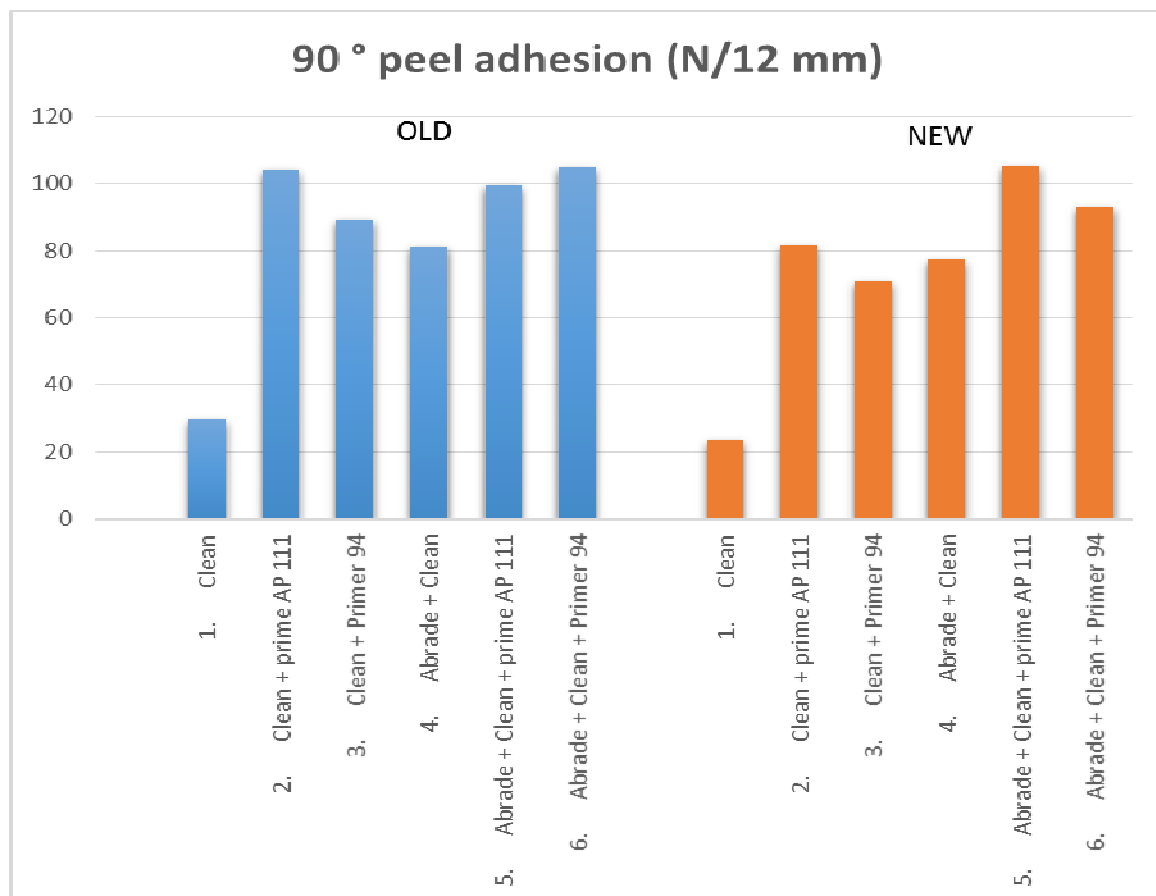
12 mm VHB 4991 was applied to the 12 different samples with different surface preparation (6 types of surface preparation each for the old and the new rear coating). The liner was removed, then 0.005 ± 0.001inch thick anodized aluminum foil was bonded to the liner side of the VHB tape. The tape was then rolled with a 6.8 kg solid steel roller. The test specimens were then allowed to rest for a minimum of 3 days before being tested. The specimens were then tested for 90 peel adhesion at a jaw separation rate of 300 mm/min.

Results

90 ° Peel Adhesion

3M VHB 4991		
90 ° peel adhesion (N/12 mm)	Failure Mode	Surface Preparation
OLD		
29.52	AF	1. Clean
104.05	AF	2. Clean + prime AP 111
89.4	CF	3. Clean + Primer 94
81.36	AF	4. Abrade + Clean
99.4	AF	5. Abrade + Clean + prime AP 111
104.76	CF	6. Abrade + Clean + Primer 94
NEW		
23.68	AF	1. Clean
81.64	AF	2. Clean + prime AP 111
70.95	AF	3. Clean + Primer 94
77.52	AF	4. Abrade + Clean
105.34	AF	5. Abrade + Clean + prime AP 111
92.87	CF	6. Abrade + Clean + Primer 94

AF= Adhesion failure, CF= Cohesive failure (i.e. foam split), SF = Substrate Failure



Conclusion / Recommendation

The results show that there is significantly better adhesion overall with the old coating and seem to adhere quite well just with cleaning with hIPA 300 followed by Priming with either AP111 or Primer 94. Abrasion of the old coating results in further improvement in adhesion. Primer 94 results in cohesive failure irrespective of the fact that the surface is abraded or not which is positive factor.

With the new coating only Abrasion followed by cleaning and Priming with Primer94 gave result to Cohesive failure where else all the other instances led to adhesive failure.

Recommended Surface Preparation for new rear Coating

1. Clean surface with 3M hIPA 300 , wiping with a clean white lint free, disposable cloth
2. Thoroughly abrade the bond surface (paint) with a Maroon colored Scotch-Brite
3. Clean surface with 3M hIPA and dry wipe with a clean lint free disposable cloth
4. Apply Primer 94 on the bond area
5. Allow 10 minutes to dry / activate , apply tape within 15 – 30 minutes to avoid airborne contamination

Duminda Gunasekara
Senior Applications Development Engineer
3M Industrial Adhesives & Tapes Division

Important Notice: All physical properties, statements, recommendations, opinions and technical information contained in this Report are based on tests we believe to be reliable, but the accuracy and completeness of the Report is not guaranteed. The use of this Report is at the sole discretion of the Report recipient and other users. Before using, the Report recipient and other users must determine the suitability of this Report for their intended application, and assume all risk and liability whatsoever in connection with any use of this Report.

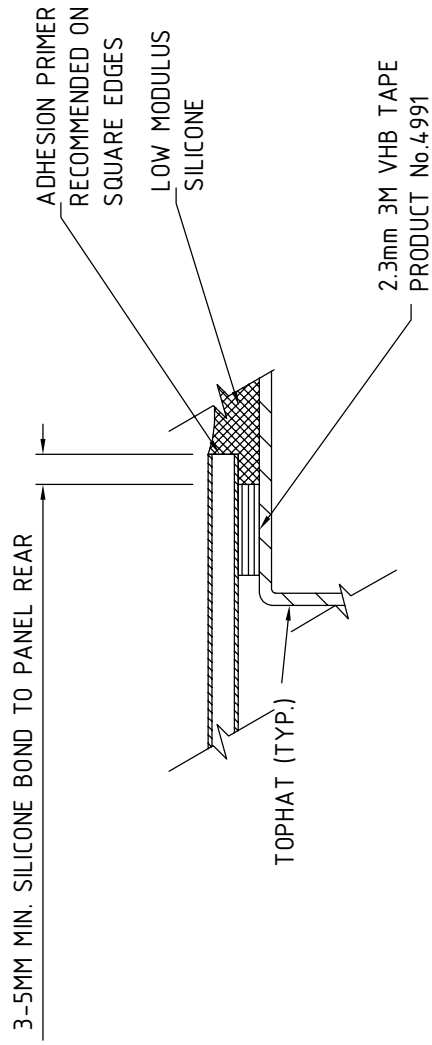


FIG 1. RECOMMENDED PANEL EDGE DETAIL 'A'



FAIRVIEWTM

DEFINING ARCHITECTURE SINCE 1968

18-20 Donald St
 Lithgow, NSW 2790
 P: 02 6352 2355
 E: helpdesk@fv.com.au
 W: www.fv.com.au

DISCLAIMER:
 THESE DETAILS ARE LIMITED TO THE GENERALISED DESIGN SPECIFICATION FOR
 VITRABOND, AND ARE INTENDED FOR USE BY A TECHNICALLY SKILLED PERSON
 ONLY. ANY USE OF THE SAME IS AT THEIR OWN DISCRETION AND RISK.

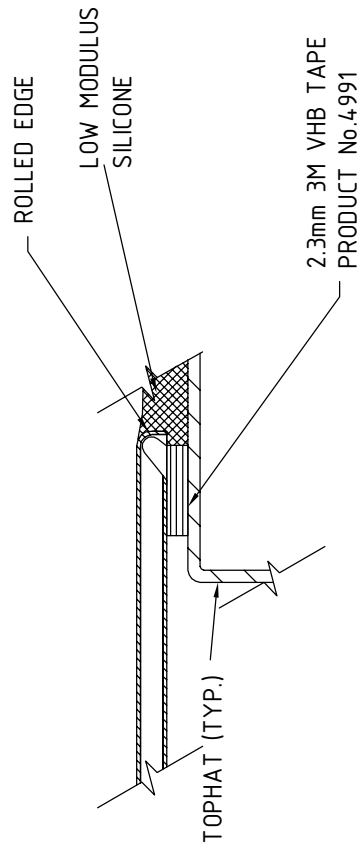


FIG 2. RECOMMENDED PANEL EDGE DETAIL 'B'



FAIRVIEW[™]

DEFINING ARCHITECTURE SINCE 1968

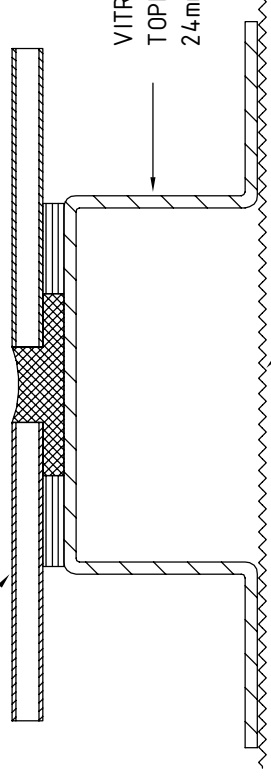
18-20 Donald St
 Lithgow, NSW 2790
 P: 02 6352 2355
 E: helpdesk@fv.com.au
 W: www.fv.com.au

DISCLAIMER:
 THESE DETAILS ARE LIMITED TO THE GENERALISED DESIGN SPECIFICATION FOR
 VITRABOND, AND ARE INTENDED FOR USE BY A TECHNICALLY SKILLED PERSON
 ONLY. ANY USE OF THE SAME IS AT THEIR OWN DISCRETION AND RISK.

VITRABOND / OMEGA
4mm PANEL

REFER EDGE
DETAIL 'A' OR 'B'
FIGURE 1/2.

10 NOM.



VITRABOND / OMEGA
TOPHAT T2050
24mm HIGH NOM.

MOISTURE BARRIER
AS REQUIRED

1. TYPICAL PANEL JOINT DETAIL

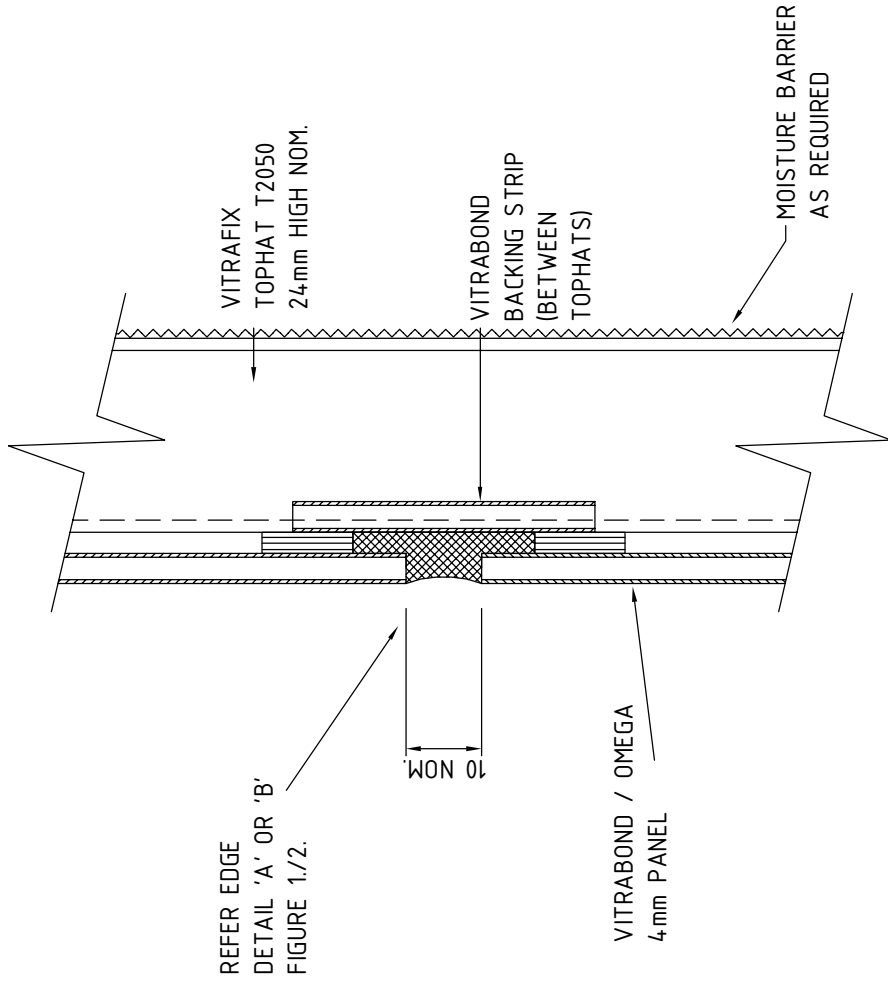


FAIRVIEW™

DEFINING ARCHITECTURE SINCE 1968

18-20 Donald St
Lithgow, NSW 2790
P: 02 6352 2355
E: helpdesk@fv.com.au
W: www.fv.com.au

DISCLAIMER:
THESE DETAILS ARE LIMITED TO THE GENERALISED DESIGN SPECIFICATION FOR
VITRABOND, AND ARE INTENDED FOR USE BY A TECHNICALLY SKILLED PERSON
ONLY. ANY USE OF THE SAME IS AT THEIR OWN DISCRETION AND RISK.



2. HORIZONTAL JOINT DETAIL

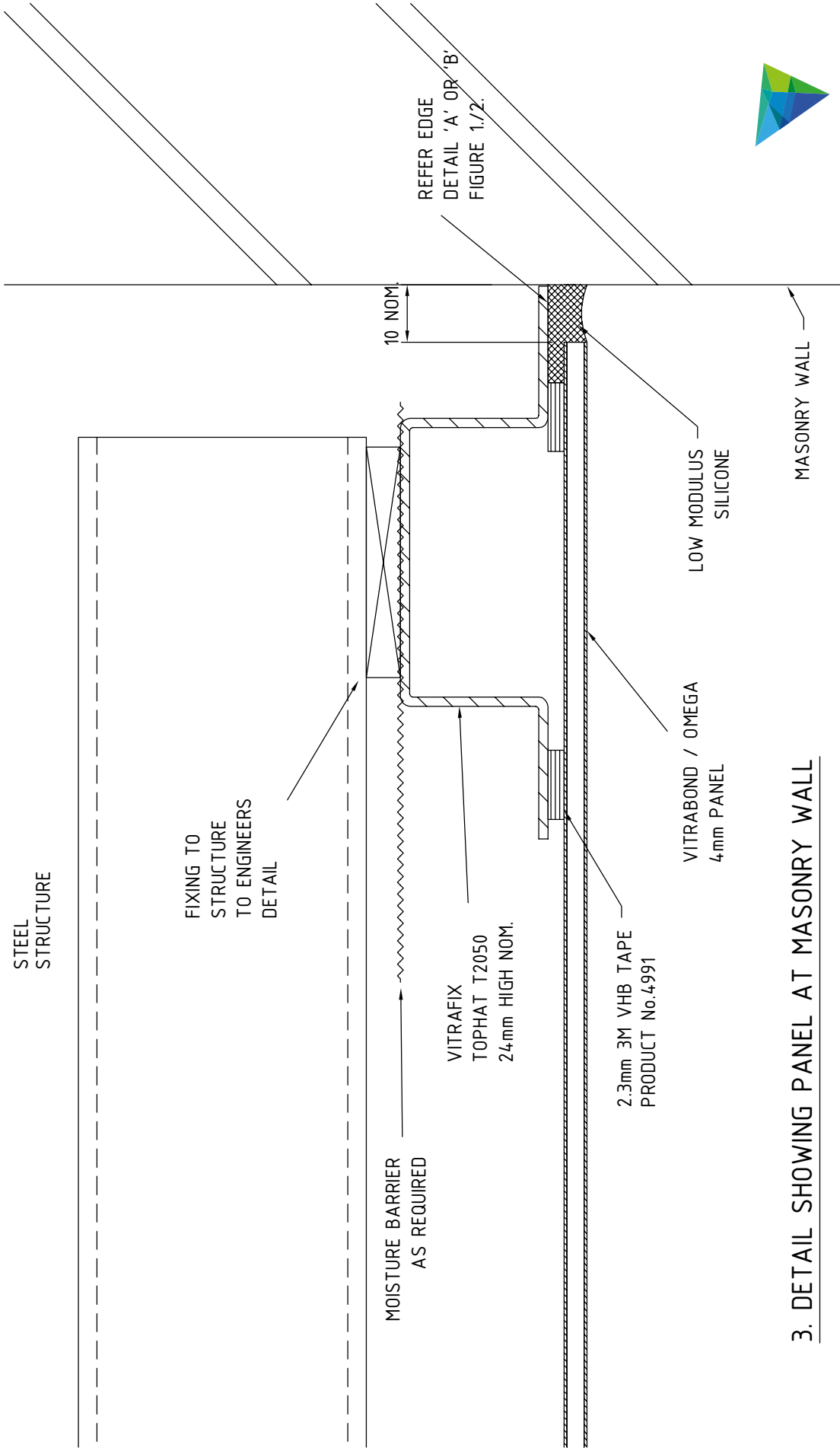


FAIRVIEW™

DEFINING ARCHITECTURE SINCE 1968

18-20 Donald St
 Lithgow, NSW 2790
 P: 02 6352 2355
 E: helpdesk@fv.com.au
 W: www.fv.com.au

DISCLAIMER:
 THESE DETAILS ARE LIMITED TO THE GENERALISED DESIGN SPECIFICATION FOR
 VITRABOND, AND ARE INTENDED FOR USE BY A TECHNICALLY SKILLED PERSON
 ONLY. ANY USE OF THE SAME IS AT THEIR OWN DISCRETION AND RISK.



3. DETAIL SHOWING PANEL AT MASONRY WALL

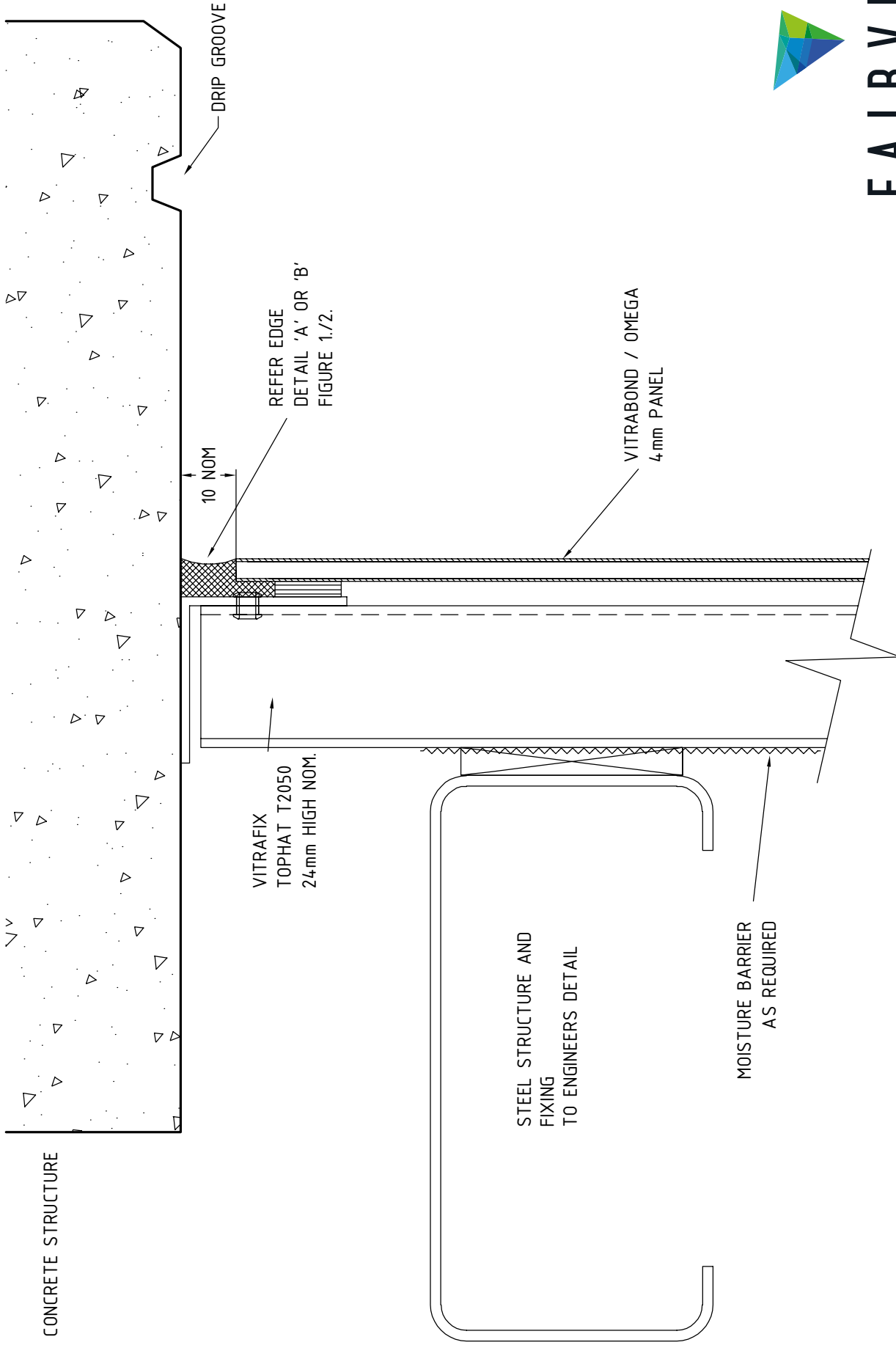


FAIRVIEWTM

DEFINING ARCHITECTURE SINCE 1968

18-20 Donald St
 Lithgow, NSW 2790
 P: 02 6352 2355
 E: helpdesk@fv.com.au
 W: www.fv.com.au

DISCLAIMER:
 THESE DETAILS ARE LIMITED TO THE GENERALISED DESIGN SPECIFICATION FOR VITRABOND, AND ARE INTENDED FOR USE BY A TECHNICALLY SKILLED PERSON ONLY. ANY USE OF THE SAME IS AT THEIR OWN DISCRETION AND RISK.



4. DETAIL AT SLAB JUNCTION - HEAD

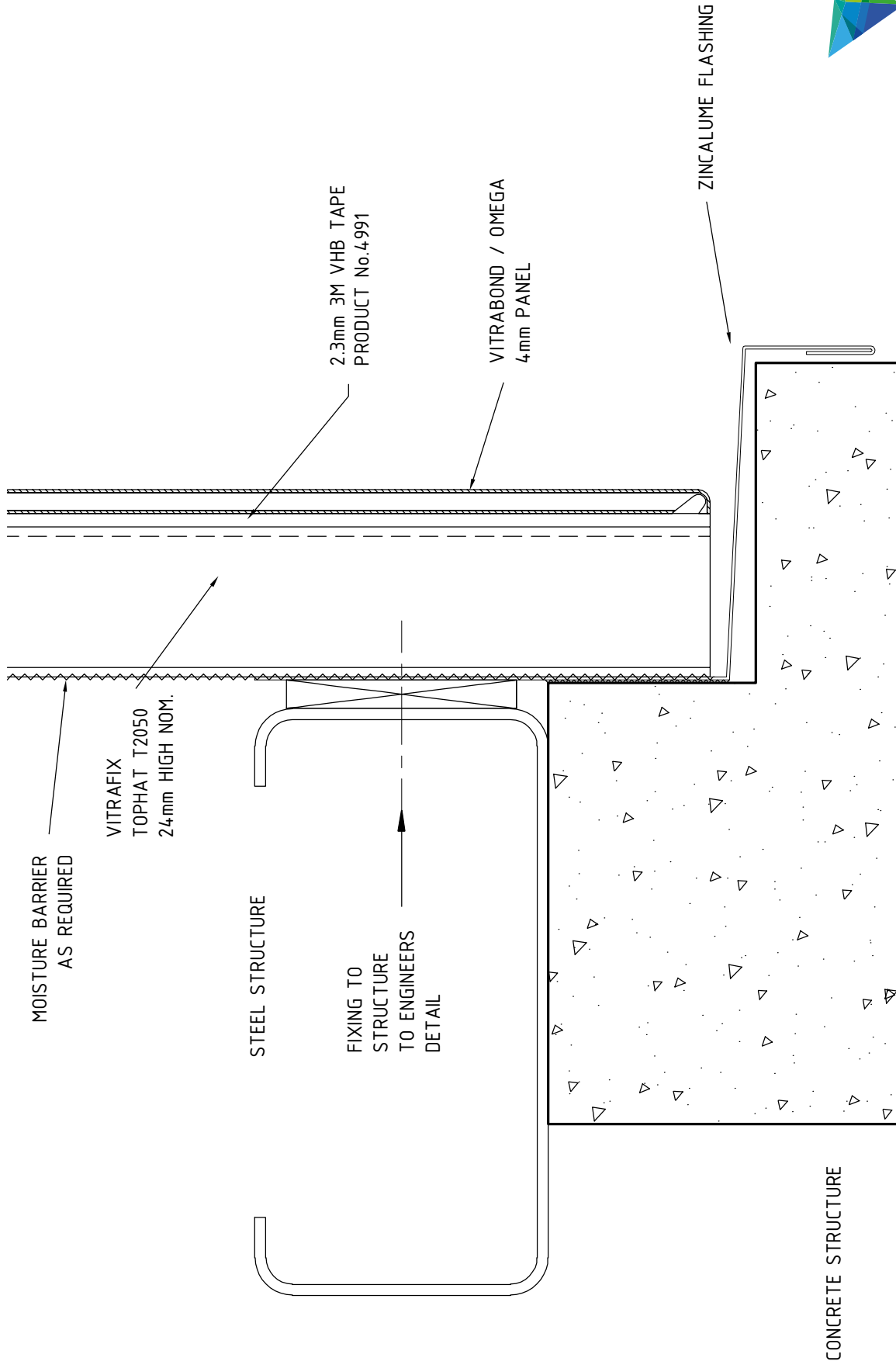
DISCLAIMER:
 THESE DETAILS ARE LIMITED TO THE GENERALISED DESIGN SPECIFICATION FOR VITRABOND, AND ARE INTENDED FOR USE BY A TECHNICALLY SKILLED PERSON ONLY. ANY USE OF THE SAME IS AT THEIR OWN DISCRETION AND RISK.



FAIRVIEWTM

DEFINING ARCHITECTURE SINCE 1968

18-20 Donald St
 Lithgow, NSW 2790
 P: 02 6352 2355
 E: helpdesk@fv.com.au
 W: www.fv.com.au



5. DETAIL AT SLAB JUNCTION - BASE

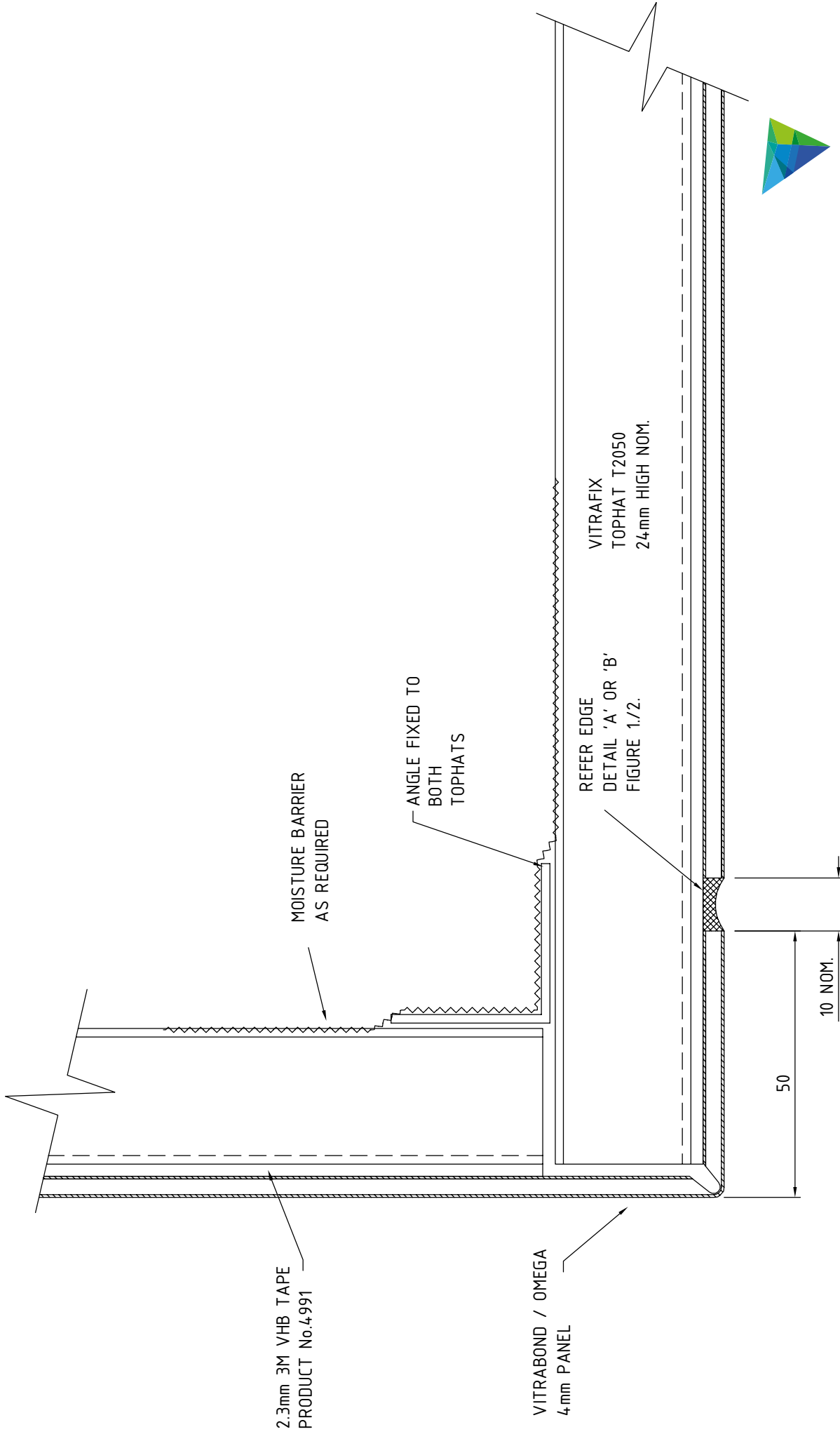


FAIRVIEWTM

DEFINING ARCHITECTURE SINCE 1968

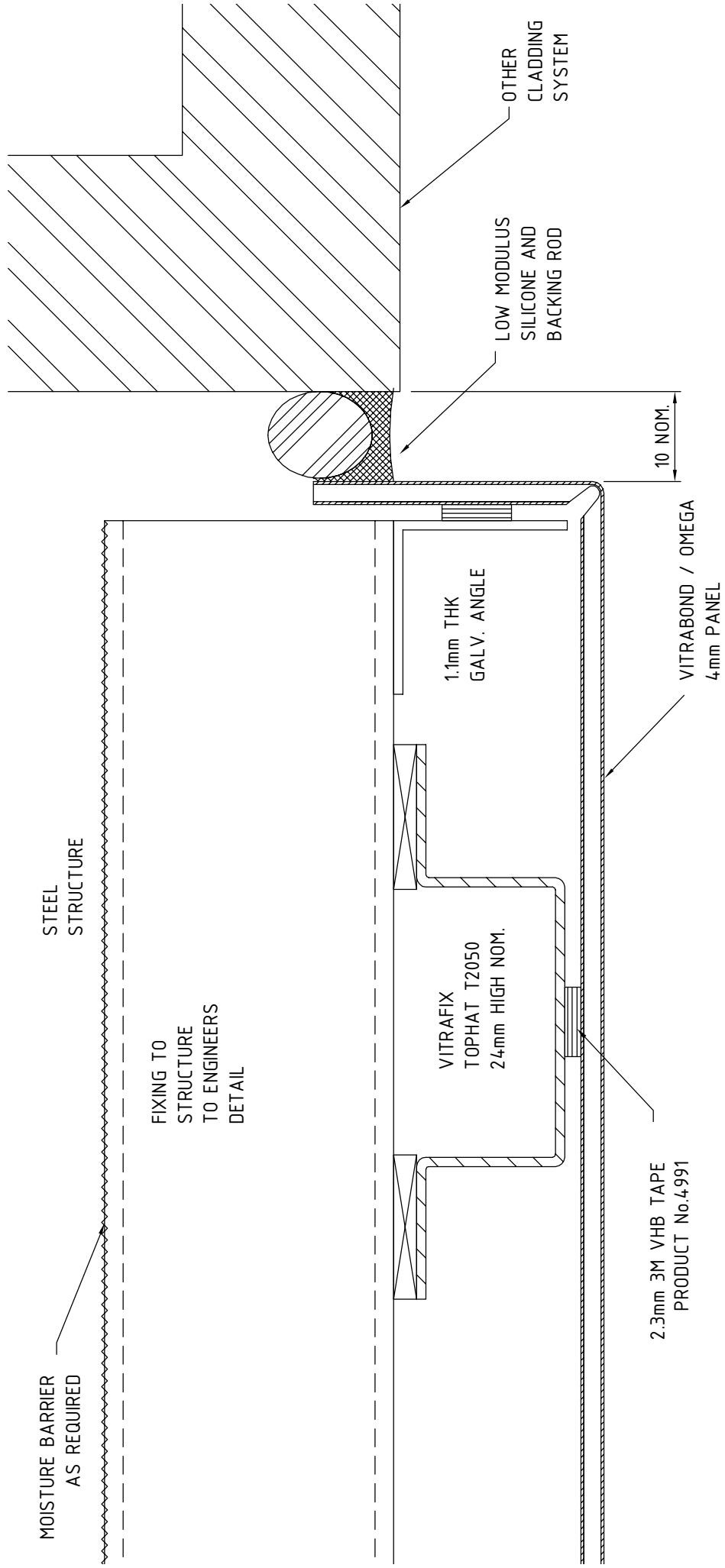
18-20 Donald St
 Lithgow, NSW 2790
 P: 02 6352 2355
 E: helpdesk@fv.com.au
 W: www.fv.com.au

DISCLAIMER:
 THESE DETAILS ARE LIMITED TO THE GENERALISED DESIGN SPECIFICATION FOR
 VITRABOND, AND ARE INTENDED FOR USE BY A TECHNICALLY SKILLED PERSON
 ONLY. ANY USE OF THE SAME IS AT THEIR OWN DISCRETION AND RISK.



6. DETAIL AT SOFFIT JUNCTION

DISCLAIMER:
THESE DETAILS ARE LIMITED TO THE GENERALISED DESIGN SPECIFICATION FOR
VITRABOND, AND ARE INTENDED FOR USE BY A TECHNICALLY SKILLED PERSON
ONLY. ANY USE OF THE SAME IS AT THEIR OWN DISCRETION AND RISK.



7. WALL ABUTMENT DETAIL

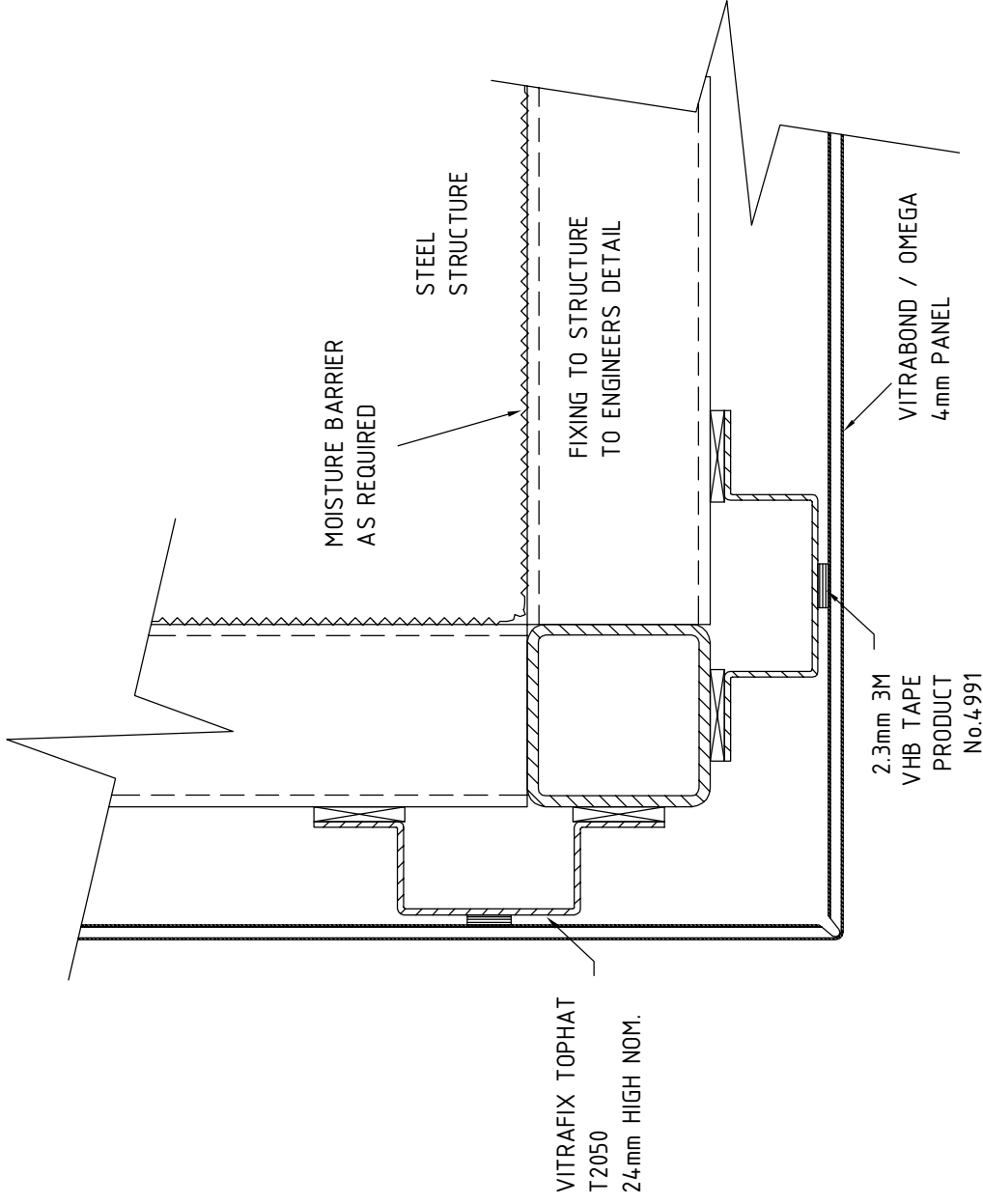


FAIRVIEW™

DEFINING ARCHITECTURE SINCE 1963

18-20 Donald St
 Lithgow, NSW 2790
 P: 02 6352 2355
 E: helpdesk@fv.com.au
 W: www.fv.com.au

DISCLAIMER:
 THESE DETAILS ARE LIMITED TO THE GENERALISED DESIGN SPECIFICATION FOR
 VITRABOND, AND ARE INTENDED FOR USE BY A TECHNICALLY SKILLED PERSON
 ONLY. ANY USE OF THE SAME IS AT THEIR OWN DISCRETION AND RISK.



8. EXTERNAL CORNER DETAIL

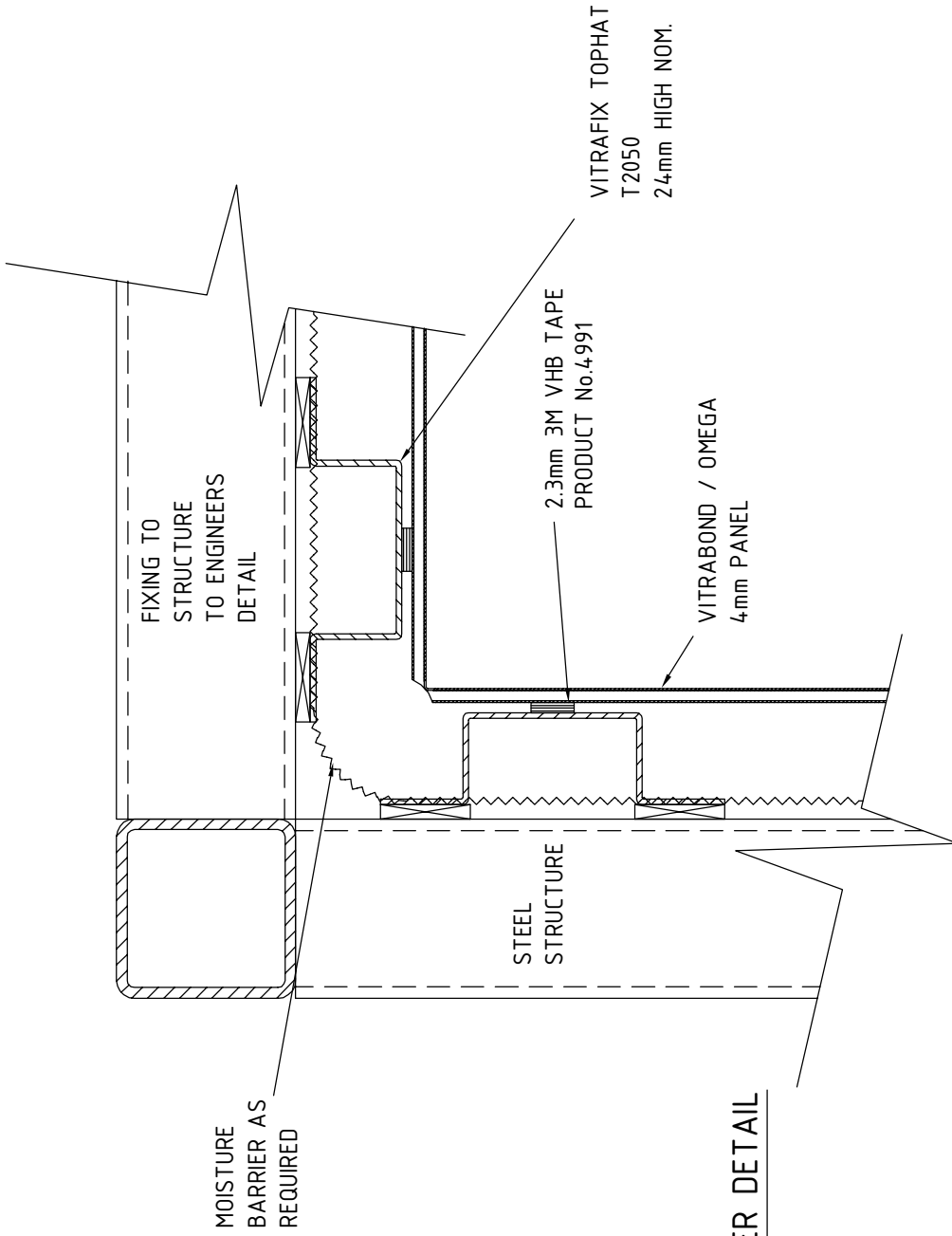


FAIRVIEW™

DEFINING ARCHITECTURE SINCE 1968

18-20 Donald St
 Lithgow, NSW 2790
 P: 02 6352 2355
 E: helpdesk@fv.com.au
 W: www.fv.com.au

DISCLAIMER:
 THESE DETAILS ARE LIMITED TO THE GENERALISED DESIGN SPECIFICATION FOR VITRABOND, AND ARE INTENDED FOR USE BY A TECHNICALLY SKILLED PERSON ONLY. ANY USE OF THE SAME IS AT THEIR OWN DISCRETION AND RISK.



9. INTERNAL CORNER DETAIL

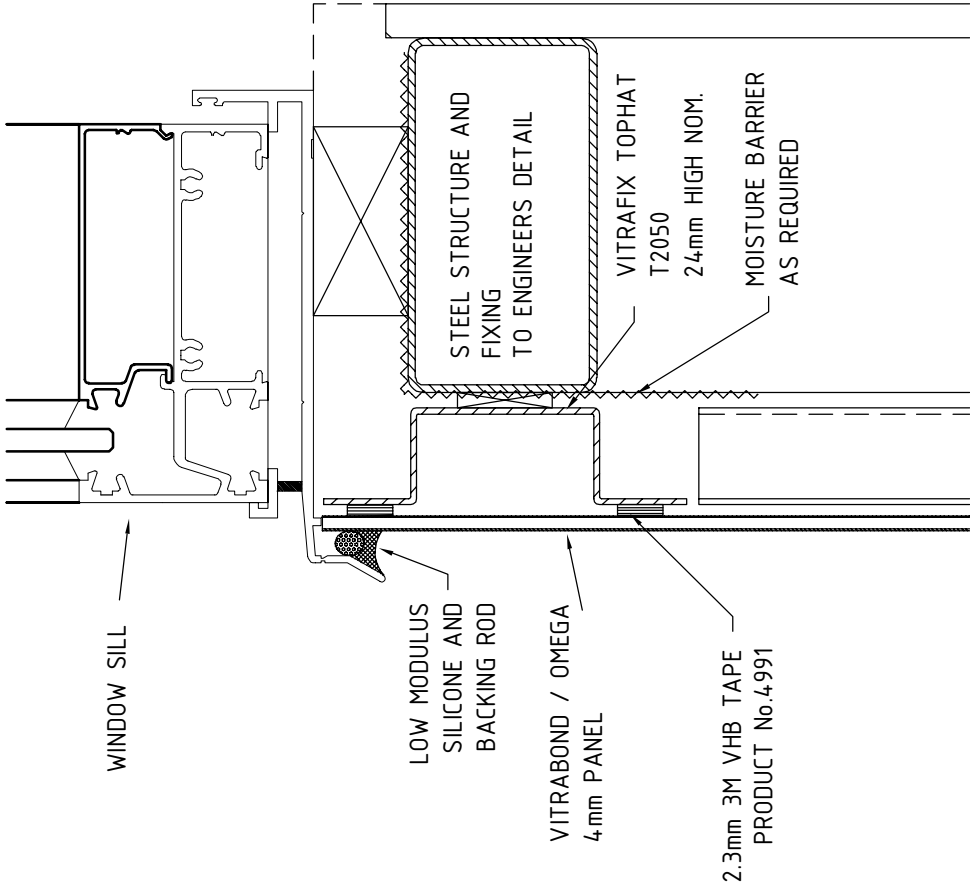


FAIRVIEW™

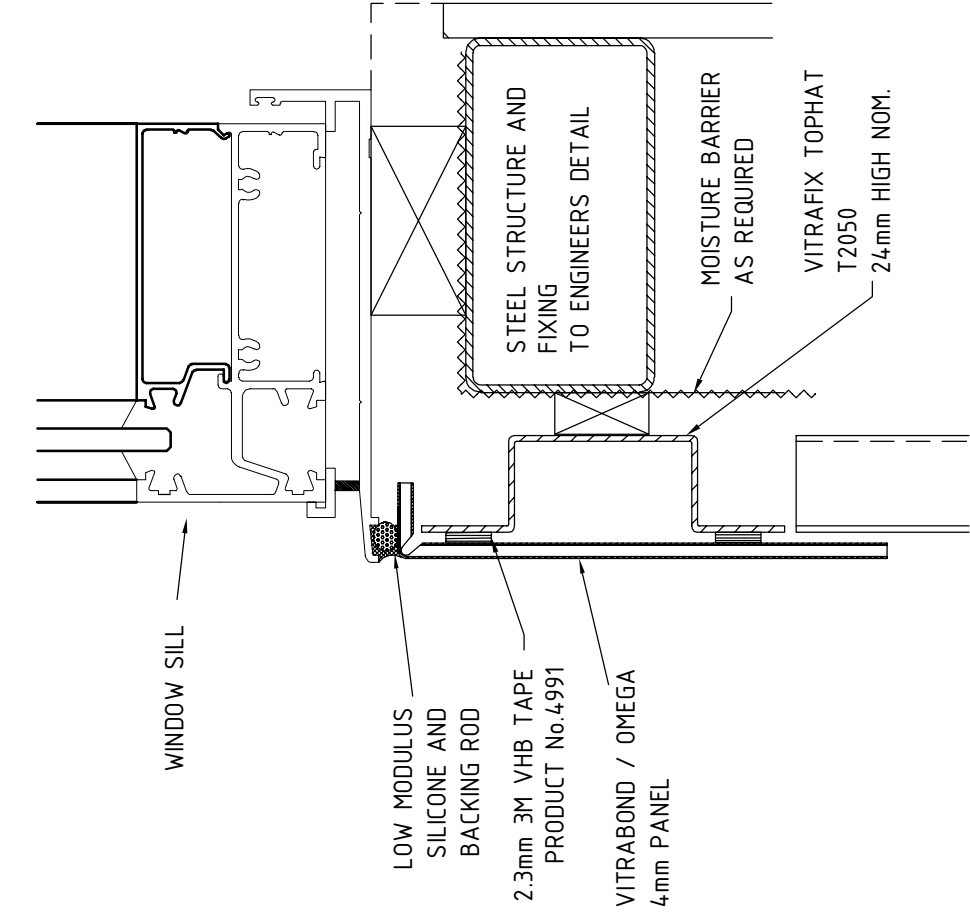
DEFINING ARCHITECTURE SINCE 1968

18-20 Donald St
 Lithgow, NSW 2790
 P: 02 6352 2355
 E: helpdesk@fv.com.au
 W: www.fv.com.au

DISCLAIMER:
 THESE DETAILS ARE LIMITED TO THE GENERALISED DESIGN SPECIFICATION FOR VITRABOND, AND ARE INTENDED FOR USE BY A TECHNICALLY SKILLED PERSON ONLY. ANY USE OF THE SAME IS AT THEIR OWN DISCRETION AND RISK.



10. WINDOW SILL DETAIL



ALTERNATIVE SILL ARRANGEMENT

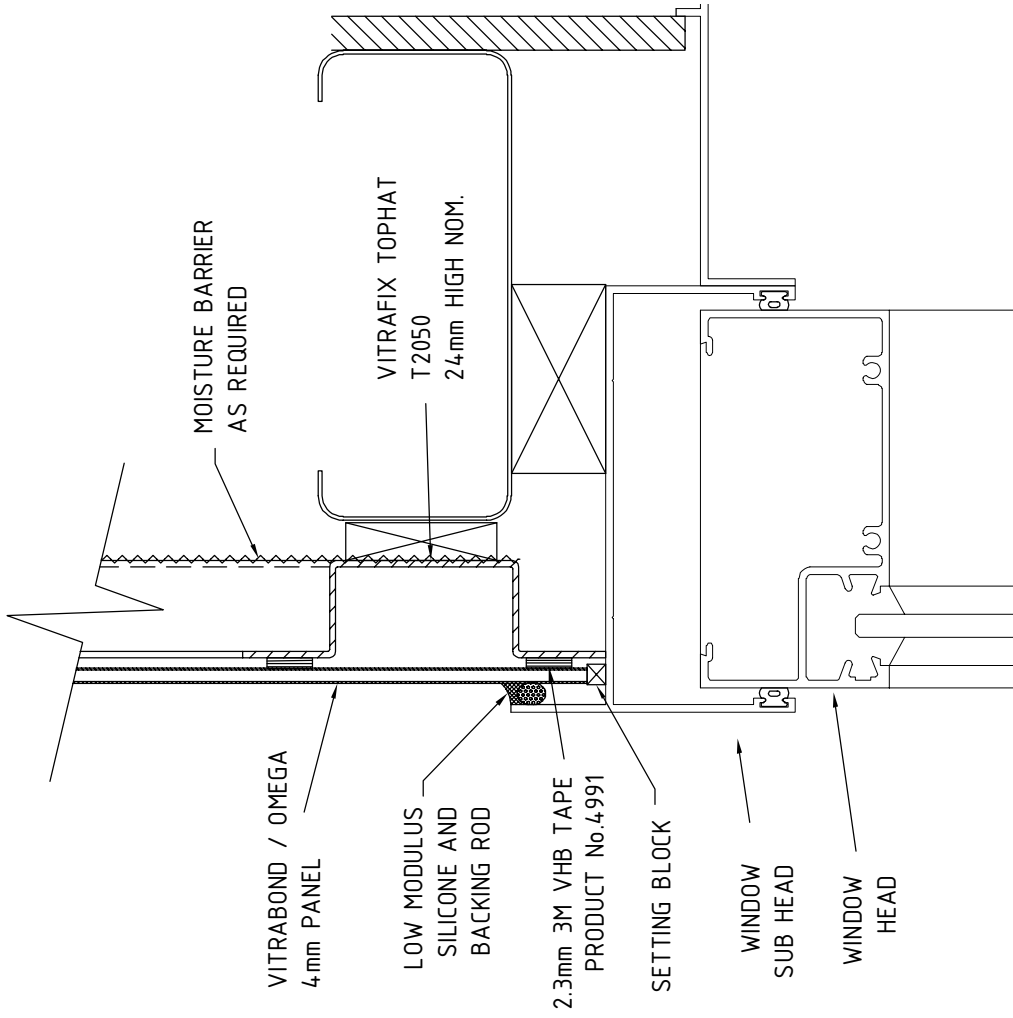


FAIRVIEWTM

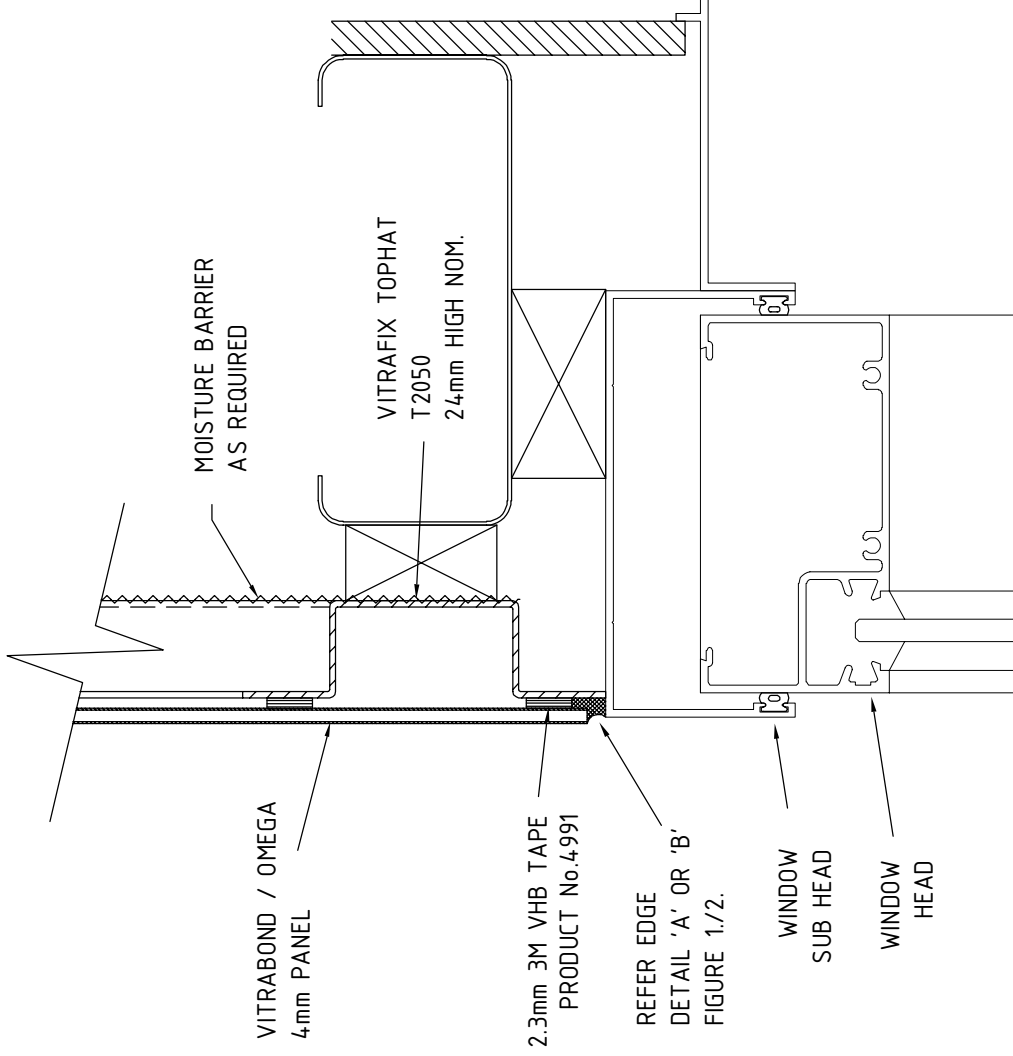
DEFINING ARCHITECTURE SINCE 1968

18-20 Donald St
Lithgow, NSW 2790
P: 02 6352 2355
E: helpdesk@fv.com.au
W: www.fv.com.au

DISCLAIMER:
THESE DETAILS ARE LIMITED TO THE GENERALISED DESIGN SPECIFICATION FOR VITRABOND, AND ARE INTENDED FOR USE BY A TECHNICALLY SKILLED PERSON ONLY. ANY USE OF THE SAME IS AT THEIR OWN DISCRETION AND RISK.



ALTERNATIVE SILL ARRANGEMENT



11. WINDOW HEAD DETAIL

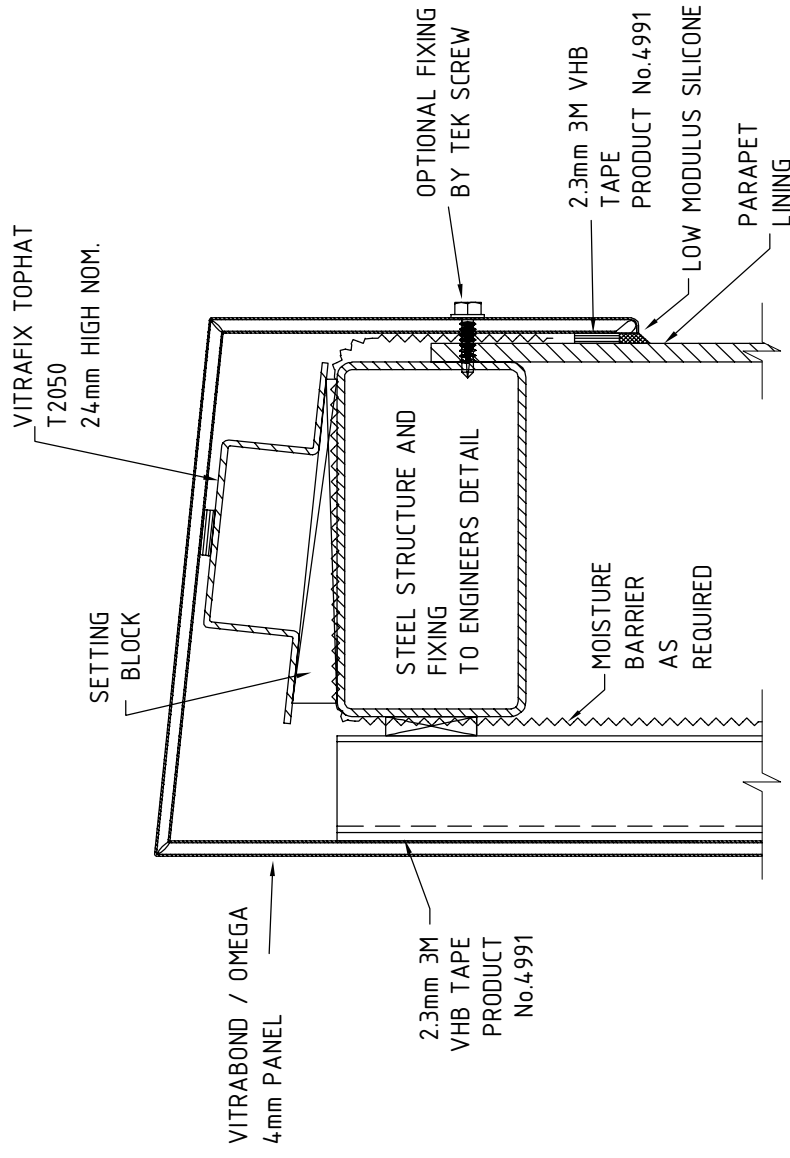


FAIRVIEWTM

DEFINING ARCHITECTURE SINCE 1968

18-20 Donald St
 Lithgow, NSW 2790
 P: 02 6352 2355
 E: helpdesk@fv.com.au
 W: www.fv.com.au

DISCLAIMER:
 THESE DETAILS ARE LIMITED TO THE GENERALISED DESIGN SPECIFICATION FOR
 VITRABOND, AND ARE INTENDED FOR USE BY A TECHNICALLY SKILLED PERSON
 ONLY. ANY USE OF THE SAME IS AT THEIR OWN DISCRETION AND RISK.



12. PARAPET CAPPING DETAIL



FAIRVIEW™

DEFINING ARCHITECTURE SINCE 1968

18-20 Donald St
Lithgow, NSW 2790
P: 02 6352 2355
E: helpdesk@fv.com.au
W: www.fv.com.au

DISCLAIMER:
THESE DETAILS ARE LIMITED TO THE GENERALISED DESIGN SPECIFICATION FOR
VITRABOND, AND ARE INTENDED FOR USE BY A TECHNICALLY SKILLED PERSON
ONLY. ANY USE OF THE SAME IS AT THEIR OWN DISCRETION AND RISK.



vitrabond®

ALUMINIUM COMPOSITE PANEL / MANUFACTURED BY FAIRVIEW

FAIRVIEW PRODUCT RANGE:



vitrastone™

NATURAL STONE CLADDING SYSTEM / MANUFACTURED BY FAIRVIEW



ceramapanel™

COMPRESSED FIBRE CEMENT FACADE / MANUFACTURED BY FAIRVIEW



vitranamel®

VITREOUS ENAMEL PANEL / MANUFACTURED BY FAIRVIEW



vitraART™

CUSTOM GRAPHIC CLADDING / DEVELOPED BY FAIRVIEW



vitracore G2®

NON-COMBUSTIBLE COMPOSITE PANEL / MANUFACTURED BY FAIRVIEW



vitrafix™

VITRABOND FIXING ACCESSORIES / MANUFACTURED BY FAIRVIEW



vitradual™

NON-COMBUSTIBLE CASSETTE CLADDING / MANUFACTURED BY FAIRVIEW



INSULATED SANDWICH PANEL / SUPPLIED BY FAIRVIEW



NON-COMBUSTIBLE FACADE PANEL / SUPPLIED BY FAIRVIEW



TERRACOTTA FACADE TILES / SUPPLIED BY FAIRVIEW



Fibre cement facade materials

HIGH DENSITY FIBRE CEMENT / SUPPLIED BY FAIRVIEW



FAIRVIEW™

DEFINING ARCHITECTURE SINCE 1963

AUSTRALASIA

P / +61 2 6352 2355

helpdesk@fv.com.au

NORTH AMERICA

P / +1 860 242 2711

helpdesk.na@fairviewarch.com

UNITED KINGDOM

P / +44 1278 428 245

helpdesk.uk@fairviewarch.com



WWW.FV.COM.AU