Stria™ CLADDING



板条空心结构横向安装法技术规范

2020年8月 | 新 西 兰

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1 Application and scope 用途与范围

1.1 APPLICATION 用途

Stria™ Cladding installed as per this specification gives a panelised plastered masonry appearance on building facades. Stria Cladding can be fixed to either timber or lightweight steel-framed external walls. A wide range of colours can be used varying from light to dark. Stria Cladding is available in 405mm wide x 4200mm lengths and is 14mm thick.

按照本规范安装的Stria™ 外墙板材会形成一种石膏板状的砖石形态外观。Stria外墙板可以安装在实木框架的外墙或钢结构框架的外墙上，该板材有由浅到深的多种颜色可供选择，板材尺寸为405mm宽x4200mm长，厚度为14mm。

If you are a specifier 如果您是项目监管者

Or other responsible party for a project ensure that the information in this document is appropriate for the application you are planning and that you undertake specific design and detailing for areas which fall outside the scope of these specifications.

或者您是项目的其他责任方，请确保您所计划的用途与本文件中所陈述的信息一致，如有超出所述用途的部分，请确保加以具体的工程设计并提供设计详图。

If you are an installer 如果您是项目施工方

Ensure that you follow the design, moisture management principles, associated figures and material selection provided by the designer and this James Hardie Technical Specification. All the details provided in this document must be read in conjunction with the project specification.

请确保遵循设计师及这本James Hardie技术规范中的规定，这些规定包括项目设计、湿度控制方案、相关数值及物料选择方面的规定。本手册中的所有详图都应结合工程本身的规范说明进行解读。

Make sure your information is up to date

确保您的信息是最新的

When specifying or installing James Hardie products, ensure that you have the current manual. Additional installation information, warranties and warnings are available at www.jameshardie.co.nz or Ask James Hardie™ on 0800 808 868.

当您需要讲解或安装James Hardie的产品时，请确保您手头拥有最新的技术手册。如果您需要更多关于安装、质保及施工安全提醒等方面的信息,请登录 www.jameshardie.co.nz网站，或拨打0800 808 868电话，向Ask James Hardie咨询。

1.2 SCOPE 范围

This specification covers the installation of Stria Cladding fixed over timber cavity battens on buildings that fall within the scope limitation of NZS 3604 and E2/AS1 of the New Zealand Building Code (NZBC).

本技术规范涵盖了Stria外墙板材在板条空心结构建筑物上的应用，适用建筑物类型包括在《新西兰3604号国家标准（NZS3604)》和《新西兰建筑规范 (NZBC) 》合格方案第E2/AS1条款中所列的建筑种类。

This specification also covers the installation of Stria Cladding on projects, which are subject to specific engineering design (SED) up to a wind pressure of 2.5kPa (ULS).

本规范也涵盖了在风压为2.5kPa (ULS) 及以下的“特殊设计项目（SED）”建筑上，Stria外墙板材应如何应用。

Note: Refer to Stria Cladding CLD Structural Cavity Batten technical specification when fixing to CLD Structural Cavity Battens.

注意： 如需在CLD框架的板条空心结构上安装，请参阅《Stria 外墙板 CLD 框架板条空心结构 技术规范》。

1.3 DETAILS 详图

Various typical Stria Cladding construction details are provided in the Details section of this document. These details are available in dwg, dxf, jpg and pdf file format and can be downloaded from our website at www.jameshardie.co.nz.

Stria外墙板材安装施工的各种详图都可在本文档的“详图”部分找到。您也可以前往我们的网站www.jameshardie.co.nz，那里可下载到本文档的CAD、ArchiCAD、MOD及pdf格式版本。

All dimensions shown are in millimetres unless noted otherwise.

除特殊标明单位处之外，详图中所有其它尺寸默认单位为毫米。

1.4 SPECIFIC DESIGN 特殊设计

For use of the Stria Cladding on specific design projects, the designer, architect or engineer must ensure that all clauses of NZBC have been considered and a specific design has been undertaken for the areas which fall outside the scope of this literature.

如要将Stria外墙板材应用于超出本文档所述使用范围的其它用途， 则建筑师、设计师或工程师必须确保该应用符合NZBC的相关条款规定，并进行相应的具体设计。

2 Design 设计

2.1 COMPLIANCE 达标情况

Stria Cladding installed in accordance with this specification has been tested as per E2/VM1 and complies with External Moisture - E2 Clause of the NZBC. The cladding has also been tested and complies with the requirements of Structure - B1, Durability - B2, Energy Efficiency - H1 and Hazardous Building Material - F2 Clauses of the NZBC.

经测试，按照本规范进行纵向安装的Stria外墙板材符合新西兰建筑规范标准中的E2、B1和B2条款。经过按照E2/VM1进行的测试，按照本说明进行安装的Stria外墙板符合外墙板材符合新西兰建筑规范标准中E2 – 外部湿气部分的要求。同时，经测试该外墙板也符合NZBC中B1 – 结构、B2 – 耐久性、H1 – 隔温能效，和F2 – 有害建材等条款的要求。

2.2 RESPONSIBILITY 责任

The specifier or other party responsible for the project must ensure that the information and details in this specification are appropriate for the intended application and that additional

detailing is performed for specific design or any areas that fall outside the scope of this technical specification. For applications outside the scope of this literature and details, which are not provided herein, the architect, designer or engineer must undertake specific design and it should be ensured that the intent of their design meets the requirements of the NZBC.

施工监管方或其他责任方必须确保所计划的用途与本文件中所陈述的信息及详图一致，并对额外增加的或特殊设计的部分加以额外详细说明及提供详图。如有超出本施工规范的描述及详图之外的用途，则建筑师、设计师或工程师必须进行具体的工程设计，并确保所有设计符合新西兰建筑规范的要求。

All New Zealand Standards referenced in this manual are current editions and must be complied with.

本手册中引用的所有“新西兰标准”都指现行版本，须严格遵守。

James Hardie conducts stringent quality checks to ensure that any product manufactured falls within our quality spectrum. It is the responsibility of the builder to ensure that the product meets aesthetic requirements before installation. James Hardie will not be responsible for rectifying obvious aesthetic surface variations following installation.

James Hardie执行严格的质量检验程序，以确保出厂的任何产品都符合我们的质量要求。在安装前，确认产品符合客户的审美要求是施工者的责任。 一旦安装开始，James Hardie不负责修正由此造成的任何明显的美学偏差问题。

2.3 SITE AND FOUNDATION 施工现场及地基

The site on which the building is situated must comply with E1/AS1 Surface Water Clause of NZBC.

建筑物所在的位置必须符合NZBC合格方案中E1/AS1条款“地表水”部分的要求。

Foundations design must comply with relevant regulations, standards and meet the requirements of NZBC.

地基的设计必须符合各种相关规定、标准，并符合NZBC的要求。

The grade of adjacent finished ground must slope away from the building to avoid any possibility of water accumulation.

与房屋相连接的已铺地面，其坡度必须由房屋起向下倾斜，以避免造成积水。

2.4 SURFACE CLEARANCES 接地间隙

The clearance between the bottom edge and paved/unpaved ground of cladding must comply with section 9.1.3 of E2/AS1. The finished floor must also comply with these requirements. These clearances must be maintained throughout the life of the building.

护墙板下缘与已铺／未铺地面的间隙必须符合NZBC合格方案E2/AS1部分第9.1.3条中的相应规定。已竣工地板的高度也必须符合以上规定。并且须要一直保持这一间隙的标准，贯穿建筑物寿命始终。

Stria Cladding must overhang the bottom plate by a minimum of 50mm as required by E2/AS1.

根据NZBC合格方案第E2/AS1部分的规定。

Stria Cladding must maintain a minimum clearance of 100mm from paved ground, and 175mm from unpaved ground.
On roofs and decks, the minimum clearance must be 50mm.

Stria外墙板材必须用于建筑物水泥主墙板的外层，并与水泥墙板保持至少50mm的距离。Stria外墙板材下缘必须与已铺地面保持至少100mm的距离，与未铺地面保持至少175mm的距离。 当用于屋顶及露台时，间隙须大于50mm。

Do not install external cladding such that it may remain in contact with water or ground. Refer Figures 4 and 5.

不要将外墙板材安装在可能持续接触到水或地面的地方。参见图4和图5。

2.5 MOISTURE MANAGEMENT 湿度控制

It is the responsibility of the specifier to identify moisture related risks associated with any particular building design.

发现及控制由某种建筑设计而产生的湿度风险是施工监管者的责任。

Wall construction design must effectively manage moisture, considering both interior and exterior environments of the building, particularly in buildings that have a higher risk of wind driven rain penetration. The buildings should also be ventilated sufficiently to control moisture accumulation due to condensation especially in artificially cooled/heated buildings.

墙体结构的设计必须通过考量室内外的环境因素而有效控制室内湿度，特别是那些由于风向原因而容易灌入雨水的建筑。同时建筑应当充分通风，以减少由于水汽凝结而产生的湿气聚集，对于那些经常使用人工制冷或制热的建筑尤其需要注意。

Walls shall include those provisions as required by External Moisture Clause E2/AS1 of NZBC. In addition, all wall openings, penetrations, junctions, connections, window sills, heads and jambs must incorporate appropriate flashings for waterproofing. The other materials, components and installation methods used to manage moisture in external walls, must comply with the requirements of relevant standards and the NZBC. For further guidance on designing for weather tightness, refer to BRANZ Ltd. and the Department of Building and Housing updates on the following websites respectively, www.branz.co.nz and www.dbh.govt.nz.

墙体结构需要符合NZBC合格方案第E2/AS1中湿气控制部分的相关规定。另外，所有的不封闭墙体、被穿透墙体、墙体接缝、墙体连接，及窗台、窗楣和窗户边框处，都必须安装合适的防水板用于隔离湿气。墙体外侧的其他用于控制室内湿度的材料、部件及其安装方式， 都须要符合NZBC的相关标准要求。欲了解更多有关防雨防潮设计的信息，请到www. branz.co.nz参阅新西兰建筑研究协会(BRANZ)的资料更新，或到www.building.govt.nz参阅新西兰商业创新与就业部 (MBIE)提供的最新信息。

In addition, the following issues must also be considered:

同时，也请考虑以下问题：

- Sealant must be installed where detailed in this literature.
  在本规范中说明要适用密封剂处，请务必使用。
- Where the walls are higher than two storeys, it is necessary to provide a horizontal flashing at the second floor level to drain the cavity.
  当墙体高度高于两个楼层时，需要在在第二层处安装一块水平的防水板，以便将墙体夹层的湿气排出室外。
- The installation of smoke chimneys, pipe penetrations and other fixtures etc. must not track moisture into the wall or restrict the drainage of moisture to the exterior.
  当安装烟囱、烟道及其它固定设施时，必须防止将湿气引入墙体，或阻碍湿气被排出室外的现象发生。

2.6 STRUCTURE 结构

2.6.1 Timber Framing **木框架结构**

Timber-framed buildings must either be in accordance with NZS 3604 (Timber Framed Buildings) or designed as per specific engineering design. For a building requiring a specific engineering design, the framing stiffness must be equivalent to or more than the stiffness requirements of NZS 3604.

木框架结构建筑物必须符合NZS3604标准的“木框架结构建筑”部分的规定，或按照某套具体的工程设计而建。当建筑物需要进行特殊工程设计时，其框架结构硬度必须大于等于NZS3604有关框架结构硬度的要求值。

2.6.2 Steel Framing **钢框架结构**

Steel-framed buildings must comply with the requirements of AS/NZS 3404 ‘Steel Structures Standard’ or specific engineering design requirements. Also refer to NASH 3405 steel framed buildings guidance document published by ‘National Association of Steel Housing’ (NASH).

刚框架结构的建筑必须符合AS/NZS 3404中“钢结构标准”的规定，或者遵循该特殊工程设计的要求。同时请参阅国家钢材建筑协会所出版的《NASH 3405刚框架结构建筑指南》。

2.6.3 Wind Pressures **风荷载**

Stria Cladding is suitable for use in all wind zones in New Zealand up to and including EH as defined in NZS 3604.

Stria护墙板外墙可适用于新西兰境内的符合NZS 3604定义的所有EH及以下级别风区。

Stria Cladding is also suitable in specific design projects up to wind pressures of 2.5kPa ULS.

此外，Stria外墙板材还适用于风压小于等于2.5kPa（ULS) 的特殊工程设计项目。

2.7 FIRE RATED WALLS 墙面防火等级

Stria Cladding when fixed over timber cavity battens to external walls can achieve fire ratings up to 60/60/60 to comply with Clause C/AS1 of the NZBC when the walls are constructed in accordance with the current James Hardie ‘Fire and Acoustic’ Design Manual.

只要按照现行的《James Hardie消防与隔音设计手册》的指导进行安装，固定于木框架板条空心结构外墙上的Stria外墙板材都可达到60/60/60之高的防火等级，符合NZBC中的C/AS1 条款。

Stria Cladding is classified as a 'non-combustible' material suitable for use on walls close to a boundary.

Stria外墙板材被划分为不可燃物，可以被用于墙体边界。

2.8 STRUCTURAL BRACING 结构支撑

Stria Cladding installed as per this specification cannot be used to achieve any structural bracing. However, bracing can be achieved by using James Hardie rigid air barrier installed direct to framing instead of a building underlay or by using Villaboard® Lining bracing system on the internal face.

按照本规范进行安装的Stria外墙板无法达到任何结构支撑的功能。但是，通过用James Hardie刚性密封板替代常规的软性隔层，或在内墙墙面上使用Villaboard® 内衬支撑系统，都可以达到支撑的效果 。

2.9 ENERGY EFFICIENCY 隔热能效

External walls constructed as per this technical specification using Stria Cladding and bulk insulation, where the area of glazing is 30% or less of the total wall area, tcomplies with the insulation requirements for walls in NZBC Acceptable Solution H1/AS1 (Energy Efficiency Clause H1), Replacement Table 1. To meet thermal insulation requirements for the construction, the bulk insulation as specified in Table 1 must be used. This insulation may be substituted with insulations having higher R-values. The thermal insulation of a wall changes when the size or spacing of timber framing is increased or decreased. The calculation used in Table 1 is based on a timber framing size 90 x 45mm and using an internal lining material such as James Hardie Villaboard Lining or a 10mm plasterboard.

按照本技术手册的说明安装了Stria外墙板材、并装有主体保温层的墙体，只要玻璃面积不超过所有墙体总面积的30%， 即可符合NZBC合格方案中H1/AS1部分第H1条‘隔热能效’”中“替换表1”对墙体保温的要求。为达到建筑物最低保温要求，必须按照表1的规定为墙体安装主体保温层。也可使用热阻更高的隔热材料替代该保温层。墙体的隔热效果会受到木框架厚度及间距的增减，或墙筋间距大小的影响 。表1算式的前提是：木框架尺寸90 x 45mm，内墙材料为内墙板或10mm石膏板，或者同类材料。

Table 1 **表**1

Insulation capability 隔热能效		
Climate Zone* 气候区	**R-Value Requirement*** 建筑物热阻指数要求	**Cavity Insulation Infill Requirement** 隔热层最小热阻要求
1 and 2 1区和2区	1.9 m^2 ºC/W	#R2.0
3区	2.0 m^2 ºC/W	#R2.2

Total construction R-Value depends on the insulation material used and the framing ratio. The insulation material R-Values specified in this table are for studs spaced at 600mm c/c and nogs spaced at 800mm c/c.

一个建筑物的总热阻指数是由所选用的隔热层材料和建筑框架结构共同决定的。上表中所列出的隔热层材料热阻值是基于前提下得出的：墙筋中心间距600mm，木钉中心间距800mm。

To achieve higher R-Values of construction the wall insulation material must be replaced with an insulation material having higher R-Values to suit the requirements.

#如欲达到更高的建筑物热阻级别，则需要选用热阻更高的隔热层材料来替换上述材料。

For further guidance on insulation requirement refer to the current edition of ‘House Insulation Guide’ published by BRANZ.

更多关于隔热层的指导信息，请参阅BRANZ出版的最新版本《住房隔热层指南》

3 Framing框架

3.1 GENERAL 概述

Stria Cladding can be fixed either to a timber-frame or steel-frame.

Stria外墙板材可以安装在木结构或钢结构框架上。如需在钢结构框架上安装，请拨打0800 808 868，向Ask James Hardie询问具体要求。

For fixing into steel frame Ask James Hardie on 0800 808 868 for specific requirements.

- Studs must be provided at 600mm centrs maximum.
  墙筋中心间距不得大于600mm。
- Nogs must be provided at 800mm centres maximum.
  木钉中心间距不得大于800mm。

Note: For fixing Stria Cladding, fastener spacing is provided in Section 5.

注意：针对Stria外墙板材的安装，对于建筑固件间距（Fastener spacing）的要求请参见本手册第五部分。

3.2 TIMBER FRAMING 木框架结构

3.2.1 Dimensions 尺寸规格

A 45 x 90mm minimum framing size is required.

框架木材的尺寸需大于等于90 x 45mm。

A minimum 70mm wide stud is required at vertical joint flashing joints.
在纵接的防水板接缝处，木钉距离需大于等于70mm。

3.2.2 Structural Grade 木材等级

Timber grade used must be in accordance with timber grades specified in NZS 3604.

建筑物所使用的木材等级必须符合NZS 3604中的规定。

3.2.3 Durability 耐久性

The external framing timber must be treated to a minimum H1.2 treatment. Higher treatment levels may be used but check for the compatibility of treatment chemicals with other materials. Refer to NZBC Acceptable Solution B2/AS1 Durability for further information about the durability requirements.

房屋框架所用的木材必须经过化学处理，达到至少H1.2的处理程度。更高的处理程度同样可行，但请事先确保该化学处理剂与建筑中的其它材料兼容。更多关于耐久性要求的详细信息，请参阅NZBC合格方案B2/AS1部分。

For timber treatment and allowable moisture content information refer to NZS 3602 (Timber and Wood-Based Products for use in Buildings) and NZS 3640 (Chemical Preservation of Round Sawn Timber) for minimum timber treatment selection and treatment requirements.

有关木材处理及木材含水量的可接受范围的信息，请参阅NZS 3602 – 建筑用途的木材及木质产品以及NZS 3640 – 圆形锯木的化学防腐，查看木材处理程度最低限值及处理规范的信息。

Also refer to framing manufacturer's literature for further guidance on timber selection. Framing must be protected from moisture at sites in accordance with the framing manufacturer recommendations.

另请参阅木框架生产商所提供的说明材料，获得关于选择木材的进一步指导。在施工现场，必须按照生产商的建议对木框架材料进行防潮保护。

Note: Refer to NZS 3602 for information about the allowable moisture content in timber framing.

注意：请参阅NZS 3602，获得有关木材含水量的可接受范围的信息。

3.2.4 Frame Construction 框架结构

Use of timber framing must be in accordance with NZS 3604 and the framing manufacturer's specifications. The framing must be rigid and not rely on the cladding for stability. Timber framing sizes and its set-out must comply with NZS 3604 and as specified in this technical specification.

对于木框架材料的使用方法必须符合NZS3604标准的规定并遵照生产厂商的具体说明。框架必须是刚性定型的，且不能倚靠外墙板的支撑。木框架材料的尺寸和布局都必须符合NZS3604标准的规定并遵照本技术手册的说明。

The following framing is required:

务必遵守以下关于木框架的要求：

- Studs must be provided at 600mm centres maximum.
  墙筋（Stud）中心距离不得大于600mm。
- Nogs must be provided at 800mm centres maximum.
  木钉（Nog）中心距离不得大于600mm。
- When studs are spaced at 400mm centres then the nogs / dwangs may be provided at 1200mm centres
  当木钉中心距离为400mm时，则木钉／转动杆的中心距离可以为1200mm。
- An extra stud is required in internal corners
  房屋阴角处需要额外多安装一枚木钉。
- For specific design projects exposed to wind speeds higher than 50m/sec, the stud spacing must be closed to 400mm c/c.
  对处于风速大于50米每秒地区的特殊设计建筑来说，墙筋之间的中心距离必须缩小为400mm。

In case of gable and trusses sitting on top plates of external wall frame, the frame size must comply with the minimum timber sizes stipulated for wall frames in section 8 of the NZS 3604.

如果山墙和桁架位于外墙框架的上托板上，那么框架结构的尺寸必须符合NZS 3604中第8部分所规定的墙体框架板条最小尺寸的要求。

3.3 STEEL FRAMING 钢框架结构

Refer to James Hardie Steel Frame technical specification about the installation of Stria Cladding to steel frame.

如需将Stria 外墙板安装在钢框架结构上，请参阅<James Hardie 钢框架结构技术手册》。

3.4 SPECIAL FRAMING REQUIREMENTS 特殊框架要求

The following are special framing requirements for both timber and steel framing:

以下是对木结构和钢结构框架同样适用的特殊框架要求：

- Double studs are required at internal corners, refer Figure 15.
  房屋阴角处需要使用双墙筋，参见图15。
- Extra packers maybe required at external corners.
  房屋阳角需要额外封隔。

3.5 TOLERANCES 可允许误差

In order to achieve the required performance and an acceptable wall finish, it is imperative that framing is straight and true. Framing tolerances shall comply with Table 2.1 of NZS 3604 and the manufacturer's specifications. All framing shall be made flush.

为了完工后达到理想效果和符合标准的外墙，框架必须保证水平和竖直。框架的误差必须符合NZS 3604中表2.1的要求和框架生产商的说明。所有的框架都必须齐平。

4 Preparation 准备工作

4.1 FLEXIBLE UNDERLAY / HOMERAB PRE-CLADDING 弹性隔层和HOMERAB内衬板

Flexible underlay / HomeRAB™ Pre-Cladding must be provided as per the requirements of External Moisture Clause E2 of NZBC. The flexible underlay selected for use must comply with Table 23 of E2/AS1.

根据NZBC合格方案E2/AS1中E2部分“外部湿度”条款的要求，必须铺设弹性隔层或HOMERAB内衬板。对弹性隔层材料的选择必须遵照该方案E2/AS1中表23的要求。

The flexible underlay must be fixed in accordance with section 9.1.7 E2/AS1 and underlay manufacturer's recommendations.

弹性隔层必须根据E2/AS1中9.1.7部分的要求和弹性隔层生产商的建议来安装。

Walls which are not lined on the inside face e.g. garage walls or gable ends must include a rigid sheathing or an air barrier behind the cladding which complies with Table 23 of E2/AS1. James Hardie HomeRAB Pre-Cladding complies with these requirements and is suitable for use in this situation. It must be installed in accordance with James Hardie Rigid Air Barriers installation manual.

对于无内衬面的墙体，如如车库墙或山墙，必须在外墙板的内层安装一层刚性隔板或密封层，以符合NZBC合格方案E2/AS1部分表23的要求。 James Hardie生产的HomeRAB内衬板符合以上规范，且适用于以上情况。请务必按照《James Hardie HomeRAB内衬板安装手册》的指导进行安装。

4.2 RAB BOARD RAB内衬板

General building underlay or HomeRAB Pre-Cladding is suitable for use up to very high wind speed zone (50m/sec).

普通的预置隔层或HomeRAB内衬板都普遍适用于包含高风速区域（50米每秒）在内的各种区域。

When an EH windzone or for specific design projects where the wind pressure is higher than 1.5kPa, James Hardie RAB Board must be used instead of building underlay.

对于EH风区以及位于风压高于1.5kPa 地区的特殊工程设计项目，必须使用James Hardie RAB内衬板替代预置隔层。

To achieve the temporary weathertightness using James Hardie rigid air barriers, windows/doors need to be temporarily installed. Refer to James Hardie Rigid Air Barriers installation manual for information regarding its installation.

如果需要通过安装James Hardie刚性密封板达到暂时密闭防潮的效果， 时为建筑物安装门窗。有关刚性密封板的更多安装信息，请参阅《James Hardie 刚性密封板安装手册》。

4.3 CAVITY CLOSURE / VENT STRIP 空心腔开口/通风带

The James Hardie Stria Aluminium Cavity Closure or uPVC cavity vent strip must be installed at the bottom of all walls and above all openings constructed using the drained and ventilated cavity construction method. It is important that the openings in the cavity closure/vent strip are kept clear and unobstructed to allow free drainage and ventilation of cavities. James Hardie cavity closure / vent strip has an opening area of 1000mm^2/m length.

所有墙体的底部及墙体所有开口处必须安装James Hardie Stria铝制空心封口或 James Hardie uPVC空心通风带。请务必保持通风口开口处无遮挡、无堵塞，以便空心腔顺利排水和通风。James Hardie 铝制空心封口／uPVC通风带的开口面积为1000mm每延米。

4.4 CAVITY BATTENS 空心结构板条

Stria Cladding to be installed on a cavity. The battens provide ventilation and drainage between the frame and the panel and are considered a “packer” only in this specification.
Stria外墙板材应安装于板条空心结构上。板条空心结构能在屋体框架和外部护墙板之间形成一个空气层，起到通风排湿的作用。本手册（仅限于本手册）中称这个空气层为“空心层”。

The timber cavity battens must be minimum H3.1 treated in accordance with NZS 3640 (Chemical preservation of rough and sawn timber) to comply with the durability requirements of B2/AS1.

空心结构板条必须依照NZS 3640 – 原木及锯木的化学防腐处理的规定，进行过H3.1级别的化学处理，以符合B2/AS1部分关于耐久性的要求。

Cavity battens must comply with E2/AS1 and:

空心结构板条必须符合E2/AS1部分的要求，且：

- be minimum 18mm thick
  厚度大于等于18mm
- be as wide as the width of studs
  宽度与墙筋宽度相同
- fixed vertically to studs
  安装角度与墙筋垂直
- must be fixed by the cladding fixings to the main framing over the building underlay. Therefore until claddings are fixed the battens only need to be tacked to framing by 40 x 2.8mm or longer nails at 800mm c/c.
  必须穿过预置隔层，用外墙钉将板条固定在房屋主框架上。因而在安装护墙板之前，板条只需用40 x 2.8mm的钉子以中心间距小于等于800mm的标准临时固定在主框架上即可。

4.5 INTERMEDIATE SUPPORT 居中支撑

Where studs are at 600mm centres an intermediate means of restraining the building underlay and insulation from bulging into the cavity shall be installed. An acceptable method to achieve this is using one of the following options:

当墙筋的中心间距达到600mm时，需要进行居中支撑，以防止预置隔层和保温棉向空心方向鼓胀。有效合格的处理方法有以下几种，请选择使用其一：

- intermediate cavity batten between the studs; or
  在墙筋之间加装居中空心板条；或者

- 75mm galvanised mesh; or
  使用75mm的镀锌丝网；或者
- polypropylene tape at 300mm centres fixed horizontally and drawn taut
  采用300mm的聚丙烯胶带横向固定并拉紧

No intermediate supports are required:

以下情况无需居中支撑：

- when studs are spaced at 400mm centres; or
  墙筋中心间距小于等于400mm；或者
- when rigid air barriers instead of building underlays are used.
  使用刚性密封板代替了预置隔层

4.6 FLASHINGS 防水板

All wall openings, penetrations, intersections, connections, window sills, heads and jambs must be flashed prior to Stria Cladding installation. Refer to moisture management requirements in Clause 2.5. The building underlay/rigid air barrier must be appropriately incorporated with penetration and junction flashings using flashing tapes. Materials must be lapped in such a way that water tracks down to the exterior on the face of building underlay or rigid air barrier. James Hardie will assume no responsibility for water infiltration within the wall due to poor installation of flashings or building underlay.

所有的不封闭墙体、被穿透墙体、墙体接缝、墙体连接，及窗台、窗楣和窗户边框处，都必须在安装Stria外墙板材之前做防水。请参阅本手册2.5部分关于湿度控制的要求。必须使用防水胶带将预置隔层／刚性密封板妥善地与墙体穿透处和连接处的防水板相接合。材料重合处必须搭接良好，保证水流是沿着弹性隔层或刚性密封板的外表面向下流。James Hardie对于错误安装防水板或预置隔层所导致的墙体渗水不承担任何责任。

The selected flashing materials must comply with the durability requirements of NZBC. For information refer to Table 20 of E2/AS1.

所选防水材料必须符合NZBC合格方案中对于耐久性的要求。详情请参见E2/AS1部分表20。

When using James Hardie rigid air barriers the entire framing around openings must be sealed with a flashing tape. The tape must be finished over the face of the rigid air barrier. Refer to James Hardie Rigid Air Barriers installation manual for further information.

当使用James Hardie刚性密封板时，墙体开口处的所有木框架结构必须用防水胶带封好。胶带必须延伸粘贴到刚性密封板的外表面。更多信息请参见James Hardie刚性密封板安装手册。

4.7 JUNCTIONS AND PENETRATIONS 接缝与穿透

Refer to Clause 2.5 of this specification for moisture management requirements. All windows and doors must be detailed as per the requirements of this specification. James Hardie has developed the window details for Stria Cladding which meet the requirements of E2 External Moisture, an approved document of the NZBC. Refer to Figures 17 to 19.

参阅本规范第2.5部分关于湿度控制的要求。所有门窗必须根据本规范的要求进行细化处理。James Hardie研发制作了针对Stria外墙板材安装的窗户细节处理详图，该示例符合NZBC核准文件中E2部分 – 外部湿度控制的要求。

5 Stria Cladding installation 外墙板材的安装

5.1 GENERAL 概述

Stria Cladding is installed horizontally using the cavity construction method as per the details and information published in this document. Stria Cladding panels are 405mm wide and are installed with a 25mm nominal lap over the next panel. Considering the installation and machining variations, the effective cover for Stria Cladding can vary between 380-382mm.

Stria外墙板材在储存仓库中及施工现场都必须保持干燥。所有在施工现场切割过的板材，需于安装前在切割端涂上Dulux Acraprime 501/1、Dulux Primacryl、Resene Quick Dry，或其它类似的可与板材上的底漆兼容的密封涂料。

Stria Cladding must be kept under cover whilst in storage or at sites and they must be dry at the time of their installation. All site cut panel edges must be sealed with Dulux 1 Step, Resene Quick Dry, Taubmans Underproof Acrylic Primer Undercoat or similar sealer compatible with the finish coat before installation.

Stria外墙板材必须安装在空心结构板条上，并得到足够的承重支撑。请确保外墙板牢固紧密地固定在板条上，以避免鼓胀不稳。

Stria Cladding must be fully supported and fixed through timber cavity battens. Ensure that cladding is hard against the battens to avoid drumminess before fixing. To achieve best asthetic results it is recommended to position vertical jointer by the corner of openings or coinciding with the centre line of openings. Refer to Figure 3

为了达到最为美观的效果，建议将纵向连接件置于开口的边角处，或者将连接件与开口的中线呈一条直线。参见图3

This technical specification only covers the horizontal installation of Stria Cladding. For vertical installation refer to the Stria Cladding vertical installation technical specification.

本技术手册仅涵盖Stria外墙板材的横向安装方法。如需横向安装，请致电0800 808 868，向Ask James Hardie索取Stria外墙板材纵向安装法的技术资料。

5.2 FASTENER DURABILITY 固件的耐久性

Fasteners must meet the minimum durability requirements of the NZBC. NZS 3604 specifies the requirements for fixing material to be used in relation to exposure conditions and are summarised in Table 2.

固件必须符合NZBC关于最低耐久性的要求。NZS 3604详细规定了用于室外暴露环境下的金属固件材质的要求，汇总于表2。

Table 2 **表**2

Exposure conditions and nail selection prescribed by NZS 3604对室外暴露环境的定义及钉子选用的要求

NAIL MATERIAL 钉子材质

Zone D D区	Zone C outside sea spay zone and Zone B and geothermal hot spots B区、除去潮水区之外的C区，以及地热活跃区	Bracing - all zones 用于加固 —— 所有区域
Grade 316 Stainless 316型号不锈钢	Hot-dipped galvanised or 316 Stainless 热浸镀锌或316型号不锈钢	Grade 316 Stainless 316型号不锈钢

*(Zone C areas where local knowledge dictates that increased durability is required, appropriate selection shall be made). Microclimate conditions as detailed in NZS 3604, Paragraph 4.2.4 require SED.

(在C区的某些区域，如果本地经验知识表明有必要使用更高耐久性的产品，则应当更加慎重选材)如果建筑坐落于NZS 3604中第4.2.4段中列出的那些对微气候区域（Microclimate conditions），则需要进行特殊工程设计（SED)。

Also refer to the NZBC Acceptable Solution E2/AS1' Table 20 and 21 for information regarding the selection of suitable fixing materials and their compatibility with other materials.

另请参阅“NZBC合格方案‘E2/AS1款’的表20和21，了解如何选择适当的固件材料，及其与其它材料的兼容性等信息。

5.3 FASTENER – SIZE AND LAYOUT 固件——尺寸与固定方法

Stria Cladding must be fixed to framing using the fixings as specified in Table 3 below and follow the edge distance required for nails as shown in the details. Refer to Figure 7.

Stria外墙板材必须按照以下表3的安装方法固定在板条框架上，并遵照详图中所示的钉子边缘间距进行固定。详见图7。
When using rigid air barrier like HomeRAB Pre-Cladding or RAB Board, the cladding fixing nails must be increased in length equal to the thickness of the rigid air barrier.
当使用HomeRAB内衬板或RAB板这样的刚性密封板时，钉子的长度需要增加，增加的长度与板的厚度相同。

Table 3 **表**3

Panel fixing up to and including VH wind zone 外墙板的安装	
Cavity construction over flexible underlay 使用空心结构法及弹性隔层的建筑	
65x2.87mm D head or 60x2.87mm RounDrive nails 65x2.87mm的双头钉或65x2.87mm的环纹螺丝钉	Fix nails at 100mm from top edge and 100mm from bottom edge/per board/ per stud. Refer to Figure 12 在每块外墙板／墙筋的上缘以下100mm及下缘以上100mm钉入钉子。参见图12
Panel fixing up to and including VH wind zone cavity construction over HomeRAB Pre-Cladding / RAB Board 在VH级及更低级别风区 使用空心结构法及RAB预置垫层／RAB刚性密封板的建筑	
75x3.06mm D head or 75x3.15mm RounDrive nails 75x3.06mm的D形头钉或 75x3.15mm的环纹螺丝钉	Fix nails at 100mm from top edge and 100mm from bottom edge/per board/ per stud. Refer to Figure 12 在每块外墙板／墙筋的上缘以下100mm及下缘以上100mm钉入钉子。参见图12
Panel fixing EH wind zone and SED projects cavity construction over RAB Board EH 风区项目及特殊设计项目中 使用空心结构法及RAB刚性密封板的建筑	
75x3.06mm D head or 75x3.15mm RounDrive nails 75x3.06mm的D形头钉或 75x3.15mm的环纹螺丝钉	Fix nails at 100mm from top edge and 100mm from bottom edge/per board/ per stud. Refer to Figure 12 在每块外墙板／墙筋的上缘以下100mm及下缘以上100mm钉入钉子。参见图12

For other fixing options Ask James Hardie on 0800 808 868.

欲知其它可选的安装方法，请拨打0800 808 868 咨询Ask James Hardie。

- When fixing the panels using nail guns, refer to the nail gun manufacturer for information about nails and the type of nail gun to be used.
  当使用射钉枪安装Stria外墙板材时，请向射钉枪制造商索取关于钉子及射钉枪的种类选取的信息。
- Stud width of 70mm min required when using a vertical joint flashing. Refer Figure 9.
  当使用纵向防水连接件时，墙筋的宽度需要大于等于70mm。详见图9.
- D head nails - finish nails 2mm below panel surface.
  双头钉：完成入钉后，钉头应在外墙板面以下2mm处。
- RounDrive nails - finish nails flush with panel surface.
  环纹螺丝钉：完成入钉后，钉头应与外墙板面齐平。

6 Joints 连接

6.1 VERTICAL JOINT 纵向连接

Stria Cladding can be jointed using vertical joint flashing, trimline joint flashing or a butt joint. Refer to Figures 7 to 11.

Stria外墙板的纵向连接可以采用纵向防水连接件、边线防水连接件，或用尾接。详见图7至11.

A single stud is required when using trimline joint flashing. Refer to Figure 7. Double studs are required when using vertical joint flashing. Refer Figure 9.

当使用边线防水连接件时，必须使用单墙筋，参见图7.而当使用板的纵向连接可以采用纵向防水连接件时则必须使用双墙筋。详见图9。

6.2 HORIZONTAL JOINT 横向连接

Stria Cladding panels are lapped over each other as per Figure 12. There is a minimum 25mm lap between the two panels. Ensure that Stria Cladding panels are securely interlocked before nailing. Stria Cladding can run continuous over floor joists without any horizontal joint when LVL timber floor joists are used. Refer to Figure 28. When an engineered joist or LVL joist is not used, a horizontal joint or a movement joint must be formed at floor joist, refer to Figures 25 and 26.

Stria外墙板材的横向连接采用鱼鳞板状的搭叠连接，参见图12。两块板的搭叠长度需要大于等于25mm。在入钉前，应确认板材之间搭扣锁住。Stria外墙板材可以连续不断地水平铺于地板龙骨上，而无需水平连接防水板，前提是龙骨材质为单板层积材木质龙骨。详见图28。当使用的不是工程龙骨或单板层积材龙骨时，外墙板的水平接缝或移动接缝必须在地板龙骨上，详见图26。

6.3 DRAINAGE JOINT 排水接缝

After every two floors a horizontal drainage joint flashing is required, refer to Figure 26.
根据E2/AS1的要求，每两层楼即需安装一块排水接缝防水板。参见图18。

6.4 EXTERNAL CORNER JOINT 阳角接缝

An external box corner flashing is used to fix the external corners, refer to Figure 13 and 14.

在阳角处需安装阳角箱角防水板，参见图13和14。

6.5 INTERNAL CORNER JOINT 阴角接缝

An internal corner flashing is to be used to form an internal corner joint, refer to Figure 15. Alternatively an internal mitre corner, refer to Figure 16.

阴角接缝处需要使用阴角防水板，详见图15。或者也可用阴角斜接头代替，详见图16.

An extra stud is required in internal corners.

阴角处需要多放一枚墙筋。

Note: All joint mouldings to be fixed at 400mm centres both sides.
注意：所有接缝配件都需要安装在从接缝线中点向两侧各延伸400mm处。

7 Finishes 表面处理

7.1 PREPARATION 准备工作

The D head nail heads must be finished 2mm below the panel surface. The nail holes must be filled with an exterior grade two part builders fill, ie. CRC Builders Fill or similar two part external grade filler. The RounDrive nail heads must finish flush with panel surface.
双头钉完成入钉后必须在板材表面以下2mm处。钉孔需用外用级别的工程强化填充剂填充，如CRC ADOS Builders Fill，或同类的双剂式户外级别填充剂。螺丝钉入钉完成后，钉头需与板面齐平。

7.2 PAINTING 涂漆

Stria Cladding is pre-primed and is suitable for site applied acrylic paints.

Stria外墙板材已经预涂底漆，并适用于在工地现场刷丙烯涂料。

In order to seal cut edges or sanded patches, Dulux 1 Step, Resene Quick Dry, Taubmans Underproof Acrylic Primer Undercoat or a similar product should be applied. The primer should be compatible with the paint to be used.

为了密封板材的切割面和砂纸抛光面，应使用Dulux Primacryl, Acroprime 501/1, Resene Quick Dry，Taubmans Underproof丙烯酸预涂底漆或其它可与底漆相兼容的类似产品为板材上漆。

Painting of Stria Cladding is mandatory to meet the durability requirements of NZBC and 15 year James Hardie product warranty. Stria Cladding must be dry and free of any dust or grime before painting. The panels must be painted within 90 days of their installation. There is no restriction on the LRV of paint to be applied on the Stria Cladding.

为了符合NZBC关于耐久性的要求和James Hardie15年质保的要求，Stria外墙板材必须上漆。在上漆前请保持板材干燥和清洁无污。上漆必须在安装后90天内完成。对于Stria外墙板材所涂漆的LVR值没有要求。

James Hardie recommends a minimum of two coats of exterior grade acrylic paint. Follow the paint manufacturer's recommendations to prepare the surface and to adequately cover and conceal the panel fixings.

James Hardie建议至少涂两层外用级别的聚丙烯涂料。请遵照油漆制造商的建议来预处理板材表面和充分隐藏固件／钉孔。

7.3 FLEXIBLE SEALANT 软性密缝胶

Sealant used must comply with the relevant requirements of the NZBC. Their application and usage must be in accordance with the manufacturer's instructions. Check with the sealant manufacturer prior to coating over sealant. Some sealant manufacturers do not recommend coating over their product.
密封胶的使用必须遵照NZBC的相关要求。密封胶的用法和用途必须符合制造商的规定。在密封剂上刷漆之前，请先与密封剂制造商确认。有些密封剂的制造商并不建议在其产品之上刷漆。

8 Maintenance 维护

The extent and nature of maintenance required will depend on the geographical location and exposure of the building. It is the responsibility of the specifier to determine normal maintenance requirements to maintain the effectiveness of the cladding.

建筑物所处的地理位置和暴露程度决定了它所需要的维护方式及程度。工程监管者有责任确定该建筑物所需的维护要求，以保证外墙发挥正常的功能。

As a guide, it is recommended that the basic normal maintenance tasks shall include, but not be limited to:
作为指南，我们仅建议一些基本的维护措施，包括但不仅限于：

- Washing down exterior surfaces every 6-12 months*
  每6至12个月清洗外表面*

- Re-coating exterior protective finishes**
  重新粉刷保护涂层**
- Regular inspection and repair if necessary of the cladding, sealants, etc.
  经常检查外墙、密封剂处等，如有必要则进行维修。
- Cleaning out gutters, down pipes and overflow pipes as required.
  按照要求清理排水沟、下水管和溢流的管道。
- Pruning back vegetation which is close to or touching the building as well as ensuring the NZBC ground clearance requirements are maintained especially where gardens are concerned.
  经常修剪与建筑物直接接触的植物或建筑物周围的植物。确保遵守NZBC关于接地间隙的要求，尤其是当涉及到花园时。
- The clearance between the bottom edge of the Stria Cladding and the finished/unfinished ground must always be maintained.
  确保Stria外墙板材的底边缘与已铺／未铺的地面保持适当的距离。

**Do not use a water blaster to wash down the cladding.*

*请勿用水枪冲刷护墙板

**In extreme coastal conditions or sea spray zones, wash every 3-4 months.*

*在极度沿海地区（Extreme coastal conditions）或涌潮区（Sea spray zones），每3-4个月清洗一次外表面

***Refer to your paint manufacturer for washing down and recoating requirements related to paint performance.*

**有关油漆表面清洗及重新上漆的相关要求，请咨询您的油漆制造商。

9 Product information 产品资料

9.1 MANUFACTURING AND CLASSIFICATION 制造工艺与分类

Stria Cladding is an advanced lightweight cement composite cladding manufactured using James Hardie formulation. Basic composition is Portland cement, ground sand, cellulose fibre and water.

Stria外墙板材是一种领先技术的低密度合成水泥外墙板，利用James Hardie的技术配方制作。它的基本配方是波兰水泥、地表沙、纤维素纤维和水。

Stria Cladding is manufactured to Australian / New Zealand Standard AS/NZS 2908.2 'Cellulose-Cement Products' (ISO 8336 'Fibre-Cement Flat Sheet').

Stria外墙板材的制造符合澳洲／新西兰AS/NZS 2908.2 "纤维水泥产品"标准的要求。

Stria Cladding is classified Type A, Category 2 in accordance with AS/NZS 2908.2 "Cellulose-Cement Products".

根据澳洲／新西兰AS/NZS 2908.2 "纤维水泥产品的标准，Stria外墙板材属于目录2中的A类产品。

For Safety Data Sheets (SDS) visit www.jameshardie.co.nz or Ask James Hardie on 0800 808 868.

查看产品安全单，请访问 www.jameshardie.co.nz或拨打0800 808 868咨询Ask James Hardie。

9.2 PRODUCT MASS 产品重量

Stria Cladding is manufactured in 14.0mm thickness and has a mass of 13.8kg/m^2 at EMC.

Stria外墙板材的制造厚度为14.0mm，重量为每平米13.8kg。

Stria Cladding is defined as a Light Weight Wall Cladding (not exceeding 30kg/m^2) as per NZS 3604.

根据NZS 3604，Stria外墙板材属于轻质外墙材料——未超过每平米30kg。

9.3 DURABILITY 耐久性

Stria Cladding and James Hardie rigid air barrier installed and maintained as per this technical specification will meet the durability requirement for cladding as per Durability B2 clause of the NZBC.

凡按照本技术规范进行安装与维护的Stria外墙板材及James Hardie刚性密封板，均可达到NZBC 批准文件B2"耐久性"部分中对于外墙耐久性的要求。

9.3.1 Resistance to Moisture/Rotting 防潮与防腐

Stria Cladding has tested to check its resistance to permanent moisture induced deterioration (rotting) by passing the following tests in accordance with AS/NZS 2908.2:

Stria外墙板材被分类为"不易燃材料"，适合作为建筑物外墙使用，且符合NZBC合格方案C3条款——非火源地区受到燃烧影响的要求。

- Heat Rain (Clause 6.5). 热雨（第6.5条）。
- Water Permeability (Clause 8.2.2). 透水性（第8.2.2条）。
- Warm Water (Clause 8.2.4). 温水（第8.2.4条）。
- Soak Dry (Clause 8.2.5). 浸泡后风干（第8.2.5条）。

9.3.2 Resistance to fire 阻燃性

Stria Cladding is classified as 'Non-Combustible Material' which is suitable for use as external wall cladding and complies with Performance C3.7 of the NZBC Clause C3 Fire Affecting Areas Beyond the Fire Source.

Stria外墙板材被分类为"不易燃材料"，适合作为建筑物外墙使用，且符合NZBC合格方案C3条款——非火源地区受到燃烧影响的要求。

9.3.3 Alpine Regions 高寒地区

In regions subject to freeze/thaw conditions, Stria Cladding and James Hardie rigid air barrier must not be in direct contact with snow or ice build up for extended periods, e.g. external walls in alpine regions must be protected where snowdrifts over winter are expected.

对于经常出现冰冻/融化状况的地区，Stria外墙板材及James Hardie刚性密封板不得长时间直接接触积雪或冰块。例如:在冬天可能出现吹雪现象的高寒地区，外墙必须受到遮蔽保护。

These products have been tested in accordance with AS/NZS 2908.2 Clause 8.2.3.

Stria外墙板材符合AS/NZS 2908.2中8.2.3部分的要求。

10 Safe working practices 安全施工守则

WARNING - DO NOT BREATHE DUST AND CUT ONLY IN WELL VENTILATED AREA 警告 - 切勿吸入粉尘, 请仅在通风良好的环境下进行切割

James Hardie products contain sand, a source of respirable crystalline silica.
May cause cancer if dust from product is inhaled. Causes damage to lungs and respiratory system through prolonged or repeated inhalation of dust from product.
James Hardie的产品中含有沙子，是可吸入结晶二氧化硅的来源。如吸入产品中的粉尘，可能会导致癌症，长期反复吸入产品中的粉尘，会对肺及呼吸系统造成损害。

Intact fibre cement products are not expected to result in any adverse toxic effects. The hazard associated with fibre cement arises from the respirable crystalline silica present in dust generated by activities such as cutting, rebating, drilling, routing, sawing, crushing, or otherwise abrading fibre cement, and when cleaning up, disposing of or moving dust.
完整的纤维水泥产品预期不会对人体造成有毒害的影响。与纤维水泥相关的有害物质是在切割，打磨，钻孔，铣削，锯切，压碎或其他方式研磨纤维水泥时，以及清理，处理或移动时产生的含有可吸入结晶二氧化硅的粉尘引起的。

When doing any of these activities in a manner that generates dust, follow James Hardie instructions and best practices to reduce or limit the release of dust.
在进行以上活动时，请遵循James Hardie的指导及安全施工守则，以降低及限制粉尘的散播。

If using a dust mask or respirator, use an AS/NZS 1716 P1 filter and refer to Australian/New Zealand Standard 1715:2009 Selection, Use and Maintenance of Respiratory Protective Equipment for more extensive guidance and more options for selecting respirators for workplaces. For further information, refer to our installation instructions and Safety Data Sheets available at www.jameshardie.co.nz.
如使用防尘面罩或呼吸器，请使用AS/NZS 1716 P1滤芯，并参见《澳大利亚/新西兰1715:2009标准 - 选择，使用和维护呼吸防护设备》的全面指导及其提供的更丰富的作业用呼吸器选择。欲知更多信息，请查看www.jameshardie.co.nz，参见我们的安装说明及安全数据表。

FAILURE TO ADHERE TO OUR WARNINGS, SAFETY DATA SHEETS, AND INSTALLATION INSTRUCTIONS MAY LEAD TO SERIOUS PERSONAL INJURY OR DEATH.
未能遵守我们的警告, 安全数据表和安装说明可能会导致严重的人身伤害或死亡。

Crystalline Silica is
结晶二氧化硅是

- Commonly known as sand or quartz.
  俗称沙子或石英。
- Found in many building products e.g. concrete, bricks, grout, wallboard, ceramic tiles, and all fibre cement materials.
  存在于众多建筑产品中，例如混凝土，砖，水泥浆，墙板，瓷砖和所有纤维水泥材料。

Why is Crystalline Silica a health hazard?
为什么结晶二氧化硅会危害健康?

- Silica can be breathed deep into the lungs when present in the air as a very fine (respirable) dust.
  二氧化硅以极细（可呼吸）的粉尘形式存在于空气中时，可深吸到肺部。
- Exposure to silica dust without taking the appropriate safety measures to minimise the amount being breathed in, can lead to a potentially fatal lung disease – silicosis – and has also been linked with other diseases including cancer. Some studies suggest that smoking may increase these risks.
  接触二氧化硅粉尘而未采取适当的安全措施以最大程度地减少吸入量，可能会导致致命的肺部疾病–矽肺病，并且还与包括癌症在内的其他疾病有关。一些研究表明，吸烟可能会增加这些风险。
- The most hazardous dust is the dust you cannot see!
  危害最大的粉尘是你看不见的粉尘!

When is Crystalline Silica a health hazard?
结晶二氧化硅在何种情况下会危害健康?

- It's dangerous to health if safety protocols to control dust are not followed when cutting, drilling or rebating a product containing crystalline silica and when cleaning up.
  在切割，钻孔，打磨或清理含有结晶二氧化硅的产品时，如不遵守控制粉尘的安全守则，会危害健康。
- Products containing silica are harmless if intact (e.g. an un-cut sheet of wall board) .
  含硅的产品在完整的情况下是无害的（比如，未切割的墙板）。

Avoid breathing in crystalline silica dust.
避免吸入结晶二氧化硅粉尘。

Safe working practices
安全施工守则

✕ NEVER use a power saw indoors or in a poorly ventilated area.
切勿在室内或通风不佳的区域使用电锯。

✕ NEVER dry sweep.
切勿干扫。

✓ ALWAYS use M Class or higher vacuum or damp down dust before sweeping up.
始终使用M级或更高级别的吸尘器，或在清扫之前沾湿粉尘。

✕ NEVER use grinders.
切勿使用研磨机。

✓ ALWAYS use a dust reducing circular saw equipped with a sawblade specifically designed to minimise dust creation when cutting fibre cement – preferably a sawblade that carries the HardieBlade™ logo or one with at least equivalent performance – connected to an M Class or higher vacuum.
始终使用降尘圆锯，圆锯装有专为切割纤维水泥设计的可减少粉尘产生的锯片 – 最好是带有HardieBlade™商标的锯片或者至少具有同等功能 – 并与M级或更高级别的吸尘器相连接。

✓ Before cutting warn others in the area to avoid dust.
在切割之前，警示他人离开周围区域。

✓ ALWAYS follow tool manufacturers' safety recommendations.
始终遵循工具生产商的安全建议。

✓ ALWAYS expose only the minimum required depth of blade for the thickness of fibre cement to be cut.
根据需要切割的纤维水泥板的厚度，始终仅露出所需最小的刀片深度。

✓ ALWAYS wear a properly-fitted, approved dust mask or respirator P1 or higher in accordance with applicable government regulations and manufacturer instructions.
始终根据适用的政府法规和制造商指导佩戴合适的、经过批准的P1或更高级别的防尘面罩或呼吸器。

✓ Consider rotating personnel across cutting tasks to further limit respirable silica exposures.
考虑轮换人员进行切割，进一步限制对可吸入二氧化硅的接触。

When cutting Stria Cladding:
在切割Stria外墙板时：

✓ Work outdoors only.
仅在户外作业。

✓ Make sure you work in a well ventilated area.
确保你的作业环境通风良好。

✓ Position cutting station so wind will blow dust away from yourself and others in the working area.
妥善放置切割工作台，便于风将粉尘吹离你和在工作区域内的其他人。

✓ Rotate employees across cutting task over duration of shift.
安排工作人员轮值进行切割任务。

✓ Cut products with a HardieBlade Saw Blade (or equivalent) and a dust reducing circular saw connected to a M Class or higher vacuum.
使用HardieBlade锯片（或具有同等功能的锯片）切割产品，采用降尘圆锯连接M级或更高级别的吸尘器。

✓ When sawing, sanding, rebating, drilling or machining fibre cement products, always:
在锯切，砂磨，打磨，钻孔或加工纤维水泥产品时，请始终：

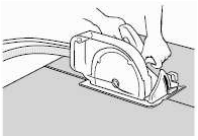
- Wear your P1 or higher (correctly fitted in accordance with manufacturers' instructions), ask others to do the same.
佩戴P1或更高级别的防护面罩或呼吸器（根据制造商指导正确佩戴），并要求他人也这样做 。
- Keep persons on site at least 2 metres and as far as practicable away from the cutting station while the saw is in operation.
让施工现场的人在锯切过程中尽可能远离切割工作台或至少保持2米距离。
- If you are not clean shaven, then use a powered air respirator with a loose fitting head top.
如果您留有胡子，请佩戴带有宽松头戴式面罩的电动送风呼吸器。
- Wear safety glasses.
佩戴安全镜。
- Wear hearing protection.
佩戴护耳器。

✓ Make sure you clean up BUT never dry sweep. Always hose down with water/wet wipe or use an M Class or higher vacuum.
确保清洁，但切勿干扫。始终用水管冲洗或用湿抹布清洁，又或使用M级或更高级别的吸尘器。

IF CONCERN STILL EXISTS ABOUT EXPOSURE LEVELS OR YOU DO NOT COMPLY WITH THE ABOVE PRACTICES, YOU SHOULD ALWAYS CONSULT A QUALIFIED INDUSTRIAL HYGIENIST OR CONTACT JAMES HARDIE FOR FURTHER INFORMATION.
如果仍然担心暴露水平，或者您不遵守上述惯例，则应始终咨询合格的工业卫生师或联系James Hardie以获取更多信息。

Working Instructions 作业说明

HardieBlade™ Saw Blade
HardieBlade™ 锯片



The HardieBlade Saw Blade used with a dust-reducing saw is ideal for fast, clean cutting of James Hardie fibre cement products. A dust-reducing saw uses a dust collector connected to a M Class or higher vacuum. When sawing, clamp a straight edge to the sheet as a guide and run the saw base plate along the straight edge when making the cut.
HardieBlade锯片与降尘圆锯一起使用，可以快速干净的切割James Hardie纤维水泥产品。降尘圆锯配有粉尘收集器，可与M级或更高级别的吸尘器连接。锯切时，请将直线边缘夹在板上作为导向，并让锯齿底部板沿直线进行切割。

Hole forming 成孔



For smooth clean cut circular holes:
形成平滑整齐的圆孔：

- Mark the centre of the hole on the sheet.
在板上标记孔的中心。
- Pre-drill a 'pilot' hole.
预钻一个孔。
- Using the pilot hole as a guide, cut the hole to the appropriate diameter with a hole saw fitted to a heavy duty electric drill.
在该预钻孔的基础上，使用配在重型电钻上的孔钻，钻出所需直径的孔。

For irregular holes:
不规则孔：

- Small rectangular or circular holes can be cut by drilling a series of small holes around the perimeter of the hole then tapping out the waste piece from the sheet face.
如需钻出小的长方形或圆形孔，可在周边钻一系列的小孔，然后从表面将多余部分敲打掉。
- Tap carefully to avoid damage to sheets, ensuring that the sheet edges are properly supported.
谨慎敲打，以防破坏板材，确保板材周边都有良好支撑。

10.1 STORAGE AND DELIVERY 储存和运送

Keeping products and people safe
保证产品和人员的安全

Off loading 卸载

✓ James Hardie products should be off-loaded carefully by hand or by forklift.
James Hardie产品须用手或叉车小心卸载。

✓ James Hardie products should not be rolled or dumped off a truck during the delivery to the jobsite.
James Hardie产品不应在运输至作业现场的过程中滚下或倾倒。

Storage 储存
James Hardie products should be stored:
James Hardie产品的储存一定要：

✓ In their original packaging.
储存至原包装。

✓ Under cover where possible or otherwise protected with a waterproof covering to keep products dry.
尽可能储存在有遮盖的地方或用防水层保护，保持产品干燥。

✓ Off the ground – either on a pallet or adequately supported on timber or other spacers.
不直接放在地面上——应放置在货板上或有充分支撑的木料和其他垫板上。

✓ Flat so as to minimise bending.
尽可能平放以减少弯曲。

James Hardie products must not be stored:
James Hardie产品的储存一定不要：

✗ Directly on the ground.
直接放置在地上。

✗ In the open air exposed to the elements.
暴露在空气中，接触到化学元素。

JAMES HARDIE IS NOT RESPONSIBLE FOR DAMAGE DUE TO IMPROPER STORAGE AND HANDLING.
如因储存或处理不当导致损坏，James Hardie 概不负责任。

10.2 TIPS FOR SAFE AND EASY HANDLING OF STRIA CLADDING 轻松安全处理STRIA外墙板的小贴士

✗ Do not lift planked products flat and in the middle.
不要只从中间或者只从两边抬举平板产品。

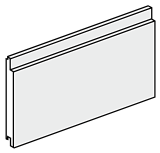
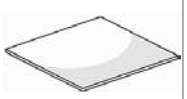
✓ Carry the products on the edge.
抬举产品的边缘处。

✓ If only one person is carrying the product, hold it in the middle and spread arms apart to better support the product.
仅一人作业时，托住中部并展开双臂以更好的支撑产品。

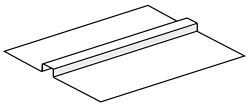
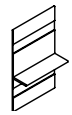
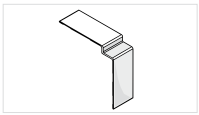
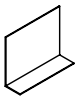
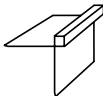
✓ If two people are carrying the plank, hold it near each end and on edge.
如当两人作业搬运板条时，则从两端和边缘处抬起。

✓ Exercise care when handling weatherboard products to avoid damaging the edges/corners.
对板材产品，须轻拿轻放，避免损坏边角处。

11 Product and accessories 产品与配件

Stria Cladding information 产品与配件					
Product 产品	**Description** 描述	**Size (**mm**)** 尺寸			Code 产品编号
		Thickness 长度	**Length** 厚度	**Width** 宽度	
	**Stria Cladding** Stria外墙板材 A 14mm profiled panel for expressed jointed residential facades. Factory sealed on all six sides. Each panel has a manila white colour primer applied on its face, which accepts a wide range of paint finishes. 一种14mm厚的特制形状板材，用于快速铺砌住宅房屋的外表面。出厂时六个面均涂有封层。每块板材的正面预涂了白色底漆，该油漆可以广泛地与多种其它涂料叠加。	14	4200	405	**404263**
	**James Hardie rigid air barrier** James Hardie刚性密封板 Used as a rigid air barrier. It has green colour sealer applied over one face. Installed with green side facing out. 作为一种刚性密封板使用。其中的一面上有绿色封层。安装时绿色的面向外。	6	2450	1200	**402980**
		6	3000	1200	**402981**
	**HomeRAB Pre-Cladding** HomeRAB预置垫层 Used as a rigid air barrier. It has green colour sealer applied over one face. Installed with green side facing out. 作为一种刚性密封板使用。其中的一面上有绿色封层。安装时绿色的面向外。	4.5	2450	1200	**404766**
		4.5	2750	1200	**404768**

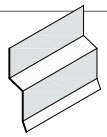
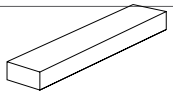
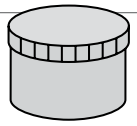
Note: All dimensions and masses provided are approximate only and subject to manufacturing tolerances. 注意：此处提供的所有尺寸和重量仅为约数，可能会在生产过程中产生误差（manufacturing tolerances）。

Accessories/tools supplied by James Hardie 有售的配件／工具			
Accessories 配件	**Description** 描述	**Size/Quantity** 尺寸	**Code** 产品编号
	**Vertical Joint Flashing** 纵向连接防水板 Aluminium extrusion used behind cladding at vertical joints. 铝制挤压成型产品，用于外墙板纵向接缝处的底层。	3000mm long 长	**305507**
	**Stria Trimline Joint Flashing** Stria接缝线防水板 Aluminium extrusion used behind cladding at vertical joints. 铝制挤压成型产品，用于外墙板水平接缝处的底层。	3000mm long 长	**305827**
	**Internal Corner Flashing** 阴角箱角防水板 Anodised aluminium extrusion used to create internal corners. 经过阳极电镀处理的铝制覆膜，用于房屋阴角。	3000mm long 长	**304871**
	**Stria External Box Corner** Stria外墙板材阳角箱角覆膜 Anodised aluminium extrusion used to create external corners. 用于房屋阳角	2700mm long 长 4000mm long 长	**305824** **305823**
	**Aluminium Window Jamb Flashing** 铝制窗框防水板 Aluminium moulding used beside window opening to end butt the Stria Cladding. 在窗户开口处用于尾接外墙板的铝制连接件	3000mm long 长	**305430**
	**Stria Aluminium Cavity Closure** Stria铝制空心腔封口 Aluminium moulding used as vermin proofing. 用于防止虫鸟进入的铝制配件	3000mm long 长	**305431**
	**JH 9mm Panel Aluminium External Box Corner** JH 9mm板材铝制阳角箱角 A box corner mould to form the external joints. 9mm etch primed. 用于完成外部连接的阳角箱角配件，带有9mm蚀刻并上有底漆。	2450mm long 长 2750mm long 长 3000mm long 长 4000mm long 长	**304509** **304510** **305150** **305808**
	**uPVC Vent Strip** uPVC排气带 PVC moulding used as vermin proofing. 用于防止害虫和鸟类进入的pvc模具	3000mm long 长	**302490**
Tools 工具			
	**HardieBlade™ Saw Blade** HardieBlade™ 锯片 Diamond tip 184mm diameter fibre cement circular saw blade. Spacers not included. 金刚石刀头的纤维水泥切割圆锯片。不含垫片	Each 每个	**300660**
	HardieFlex™ Stainless Steel 316 Nails HardieFlex™不锈钢316型号钉子 For fixing panels through cavity battens. 60 x 3.15mm 用于将外墙板钉在空心结构板条上。60 x 3.15mm	**5kg box** 每箱	**302782**
	**HardieFlex™ Hot Dip Galv. Nails** HardieFlex™热浸镀锌钉子 **For fixing panels through cavity battens. 60 x 3.15mm** 用于将外墙板钉在空心结构板条上。60 x 3.15mm	5kg box 每箱	**302784**

Accessories/tools not supplied by James Hardie 不由James Hardie出售的配件／工具

James Hardie recommends the following products for use in conjunction with Stria Cladding and James Hardie rigid air barrier. James Hardie does not supply these products and does not provide a warranty for their use. Please contact component manufacturer for information on their warranties and further information on their products.

James Hardie推荐以下产品同Stria外墙板材及James Hardie刚性密封板搭配使用。James Hardie不售卖这些产品，因而也不提供使用这些产品的任何质保。欲得到关于产品质保及更多详细信息，请联系相应的供应商。

Product 产品	**Description** 描述
	**Building underlay** 预置隔层 Must comply with Table 23 of E2/AS1. 必须根据E2/AS1中表23的要求进行安装。
	**Flexible Window Opening Flashing Tape** 窗口用防水胶带 A flexible self-adhesive tape used in preparation of a window. Refer to the window installation section in this manual for more information. 一种有弹力的粘性胶带，用于做安装玻璃前的准备工作。请参阅本手册关于玻璃安装的章节获取更多信息。 e.g. Protecto or Super Stick by Protecto Wrap or 3M™ All Weather Flashing Tape 8067 by 3M™ 即：由 Protecto Wrap生产的Protecto或SUPER-STICK，或由3M™生产的3M™ Protecto: 0800 776 9727 3M™ 0800 474 787
	**James Hardie rigid air barrier Vertical Joint Sealing Tape** James Hardie刚性密封板纵向连接密封胶带 The tape to be used to seal James Hardie rigid air barrier vertical joints. 用于James Hardie刚性密封板纵向连接缝 Super Stick by Protecto Wrap or 3M™ All Weather Flashing Tape 8067 by 3M™ 由 Protecto Wrap生产的Protecto或SUPER-STICK，或由3M™生产的3M™ Protecto: 0800 776 9727 3M™ 0800 474 787
	**Flexible Sealant** 软性密封胶 Required to seal the vertical joints. Bostik Seal N Flex-1, Sikaflex AT Facade, Sikaflex MS or similar. Bostik Seal N Flex-1, Sikaflex AT Facade, Sikaflex MS或类似产品
	65 x 2.87mm 'D' head nail or 60 x 2.87 RounDrive nail (hot dipped galvanised/stainless steel) For fixing Stria Cladding. 65 x 2.87mm双头钉或65 x 2.87mm环纹螺丝钉，用于安装Stria外墙板材的热浸镀锌／不锈钢的螺丝钉。
	40 x 2.8mm or longer HardieFlex™ nail. For fixing timber cavity battens and aluminium flashings. 40 x 2.8mm或更长的HardieFlex™钉子，用于固定板条空心框架和铝制防水板。
	**Meter Box** 电表箱 Refer Electrical Suppliers. 参阅电力供应商说明。
	**Head flashing** 窗楣防水板 Required over window heads to be supplied by window installer. Material must comply with Table 20 and 21 of E2/AS1. 必须在窗楣上安装，由窗户安装商提供。材质必须符合E2/AS1部分表20和表21的规定。
	**Timber cavity batten** 木质空心框架板条 H3.1 minimum treated, Timber cavity batten the cladding is fixed over. 经过H3.1级别防腐处理的木质空心框架板条，外墙材料将被固定在该板条上
	**Exterior grade filler** 外表面填充剂 CRC Builders Fill or similar, two part filler to fill over nail holes. CRC ADOS Builders Fill或其它类似的双济式填充剂，用于在安装钉子后填充钉孔。

12 Details 详图

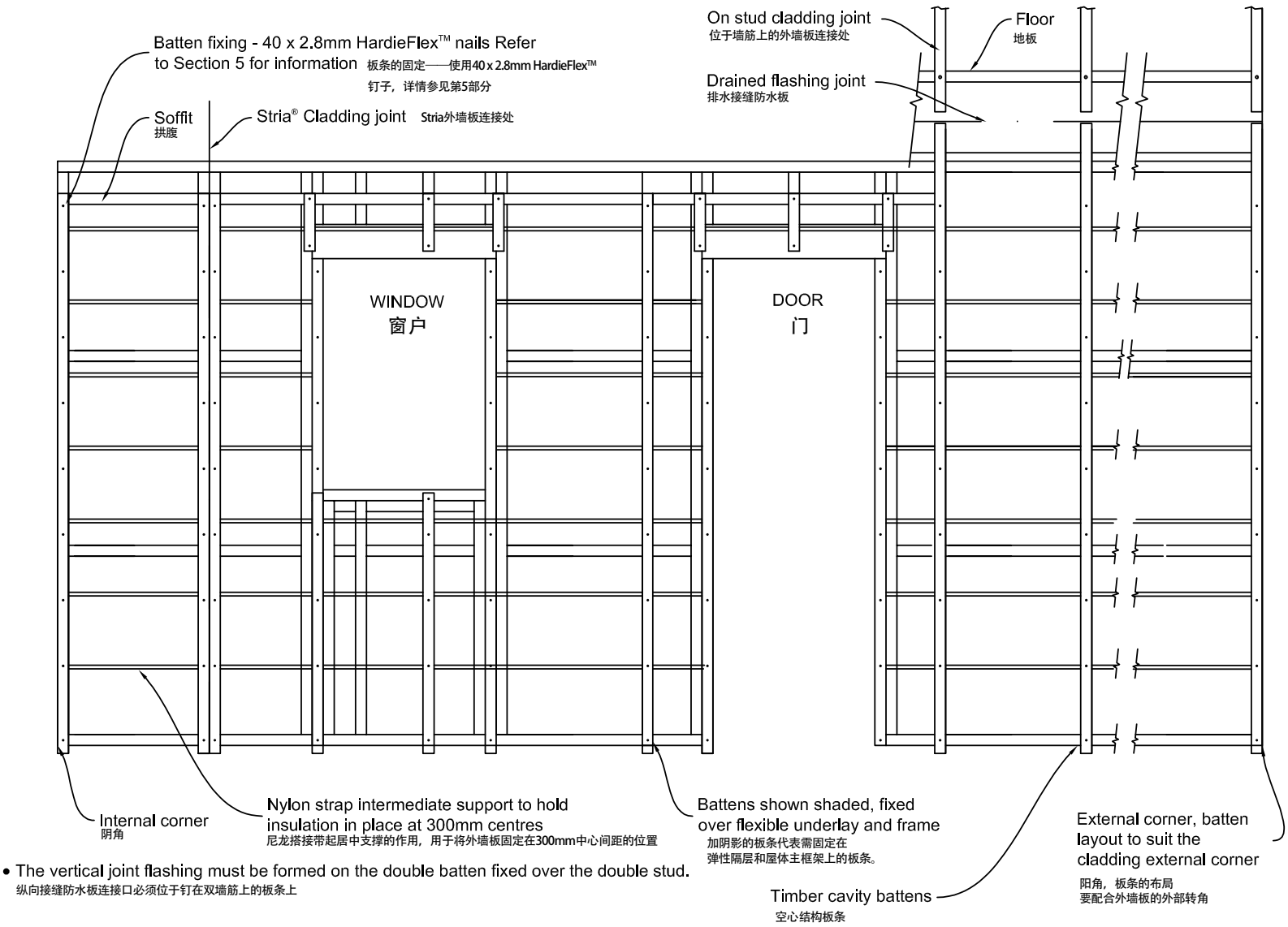
The following generic details have been provided in this document for cavity construction methods.

本文档中的以下通用详图是为空心结构建筑法提供的。

Table 5 表 5

Details 详图		
Description 描述	**Cavity Construction** 空心结构法	
	Figure No. 图号	Page No. 页码
Framing set out 描述	Figure图 1	18
Batten fixing set out 框架布局图	Figure图 2	19
Stria Cladding layout Stria外墙板布局图	Figure图 3	20
Foundation detail – option 1 详图 – 方案1	Figure图 4	20
Foundation detail – option 2 详图 – 方案2	Figure图 5	21
Soffit detail 拱腹详图	Figure图 6	21
Vertical trimline joint flashing option 纵向接缝防水板备选方案	Figure图 7	22
Vertical trimline joint flashing option 纵向接缝防水板备选方案	Figure图 8	23
Vertical joint flashing option 纵向连接防水板可选方案	Figure图 9	24
Vertical joint flashing option 纵向连接防水板可选方案	Figure图 10	25
Vertical butt joint option 纵向尾接件可选方案	Figure图 11	26
Fixing detail 安装详图	Figure图 12	27
External aluminium box corner 铝制阳角箱角	Figure图 13	28
External aluminium box corner (Alternative) 铝制阳角箱角（备选）	Figure图 14	28
Internal aluminium corner 铝制阴角	Figure图 15	29
Internal mitred corner 斜接阴角	Figure图 16	29
Window sill 窗台	Figure图 17	30
Window jamb 窗框	Figure图 18	30
Window head 窗楣	Figure图 19	31
Stria cutting around sill 窗台周围的Stria外墙板的切割	Figure图 20	32
Stria cutting around head 窗楣周围的Stria外墙板的切割	Figure图 21	32
Window head 窗楣	Figure图 22	33
Window head to Stria Cladding cut board 窗楣与经过切割的Stria外墙板	Figure图 23	33
Window head 窗楣	Figure图 24	34
Window head with facings 带有饰面的窗楣	Figure图 25	35
Window jamb with facings 带有饰面的窗框	Figure图 26	36
Window sill with planted sill 种有绿植的窗台	Figure图 27	36
Trimline Horizontal joint at floor joist 位于地板龙骨处的边线水平连接件	Figure图 28	37
Drained flashing joint at floor level 一楼处的排水接缝防水板	Figure图 29	38
Drained flashing joint at floor joist 位于地板龙骨处的排水接缝防水板	Figure图 30	39
Engineered floor joist 工程地板龙骨	Figure图 31	40
Apron flashing detail 烟囱防水板详图	Figure图 32	40
Parapet flashing 矮墙的防水	Figure图 33	41
Roof to wall junction detail 屋顶与墙连接的详图	Figure图 34	41
Meter box at sill 位于窗台的仪表箱	Figure图35	42
Meter box at jamb 位于窗框的仪表箱	Figure图 36	42
Meter box at head 位于窗楣的仪表箱	Figure图 37	43
Enclosed deck 封闭式露台	Figure图 38	43
Garage door head 车库门框	Figure图 39	44
Garage door jamb 车库门楣	Figure图 40	44

Figure 1: Framing set out 图1：框架布局图



- The vertical joint flashing must be formed on the double batten fixed over the double stud.
  纵向接缝防水板连接口必须位于钉在双墙筋上的板条上

Figure 2: Batten fixing set out

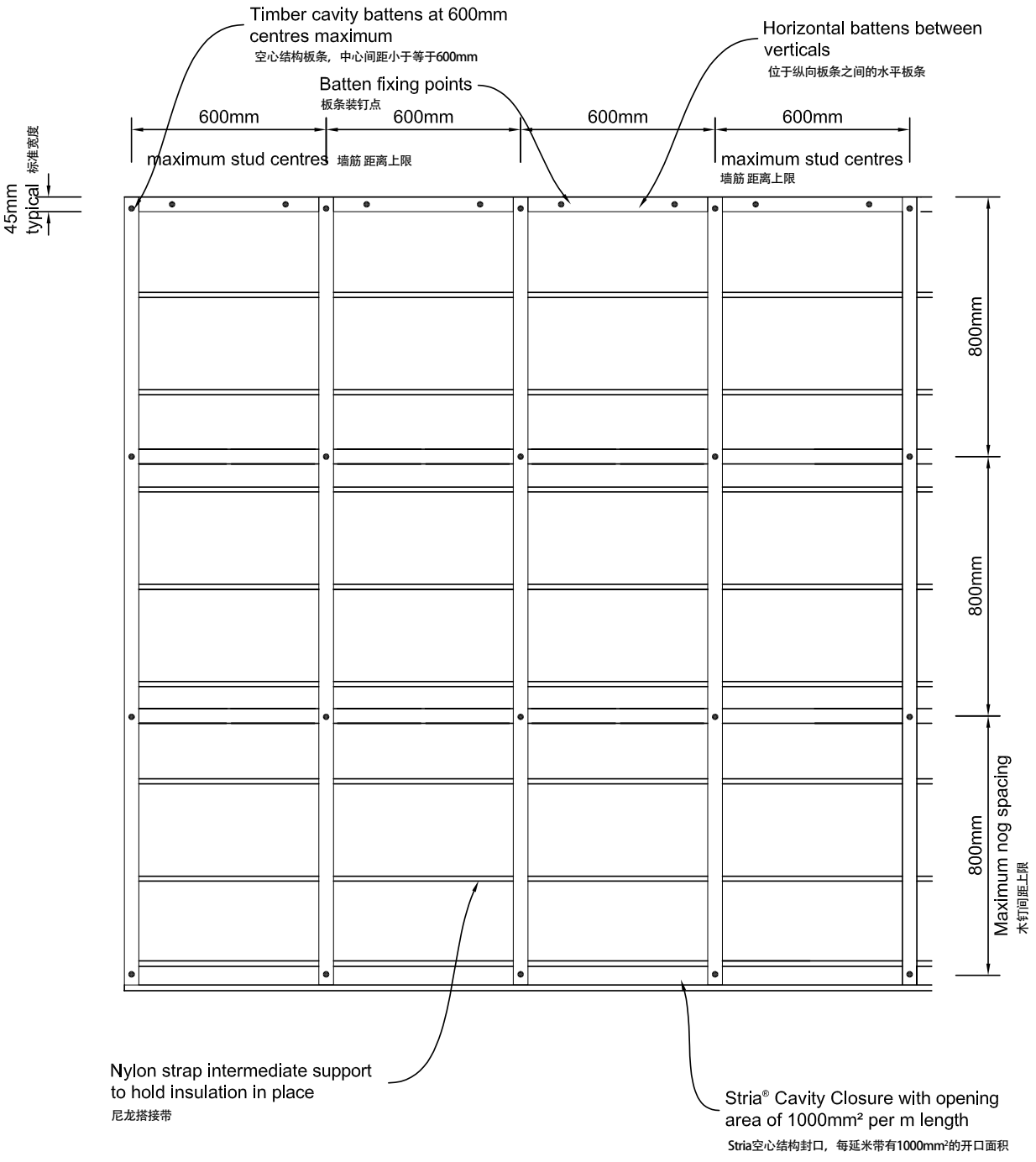
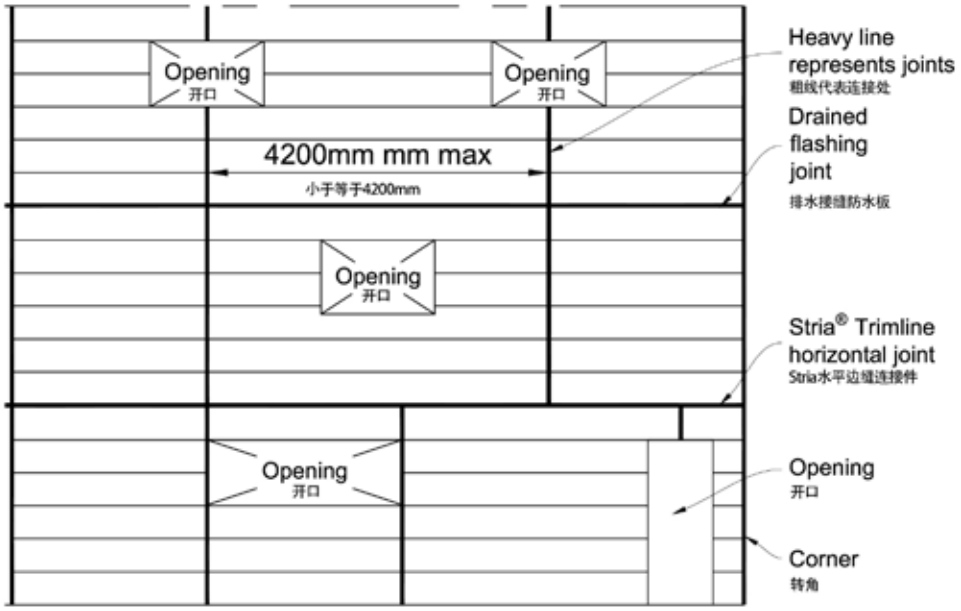


Figure 3: Stria Cladding layout 图3: Stria外墙板布局图



Typical Storey Layout 典型楼层布局

Figure 4: Foundation detail – option 1 图4: 地基详图 – 方案1

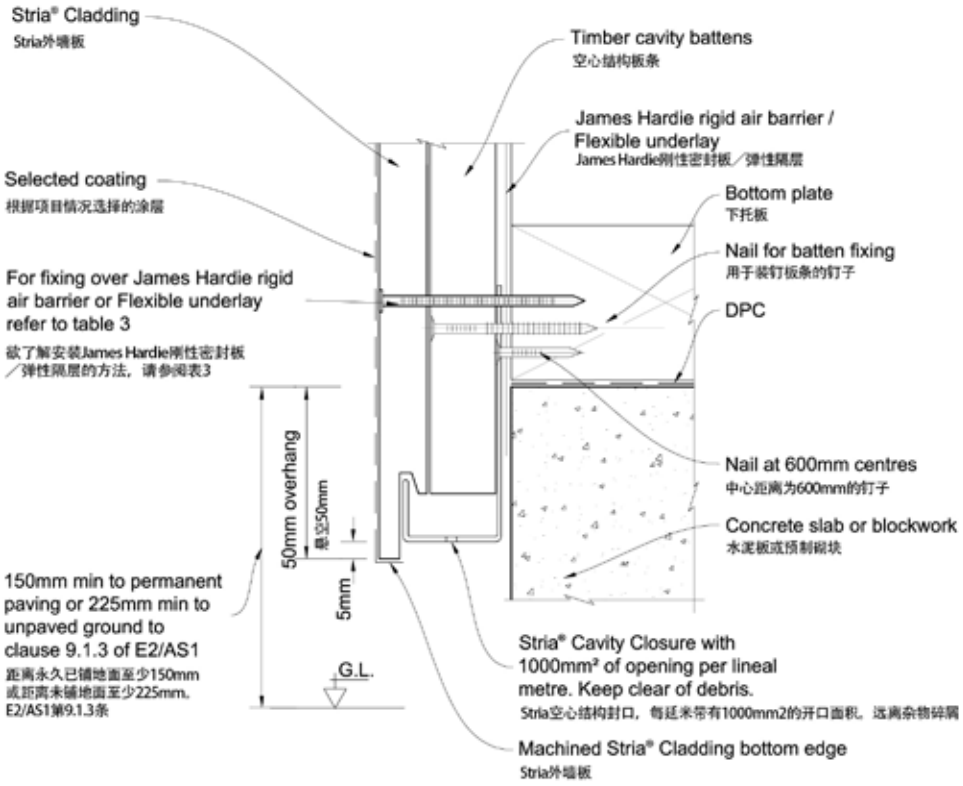


Figure 5: Foundation detail – option 2 图5: 地基详图 – 方案2

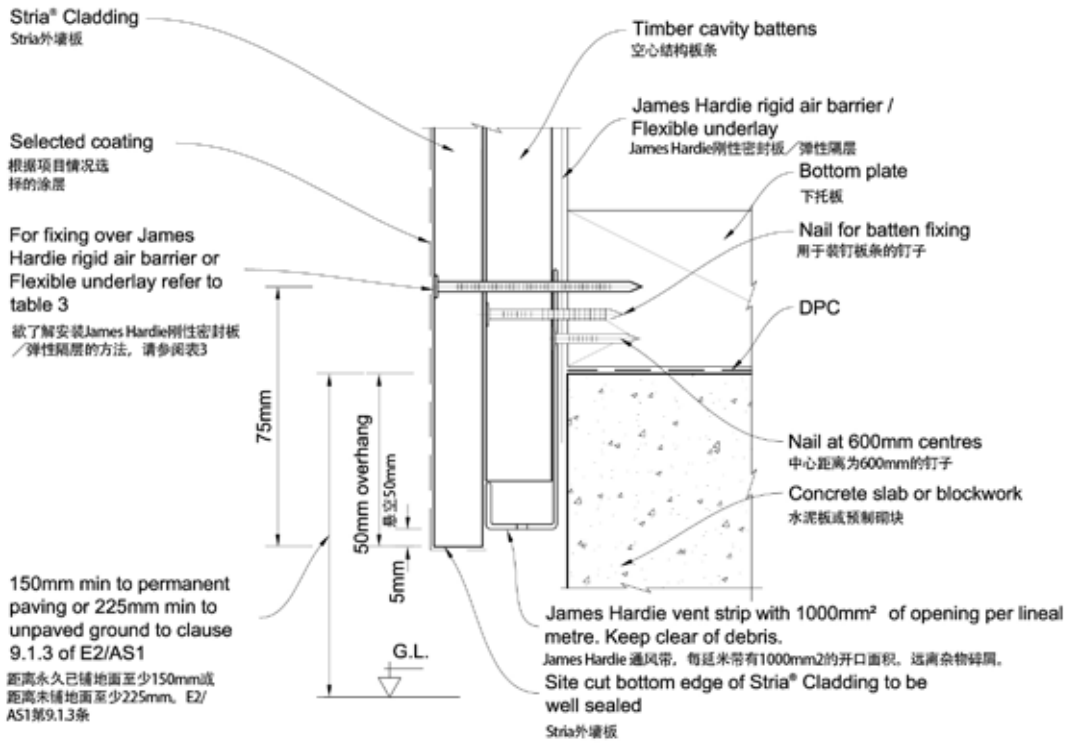


Figure 6: Soffit detail 图6: 拱腹详图

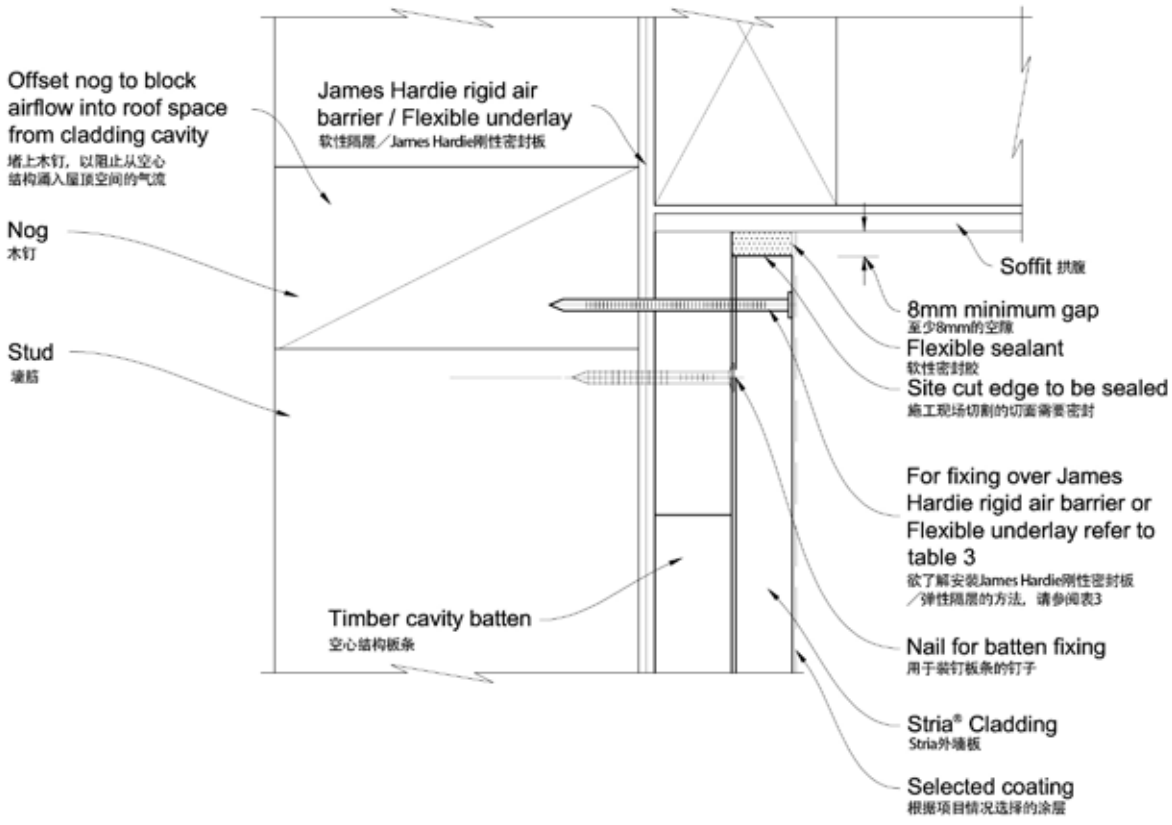


Figure 7: Vertical trimline joint flashing option 图7: 纵向接缝防水板备选方案

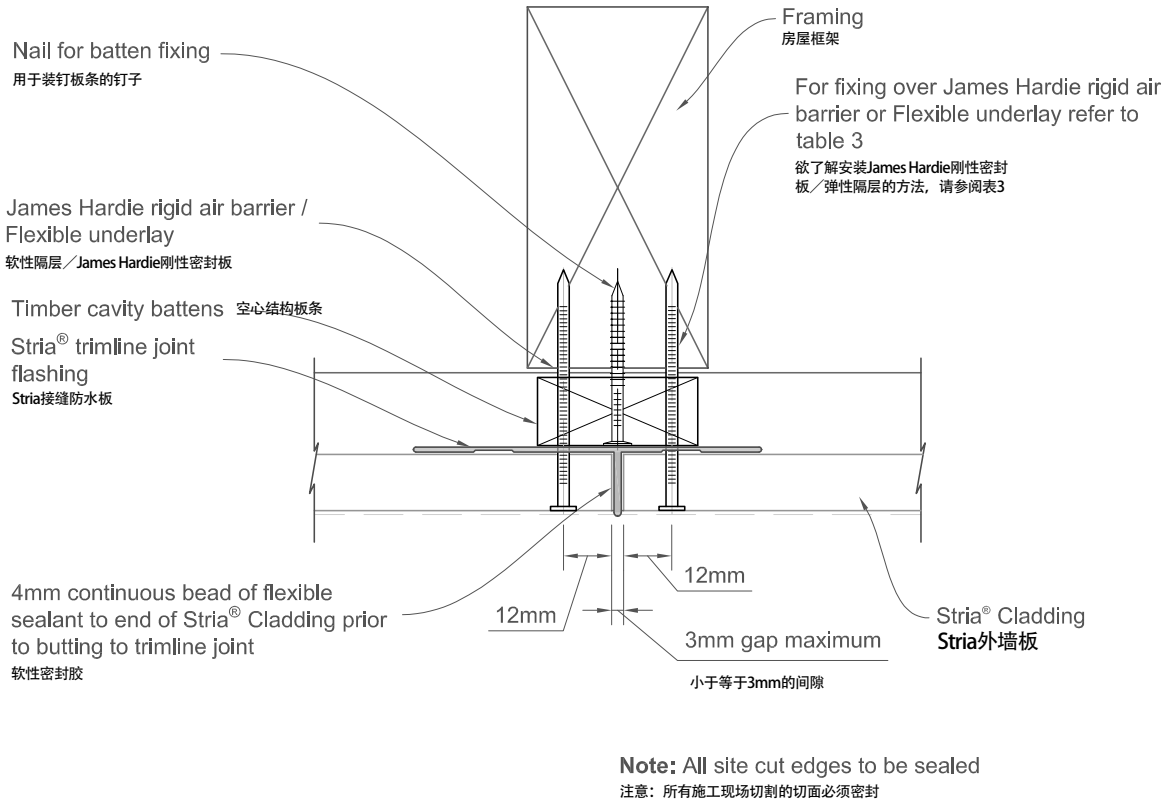


Figure 8: Vertical trimline joint flashing option 图8: 纵向接缝防水板备选方案

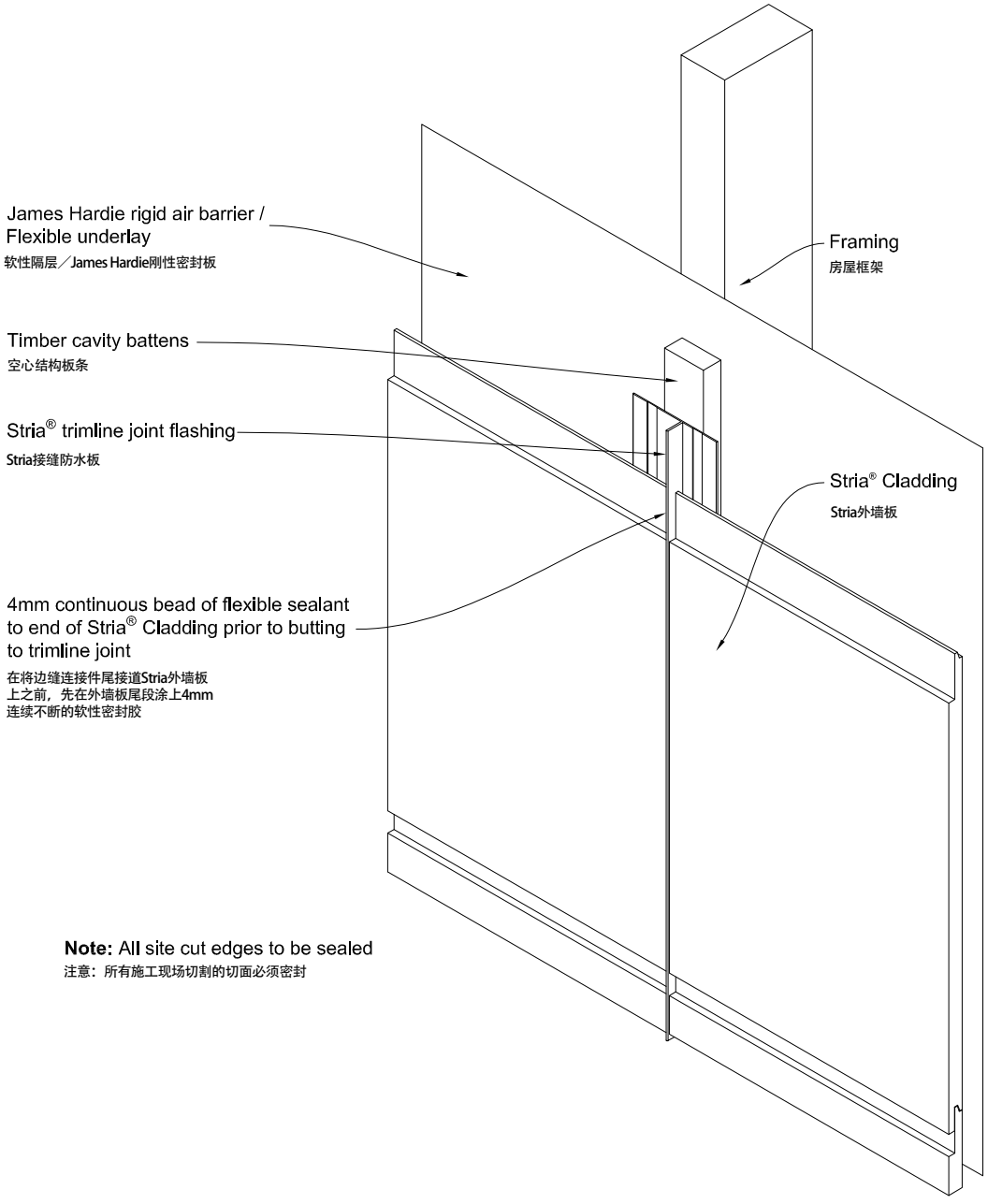
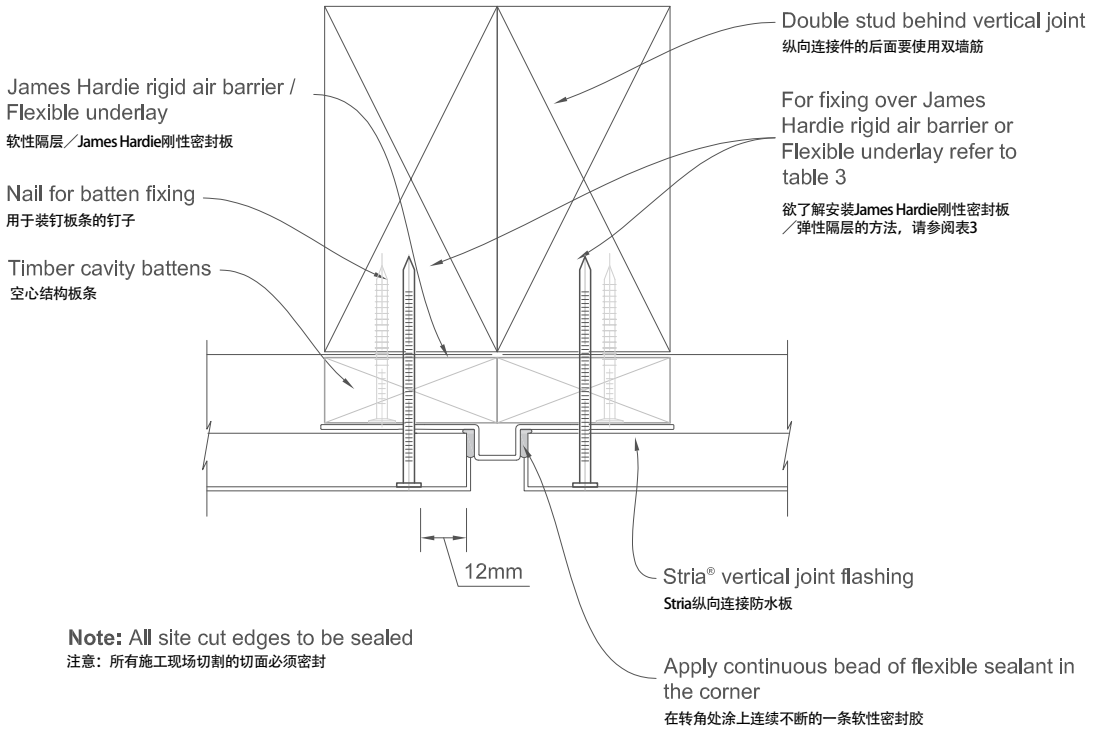
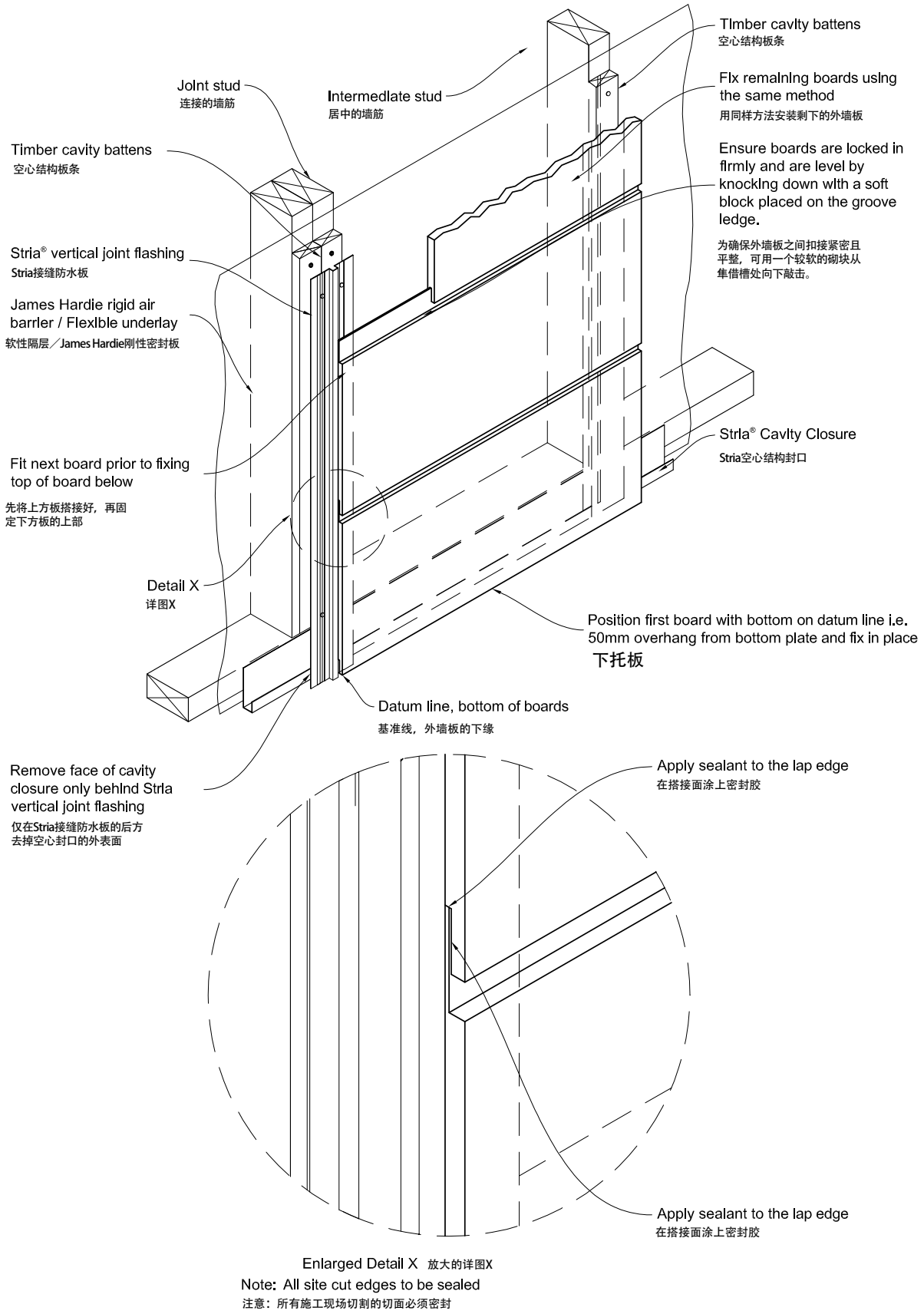


Figure 9: Vertical joint flashing option 图9: 纵向连接防水板可选方案v



Note: All site cut edges to be sealed
注意：所有施工现场切割的切面必须密封

Figure 10: Vertical joint flashing option 图10: 纵向连接防水板可选方案



Enlarged Detail X 放大的详图X

Note: All site cut edges to be sealed
注意：所有施工现场切割的切面必须密封

Figure 11: Vertical butt joint option 图11: 纵向尾接件可选方案

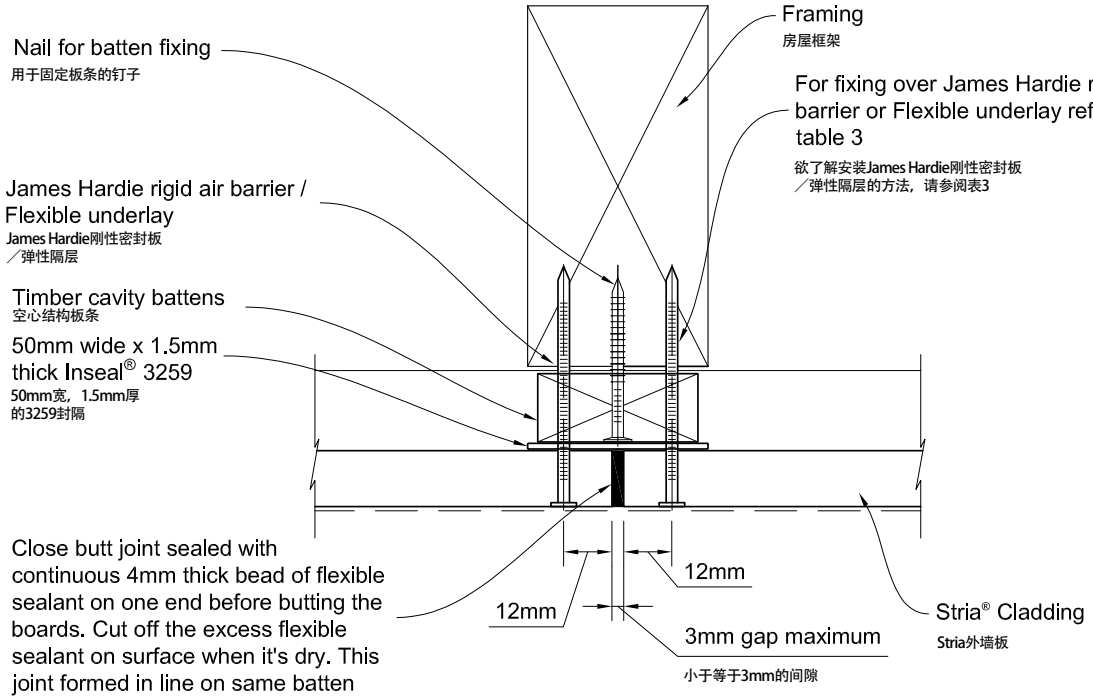


Figure 12: Fixing detail 图12: 安装详图

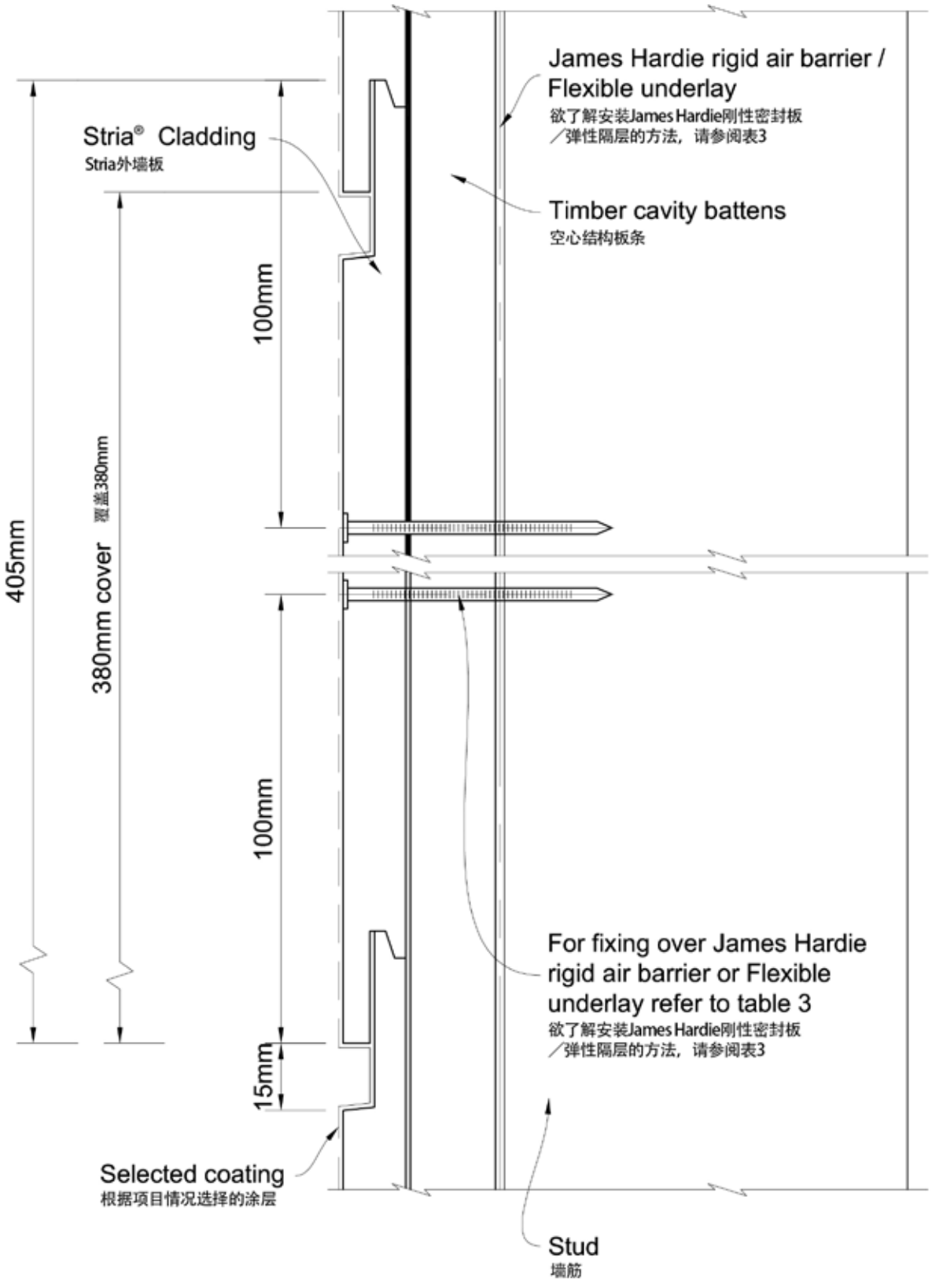


Figure 13: External aluminium box corner 图13: Stria铝制阳角箱角

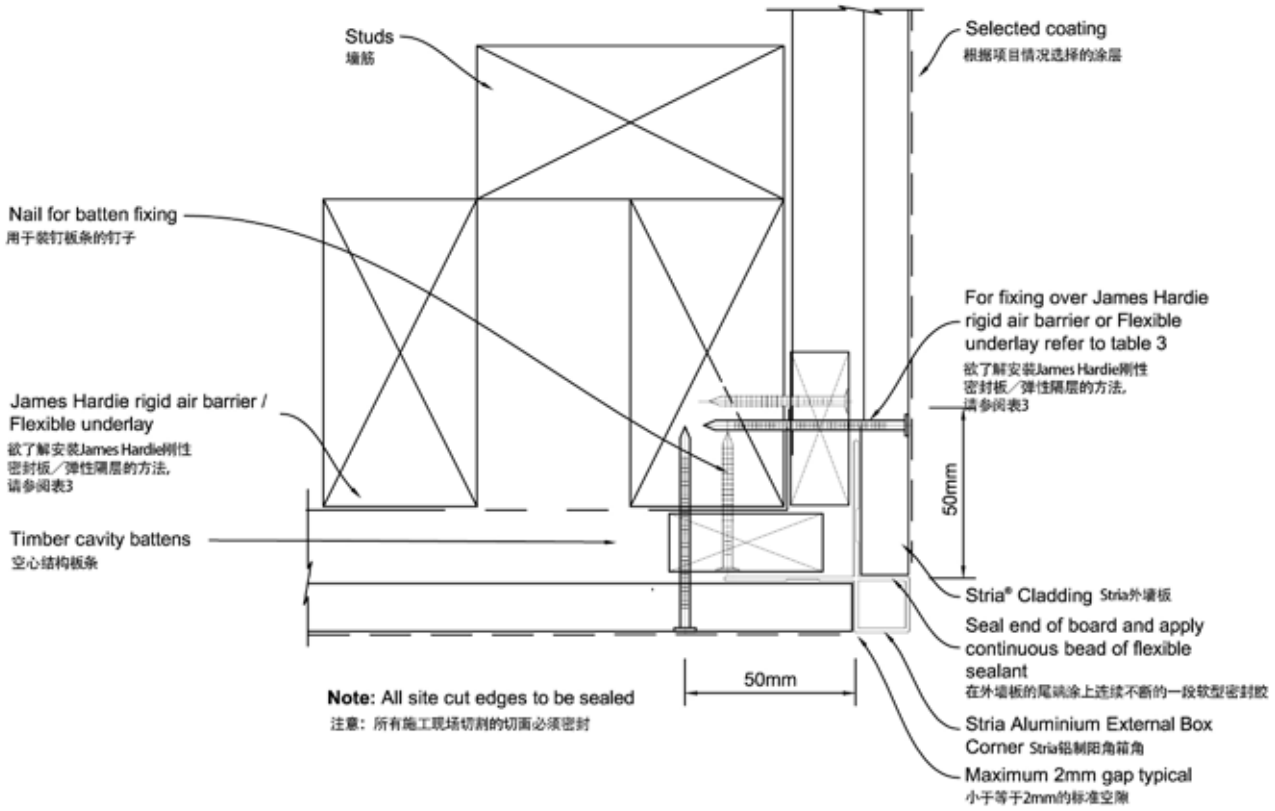


Figure 14: External aluminium box corner (Alternative) 图14: Stria铝制阳角箱角（备选）

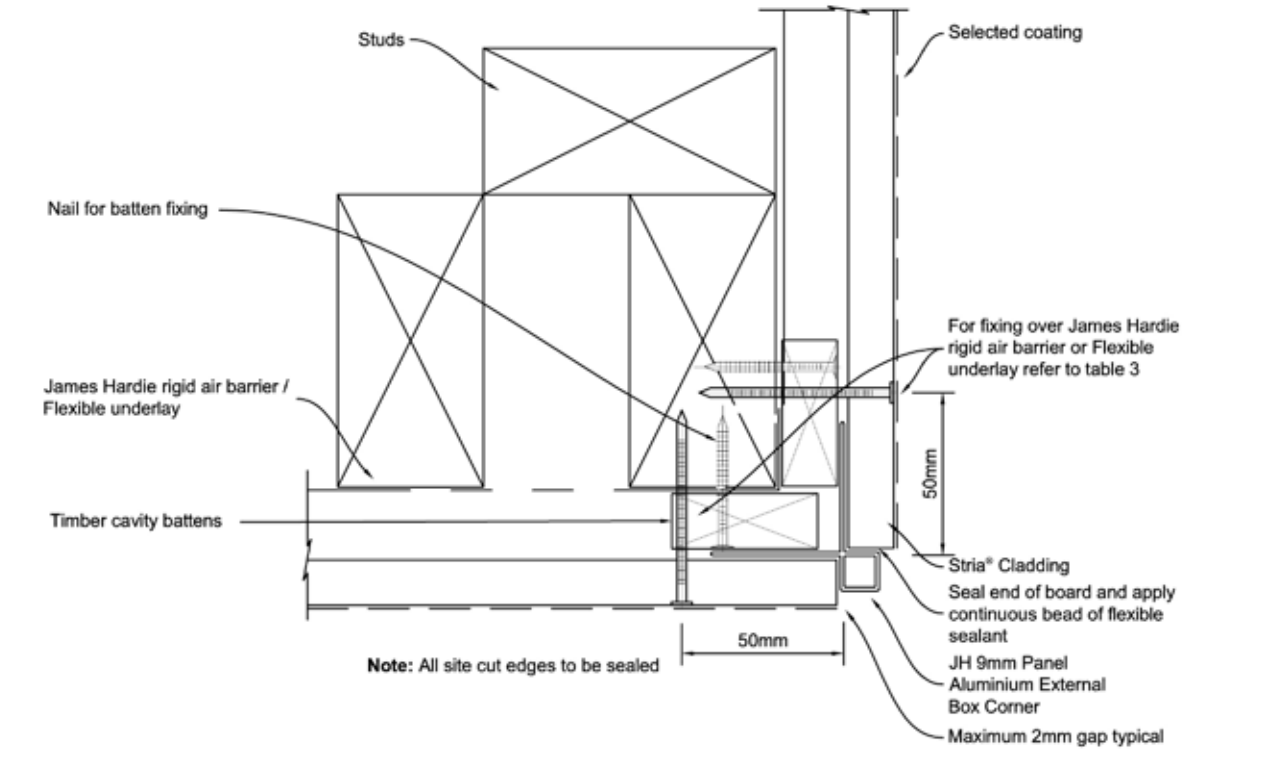


Figure 15: Internal aluminium corner 图15: 铝制阴角

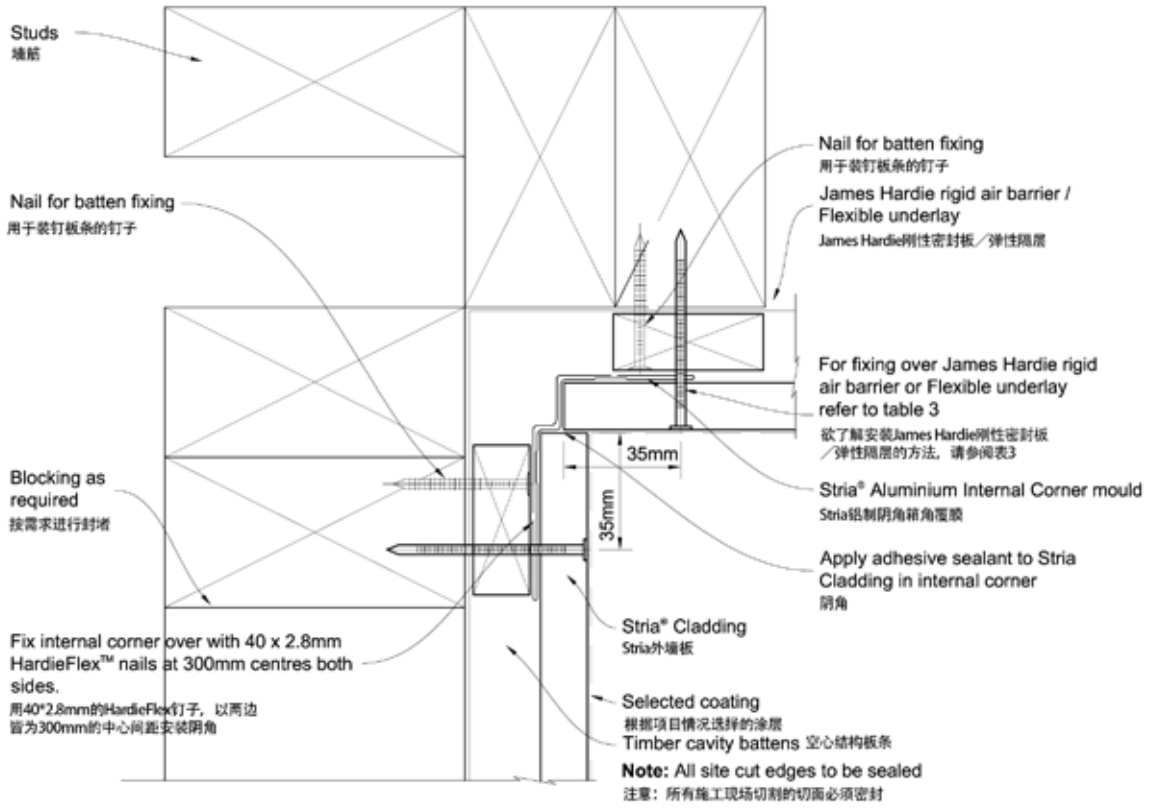


Figure 16: Internal mitred corner 图16: 斜接阴角

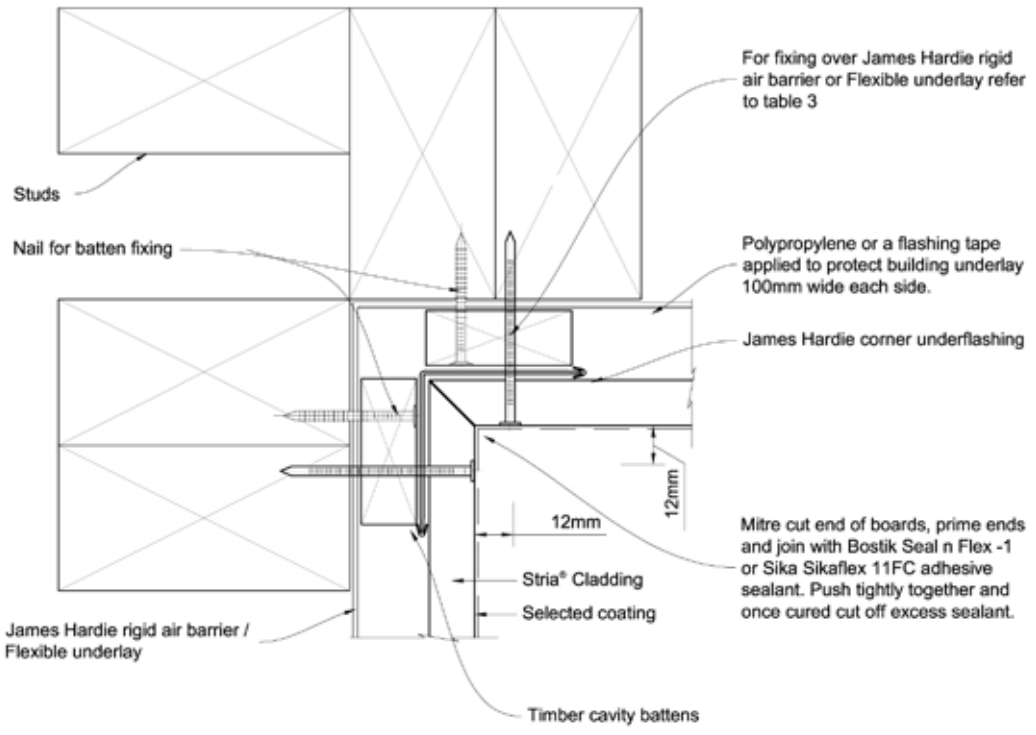
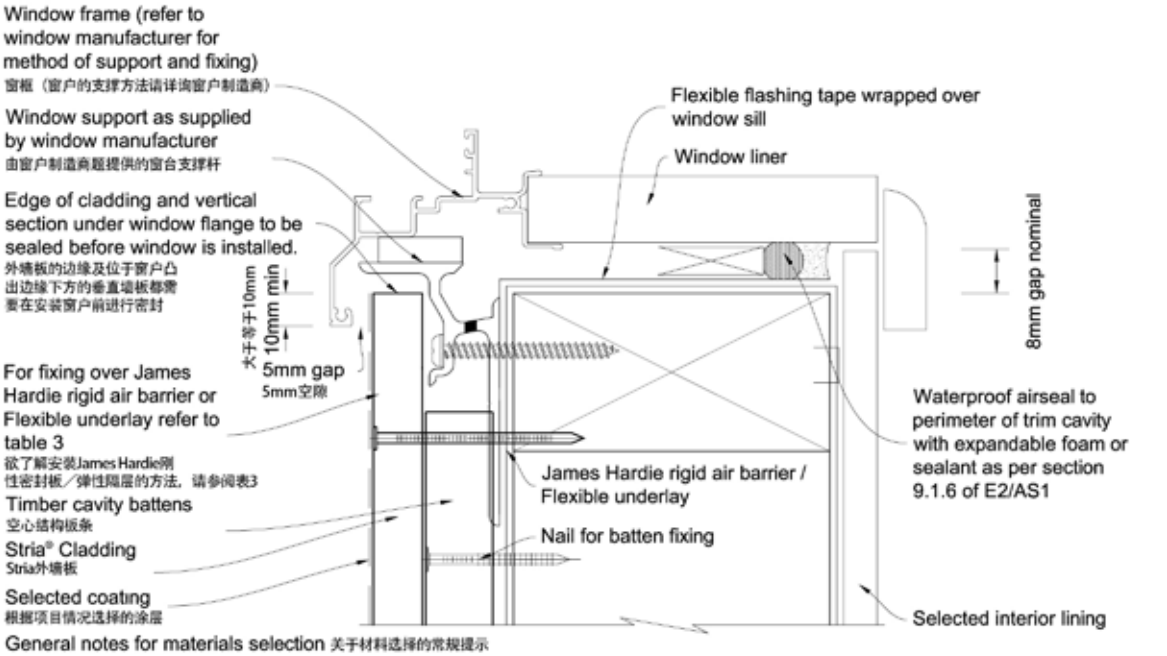


Figure 17: Window sill 图17: 窗台

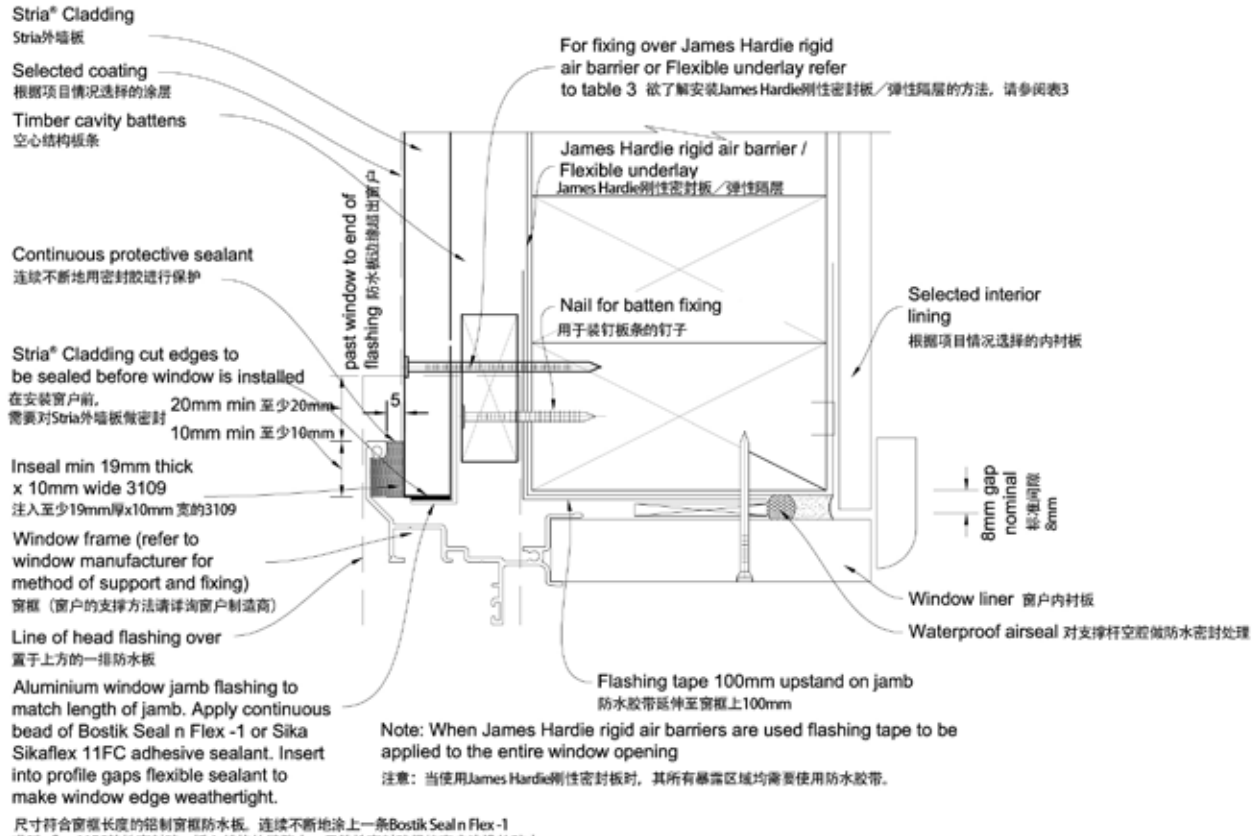


General notes for materials selection 关于材料选择的常规提示

1. Flashing materials must be selected based on environmental exposure, refer to NZS 3604 and Table 20 of NZBC E2/AS1. 防水材料必须基于所处的环境来选择，详情请参阅NZS3604和NZBC条款E2/AS1, 表20.
2. Flexible underlay must comply with acceptable solution E2/AS1. 弹性隔层必须符合合格方案条款E2/AS1的规定。
3. Flashing tape must have proven compatibility with the selected flexible underlay and other materials with which it comes into contact. 防水胶带必须能够与所选用的弹性隔层（Flexible underlay）／James Hardie弹性隔层或其他与之直接接触的材料相互兼容。
4. When James Hardie rigid air barriers are used flashing tape to be applied to the entire opening.
当使用James Hardie刚性密封板（James Hardie rigid air barrier） 时，其所有暴露区域均需要使用防水胶带。

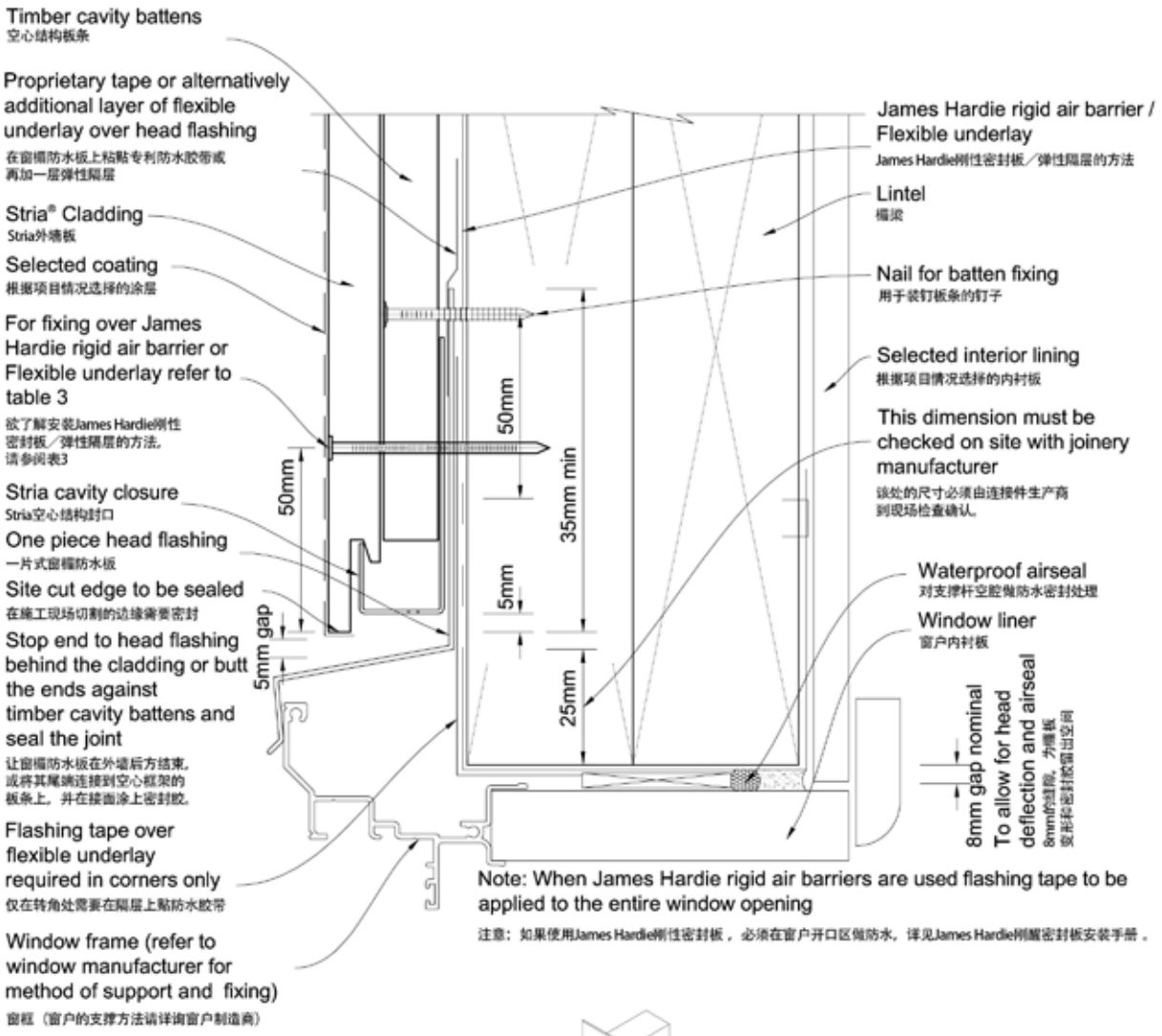
Refer to the manufacturer or supplier for technical information for these materials. 关于以上材料的技术信息，请参阅材料制造商或供应商所提供的资料。
关于以上材料的技术信息，请参阅材料制造商或供应商所提供的资料。

Figure 18: Window jamb 图18: 窗框



Note: When James Hardie rigid air barriers are used flashing tape to be applied to the entire window opening
注意：当使用James Hardie刚性密封板时，其所有暴露区域均需要使用防水胶带。

Figure 19: Window head 图19: 窗楣



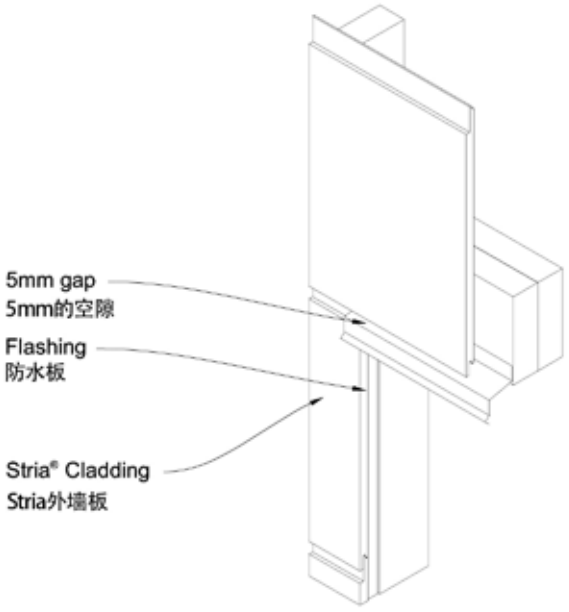


Figure 20: Stria cutting around sill 图20: 窗台周围的Stria外墙板的切割

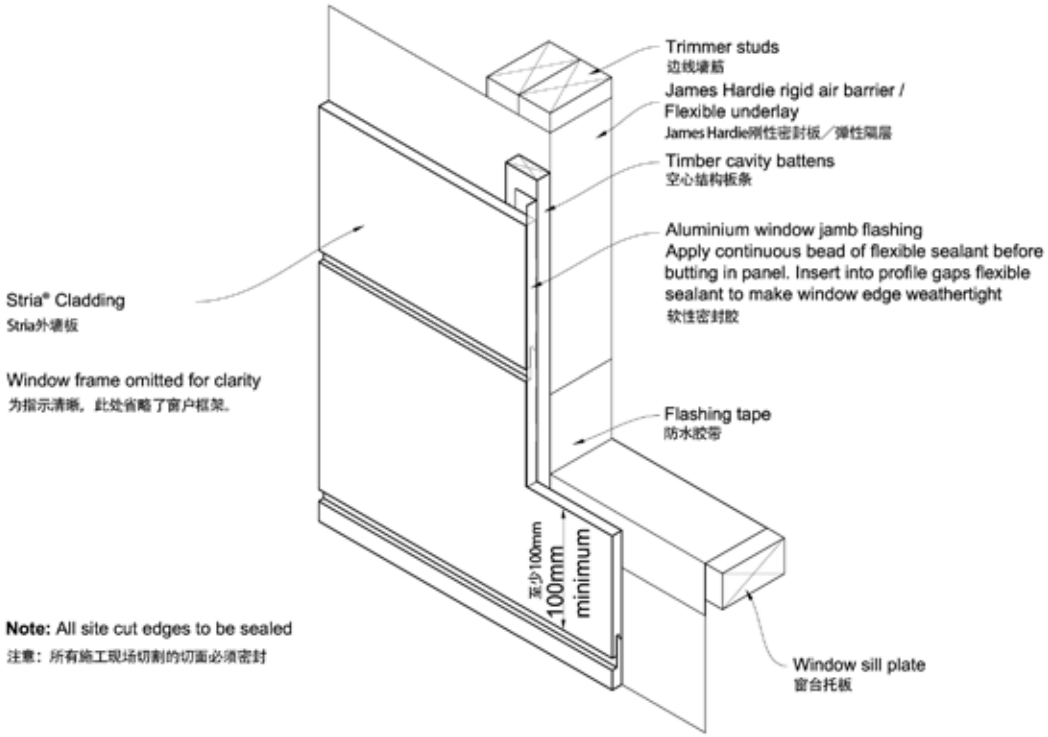


Figure 21: Stria cutting around head 图21: 窗楣周围的Stria外墙板的切割

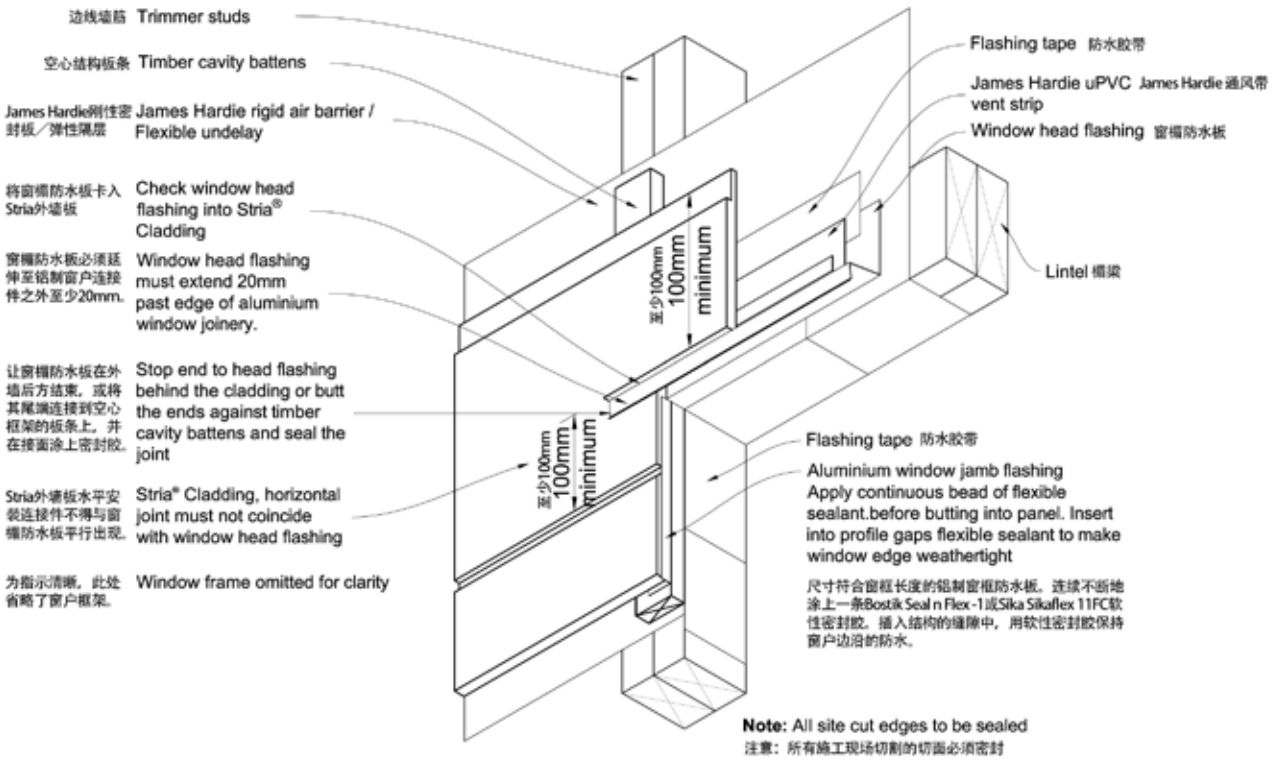


Figure 22: Window head 图22: 窗楣

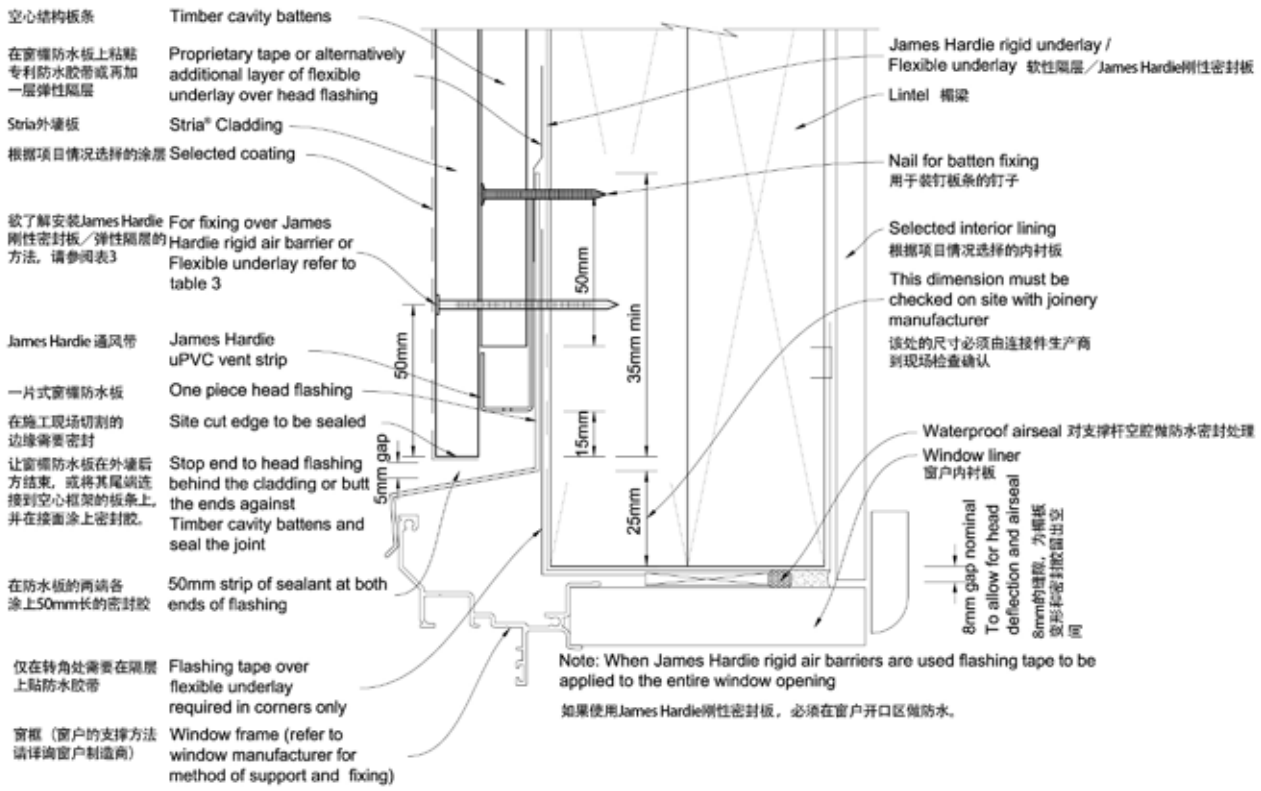


Figure 23: Window head to Stria Cladding cut board 图23: 窗楣与经过切割的Stria外墙板

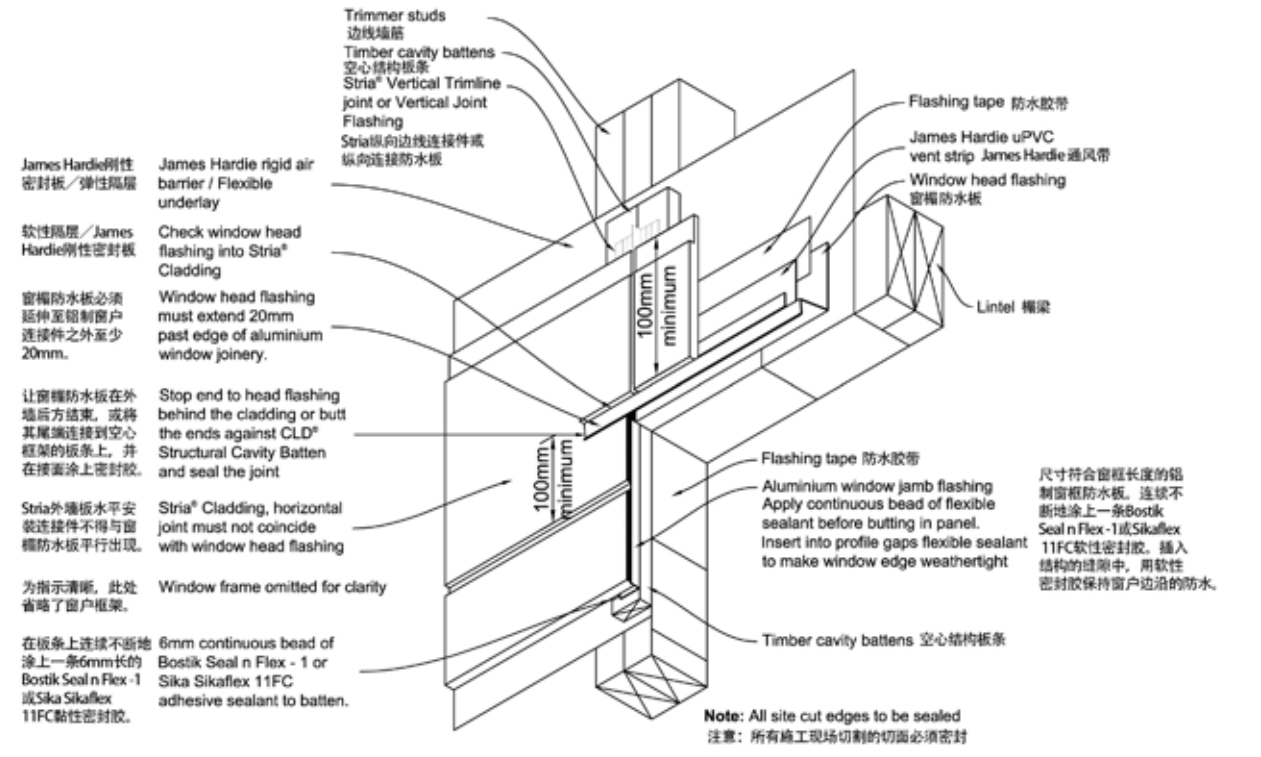


Figure 24: Window head 图24: 窗楣

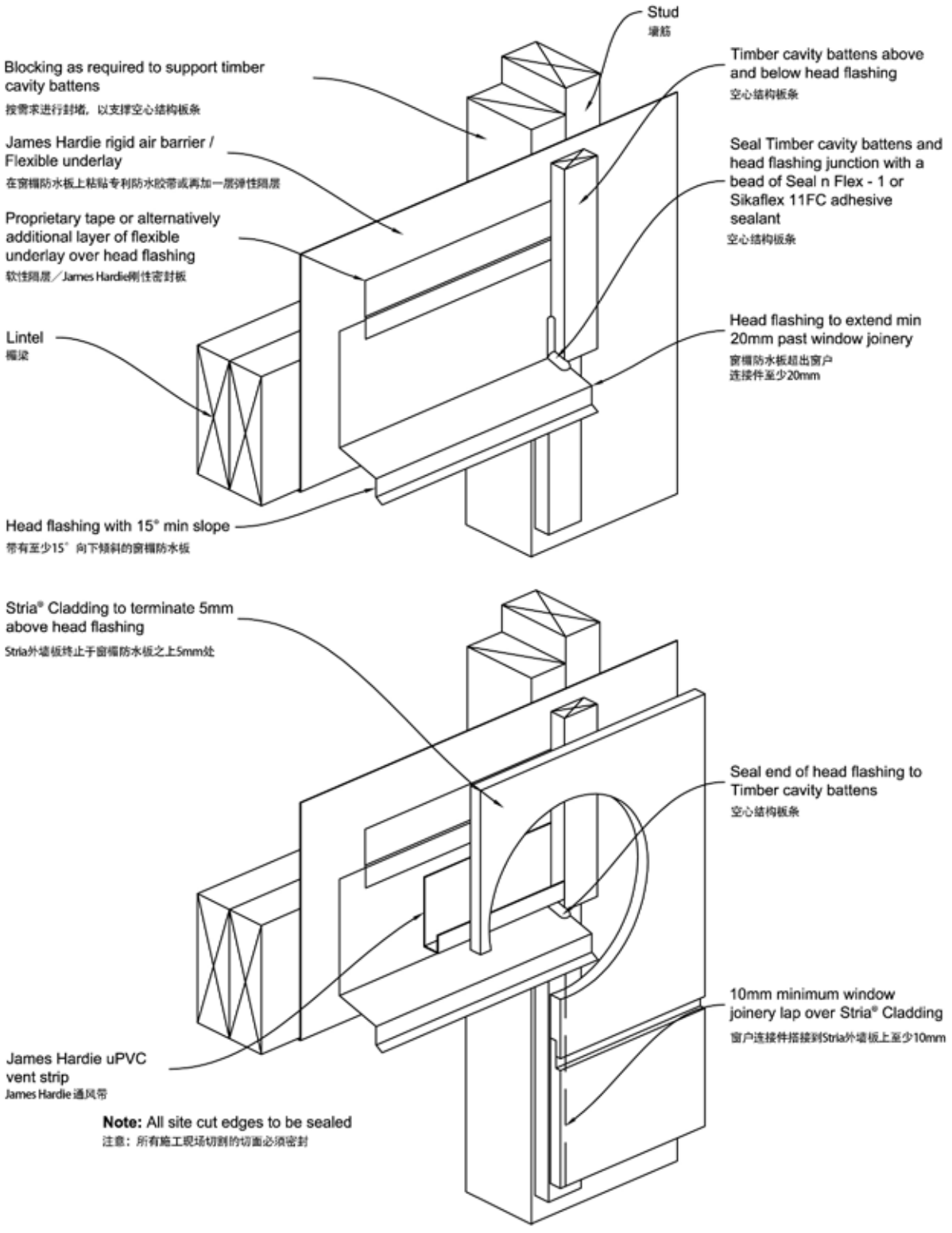
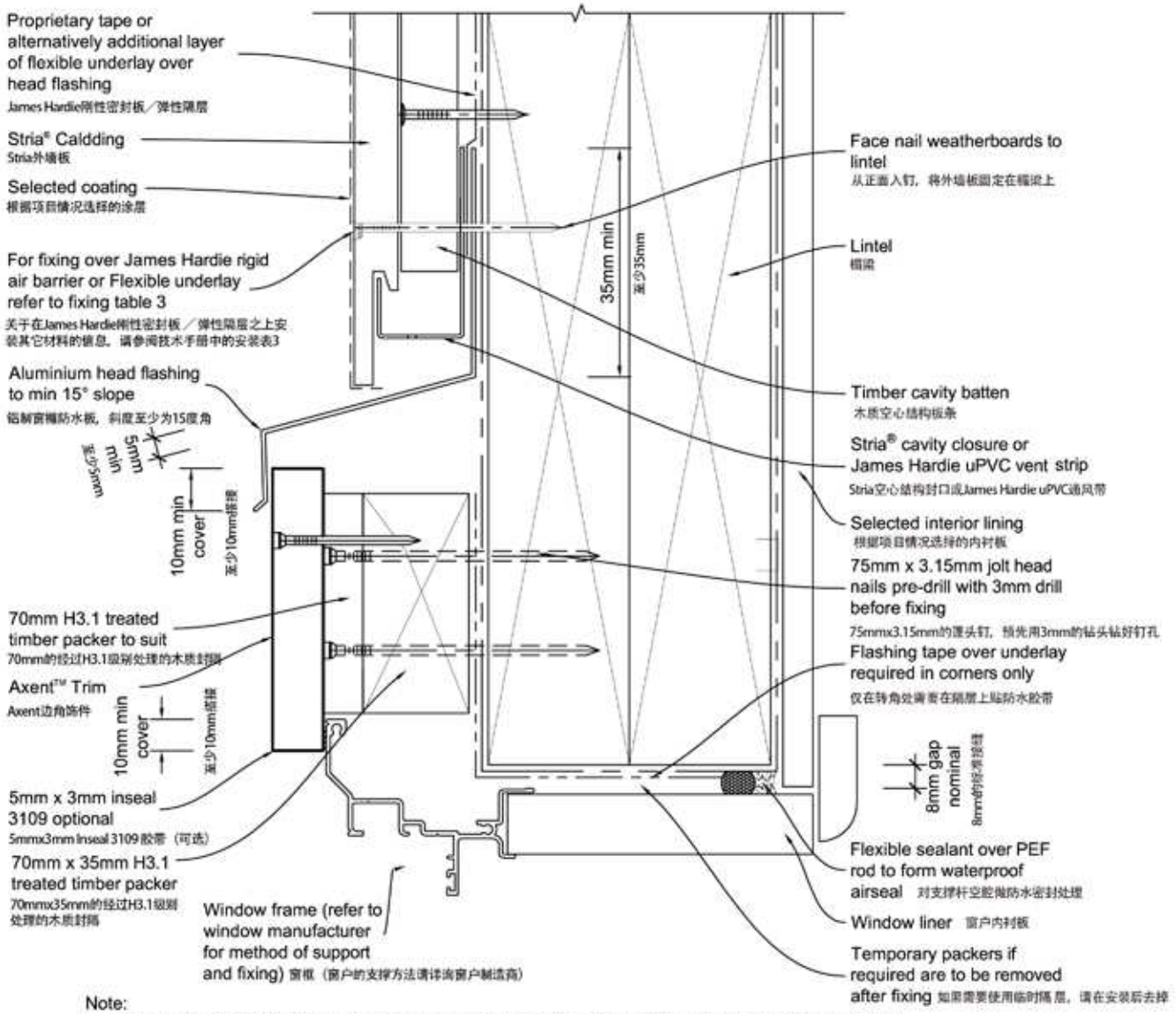


Figure 25: Window Head with facings 图25: 带有饰面的窗楣



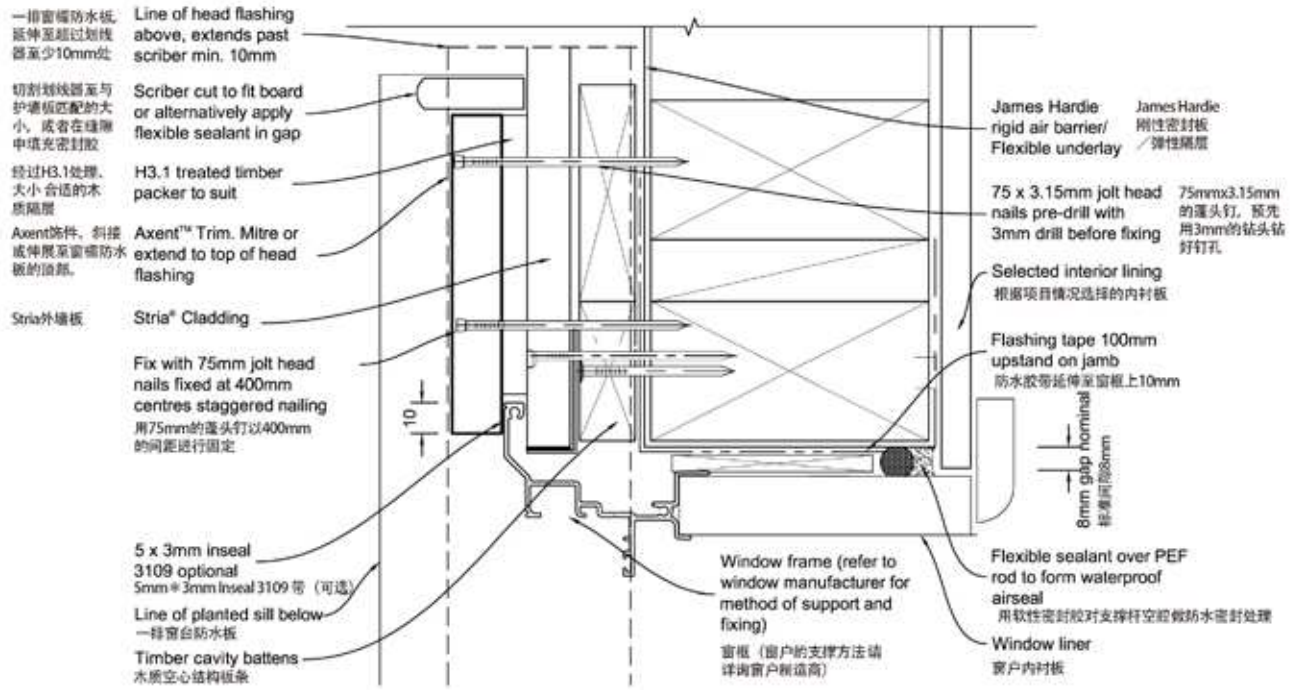
Note:

- When James Hardie rigid air barrier is used flashing tape to be applied to the entire window opening.
- Sealant must be installed between head flashing and Axent™ Trim and Axent™ Trim and window flange in VH and EH wind zones and SED pressures.
- Alternatively, the head flashings can be formed with stop ends as per E2/AS1.

注意：

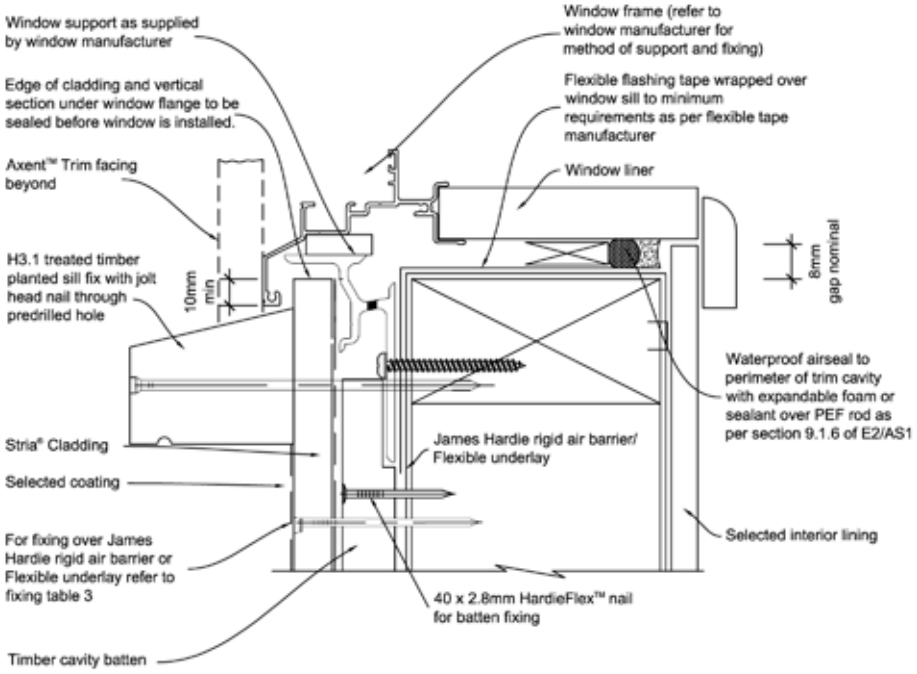
- 如果使用James Hardie刚性密封板，必须在全窗开口区都配合使用防水胶带。
- 在VH风区、EH风区以及特殊设计项中，窗楣防水板和Axent饰件之间必须涂抹密封胶，Axent饰件和窗户凸缘之间也必须涂抹密封胶。
- 或者，根据E2/AS1的规定，窗楣／门楣防水板也可用断面替代。

Figure 26: Window jamb with facings 图26: 带有饰面的窗框



Note: When James Hardie rigid air barrier is used flashing tape to be applied to the entire window opening.
注意：如果使用James Hardie刚性密封板，必须在全窗开口区配合使用防水胶带（Flashing tap）。

Figure 27: Window sill with planted sill 图27: 种有绿植的窗台

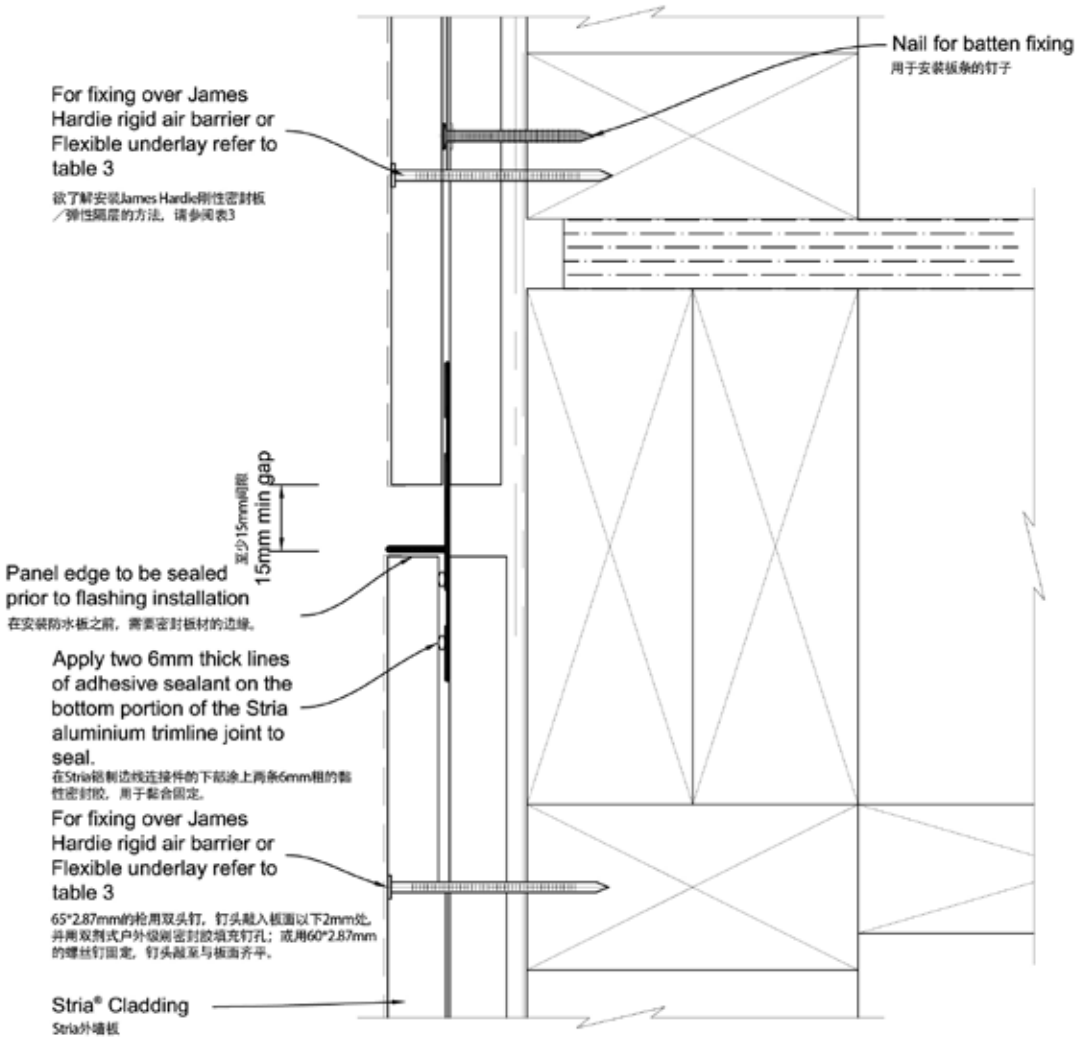


General notes for materials selection

1. Flashing materials must be selected based on environmental exposure, refer to NZS 3604 and Table 20 of NZBC E2/AS1.
2. Flexible underlay must comply with acceptable solution E2/AS1.
3. Flashing tape must have proven compatibility with the selected flexible underlay and other materials with which it comes into contact.
4. When James Hardie rigid air barriers are used flashing tape to be applied to the entire opening.

Refer to the manufacturer or supplier for technical information for these materials.

Figure 28: Trimline horizontal joint at floor joists 图28: 位于地板龙骨处的边线水平连接件



STEP 1

- Check architects plans for the type of flashing to be used.

第一步：查看建筑工程师的计划，找出适用的防水板类型。

STEP 2

- Check fixing centres and edge distances.

第二步：查看安装中的中心距离和边缘距离。

STEP 3

- When 50 year durability is required refer Table 20 E2/AS1.

第三步：如果需要50年以上的耐久度，则需参阅20 E2/AS1中的表20。

STEP 4

- The flashing to be placed in the centre of the floor joists. Do not fix timber cavity battens or cladding into floor joists.

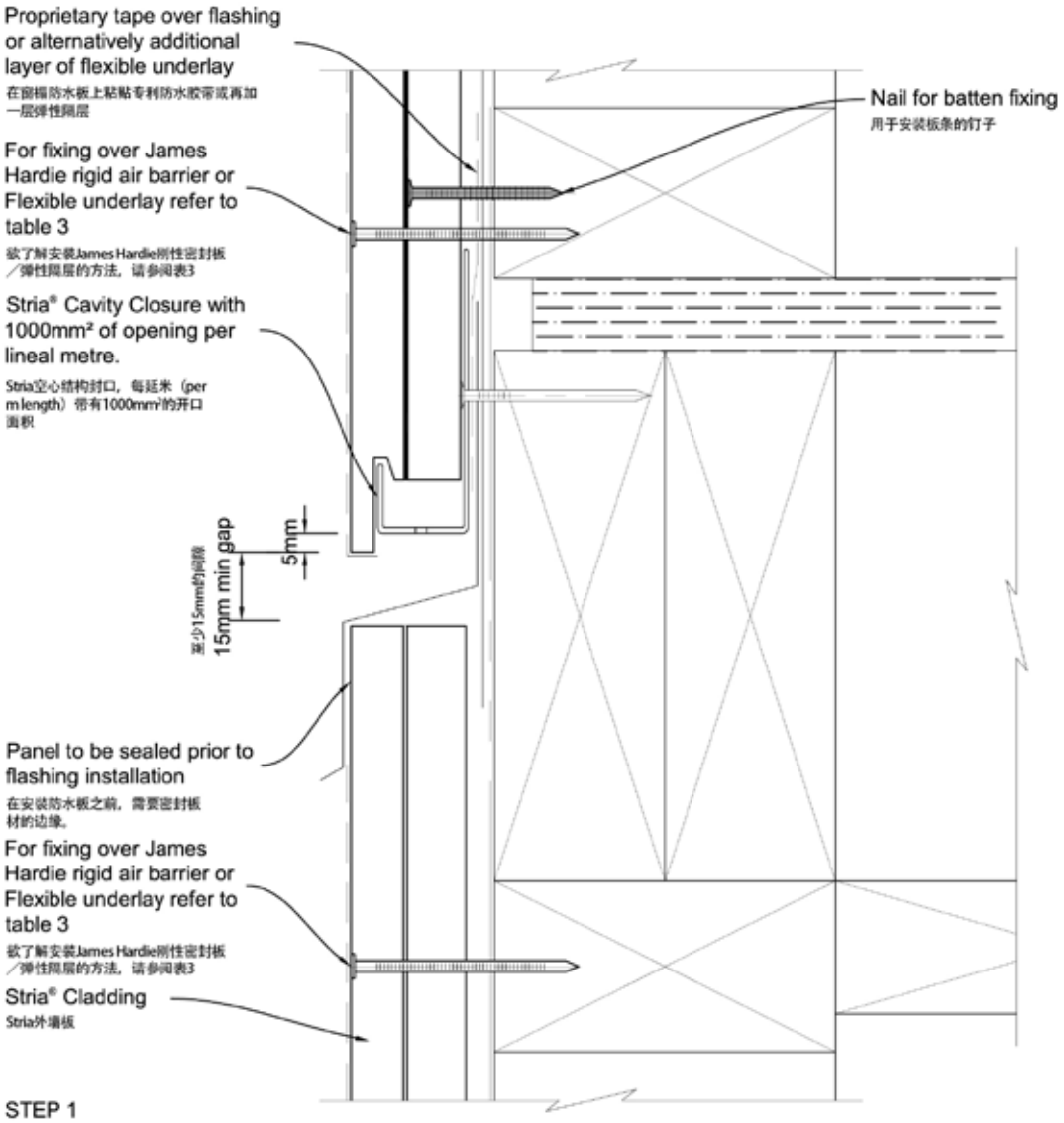
第四步：需在地板龙骨的中心位置装防水板。请勿将空心结构板条或外墙板安装在地板龙骨上。

Notes:

- Stria aluminium trimline joint, take care to ensure continuous seal is formed between panel and the trimline joint.
- A purpose made 100mm long x 16mm deep x 0.7mm thick 'L' shaped flashing will be required over the butt joint of the Stria aluminium trimline joint.

注意：铝制边线连接件：注意保证密封胶连续不断地将铝制边线防水条和外墙板粘合起来。
当将两个铝制边线连接件尾部相接时，必须安装一个特殊制作的L形尾接连接件，长100mm，深16mm，厚度为0.7mm。

Figure 29: Drained flashing joint at floor level 图29: 一楼处的排水接缝防水板



STEP 1

- Check architects plans for the type of flashing to be used.

第一步：

- 查看建筑工程师的计划（architects plans），找出适用的防水板类型

STEP 2

- Check fixing centres and edge distances.
- If top fixings are to be hidden by the Z flashing they will need to be fixed and sealed before the Z flashing is installed.

第二步：

- 查看安装中的中心距离（fixing centres）和边缘距离（edge distances）
- 如果顶部的安装会被z形防水板（Z flashing）挡住，则应当先完成顶部安装并密封，而后再安装z形防水板（Z flashing）。

STEP 3

- When 50 year durability is required refer Table 20 E2/AS1.

第三步：如果需要50年以上的耐久度，则需参阅20 E2/AS1中的表20.

STEP 4

- The flashing to be placed in the centre of the floor joists. Do not fix timber cavity battens or cladding into floor joists.

第四步：

- 请在地板龙骨（floor joists）的中心位置装防水板。请勿将空心结构板条（timber cavity battens）或外墙板安装在地板龙骨上。

Note: This detail is required to limit cavities to a maximum of 2 stories or 7 metres. Refer to E2/AS1 clause 9.1.9.4

注意：此详图要求建筑不超过2层，或不超过7米高。参见E2/AS1条款9.1.9.4.

Figure 30: Drained flashing joint at floor joist 图30: 位于地板龙骨处的排水接缝防水板

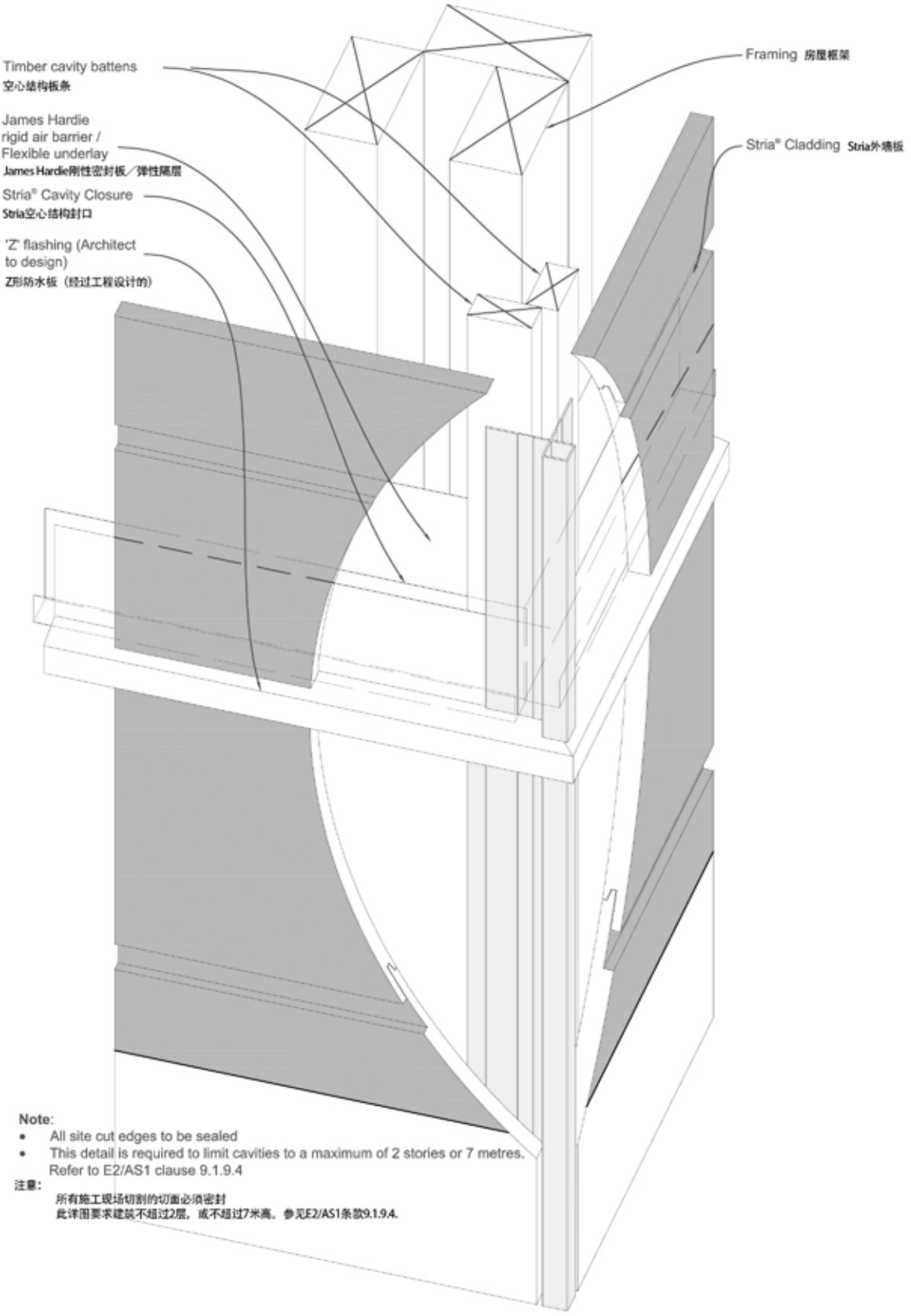


Figure 31: Engineered floor joist 图31: 工程地板龙骨

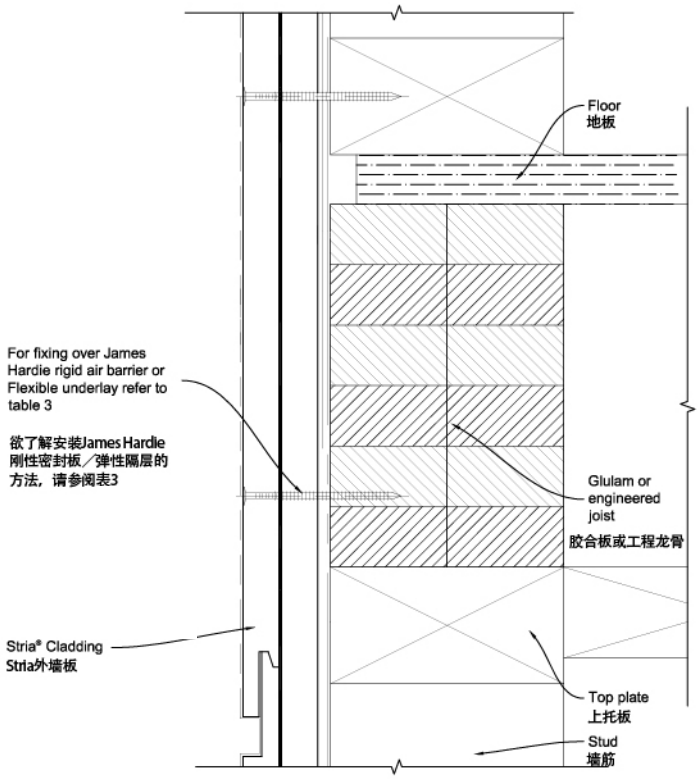


Figure 32: Apron flashing detail 图32: 烟囱防水板详图

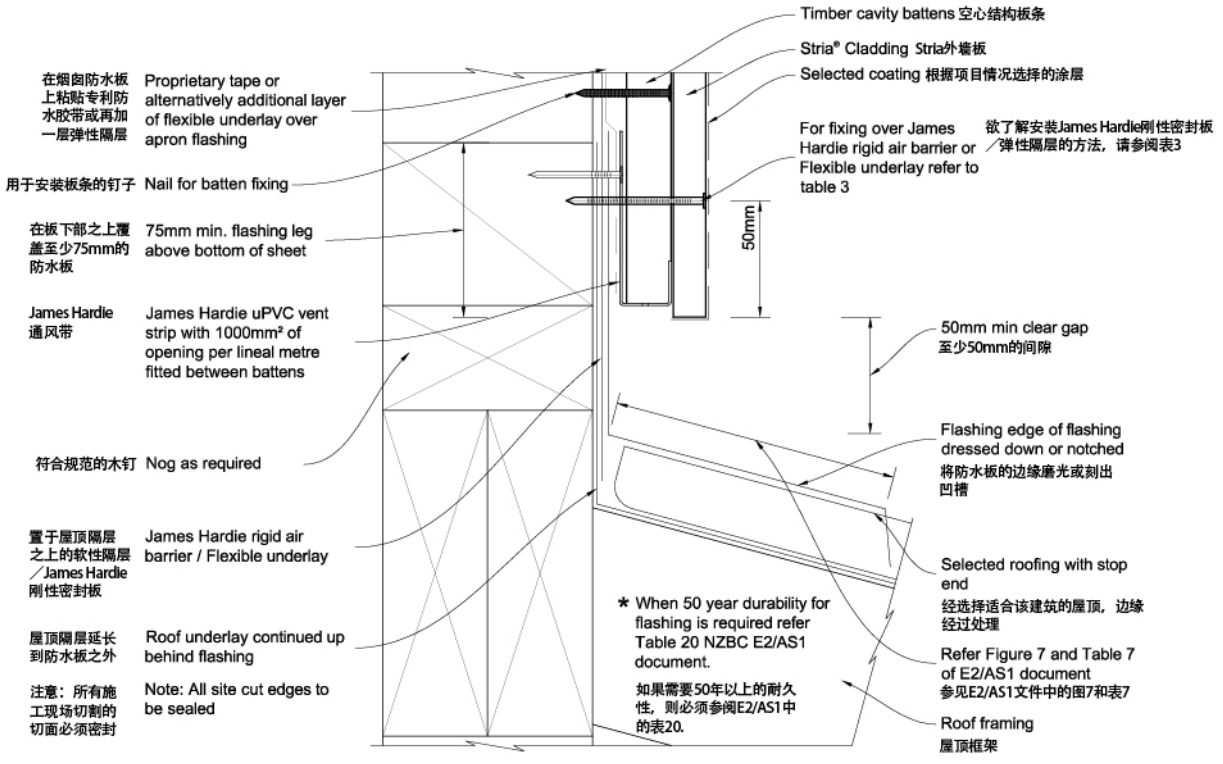


Figure 33: Parapet flashing 图33: 矮墙的防水

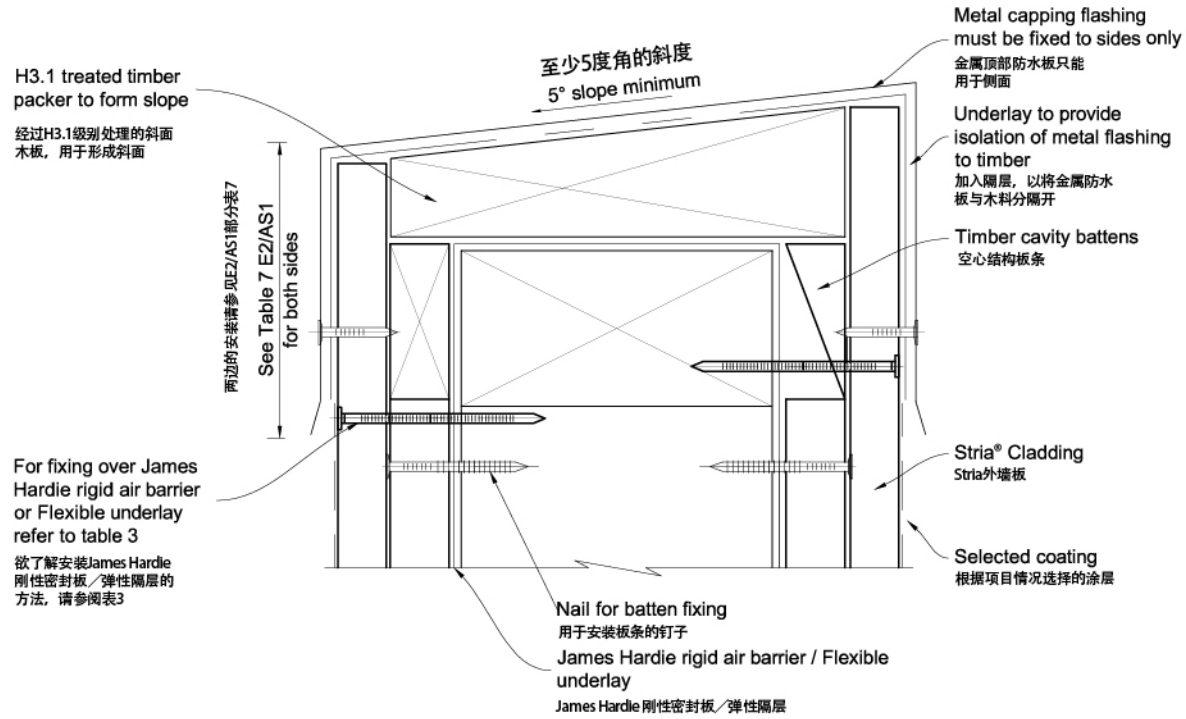


Figure 34: Roof to wall junction detail 图34: 屋顶与墙连接的详图

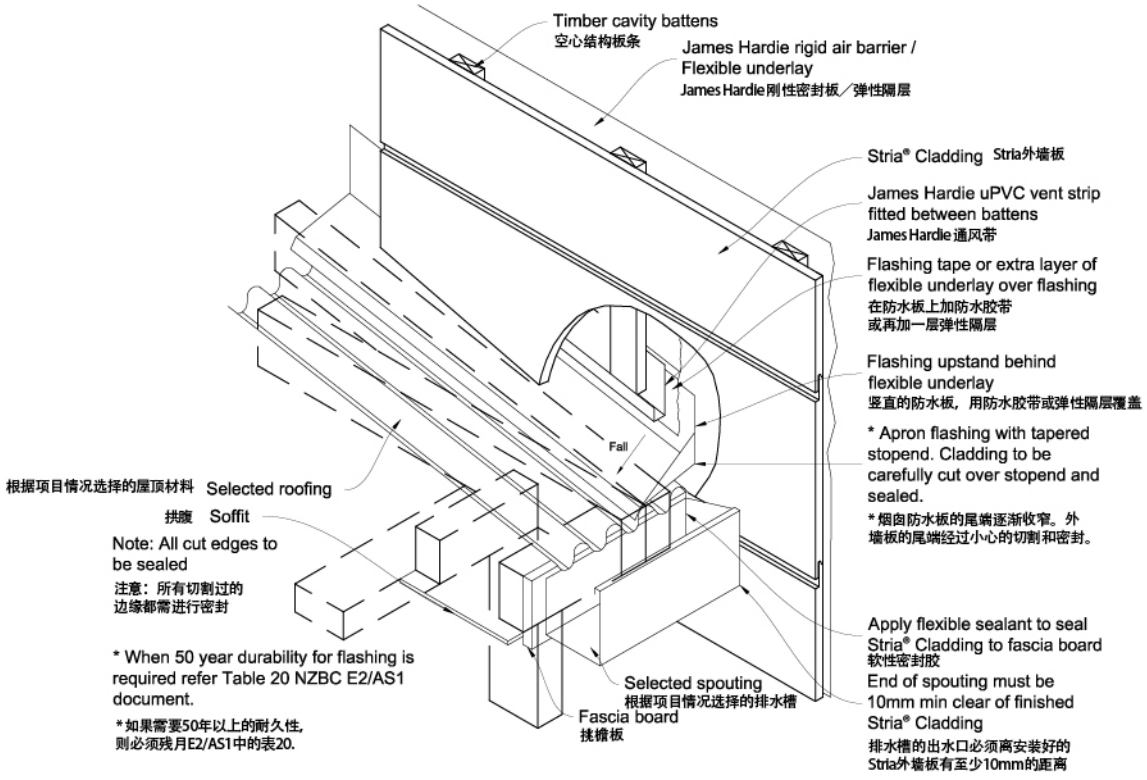


Figure 35: Meter box at sill 图35: 位于窗台的仪表箱

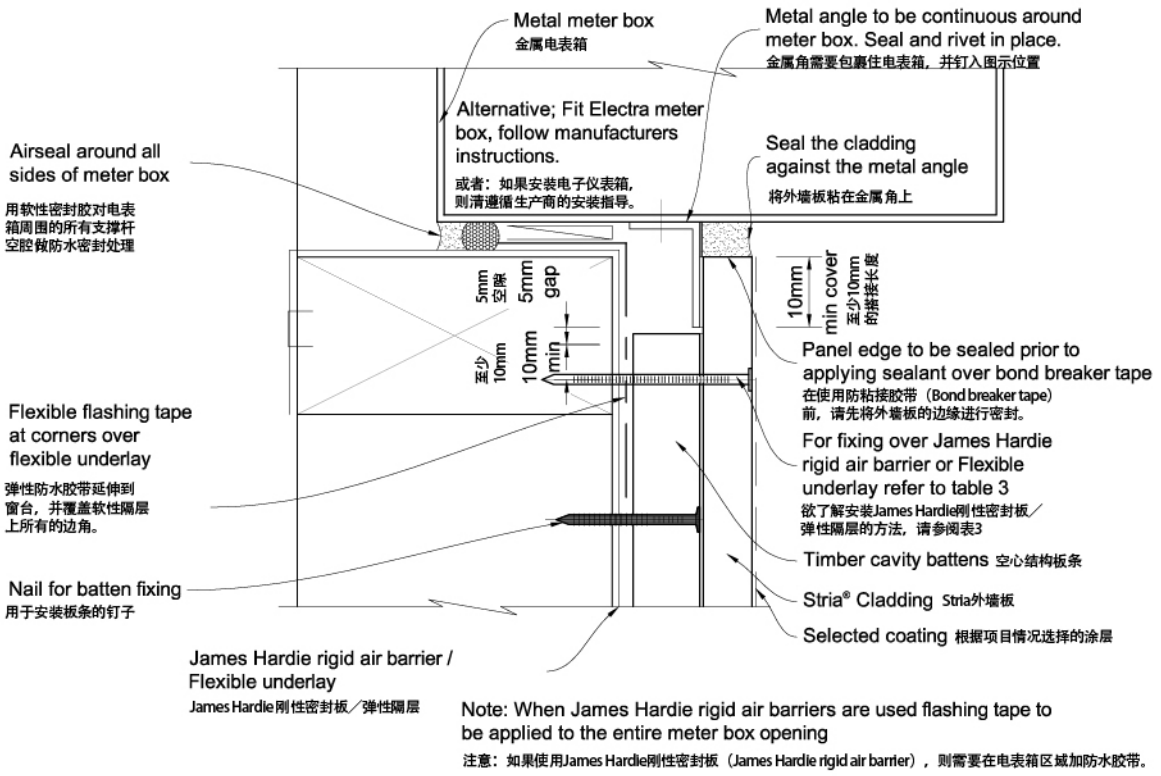


Figure 36: Meter box at jamb 图36: 位于窗框的仪表箱

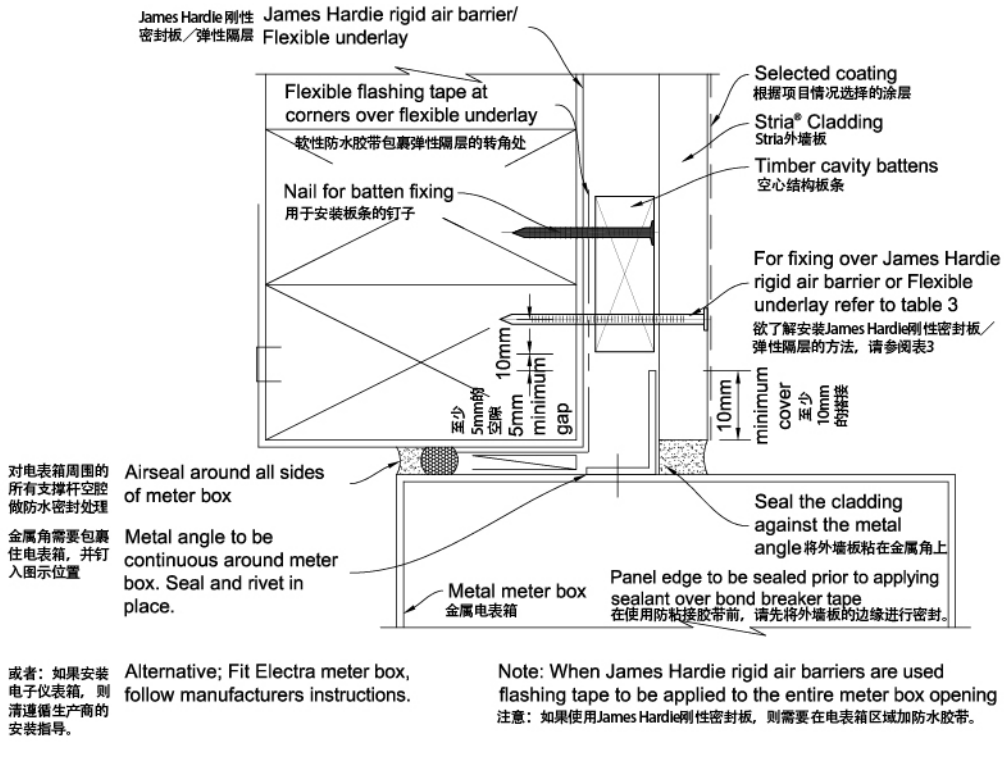


Figure 37: Meter box at head 图37: 位于窗楣的仪表箱

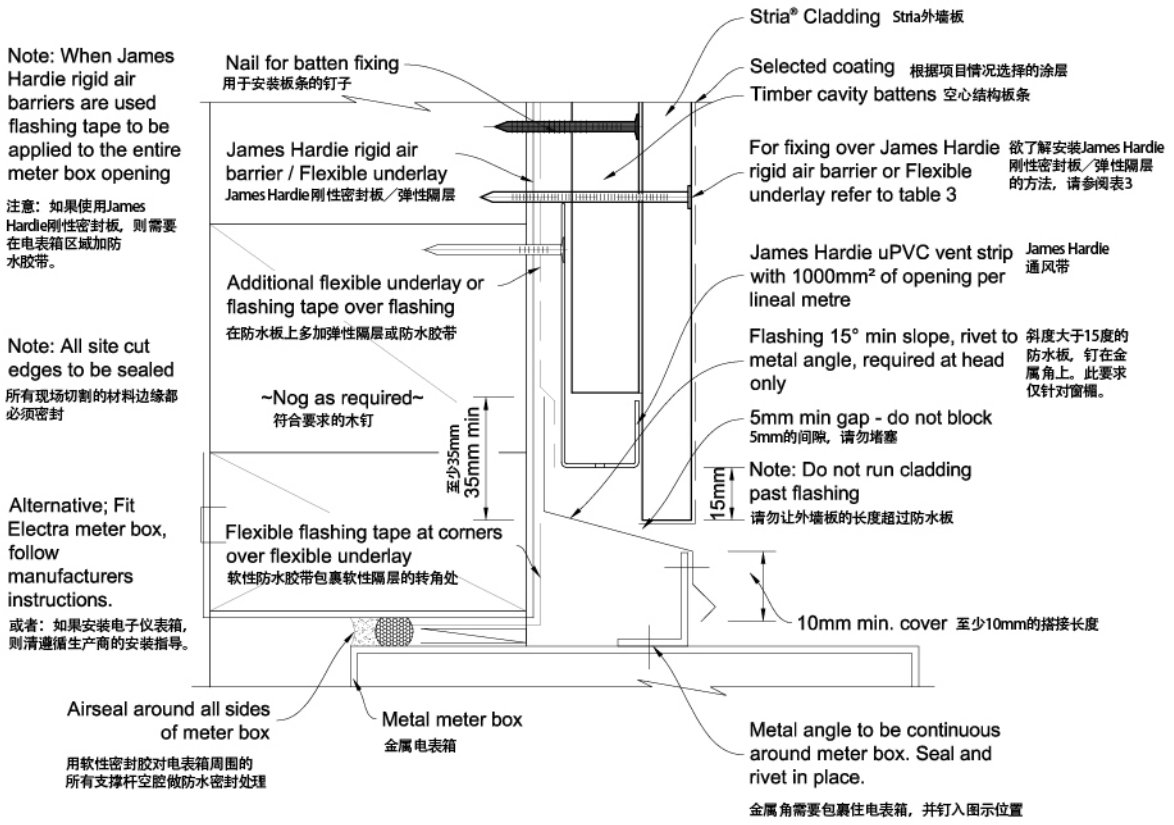


Figure 38: Enclosed deck 图38: 封闭式露台

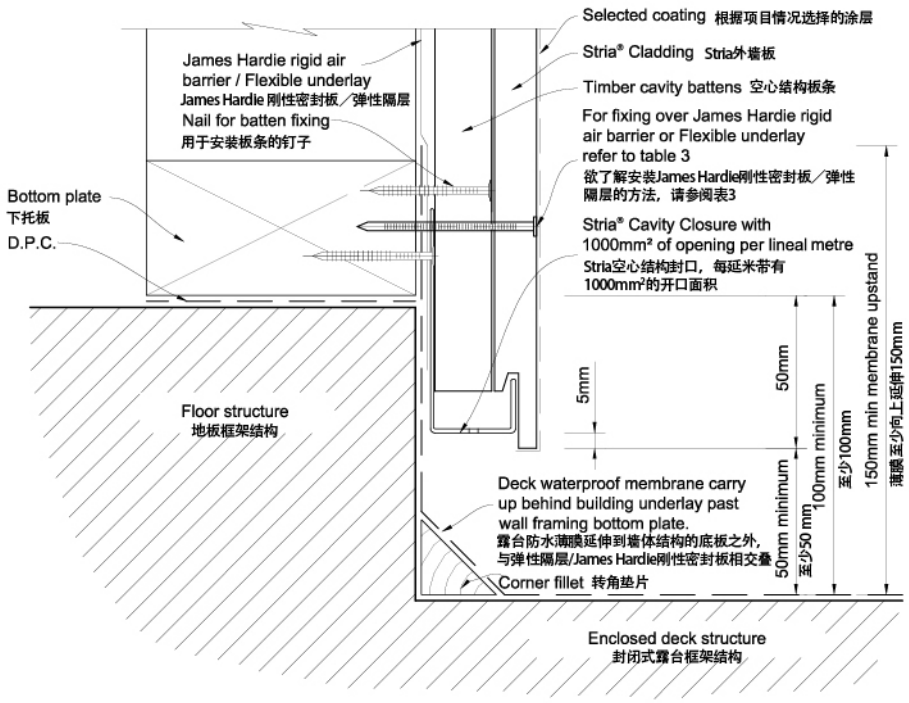
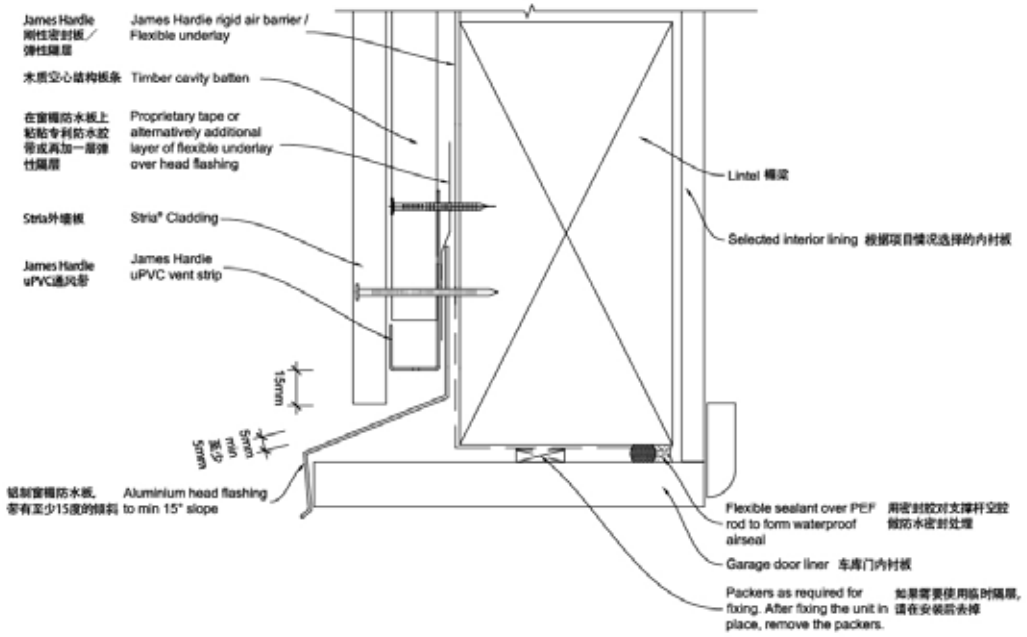
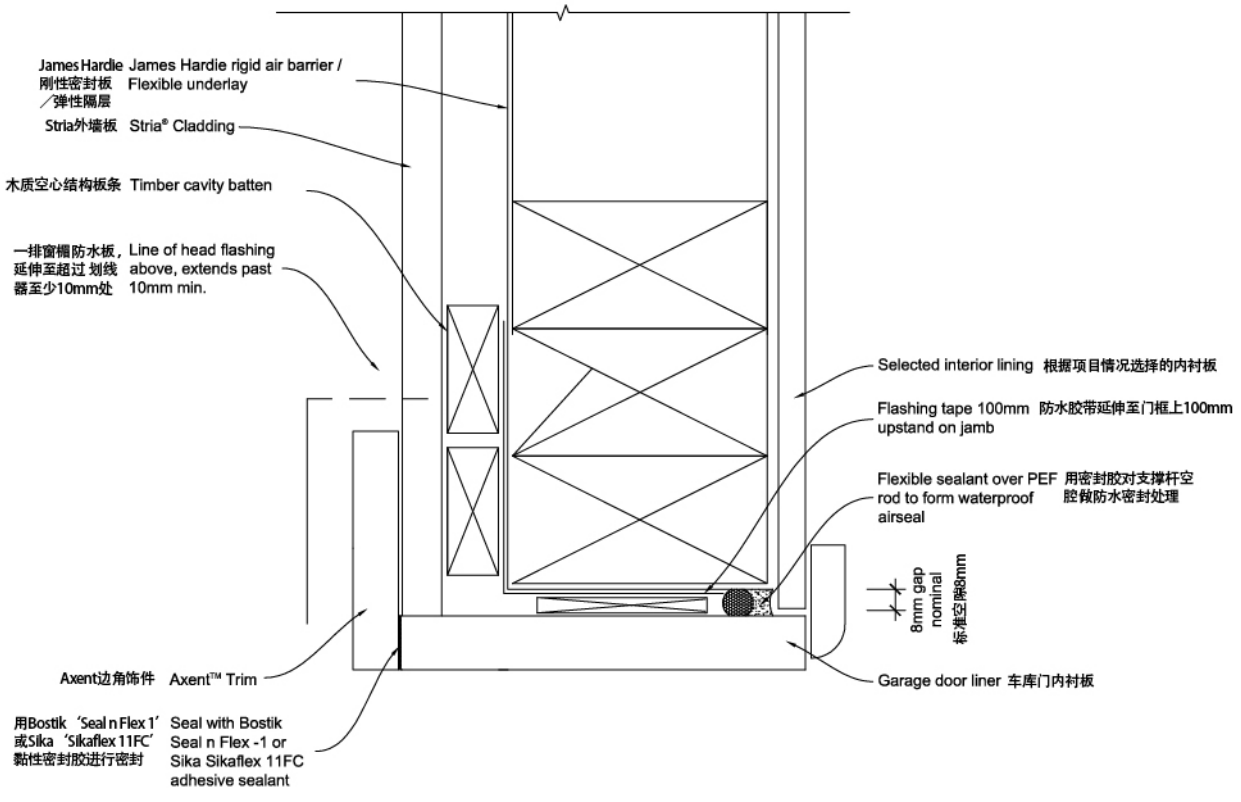


Figure 39: Garage door jamb 图39: 车库门框



Sealant must be applied between head flashing and trim in VH and EH wind zones and SED wind pressures.
在VH风区、EH风区以及特殊设计项中，窗楣防水板和饰件之间必须注密封胶。

Figure 40: Garage door head 图40: 车库门楣



Notes **备忘录**

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Product Warranty 产品质保

James Hardie New Zealand Limited ("James Hardie") warrants for a period of 25 years from the date of purchase that the Linea™ Oblique Weatherboard on (the "Product"), will be free from defects due to defective factory workmanship or materials and, subject to compliance with the conditions below, will be resistant to cracking, rotting, fire and damage from termite attacks to the extent set out in James Hardie's relevant published literature current at the time of installation. James Hardie warrants for a period of 15 years from the date of purchase that the accessories supplied by James Hardie will be free from defects due to defective factory workmanship or materials.

James Hardie新西兰有限公司（简称" James Hardie"）保证Linea™ Oblique护墙板（简称"产品"）在售出之日起的25年内，不会出现由于不合格做工及材料问题所导致的产品缺陷。在满足以下质保条件的情况下，其防裂、耐腐蚀、抗火、防白蚁咬噬的性能会达到安装当时James Hardie所发布的最新相关文献中所声明的程度。James Hardie担保，由James Hardie所售卖的配件在购买之日起的15年内不会出现由于不合格做工或材料问题所导致的损坏。

Nothing in this document shall exclude or modify any legal rights a customer may have under the Consumer Guarantees Act or otherwise which cannot be excluded or modified at law.

本文件中的任何内容都不能剥夺或削弱消费者保护法（Consumer Guarantees Act）所规定的任何消费者合法权利，因其是无法被剥夺或削弱的。

CONDITIONS OF WARRANTY:
质保条件:

The warranty is strictly subject to the following conditions:

本质量保证严格受到以下担保条件的限制：

a) James Hardie will not be liable for breach of warranty unless the claimant provides proof of purchase and makes a written claim either within 30 days after the defect would have become reasonably apparent or, if the defect was reasonably apparent prior to installation, then the claim must be made prior to installation;

a) 索赔者必须提供购买凭证，且应当在产品缺陷被发现之日起的30天内递交书面的投诉声明，否则James Hardie将不承担任何违约责任。或者，如果产品有在安装前就能发现的明显缺陷，则消费者必须在安装前递交投诉；

b) this warranty is not transferable;

b) 本质量保证不可转移；

c) the Product must be installed and maintained strictly in accordance with the relevant James Hardie literature current at the time of installation and must be installed in conjunction with the components or products specified in the literature. Further, all other products, including coating and jointing systems, applied to or used in conjunction with the Product must be applied or installed and maintained strictly in accordance with the relevant manufacturer's instructions and good trade practice;

c) 产品必须按照安装当时现行的James Hardie相关说明文件进行安装和维护，且必须按照说明文件中的要求选择配套使用的产品。 而且，使用中所有用于本产品之上或与本产品相接触的产品，包括涂料和固件连接系统，都必须严格按照相应制造商的说明和销售演示进行使用、安装和维护；

d) the project must be designed and constructed in strict compliance with all relevant provisions of the current New Zealand Building Code ("NZBC"), regulations and standards;

d) 工程的设计和施工必须严格遵守现行版新西兰建筑规范（NZBC)的各项相关规定，以及其他法律和规范；

e) the claimant's sole remedy for breach of warranty is (at James Hardie's option) that James Hardie will either supply replacement product, rectify the affected product or pay for the cost of the replacement or rectification of the affected product;

e) 如果违约成立，索赔方所获得的唯一补偿（由James Hardie 选择）为：James Hardie 将为消费者替换合格的产品，或修复有缺陷的产品，或赔偿消费者替换产品或修复产品所产生的费用；

f) James Hardie will not be liable for any losses or damages (whether direct or indirect) including property damage or personal injury, consequential loss, economic loss or loss of profits, arising in contract or negligence or howsoever arising. Without limiting the foregoing James Hardie will not be liable for any claims, damages or defects arising from or in any way attributable to poor workmanship, poor design or detailing, settlement or structural movement and/or movement of materials to which the Product is attached, incorrect design of the structure, acts of God including but not limited to earthquakes, cyclones, floods or other severe weather conditions or unusual climatic conditions, efflorescence or performance of paint/coatings applied to the Product, normal wear and tear, growth of mould, mildew, fungi, bacteria, or any organism on any Product surface or Product (whether on the exposed or unexposed surfaces);

f) 无论源于合同、个人疏忽或其他原因，James Hardie不对任何(直接的或间接的)损失或损坏负责，包括财产损坏或人身伤害、间接性损失、经济损失或利润损失 。在不改变或限制上述条件的前提下，James Hardie也不对任何由于以下原因所导致的损失、破坏或故障承担责任：不合格的施工工艺、不合格的设计或详图 、地表沉降或结构性移动/或该产品所附着物的移动、错误的房屋结构设计、不可抗因素（包括但不限于地震、龙卷风、洪水或其它恶劣气候条件或罕见天气等）、风化或产品的涂漆/涂料性能不佳、正常磨损与消耗、 产品表面或产品本身(不管在暴露面还是内部)发霉、真菌生长、细菌或其它微生物生长等导致的损害和缺陷;

g) all warranties, conditions, liabilities and obligations other than those specified in this warranty are excluded to the fullest extent allowed by law;

g) 在法律许可的范围内，所有除本质量保证所包含条款之外的其他任何保证、条件、责任和义务都不在承诺范围之内；

h) if meeting a claim under this warranty involves re-coating of Products, there may be slight colour differences between the original and replacement Products due to the effects of weathering and variations in materials over time.

h) 如果依据本保证书提出的某项索赔成立，而赔偿内容涉及到重新喷涂某产品，则由于天气或不同时段材料差异的原因，替换产品和原产品之间可能存在色差。

Disclaimer: The recommendations in James Hardie's literature are based on good building practice, but are not an exhaustive statement of all relevant information and are subject to conditions (c), (d), (f) and (g) above. Linea™ Oblique Weatherboard has been appraised by BRANZ as an alternative solution and found to meet the required provisions of the NZBC when installed in accordance with the Linea™ Oblique Weatherboard Horizontal Installation technical specification. However, as the successful performance of the relevant system depends on numerous factors outside the control of James Hardie (e.g. quality of workmanship and design) James Hardie shall not be liable for the recommendations made in its literature and the performance of the relevant system, including its suitability for any purpose or ability to satisfy the relevant provisions of the NZBC, regulations and standards, as it is the responsibility of the building designer to ensure that the details and recommendations provided in the relevant James Hardie installation manual are suitable for the intended project and that specific design is conducted where appropriate.

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