

Cavity Fix 空心结构安装法

Technical Specification
技术规范

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1 Product Overview

产品概况

1.1 Product Information 产品信息

Linea™ Weatherboard is an external cladding.

Linea™ 护墙板是一种外部墙板系统。

Linea Weatherboard is a 16mm thick, pre-primed bevel back fibre cement weatherboard. The bottom front edge of Linea Weatherboard is chamfered. It has tongue and groove ends for jointing and is classified as lightweight wall cladding for use in residential and light commercial buildings using timber or lightweight steel framed external walls. Linea Weatherboard is available in 135mm, 150mm and 180mm widths.

Linea 护墙板厚度为16mm，是一种预涂底漆的斜背式纤维水泥护墙板。Linea 护墙板的底部前端为倒角设计。通过榫卯方式进行连接，类别为轻质外墙板，一般用于住宅和商业建筑的外墙或者轻质钢结构建筑外墙。Linea 护墙板共有135mm、150mm和180mm三种宽度。

James Hardie also has available:

James Hardie 还提供以下产品：

- Axent™ Fascia is a 16mm thick, pre-primed fibre cement product available in two widths. It's designed to accommodate James Hardie soffit linings.
Axent™ Fascia 封檐板，为16mm厚的预涂底漆纤维水泥板，共有两种长度选择。用于支撑配合 James Hardie 拱腹底板。
- Axent™ Trim is a 16mm thick, pre-primed fibre cement product available in two widths. For use as decorative trims around openings and external corners.
Axent™ Trim 饰板，为16mm厚的预涂底漆纤维水泥板，共有两种宽度选择。用于装饰开口周边和外部边角。

For fixing to a steel frame. Ask James Hardie™ on 0800 808 868 for specific requirements. Or refer to the James Hardie cladding to steel framing technical supplement about the installation of Linea Weatherboard to steel frame.

如需安装在钢结构上，请致电0800 808 868联系 James Hardie™ 了解具体要求。或者参考 James Hardie 钢结构墙板安装技术补充说明了解安装信息。

Table 1 表1

Linea Weatherboard and Axent Trim sizes Linea 护墙板和 Axent Trim 饰板尺寸									
Product 产品	Code 编号	Length 长度 (mm)	Width 宽度 (mm)	Thickness 厚度 (mm)	End details 末端 形状	Effective cover 有效覆 盖长度 (mm)	Coverage Information 覆盖信息		
							No. of planks/ metre height 板数/米高 (approx.) (近似值)	Mass kg/lineal m 重量公斤/ 线性米 (approx. at EMC) (近似值 at EMC)	Mass kg/m2 重量公斤/ 平方米 (approx. at EMC) (近似值 at EMC)
Linea Weatherboard 135 Linea 护墙板 135mm	401844	4200	135	16	T & G 榫卯结构	105	9.5	2.62	25.70
Linea Weatherboard 150 Linea 护墙板 150mm	402533	4200	150	16	T & G 榫卯结构	120	8.3	3.1	24.93
Linea Weatherboard 180 Linea 护墙板 180mm	401847	4200	180	16	T & G 榫卯结构	150	6.7	3.57	23.92
Axent Trim 84mm 饰板 84mm	401943	2600	84	16	Square 方形	N/A	N/A	1.6	N/A
Axent Trim 100mm 饰板 100mm	401930	2600	100	16	Square 方形	N/A	N/A	1.9	N/A

The effective thickness of finished Linea Weatherboard on the wall at the lap is approximately 33 to 35mm.
在外墙安装完成后，Linea 护墙板有效厚度大约为33-35mm。

All dimensions and masses provided are approximate only and are subject to manufacturing tolerances.
以上所有尺寸及重量为近似值，生产过程中产生误差是正常现象。

Linea Weatherboard is categorised as a Light Weight Wall Cladding as described in the NZS 3604.
Linea 护墙板在NZS 3604规范分类中属于轻质外墙板。

1.2 Manufacturing and Classification 制造工艺及分类

The manufacturing process of Linea Weatherboard by James Hardie is ISO 9001 Certified.
James Hardie 制造 Linea 护墙板的过程经ISO 9001认证。

Linea Weatherboard is an advanced lightweight cement composite cladding manufactured using a basic composition of Portland cement, ground sand, cellulose fibre and water. The product is easily identified by the name 'Linea' printed on the back.
Linea 护墙板是一种先进的轻质合成水泥板，制造原料主要为波特兰水泥、沙子、纤维和水。本板材可以通过其背面印刷的 'Linea' 字样进行识别。

Axent Trim is an advanced lightweight cement composite cladding manufactured using a basic composition of Portland cement, ground sand, cellulose fibre and water. The product is easily identified by the name 'Axent' printed on the back. The trims are factory sealed and primed.

Axent Trim 饰板是一种先进的轻质合成水泥板，制造原料主要为波特兰水泥、沙子、纤维和水。本板材可以通过其背面印刷的 'Axent' 字样进行识别。饰板所有表面出厂前已经完成密封并上底漆。

Linea Weatherboard and Axent Trim products are manufactured to Australian/New Zealand Standard AS/NZS 2908.2 'Cellulose-Cement Products' (ISO 8336 'Fibre-Cement Flat Sheet').

Linea 护墙板和 Axent Trim 饰板的制造均满足澳大利亚/新西兰标准 AS/NZS 2908.2 '纤维水泥产品' (ISO 8336 'Fibre-Cement Flat Sheet') 的要求。

Linea Weatherboard is classified Type A, Category 2 in accordance with AS/NZS 2908.2 "Cellulose-Cement Products".
在标准AS/NZS 2908.2 "纤维水泥产品" 中，Linea 护墙板被分类为 Type A, Category 2。

For Safety Data Sheets (SDS) visit www.jameshardie.co.nz and view them in the technical literature section or Ask James Hardie on **0800 808 868**.

请访问网站 www.jameshardie.co.nz 获取技术文档目录下的安全数据表 (Safety Data Sheets, SDS)，或者致电 James Hardie，电话号码为 **0800 808 868**。

1.3 Components and Accessories 产品组件和配件

Table 2 表2

Accessories/tools supplied by James Hardie 由 James Hardie 提供的配件/工具			
Accessories 配件	Description 产品描述	Size 尺寸 (mm)	Code 编号
	External corner soaker 90° for Linea Weatherboards 180mm 180mm Linea 护墙板使用的90°阳角防漏嵌条 <ul style="list-style-type: none">Aluminium 铝制Copper 铜制Stainless Steel 不锈钢	200 long 长	301186 301188 301197
	External corner soaker 135° for Linea Weatherboards 180mm 180mm Linea 护墙板使用的135°阳角防漏嵌条 <ul style="list-style-type: none">Aluminium 铝制	200 long 长	301178
	External corner soaker 90° for Linea Weatherboards 150mm 150mm Linea 护墙板使用的90°阳角防漏嵌条 <ul style="list-style-type: none">Aluminium 铝制Stainless Steel 不锈钢	170 long 长	302820 302821
	External corner soaker 90° for Linea Weatherboards 135mm 135mm Linea 护墙板使用的90°阳角防漏嵌条 <ul style="list-style-type: none">Aluminium 铝制Stainless Steel 不锈钢	155 long 长	301185 301196

Table 2 contd. 表 2 续

Accessories/tools supplied by James Hardie 由 James Hardie 提供的配件/工具			
Accessories 配件	Description 产品描述	Size 尺寸 (mm)	Code 编号
	External Slimline Box Corner Mould 超薄箱型阳角覆膜 Etched primed aluminium extrusion used to create external corner 经过蚀刻的铝材，用于制造阳角	2700 long 长 4000 long 长	301195 305809
	Linea 35mm Cavity Closer Linea 35mm 空心封条	3000 long 长	306035
	Internal 'W' Mould 90° 'W' 型90°阴角覆膜 Etched primed aluminium extrusion used to create 90° internal corner 经过蚀刻的铝材，用于制造90°阴角	2700 long 长 4000 long 长	301184 305807
	Internal 'W' Mould 135° 'W' 型135°阴角覆膜 Etched primed aluminium extrusion used to create 135° internal corner 经过蚀刻的铝材，用于制造135°阴角	2700 long 长	301183
	JH Corner Under Flashing 50 x 50mm 防水板下方的JH角覆膜50 x 50mm PVC moulding used as under flashing for internal and external corners 用于阴角和阳角防水板下方的PVC覆膜	3000 long 长	303745
	Axent Trim 84mm Axent Trim 饰板 84mm	84 x 2600 long 长	401943
	Axent Trim 100mm Axent Trim 饰板 100mm	100 x 2600 long 长	401930
	Axent Fascia 封檐板 - 180mm - 230mm	4200 long 长	401843 402230
	HardieFlex™ Galvanised nail 镀锌钉 - 5kg	60 x 3.15mm	302782
	HardieFlex™ Stainless steel nail 不锈钢钉 - 5kg	60 x 3.15mm	302784
	HardieBlade™ Saw Blade HardieBlade™ 锯片 Diamond tip fibre cement circular saw blade. Spacers not included 纤维水泥切割圆锯片，金刚石刀头，不含垫片	4 tooth 齿 - 184mm	300660
	HardieBlade™ Saw Blade HardieBlade™ 锯片 Diamond tip fibre cement circular saw blade. Spacers not included 纤维水泥切割圆锯片，金刚石刀头，不含垫片	6 tooth 齿 - 254mm	303375
	Gecko Gauge This easy to use tool gauges and supports the weatherboard for a one person install. 单人安装时用于测量和支撑护墙板的工具		305941

Table 3 表 3









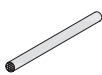


Accessories not supplied by James Hardie 非 James Hardie 提供的配件			
<p>James Hardie recommends the following products for use in conjunction with its Linea Weatherboard and Axent Trim. James Hardie does not supply these products. There may also be some other accessories required depending upon the application. Please contact component manufacturer for information on their warranties and further information on their products.</p> <p>James Hardie 建议在连接 Linea 护墙板和 Axent Trim 饰板时使用以下产品。James Hardie 不提供这些产品。此外，根据应用不同，可能还会用到其他配件。请咨询配件制造商关于连接产品的相关信息和质保条款。</p>			
Accessories 配件	Description 产品描述	Size 尺寸 (mm)	Material/appearance 材料/外观
	Flexible Underlay 弹性隔层 To comply with Table 23 of E2/AS1 需根据表23中E2/AS1的要求安装		
	D head or Round Drive Nail D形头钉或环纹螺丝钉 Gun nail for concealed fixing Linea Weatherboard. 使用钉枪对Linea护墙板进行隐藏式安装	60 x 2.87	Hot Dip Galvanised/ Stainless Steel 热浸镀锌/ 不锈钢
	HardieFlex™ Hot Dip Galv. Nails 热浸镀锌钉 For concealed fixing by hand nail 使用手钉进行隐藏式安装	60 x 3.15mm 75 x 3.15mm	Hot Dip Galvanised/ Stainless Steel 热浸镀锌/ 不锈钢
	Jolt Head Nail for face fixing Linea Weatherboard 使用 蓬头钉 正面安装Linea护墙板	75 x 3.15mm 90 x 3.55mm	Hot Dip Galvanised/ Stainless Steel 热浸镀锌/ 不锈钢
	Titanium Coated High Speed Drill Bit 钛合金涂层高速钻头 For pre-drilling prior to face fixing with jolt head. 使用蓬头钉正面安装时需预先钻孔	3.0mm 3.5mm	
	Brad Nail 曲头钉 To tie boards together 用于将板材连接在一起	32mm	
	Joint sealant 密封胶 Paintable flexible sealants are recommended for filling the joints. Refer to Section 7.2 for information. 推荐使用可喷漆的软性密封胶进行填充。参考7.2章的信息。	Tube 管装	Sika, Bostik or similar Holdfast Sika, Bostik 或类似的 Holdfast
	CRC ADOS Builders Fill 填充剂 Two part exterior grade fill to finish over jolt head nails. 两部分的外部填充剂，用于填充蓬头钉的钉孔		
	PEF Rod 棒	Polyethylene foam 聚乙烯发泡	Sika or similar Sika 或相似材料
	Flexible tape 弹性胶带 A flexible self-adhesive tape used in preparation of a window. Refer to the Window installation section in this manual for more information. 用于安装窗户时使用的弹性胶带，参考本手册窗户安装部分获取更多详细信息。	Proprietary tape to adhere to flexible underlay 粘在弹性隔层上的 专利胶带	Tyvek, Marshall Innovations or similar 或相似材料
	Flashing Material 防水板材料 as per Table 20, 'E2/AS1' 按照表20, 'E2/AS1' 要求使用		Flashing Fabricator 防水材料

Table 3 contd. 表 3 续

	Planted Sill 嵌入式窗台		H3.1 minimum Treated Timber Timber Merchant or cut on site 经过H3.1级别热处理的 木材或现场切割
Accessories not supplied by James Hardie 非 James Hardie 提供的配件			
Accessories 配件	Description 产品描述	Size 尺寸 (mm)	Material/appearance 材料/外观
	Timber Scribe 木材划线器 To scribe beside window, site cut to suit. 在窗户周围划线, 现场进行切割	As required 根据需求	H3.1 minimum Treated Timber Timber Merchant or cut on site 经过H3.1级别热处理的 木材或现场切割
	Fibre Cement Cutting Blade 纤维水泥切割锯片 Diamond tip 305mm diameter circular saw blade to fit drop saw. 直径305mm的金刚石圆锯片, 在落锯上使用	305mm	Diamond Tipped 金刚石刀头
	Cavity Closer - aluminium 空心封条 - 铝制 Used in walls taller than 10m for inter-tenancy fire separation. 用于墙高超过10m的内部火势蔓延防控		
	Primers. Dulux 1-Step Prep, Resene Quick Dry etc. Primer 底漆 Dulux 1-Step Prep, Resene Quick Dry 等		

2 Application and Scope 应用与范围

2.1 Application 应用

This specification includes the installation of Linea Weatherboard cavity construction where risk matrix is 13 or more and must be read in conjunction with the current CodeMark Certificate and BRANZ Appraisal. This installation method can also be used for buildings where the risk matrix score is 0 - 12 if desired.

本规范包括风险分数为13或者更高时, 使用空心结构安装 Linea 护墙板的要求, 并需结合现行的 CodeMark 认证以及 BRANZ 认证。本安装方法也可以应用在风险分数为0 - 12 的建筑上。

This document is intended for use by architects, designers, specifiers or builders who are involved in specifying Linea Weatherboard. The document also serves the purpose of an installation manual for this product.

本文件旨在供建筑师、设计师, 工程监管者和工人等可能涉及 Linea 护墙板使用的人士参阅。本文档也可作为产品安装说明书使用。

For use of Linea Weatherboard outside this published scope, the architect, designer or engineer must undertake specific design. For advice on designs outside the scope of this specification, Ask James Hardie on 0800 808 868.

若 Linea 护墙板应用于超出所述使用范围的其它用途, 则建筑师、设计师或工程师必须进行相应的具体设计。若想就超出本规范范围的设计得到更多建议, 请致电0800 808 868向 Ask James Hardie 咨询。

Refer to the Linea Weatherboard Direct Fixed Technical Specification when installing Linea Weatherboard without a cavity.

如果不使用空心结构安装 Linea 护墙板, 请参考《Linea 护墙板直接安装法技术规范》。

2.2 Scope 应用范围

Linea Weatherboard cavity construction is suitable for use in timber framed buildings that fall within the scope limitations of the New Zealand Building Code (NZBC) Acceptable Solution E2/AS1, Paragraph 1.1.

Linea 护墙板空心结构适用在木框架建筑上，这些建筑必须符合 New Zealand Building Code (NZBC) 合格方案E2/AS1中第1.1部分规定的范围。

Linea Weatherboard cavity construction is also suitable for use in specific engineering design projects (SED) subject to a wind pressure of 2.5kPa (ULS) maximum for building heights upto 25m.

Linea 护墙板空心结构也适用在经过特殊工程设计(SED)且最大风压 2.5kPa (ULS) 不超过25m的建筑项目中。

2.3 Limitations 限制

- Linea Weatherboard cladding must not be used on curved wall applications
Linea 护墙板不能安装在弯曲的墙面上
- Linea Weatherboard cladding must not be installed vertically or angled
Linea 护墙板不能进行垂直或者带有倾角安装
- The minimum ground clearances specified must be maintained
必须遵守规范中的最小离地间隙
- Timber window joinery/recessed openings is subject to an alternative design by the designer
在木窗结合处或者凹进的开口处安装，请按照设计师的具体设计方案
- Maximum SLS inter-story seismic deflections up to span/180 when used in specific design buildings (SED) buildings above 10m height. To accommodate higher inter-story drifts, a deflection should be used.
在经过特殊工程设计且高度超过10米的建筑中，可承受的最大层间地震挠度为 span/180。如需适应更高的层间偏移，需要使用挠曲。

2.4 Details 详图

Various typical Linea Weatherboard details are provided within this document. In addition to these, the construction details with HomeRAB™ Pre-Cladding/RAB™ Board have also been developed and are available on our website. These details are available in dwg, dxf, jpg and pdf file format and can be downloaded at **www.jameshardie.co.nz**.

本技术规范提供了各种应用 Linea 护墙板安装工程详图。更多工程详图包括 HomeRAB™ 预置垫层/RAB™ 板已发布在我们的网站。请在我们的网站 **www.jameshardie.co.nz** 下载 dwg、dxf、jpg 及 pdf 格式的工程详图。

All dimensions shown are in millimetres unless noted otherwise.

除特殊标明外，详图中所有尺寸默认单位为毫米。

3 Compliance 合规

3.1 NZBC Compliance NZBC 合规

When installed in accordance with the conditions of CodeMark number GM-CM30018 Linea Weatherboard complies with all relevant requirements of the NZBC.

当在 CodeMark 编号 GM-CM30018 规定的条件下安装 Linea 护墙板时符合 NZBC 的相关要求。



Please refer to www.building.govt.nz for a copy of the certificate.

请访问网站 www.building.govt.nz 获得证书副本。

Linea Weatherboard cavity fixed cladding also has a BRANZ Appraisal number 447 (2010) available at www.branz.co.nz or www.jameshardie.co.nz.

Linea 护墙空板空心结构安装法还获得了 BRANZ 认证编号447 (2010)证书。详情请查询 www.branz.co.nz 或 www.jameshardie.co.nz。



4 Design 设计

4.1 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.

项目监管者或者项目其他责任方必须确保实际项目中的信息和详图与本规范一致，如有超出本规范的应用必须经过具体的工程设计。

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

所有本手册中涉及的新西兰标准均为现行版本，必须严格遵守。

Specifier 项目监管者

If you are a specifier 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.

如果您是建筑项目的监管者或其他责任方，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。

Installer 项目施工方

If you are an installer 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.

如果您是建筑项目的施工者，请确保遵循设计师及这本James Hardie技术规范中的规定，包括项目设计、湿度控制方案、相关数值及物料选择等方面的规定。本文件中提供的所有详图都务必结合施工项目本身的详图使用。

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 their aesthetic expectations before installation. James Hardie will not be responsible for rectifying obvious aesthetic surface variations following installation. James Hardie will only offer a replacement product if Linea Weatherboard or Axent Trim supplied are found to be out of its manufacturing specification.

James Hardie 一直采用严格的质量检测标准，确保所有产品满足质量要求。在安装前，施工方有责任确保产品满足其审美标准。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。James Hardie 只在 Linea 护墙板或 Axent Trim 饰板产品不符合制造参数的情况下提供更换服务。

4.2 Clearances 离地间隙

The clearance between the bottom edge of cladding and the paved/unpaved ground must comply with section 9.1.3 of E2/AS1. On the roofs and decks the minimum clearance must be 50mm. These clearances must be maintained throughout the life of the building.

板材底部边缘与铺装/非铺装地面之间所留出的间隙，必须遵守E2/AS1中9.1.3条款。在屋顶和露台，最小间隙要保证为50mm，并在整个建筑使用周期中始终保持。

Linea Weatherboard must overhang the bottom plate on a concrete slab by a minimum of 50mm as required by the NZBC Acceptable Solution, E2/AS1 Table 18.

根据 NZBC 合格方案 E2/AS1 表18中的要求，Linea 护墙板必须距离混凝土楼板至少50mm。

The site on which the building is situated must comply with the NZBC Acceptable Solution E1/AS1 'Surface Water'. 建筑项目的所在地必须遵守 NZBC 合格方案E1/AS1中“地表水”的要求。

Do not install cladding such that it may remain in contact with water or ground, refer to figures in section 9 of this manual. 安装时板材不能与水面或者地面接触。详情请参考本手册第9章。

4.3 Structure 结构

4.3.1 Timber Framing 木框架结构

Timber framing must be in accordance with NZS 3604 (Timber-framed buildings) or designed as for specific engineering design (SED) in accordance with NZS 3603 and AS/NZS 1170 where specific engineering design is required, the framing stiffness must be equivalent to or more than the framing provisions of NZS 3604.

木框架必须符合NZS 3604 (木结构建筑)的要求，或者经过特殊工程设计 (SED) 并符合NZS 3603和AS/NZS 1170的要求。框架刚性必须至少达到NZS 3604中的相关标准。

The stud spacing must not exceed 600mm centres maximum for buildings within the scope of NZS 3604 and 400mm centres maximum for wind pressures more than 1.5kPa (ULS).

根据NZS 3604规定的建筑范围，墙筋的中心最大间距不能超过600mm，如果风压超过1.5kPa (ULS)则中心最大间距不能超过400mm。

For timber frame walls longer than 12m, it is best practice to allow for construction joints to accommodate movements generated due to timber shrinkage or deflections.

对于长度超过12m的木框架，最好采用工程连接件来解决木材因收缩和形变产生的位移。

4.3.2 Durability 耐久性

Timber framing must be treated to a minimum H1.2 treatment requirements and comply with Acceptable Solution B2/AS1 'Durability' of the NZBC. For further timber treatment information refer to the NZS 3602 (Timber and Wood-Based Products for use in Buildings) for minimum timber treatment selection and treatment requirements. Framing must be protected from moisture at sites in accordance with the recommendations of framing manufacturers. Refer to the NZS 3602 for information about the allowable moisture content in timber framing.

木框架必须经过最少为H1.2级别的热处理，并满足 NZBC 中合格方案B2/AS1部分关于耐久性的要求。更多关于木材处理的信息，请参考NZS 3602 (建筑中木材及木质产品的使用)。在施工现场，木框架需要根据生产商的建议进行防潮保护。请参考NZS 3602中关于木框架防潮保护的相关信息。

4.4 Structural Bracing 结构支撑

Bracing can be achieved by using HomeRAB Pre-Cladding or RAB Board installed direct to framing instead of a flexible underlay or by using Villaboard™ Lining bracing system on the internal face.

通过使用 HomeRAB 预置垫层或者 RAB 板替代弹性隔层直接安装在木框架上，或在内墙墙面上使用 Villaboard™ 内衬支撑系统，都可以起到结构支撑的作用。

4.5 Energy Efficiency 隔热能效

External walls constructed as per this technical specification, using Linea Weatherboard cladding must use suitable bulk insulation to meet the minimum thermal insulation requirements as per Clause H1/AS1 'Energy Efficiency' of the NZBC.

根据本技术规范，外墙采用 Linea 护墙板时，必须使用适合的保温材料以达到 NZBC 方案中 H1/AS1 部分‘隔热能效’中对墙体保温的最低要求。

4.6 Fire Rated Walls 墙面耐火等级

External walls with Linea Weatherboard cavity fix construction method can achieve fire ratings up to 60/60/60 when constructed in accordance with the James Hardie Fire and Acoustic Design Manual. Linea Weatherboard must be face fixed for fire rated applications.

根据 James Hardie 《消防与隔音设计手册》，外部墙体使用 Linea 护墙板空心结构安装法时可以达到 60/60/60 的耐火等级。Linea 护墙板必须正面安装以达到耐火性能。

Refer to the Fire and Acoustic Design Manual for further information about fire rated systems.

获取更多信息请参考 James Hardie 《消防与隔音设计手册》。

4.7 Control of External Fire Spread 外部火势蔓延的防控

External spread of fire (clause C3.5 and C3.7) apply where:

外部火势蔓延概念（条款 C3.5 和条款 C3.7）适用于：

- Building height is greater than 10m and upper floors have sleeping uses or are different property (C3.5), and
建筑高度超过 10m，同时上层建筑包含睡眠区域或其他用途（条款 C3.5）
- Where the building is located within 1m of a relevant boundary (C3.7)
建筑位于相关边界 1m 范围之内（条款 C3.7）

Refer to Table 5.1 of Section 5.4 of C/AS1 for group SH or table 5.5 of Section 5.8.1 of C/AS2 for the other risk groups to identify the external fire spread requirement applicable to the external cladding material and surface finish.

请参考条款 C/AS1 章节 5.4 中的表 5.1，获取 SH 组，或者条款 C/AS2 章节 5.8.1 中的表 5.5，获取其他火势蔓延的风险因素，以确定适用于外部覆层材料和表面涂层的外部火势蔓延的安全要求。

For the other situations where 'no requirement' is listed, Linea Weatherboard installed as per the details published in this specification complies.

对于其他没有特殊要求的情况，Linea 护墙板的安装需要遵守本技术规范的要求。

For buildings that are >10m high and contain tenancies above as per Table 5.5. of C/AS2, Linea Weatherboard installed over timber cavity battens in conjunction with RAB Board with R2.2 fibreglass/James Hardie mineral insulation complies. Refer to Figure 38 and 39 for RAB Board and cavity batten layout. For the complete set of suitable Linea Weatherboard cavity construction details with RAB Board for this application, refer to www.jameshardie.co.nz.

建筑高度超过 10m 并包含租约需满足 C/AS2 中表 5.5 要求，Linea 护墙板安装在木空心板条上并与 RAB 板及 R2.2 纤维玻璃/James Hardie 矿物保温层使用同样符合。请参考图 38 和 39 获取 RAB 板和空心板条布局的信息。如需要获得全部 Linea 护墙板空心结构工程详图及 RAB 板应用信息，请查询网站 www.jameshardie.co.nz。

4.8 Alpine regions 高寒地区

In regions subject to freeze/thaw conditions, Linea Weatherboard must not be in direct contact with snow or ice build up for extended periods, e.g. external walls in alpine regions subject to snow drifts over winter.

在经常出现冰冻/融化状况的地区，Linea 护墙板不得长时间直接接触冰雪。例如：在冬天可能出现堆雪现象的高寒地区，外墙必须受到遮蔽保护。

The Linea Weatherboard has been tested in accordance with AS/NZS 2908.2 Clause 8.2.3.

Linea 护墙板符合 AS/NZS 2908.2 中条款 8.2.3 的测试要求。

5 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/NZS1716 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/NZS1716 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

切割时

- ✓ 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.

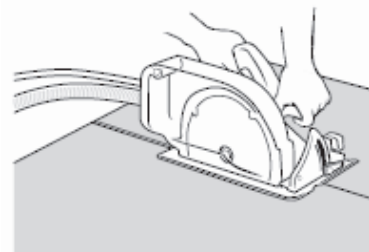
如果仍然担心暴露水平，或者您不遵守上述惯例，则应始终咨询合格的工业卫生师或联系 James Hardie 以获取更多信息。

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。

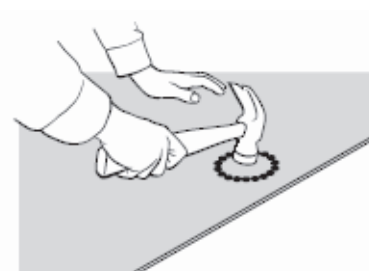


Hole-Forming 成孔

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

5.1 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 概不责任。

5.2 Tips for safe and easy handling of weatherboard products 轻松安全搬运护墙板产品小贴士

Weatherboard products

护墙板产品

- ✗ 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
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

6 Installation 安装

The horizontal lap between the two Linea Weatherboard must be 30mm minimum. In certain scenarios you may require to creep up the lap, this must not exceed 33mm.

当水平安装 Linea 护墙板时，两块板之间交叠部分不可少于30mm。在特殊情况下，最大的交叠尺寸不能超过33mm。

Linea Weatherboard must be kept dry whilst in storage prior to and during fixing. Site cut ends that are exposed such as slimline box corners, internal corners etc. and any sanded patches on the boards surface must be primed prior to installation. Dust and loose material must be removed before priming.

Linea 护墙板在储存直到安装的过程中均需保持干燥。现场切割的暴露表面如超薄箱角、阴角及用砂纸打磨的板材表面都必须在安装前涂上底漆。在涂底漆之前，必须将灰尘及杂质全部清除干净。

6.1 Fastener 紧固件

6.1.1 Fastener – Size and Method

紧固件--尺寸及安装方法

Linea Weatherboard and Axent Trim must be fixed to timber with the types of nails specified in Tables 4 and 5, in accordance with the following requirements:

Linea 护墙板和 Axent Trim 饰板必须直接安装在木框架结构上，安装过程请使用表4和5中的钉子类型，并满足以下要求：

- Linea Weatherboard can either be face/exposed fixed or concealed fixed
Linea 护墙板可以采用表面式安装或者隐藏式安装
- Linea Weatherboard must be fixed into studs at maximum 600mm centres. Fixing centres to coincide with stud spacing, refer to figures in section 9 of this manual
Linea 护墙板必须直接安装在墙筋上并保证最大中心安装距离为600mm，安装中心位置要与墙筋间距重合。请参考本手册第9章的参数要求
- All concealed nails must be driven flush with the board surface
所有暗钉必须与板面齐平。
- When concealed fixing Linea Weatherboard, nails must be driven under the lap of boards, except at all corners and vertical edges of openings where Linea Weatherboard must be face fixed, refer to figures in section 9 of this manual
当使用隐藏式安装方法时，所有的钉子都必须钉入板材平面下，除了各转角及垂直边缘等必须采用表面安装的地方，请参考本手册第9章
- Nails must be fixed 25mm from the end of the board when hand nailing. For gun nailing refer to Section 6.1.2
当使用手工钉护墙板时必须保证钉子距离板材底部25mm。如果使用钉枪请参考第6.1.2章节
- When using concealed fixing method, any gaps that may appear under the lap due to site conditions can be minimised by fixing a jolt head nail through the lap as per the exposed nailing method. Refer to figures in section 9 of this manual
当使用隐藏式安装法时，可以参照暴露式安装法，通过安装蓬头钉尽可能减小由于安装现场条件造成的板材间隙。请参考本手册第9章
- When using concealed fixing method, Linea Weatherboard may be tied together by face fixing through the lap using a 32mm brad nail if desired.
当使用隐藏式安装方法时，如果需要 Linea 护墙板应该使用32mm曲头钉正面安装
- When face fixing Linea Weatherboard, the upper board must be pre-drilled before fixing with a jolt head nail
在表面安装 Linea 护墙板时，上层板材在使用蓬头钉安装前需预先钻孔

Table 4 表 4

Wind pressure 风压 (kPa)	Underlay 隔层	Fixing method 安装方法	Fixing type 安装类型	Instructions 说明
Up to 1.5 (up to and including VH Wind Zone) 最高1.5(小于或属于VH风区)	Flexible underlay 弹性隔层	Concealed nailing 隐藏式安装	60 x 3.15mm HardieFlex™ nail or a 60 x 2.87mm D/round head gun nail 60 x 3.15mm HardieFlex™钉或者 60 x 2.87mm D型/环纹射钉	Finish flush with the board surface. 钉头保证与板面齐平。
		Face nailing 表面安装	75 x 3.15mm jolt head nails 75 x 3.15mm 蓬头钉	Hot-dipped galvanised/stainless steel jolt head nail with pre-drilling through the top weatherboard. Use a 3mm drill bit. 热浸镀锌/不锈钢蓬头钉。使用3mm 钻头在最上层护墙板预先钻孔。
	Rigid air barrier 刚性密封板	Concealed nailing 隐藏式安装	75 x 3.15mm HardieFlex™ nail or a 75 x 3.06mm D/round head gun nail 75 x 3.15mm HardieFlex™钉或 75 x 3.06mm D型/环纹射钉	Finish flush with the board surface. 钉头保证与板面齐平。
		Face nailing 表面安装	90 x 3.55mm jolt head nails 90 x 3.55mm 蓬头钉	Hot-dipped galvanised/stainless steel jolt head nail with pre-drilling through the top weatherboard. Use a 3.5mm drill bit. 热浸镀锌/不锈钢蓬头钉。使用3.5mm 钻头在最上层护墙板预先钻孔。
1.5 to 2.5 (EH Wind Zone and SED projects) 1.5 至 2.5 (EH风区和SED项目)	RAB Board RAB 板	Face nailing 表面安装	90 x 3.55mm jolt head nail 90 x 3.55mm 蓬头钉	Hot-dipped galvanised/stainless steel jolt head nail with pre-drilling through the top weatherboard. Use a 3.5mm drill bit. 热浸镀锌/不锈钢蓬头钉。使用3.5mm 钻头在最上层护墙板预先钻孔。

Table 5 表 5

Nail requirements for Axent Trim 安装 Axent Trim 饰板时的钉子要求	
Single thickness 单层厚度	60mm jolt head nails. 60mm 蓬头钉。 If fixing over Linea Weatherboard use 75 x 3.15mm jolt head nails through a pre-drilled hole, using a 3mm drill bit. 如果安装在Linea护墙板上，需要使用75 x 3.15mm蓬头钉，并在安装前预先使用3mm钻头钻孔。
Single thickness plus packer 单层厚度加隔层	If fixing over Linea Weatherboard use 75 x 3.15mm jolt head nails through a pre-drilled hole, using a 3mm drill bit. 如果安装在 Linea 护墙板上，需要使用75 x 3.15mm蓬头钉，并在安装前预先使用3mm钻头钻孔。 When fixing to timber support use 60mm jolt head nails. 如果安装在木框架上，需使用60mm蓬头钉。

For fire rated wall applications the Linea Weatherboards must be face fixed. For more information Ask James Hardie on 0800 808 868.

Linea 护墙板必须正面安装达到墙面耐火等级的要求。获取更多信息请致电 James Hardie 0800 808 868。

6.1.2 Gun Nailing 钉枪安装

Linea Weatherboard can be gun nailed with a D-Head or RoundDrive nail when concealed fixing method is used.

Linea 当采用隐藏式安装时，可以使用D形头钉或环形螺纹钉通过钉枪安装。

- Nails must be no closer than 50mm from the ends of boards when gun nailing is used, double studs will be required.
当使用钉枪安装时，入钉位置离板材终端不能小于50mm，需要使用双墙筋。
- Be minimum length and nearest gauge as per Table 4.
根据表4选择长度最小和直径最接近的钉子。
- Be finished flush with surface of board.
入钉后，钉头保证与板面齐平。

6.1.3 Fastener Durability 紧固件耐久性

Fasteners must meet the minimum durability requirements of the NZBC. Refer to Table 6 for fixing materials requirements to be used in relation to the exposure conditions.

紧固件必须符合NZBC关于耐久性的最低要求。请参考表6中对用于室外暴露环境下的固件材质的要求。

Table 6 表 6

Exposure conditions and nail selection prescribed by NZS 3604 NZS 3604 对室外暴露环境的定义及钉子选用的要求		
Zone 区域	Application 应用	
D (sea spray) and geothermal hot spots D 区及地热区	General 通用	Stainless steel 304/316
	Fire 耐火	不锈钢 304/316
*C and B *C 及 B 区	General 通用	Hot dip galvanised**
	Fire 耐火	热浸镀锌**

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

* C区是指根据对该地域情况的考察，有必要使用更高耐久性的产品的地区，因而应当慎重选材。如果建筑坐落于NZS 3604中第4.2.4段中列出的那些微气候区域，则需要进行特殊工程设计(SED)。

**Hot dip galvanised must comply with AS/NZS 4680.

**热浸镀锌材料必须满足AS/NZS 4680要求。

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(NZBC Acceptable Solution) ‘E2/AS1款’ 的表20和21，了解如何选择适当的固件材料及与其它材料的兼容性等信息。

6.2 Framing 框架

Framing to be in accordance with the NZS 3604. The following must be provided for fixing Linea Weatherboard:

框架必须满足NZS 3604的要求。在安装 Linea 护墙板时，框架需要满足以下条件：

- Studs at 600mm centres maximum for all wind speed zones up to and including very high (VH)
所有风区包括最大(VH)风区，墙筋最大中心间距600mm
- Studs at 400mm centres maximum for wind pressures more than 1.5 kPa (ULS)
风压大于1.5 kPa (ULS)的区域，墙筋最大中心间距400mm
- Double studs are required at internal corners
阴角需要设置双墙筋
- Extra packers may be required at external corners
阳角可能需要额外隔层
- Extra studs are required for aluminium internal corner sections
铝制阴角位置需要设置额外墙筋

6.2.1 Specific Engineering Design (SED) 特殊工程设计

For EH wind zone and specific engineering design projects the timber framing is required to be designed in accordance with NZS 3603 and AS/NZS 1170. The minimum framing sizes and layout must comply with this specification:

在EH风区和特殊工程设计项目中，木框架必须满足NZS 3603和AS/NZS 1170的要求。框架最小尺寸和布局必须符合以下标准：

- Stud spacing 400mm centres maximum
墙筋最大中心间距400mm
- Nog spacing 1200mm centres maximum
木钉最大中心间距1200mm
- Double studs are required at internal corners
阴角需要设置双墙筋

- Extra packers may be required at external corners
阳角可能需要额外隔层
- Extra studs are required for aluminium internal corner sections
铝制阴角位置需要设置额外墙筋

6.2.2 Gable Ends 山墙端

In case of gable end trusses sitting on top plates of the external wall frame, the frame size must be in accordance with truss design and specification supplied by the frame and truss manufacturer/supplier supported by independent design producer statement.

如果山墙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制造商/供应商提供的桁架设计及规范，并具有独立设计制作人声明。

6.2.3 Tolerances 可允许误差

In order to achieve an acceptable wall finish, it is imperative that framing is straight and true. Framing tolerances must comply with the requirements of NZS 3604 and the manufacturer's specifications. All framing must be made flush. The visual aspects of the finished cladding can differ between two different sites or the builders installing the product. It is recommended that you also refer to a building guidance document published by MBIE to understand an acceptable level of tolerances allowed in building materials and workmanship. www.building.govt.nz Guide to tolerances, materials and workmanship in new residential construction 2015.

为了达到墙面标准，框架必须保证竖直和水平。框架误差必须满足NZS 3604的要求和生产商的规范。所有框架必须齐平。完工后的墙面效果可能根据不同的项目地点和建筑商的安装方式有所不同。为了更好地理解不同建筑材料和施工方式造成的误差范围，建议参考由MBIE出版的施工指导文件获取更多信息。更多信息请参考网站 www.building.govt.nz 和新住宅建筑2015的误差、材料和工艺指南。

6.3 Flexible Underlay or HomeRAB Pre-Cladding 弹性隔层或 HomeRAB 预置垫层

Flexible underlay or HomeRAB Pre-Cladding must be provided to comply with the requirements of E2/AS1 up to and including very high wind zone.

弹性隔层或 HomeRAB 预置垫层必须满足E2/AS1中包括极高风压区的要求。

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. HomeRAB Pre-Cladding is suitable for use as an air barrier and must be installed in accordance with James Hardie Rigid Air Barriers Installation Manual.

建筑中未列出的内侧表面（例如车库墙或者山墙）必须在墙面后面安装刚性隔层或者密封板。HomeRAB 预置垫层非常适合作为密封板使用，在安装时要遵守 James Hardie 《刚性密封板安装手册》的要求。

6.4 Intermediate Support 中间支撑

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

在墙筋中心间距为600mm的位置，需要采用中间支撑的方法约束弹性隔层或者保温材料凸出到空心结构中。可以采用以下一种合格安装方法：

- Intermediate cavity batten between the studs; or
相邻墙筋在中间位置使用空心板条，或者
- 75mm galvanised mesh; or
75mm镀锌铁丝网，或者
- Polypropylene tape at 300mm centres fixed horizontally and drawn taut.
在中心间距300mm位置水平安装聚丙烯胶带并拉紧。

No intermediate supports are required:

不需要中间支撑的情况：

- Where studs are at maximum 400mm centres; or,
墙筋最大中心间距为400mm的位置，或者
- When rigid sheathings instead of flexible underlays are used.
当使用刚性隔层替代弹性隔层时。

6.5 Rigid Air Barrier 刚性密封板

In EH wind zone or for specific design wind zone, a rigid air barrier i.e. RAB Board, must be used instead of flexible underlay. 在EH风区或者经过特殊工程设计的风区，必须使用刚性密封板比如RAB板替代弹性隔层。

For buildings more than 10m, RAB Board must be used. To achieve the temporary weathertightness using James Hardie rigid air barriers, windows/doors need to be installed with required flashing tapes and seals etc. Refer to James Hardie Rigid Air Barriers Installation Manual for information regarding its installation and to achieve temporary weathertightness.

对于高度超过10m的建筑，必须使用RAB板。可以使用James Hardie刚性密封板起到临时密封的作用，门窗在安装时都需要使用相应的防水胶带和密封胶等。请参考James Hardie《刚性密封板安装手册》获取更多相关信息。

6.6 Vent Strip 排气带

Linea 35mm cavity closer vent strip (uPVC) must be installed at the bottom of all walls constructed using the drained and ventilated for cavity construction method. James Hardie Linea 35mm cavity closer vent strip has an opening area of 1000mm²/m length. It is important that the openings in the vent strip are kept clear and unobstructed to allow free drainage and ventilation of cavities. Alternate cavity closer can be used ensuring compliance of E2 and may need to be used with a cant strip.

Linea 35mm 空心封条排气带(uPVC)必须采用空心结构安装法安装在所有墙体底部，以达到排水和通风效果。James Hardie Linea 35mm 空心封条排气带开口面积为1000mm²/m长。保证排气带开口位置没有任何阻挡非常重要，有利于空心结构的排水和通风。空心封条可以满足E2合规要求，同时可能需要安装嵌条。

6.7 Cavity Battens 空心板条

The cavity battens provide airspace between the frame and cladding and are considered a “packer” only in this specification. 空心板条可以在建筑框架和墙板之间提供一定的空间，仅在本规范中可以被视为封隔器。

The timber battens must be minimum H3.1 treated to comply with the durability requirements of B2/AS1. 木板条必须至少经过H3.1级别热处理并满足B2/AS1中关于耐久性的要求。

Cavity battens must comply with E2/AS1 and:

空心板条必须满足E2/AS1的要求并且符合以下要求：

- Be minimum 18mm thick
至少18mm厚
- Be minimum 45mm wide
至少45mm宽
- Until claddings are fixed the battens need only to be tacked to framing with 40 x 2.8mm nails at 800mm centres maximum (batten fixing is required temporarily to keep them straight on the wall during construction)
直到墙体固定好，板条只需要使用40 x 2.8mm钉子安装在中心最大间距为800mm的框架上（在墙体施工的过程中需要将板条临时安装在墙体上确保所有板条垂直）。

6.8 Joints 连接

6.8.1 Jointing 连接方式

The ends of Linea Weatherboard are jointed off-stud by means of a tongue and groove joint. Tongue and groove joints may be located centrally between studs but no closer than 100mm from the edge of a stud. The joints must be staggered by 600mm minimum. Flexible sealant must be applied to the front of tongue before pushing into the groove at the time of installation. From a visual perspective, the joint line will be visible and must not be hard filled.

Linea 护墙板的板边通过榫卯结构连接，并需错开墙筋位置。榫卯连接处可以位于两个墙筋之间，但距离墙筋边缘至少100mm。不同交错接口之间至少600mm。安装时要在连接处使用软性密封胶密封。从视觉角度上，接缝会始终可见并且不能硬填充。

6.8.2 Drainage Joint 排水连接

After every two floors a horizontal drainage joint flashing is required, refer to figures Figure 29 in section 9 of this manual. 每两层需要设置一个水平的排水连接防水板，请参考本手册第9章图29。

6.8.3 External Corner Joint 阳角连接

There are a number of options to select from when detailing external corners:
阳角连接有以下选择:

- 90° corner soaker in aluminium, copper or stainless steel
铝制、铜制或不锈钢90°防漏嵌条
- 135° corner soaker 180mm aluminium
180mm铝制135°防漏嵌条
- Aluminium boxed corners
铝制箱角
- Box corners using Axent Trim
使用 Axent Trim 饰板的箱角
- Mitred corners to weatherboards
采用护墙板直接斜接边角

Refer to figures in section 9 of this manual.
请参考本手册第9章。

6.8.4 Internal Corner Joint 阴角连接

There are a number of options to select from when detailing internal corners:
阴角连接有以下选择:

- 90° or 135° Aluminium W-mould
90°或135°铝制W形覆膜
- Scribed corner
划线角

Refer to figures in section 9 of this manual.
请参考本手册第9章。

6.9 Junctions and Penetrations 连接和穿透

All windows and doors must be detailed as per the requirements of this specification. James Hardie has developed the window details for Linea Weatherboard which meet the performance requirements of E2 'External Moisture', an approved document of the NZBC, refer to figures in section 9 of this manual.

所有门窗必须根据本规范的要求进行细化处理。James Hardie 开发了针对 Linea 护墙板的窗户安装详图，该示例符合NZBC核准文件中E2部分——外部湿度控制的要求，请参阅本手册第9章图示。

7 Finishes 表面处理

Protective coating of Linea Weatherboard and Axent Trim is required in order to meet the durability requirements of the NZBC.
Linea 护墙板和 Axent Trim 饰板的保护涂层需要达到NZBC中耐久性的相关要求。

7.1 Preparation and Priming 准备工作和底漆处理

The Linea Weatherboard and Axent Trim must be dry before painting. Punch and fill all exposed nails a maximum of 2mm below the surface. Fill the hole with an exterior grade 2 part builders fill, eg CRC ADOS Builders Fill, allow to cure and using 60 grit sand paper smooth ready for painting. Prime any sanded patch on board surface or the site cut edges that will be exposed.

Linea 护墙板和 Axent Trim 饰板在上漆之前必须保持干燥。所有暴露在外面的钉子必须砸进表面不超过2mm深度。钉孔需填充强化填充剂，如 CRC ADOS Builders Fill 强化填充剂，等其硬化后用60号砂纸打磨光滑，为上漆做准备。所有砂纸打磨表面以及现场切割的会暴露在外边缘都需要涂底漆。

It is not recommended to seal gap under the lap of weatherboards as it helps in circulation of air behind the weatherboard cladding. However if sealing of the gap is undertaken, the product warranty still applies.

不建议密封护墙板下部的空隙，空隙有助于护墙板后面的空气流动。如果已经密封了空隙，产品的质保依然有效。

7.2 Sealants 密封胶

All sealants must demonstrate the ability to meet the relevant requirements of the NZBC. Application and use of sealants must comply with manufacturer's instructions. Sealants, if coated, must be compatible with the paint system.

所使用密封胶的性能必须达到NZBC的相关要求。密封胶的使用必须遵守生产商的规范。如果需要在密封胶表面上漆，必须采用兼容的油漆。

7.3 Painting 涂漆

All Linea Weatherboards are pre-primed on their face and bottom edge with a factory applied acrylic base coat.

所有 Linea 护墙板已经在表面及底部边缘预涂丙烯酸底漆。

Linea Weatherboard and Axent Trim must be painted within 90 days of installation. Dark coloured paints can be used, i.e. there is no restriction on the Light Reflectance Value (LRV) of paint to be applied. All exposed faces, including the top edges under the sills and bottom edges of Linea Weatherboard, Axent Trim and accessories must be finished with an exterior paint system.

Linea 护墙板和 Axent Trim 饰板必须在安装完90天内涂漆。可以采用深色油漆，对于油漆的光线反射值(LRV)没有限制。所有暴露的表面，包括窗台下面的边缘和 Linea 护墙板的底部边缘、Axent Trim 饰板以及各种配件都必须根据所选油漆进行表面处理。

For best aesthetic results a low sheen paint is recommended.

为了达到最好的视觉效果，建议采用低光泽油漆。

The dark colours in certain environments may fade over a period of time. Special paints/coatings are required in certain harsh environments.

深色油漆在一定的环境中可能会随着时间逐渐褪色。在一些恶劣的环境中需要使用特殊的油漆或涂层。

Stainless steel soakers are generally left natural. For painting over stainless steel soakers, refer to paint manufacturer as special preparation and paints are required.

不锈钢防漏嵌条通常不需要上漆。如果需要在不锈钢防漏嵌条表面上漆，请参考油漆生产商的具体要求。

Paint selection and the preparation required is dependent on paint chosen. Refer to the paint manufacturer for information before starting painting.

对于油漆的选择和准备工作的具体要求，要根据具体油漆类型而定。在开始涂漆之前请参考油漆生产商的相关信息。

8 Care and Maintenance

保养及维护

The extent and nature of maintenance will depend on the geographical location and exposure of the building. It is the responsibility of the specifier to determine normal maintenance requirements to comply with the NZBC Acceptable Solution B2/AS1. As a guide, it is recommended that basic normal maintenance tasks shall include but not be limited to:

维护的范围和性质根据建筑所在地理位置和暴露情况而定。工程监管方有责任根据NZBC合格方案B2/AS1制定具体的维护方案。建议采取以下的基本维护方案，但不限于此：

- Washing down exterior surfaces every 6-12 months* using low pressure water and a brush, and every 3-4 months in extreme coastal conditions or sea spray zones
每6-12个月*用低压水或者刷子清洗外表面，如果是极端的海岸地区及海浪区域，则应该每3-4个月清洗一次
- Re-coating exterior protective finishes. Always refer to your paint manufacturer for re-coating requirements
根据油漆制造商的要求重新粉刷保护层
- Maintaining the exterior envelope and connections including junctions, penetrations, flashings and sealants
维护外部墙体和连接处，包括接缝处、穿透墙体处、防水板和涂有密封胶的位置等
- Cleaning out gutters, blocked pipes and overflow pipes as required
根据需求清理雨槽、下水管和溢流管
- Pruning back vegetation close to or touching the building as well as ensuring the NZBC ground clearance requirements are maintained especially where gardens are concerned
根据NZBC关于接地间隙的要求修剪建筑周边植被，尤其要关注花园植被的修剪
- The clearances between the bottom edge of Linea Weatherboard and the finished/unfinished ground must always be maintained
始终确保 Linea 护墙板底部边缘与铺装/非铺装地面保持适当间隙
- Stainless steel soakers used in extreme coastal conditions or in sea spray zones may show some signs of 'tea staining'. It is an aesthetic issue and to minimise staining soaker must be washed/polished frequently
在极端沿海地区及涌潮区，不锈钢防漏嵌条可能会出现“茶渍”现象，可以通过经常清洗和抛光解决美观问题

*Do not use a water blaster to wash down the cladding. Refer to your paint manufacturer for washing down requirements.

*请勿使用水枪冲刷外墙板。请参考油漆制造商的要求进行清洗。

9 Details Section Index

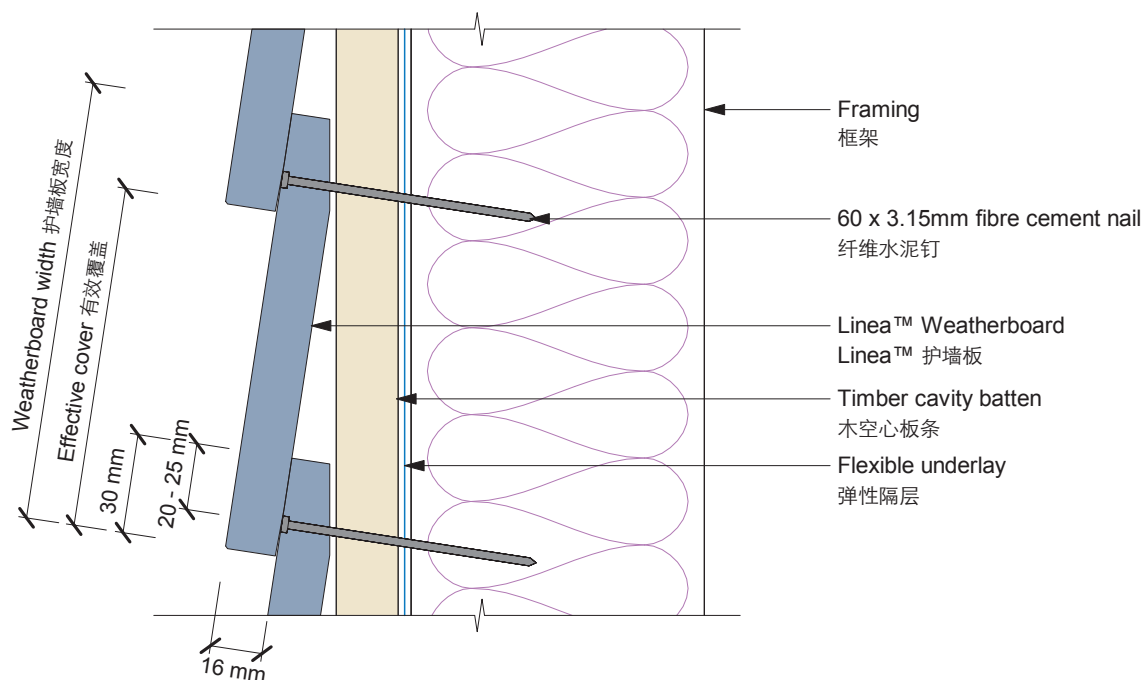
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For all meter box details please visit our website at **www.jameshardie.co.nz** or Ask James Hardie on **0800 808 868**.
 查看所有仪表盒信息，请访问 **www.jameshardie.co.nz** 或拨打 **0800 808 868** 咨询。

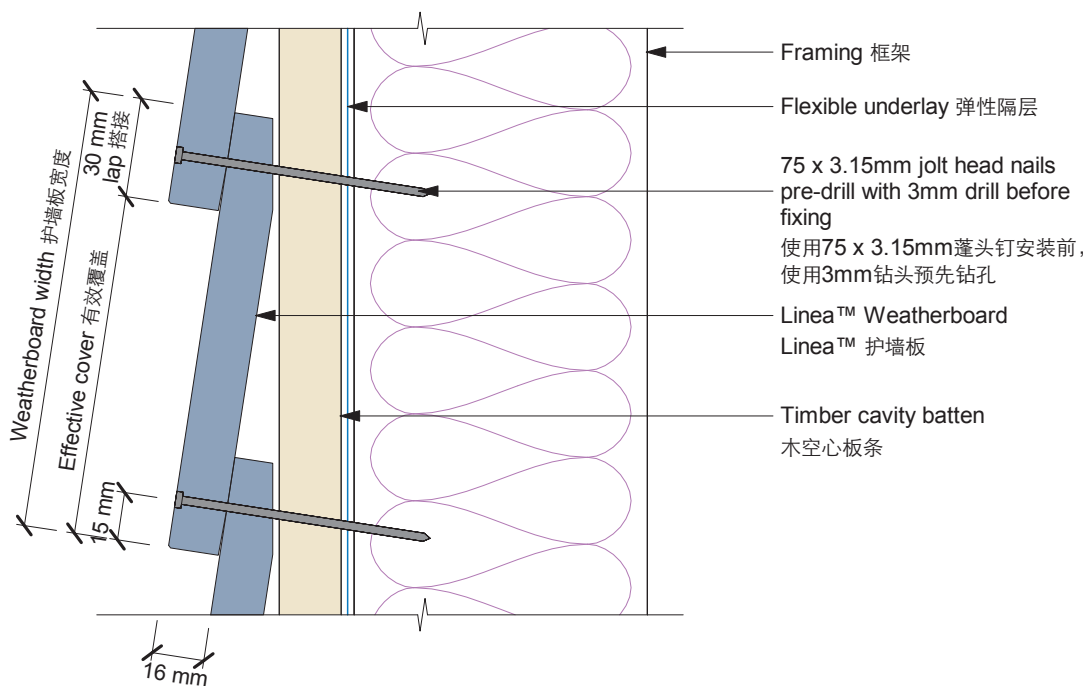
Figure 1: Weatherboard fixing | 图 1: 护墙板安装方法



Concealed Nailing 隐藏式安装法

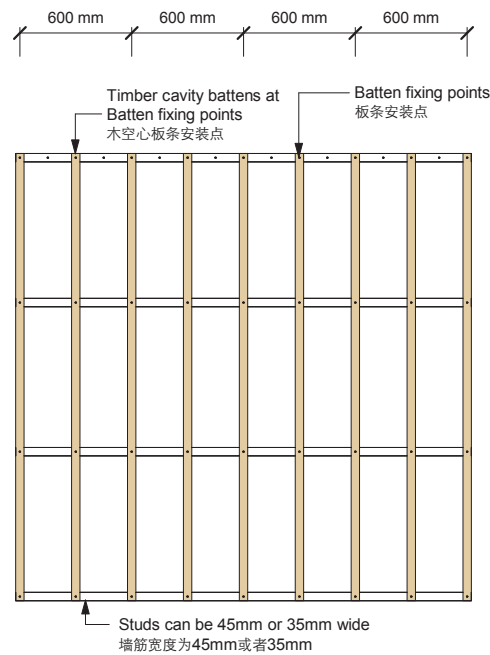
Linea™ Weatherboards to be face fixed at corners and down window and door openings using jolt head nails at 90° to face, punch 2mm below surface and fill. Refer to fixing table 4.

Linea™ 护墙板采用正面安装在转角，窗户和门等开口处使用蓬头钉90°正面安装，钉子砸入板面2mm以下并填充。参考表4安装。



Exposed Nailing 暴露式安装法

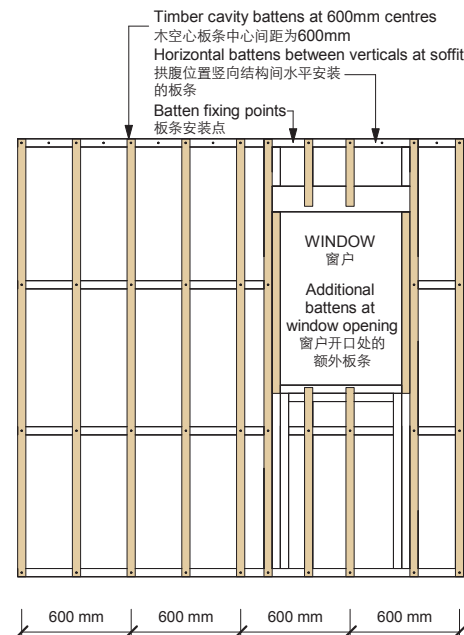
Figure 2: Batten fixing | 图 2: 板条安装方法



The intermediate support for insulation between the studs could be a timber cavity batten, polypropylene tape or 75 mm galvanised wire mesh. Refer to E2/AS1 Paragraph 9.1.8.5 Polypropylene tape must be fixed horizontally and drawn taut at 300 mm centres.

墙筋之间用于隔热的中间支撑可以使用木空心板条、聚丙烯胶带或者75 mm镀锌铁丝网。请参考E2/AS1段落9.1.8.5的内容，聚丙烯胶带必须水平安装在中心间距300 mm的位置并拉紧。

Figure 3: Batten layout at window opening | 图 3: 窗户开口处的板条布局



- Studs can be 45mm or 35mm wide
墙筋宽度为45mm或者35mm
- The intermediate support for insulation between the studs could be a timber cavity batten, polypropylene tape or 75 mm galvanised wire mesh. Refer to E2/AS1 Paragraph 9.1.8.5 Polypropylene tape must be fixed horizontally and drawn taut at 300 mm centres.
- 墙筋之间用于隔热的中间支撑可以使用木空心板条、聚丙烯胶带或者75 mm镀锌铁丝网。请参考E2/AS1段落9.1.8.5的内容，聚丙烯胶带必须水平安装在中心间距300 mm的位置并拉紧。

Figure 4: Foundation detail | 图 4: 地基详图

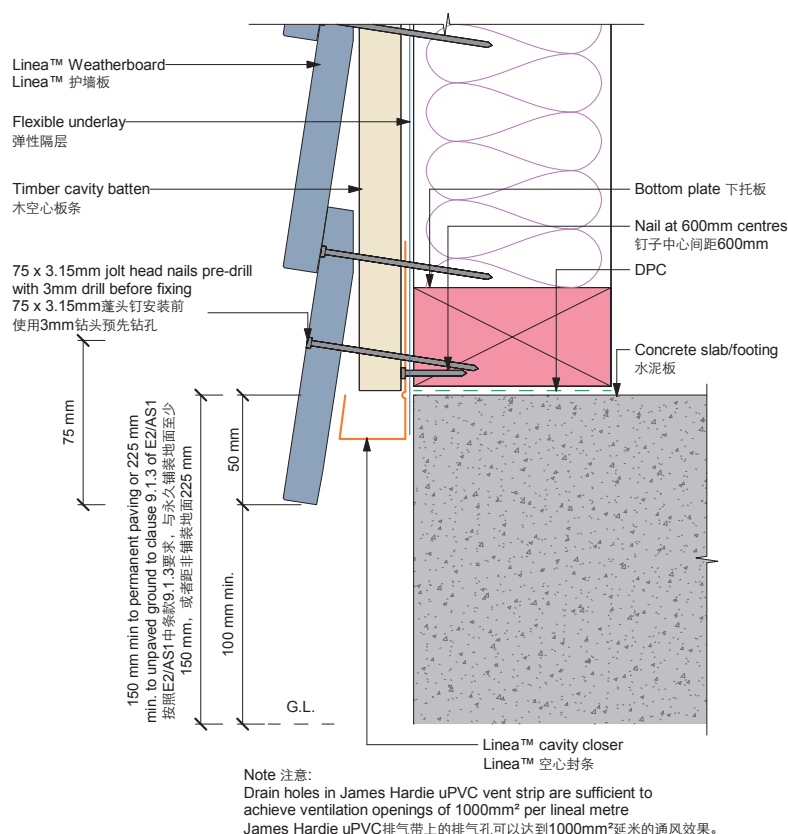


Figure 5: Enclosed Deck | 图 5: 封闭式露台

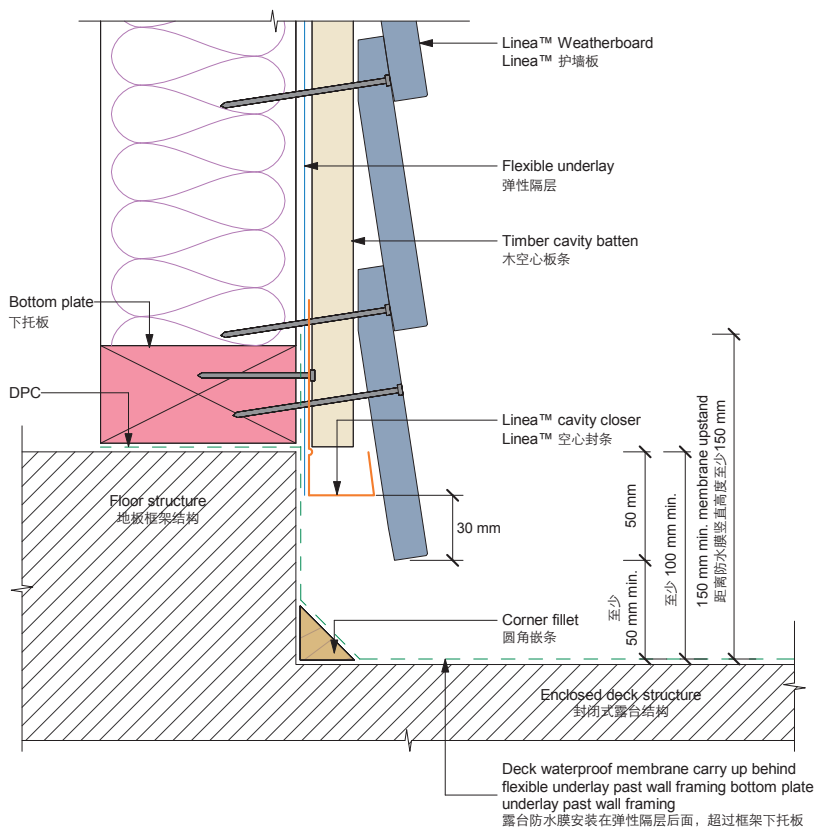


Figure 6: Jointing off stud | 图 6: 远离墙筋连接

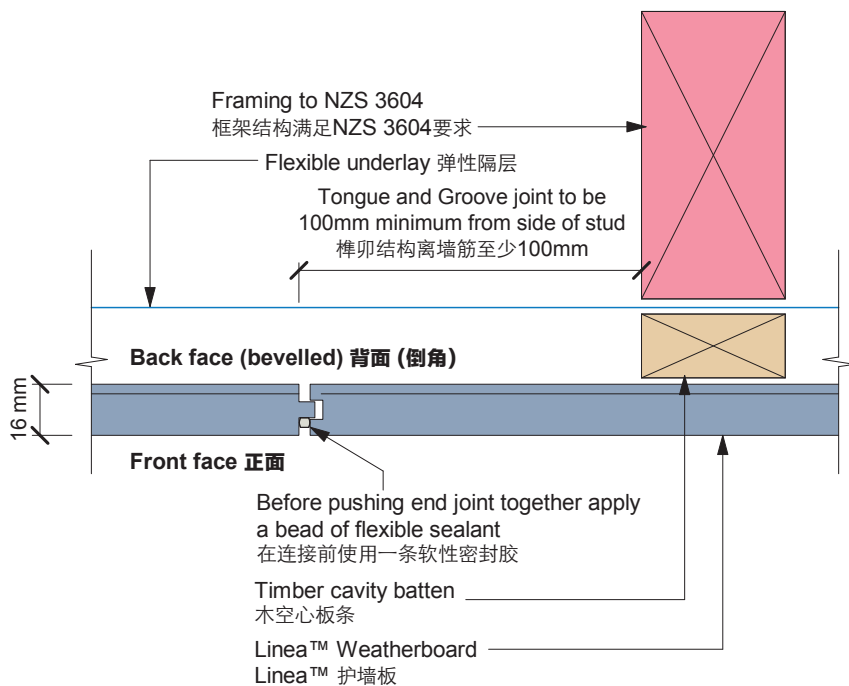
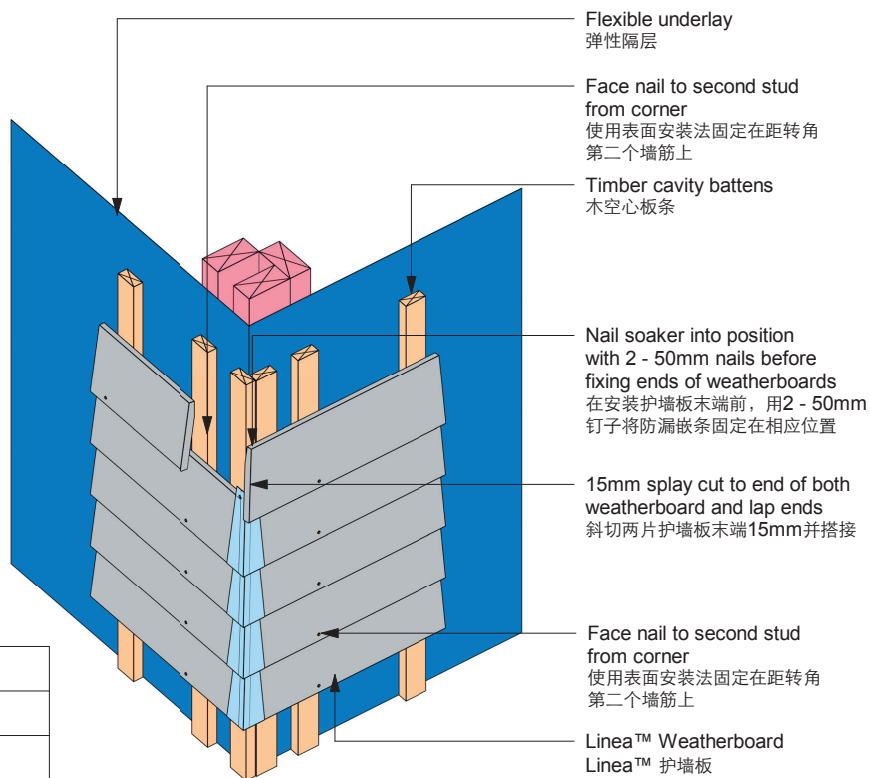


Figure 7: External corner soaker | 图 7: 阳角防漏嵌条



Soaker material 防漏嵌条材质	Nail material 钉子材质
Copper 铜制	Copper or phosphor bronze 铜制或磷青铜
Aluminium 铝制	Hot dip galvanised 热浸镀锌
Stainless steel 不锈钢	Stainless steel 不锈钢

Figure 8: Aluminium box corner | 图 8: 铝制箱角

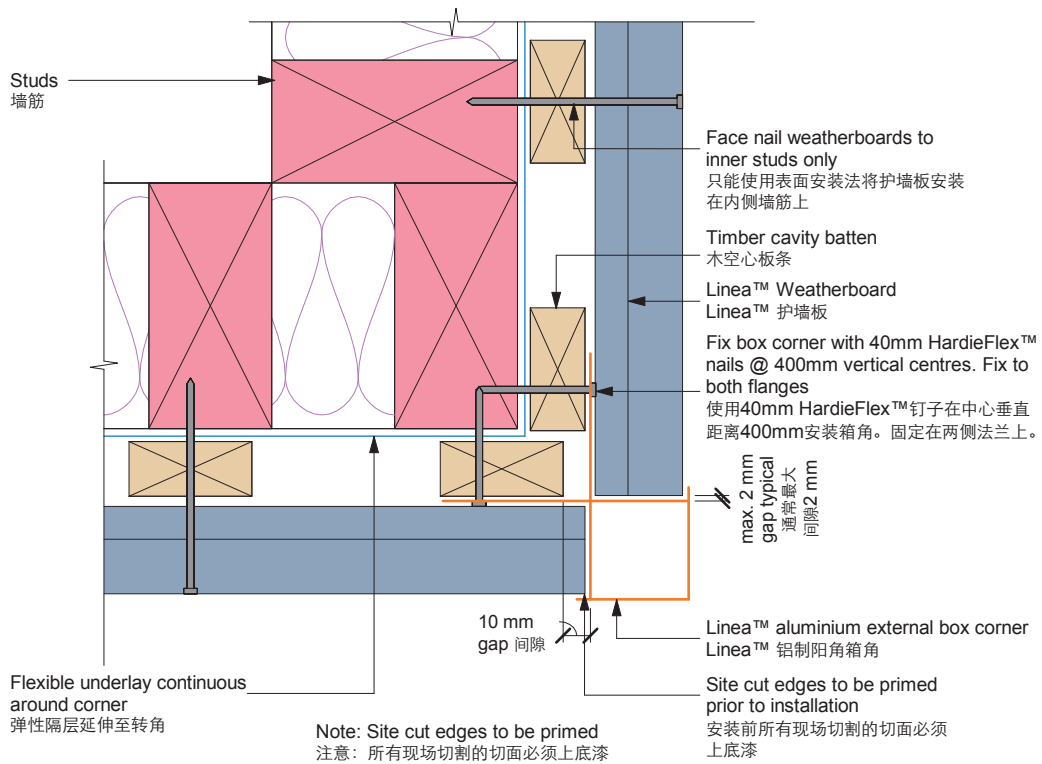


Figure 9: Boxed corner | 图 9: 箱角

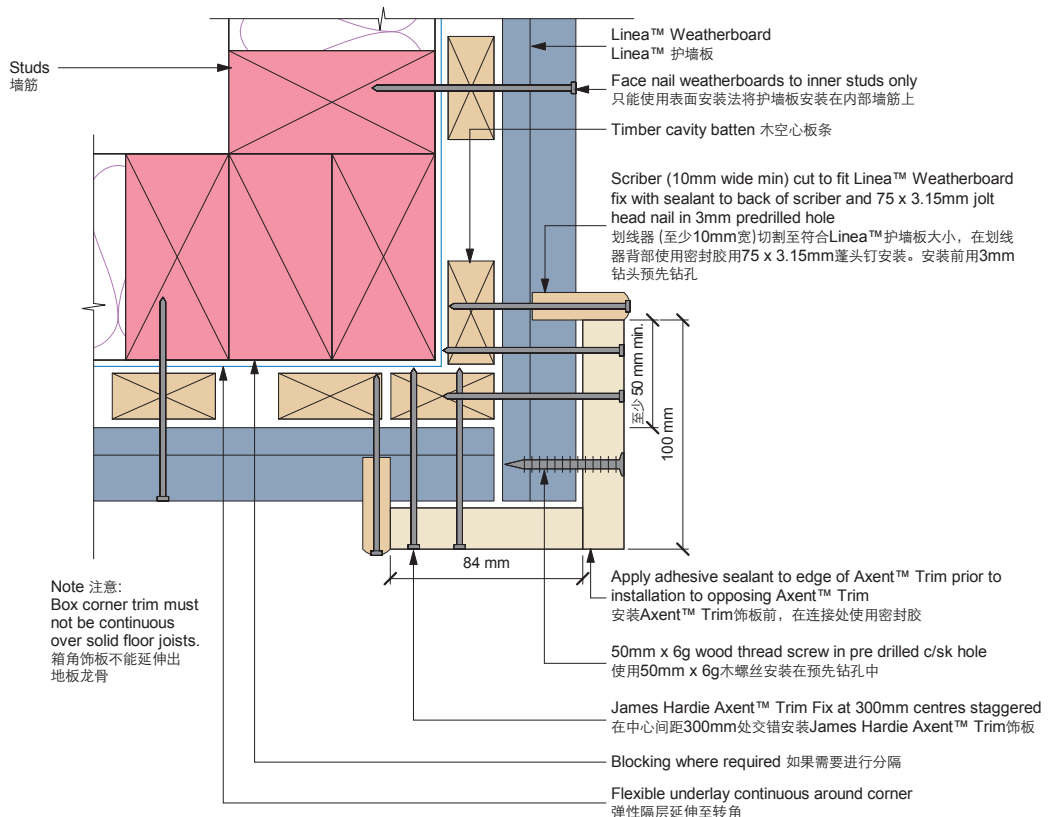
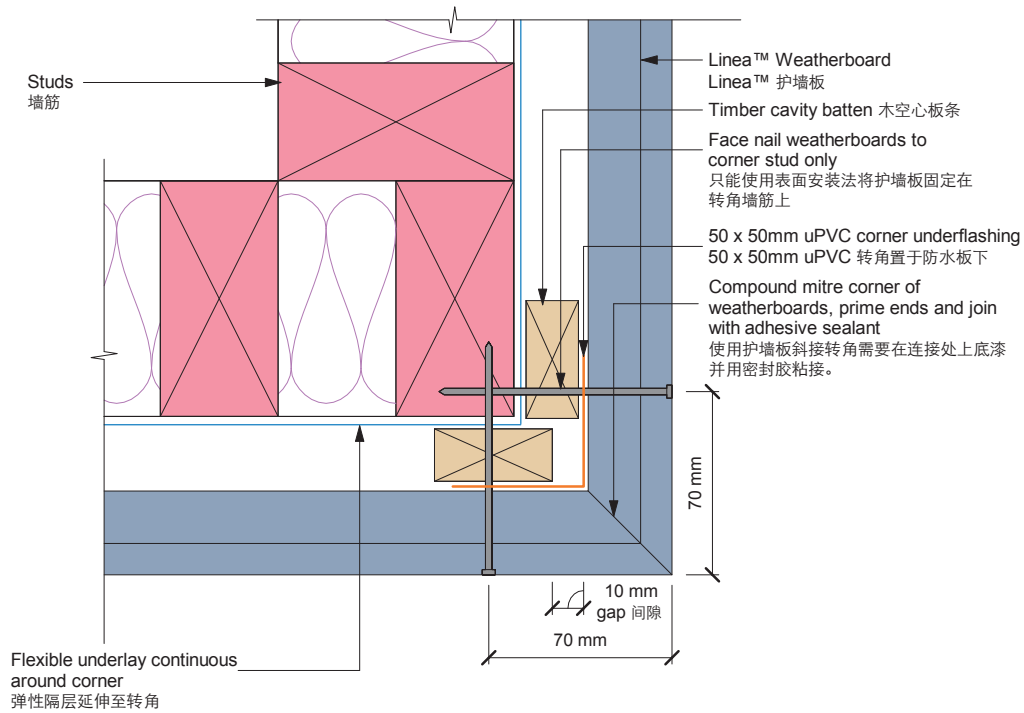


Figure 10: Mitre corner | 图 10: 斜接边角



Note: Adhesive sealant must be used on the full end face of both weatherboards. Push lightly together
注意：两块护墙板连接处全部表面都需要使用密封胶并轻轻按在一起。

Figure 11: Internal 90 ° aluminium 'W' mould corner | 图 11: 铝制 'W' 形90 °阴角覆膜转角

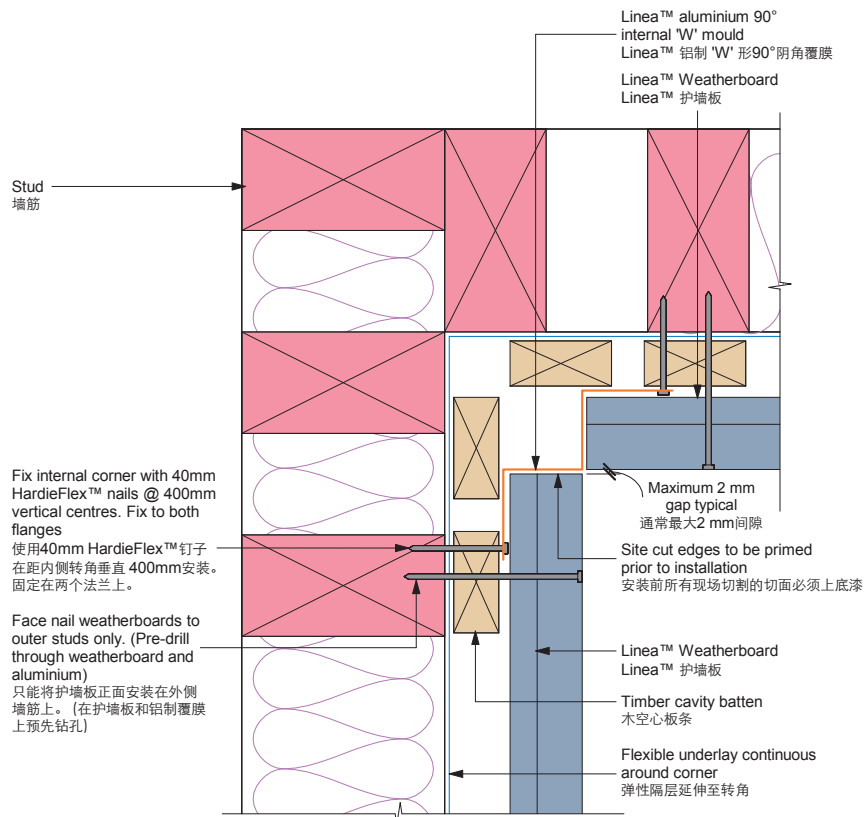


Figure 12: Internal 135 ° aluminium 'W' mould corner | 图 12: 铝制 'W' 形135°阴角覆膜转角

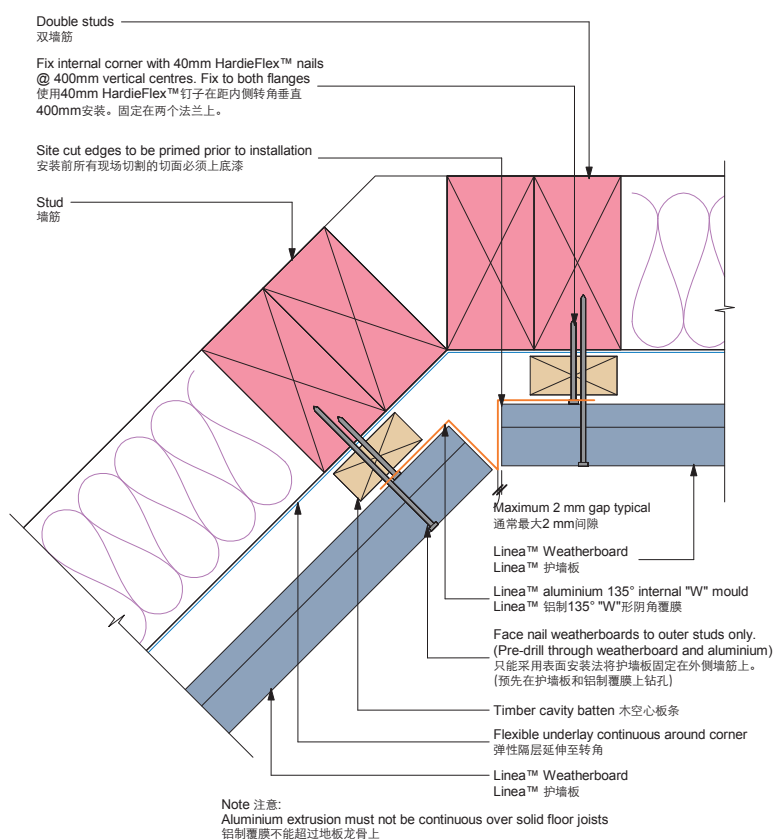


Figure 13: Internal corner joint flashing | 图 13: 阴角连接防水

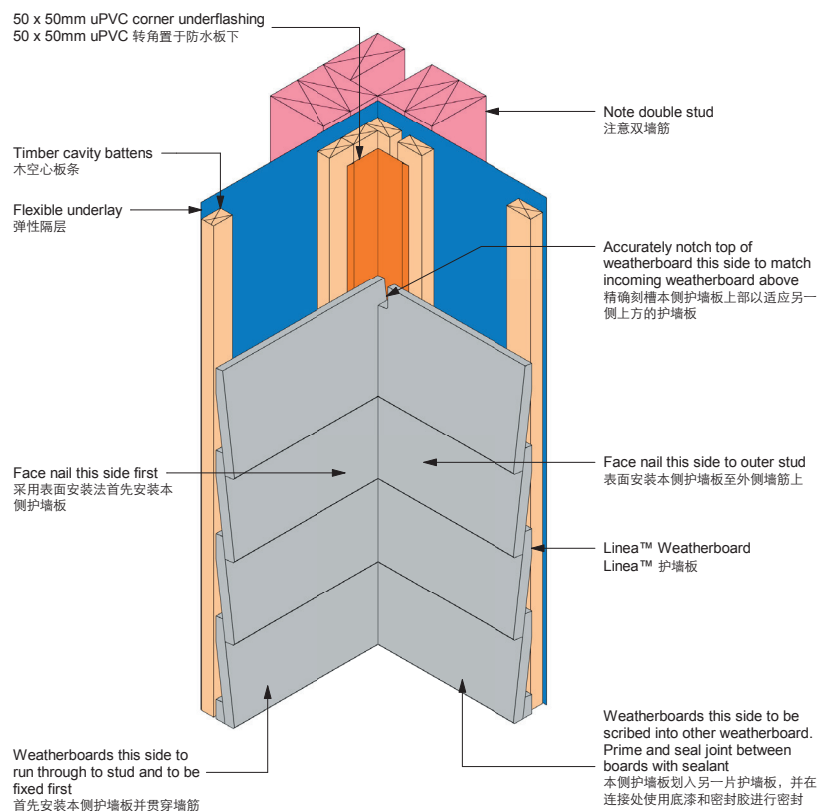
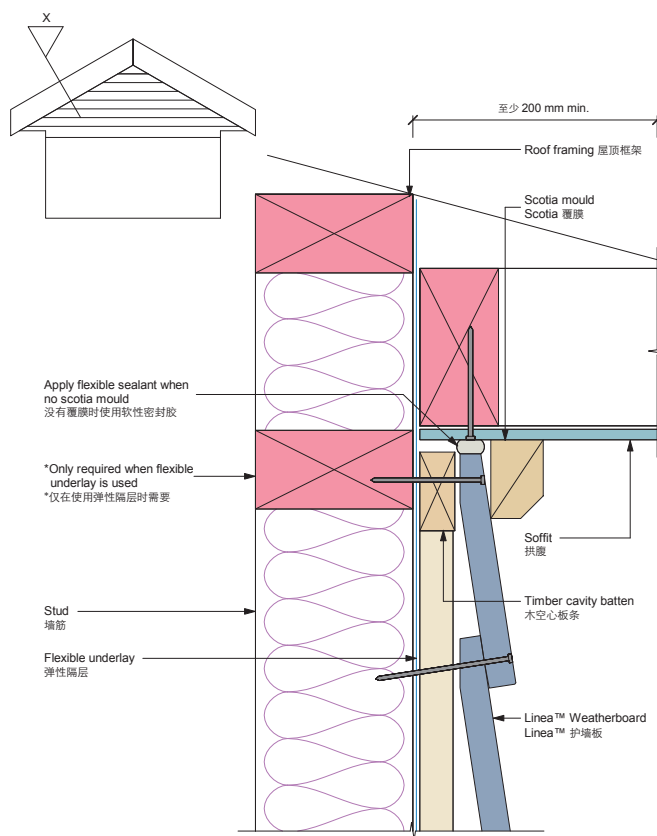


Figure 14: Wall to soffit junction 'X' | 图 14: 墙体与拱腹的 'X' 形连接



Note 注意:
Alternatively the scotia can be scribed and sealed to Linea™ Weatherboard and the soffit lining
或者可以将scotia 划刻和密封在Linea™护墙板和拱腹底板上
For soffits more than 200mm the Linea™ Weatherboard can be neat cut and silicone sealed to angle of soffit
拱腹超过200mm时, Linea™ 护墙板可以整齐切割并沿拱腹角度用硅胶密封

Figure 15: Nil soffit detail | 图 15: 无拱腹详图

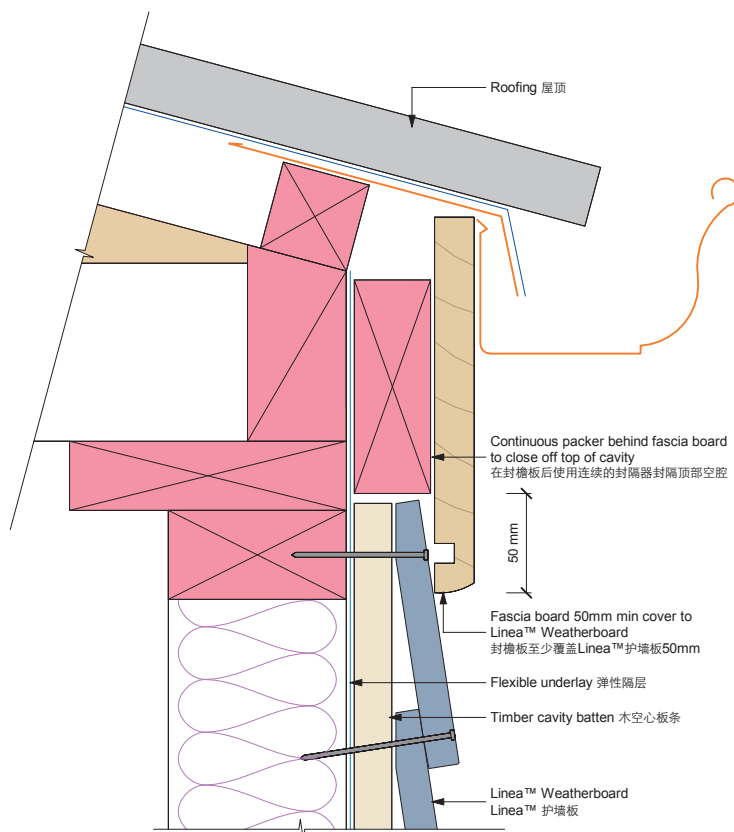
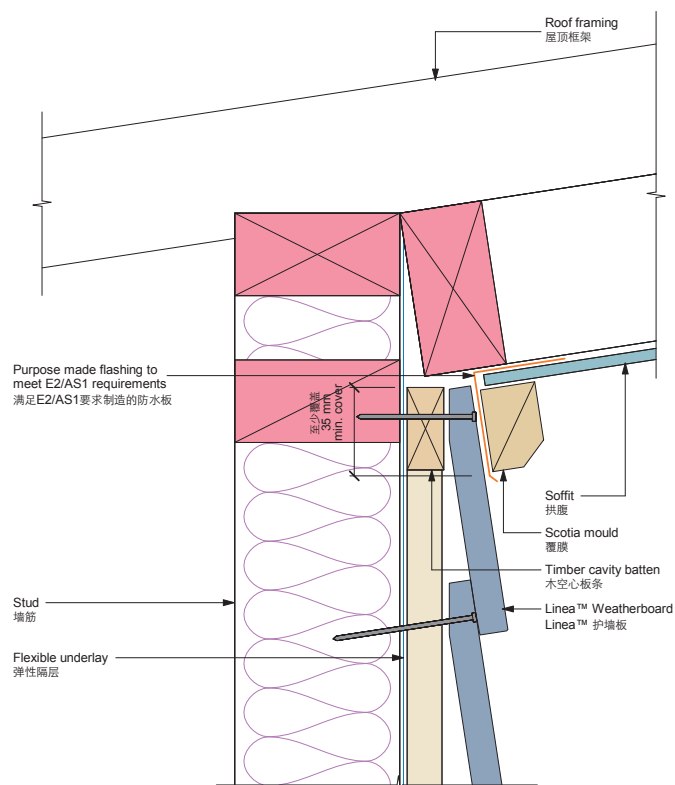
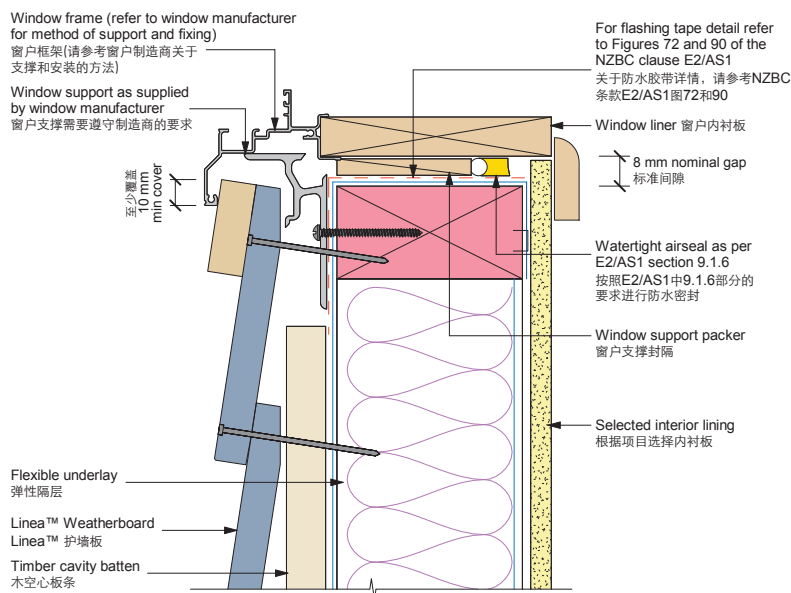


Figure 16: Sloping soffit and wall junction | 图 16: 倾斜拱腹与墙体连接



Note: Site cut edges to be primed
注意：所有现场切割的切面必须上底漆

Figure 17: Window and door sill | 图 17: 窗户和门槛

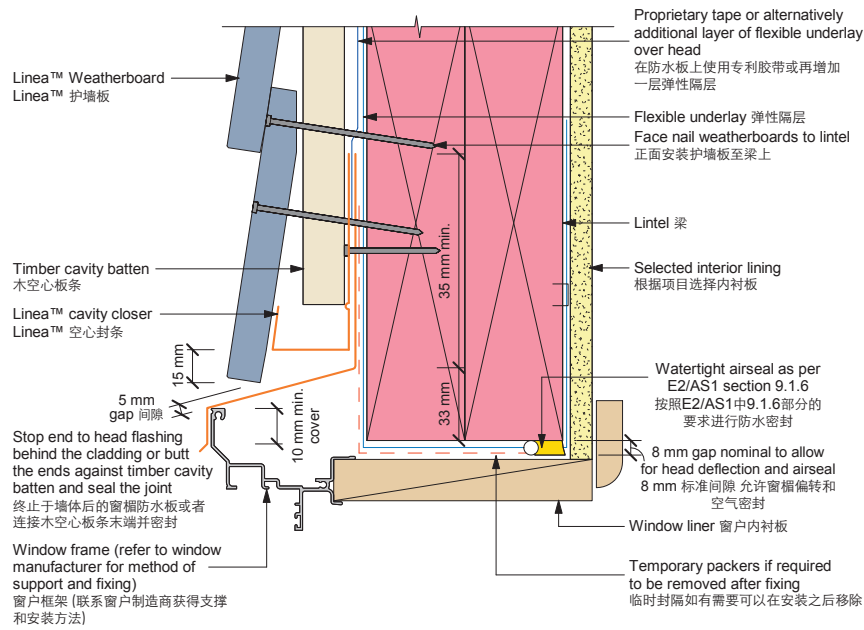


General notes for materials selection
材料选择的建议

1. Flashing materials must be selected based on environmental exposure, refer to NZS 3604 and Table 20 of NZBC E2/AS1
防水材料必须根据环境暴露情况，请参考NZS 3604和NZBC E2/AS1中Table 20
2. Flexible underlay must comply with acceptable solution E2/AS1
弹性隔层必须遵守合格方案E2/AS1
3. Flashing tape must have proven compatibility with the selected flexible underlay and other materials with which it comes into contact
防水胶带必须与弹性隔层或者其他接触材料相兼容

Refer to the manufacturer or supplier for technical information for these materials contact
请参考制造商或者供应商获取材料的技术信息

Figure 18: Window head | 图 18: 窗楣



Note 注意:

- Sealant must be installed between head flashing and window flange in VH and EH wind zones and SED pressures
在VH和EH风区及特殊工程设计项目中, 需要在窗楣防水板和窗户法兰之间必须使用密封胶
- Alternatively, the head flashings can be formed with stop ends as per E2/AS1
可以根据E2/AS1的要求, 使用窗楣防水板形成末端
- Refer to Figure 22 for sealing end battens to head flashing
参考图22有关板条末端至窗楣防水板的密封要求
- Site cut edges to be primed
所有现场切割的切面必须上底漆

Figure 19: Window jamb | 图 19: 窗框

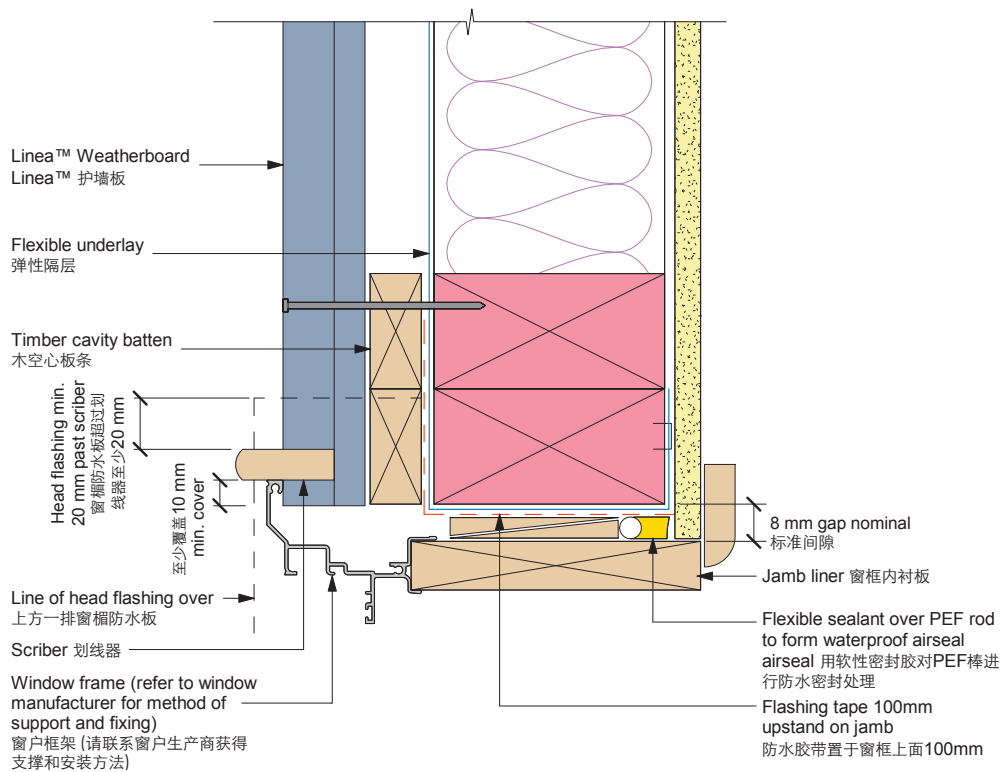


Figure 20: Window head stop end | 图 20: 窗楣末端

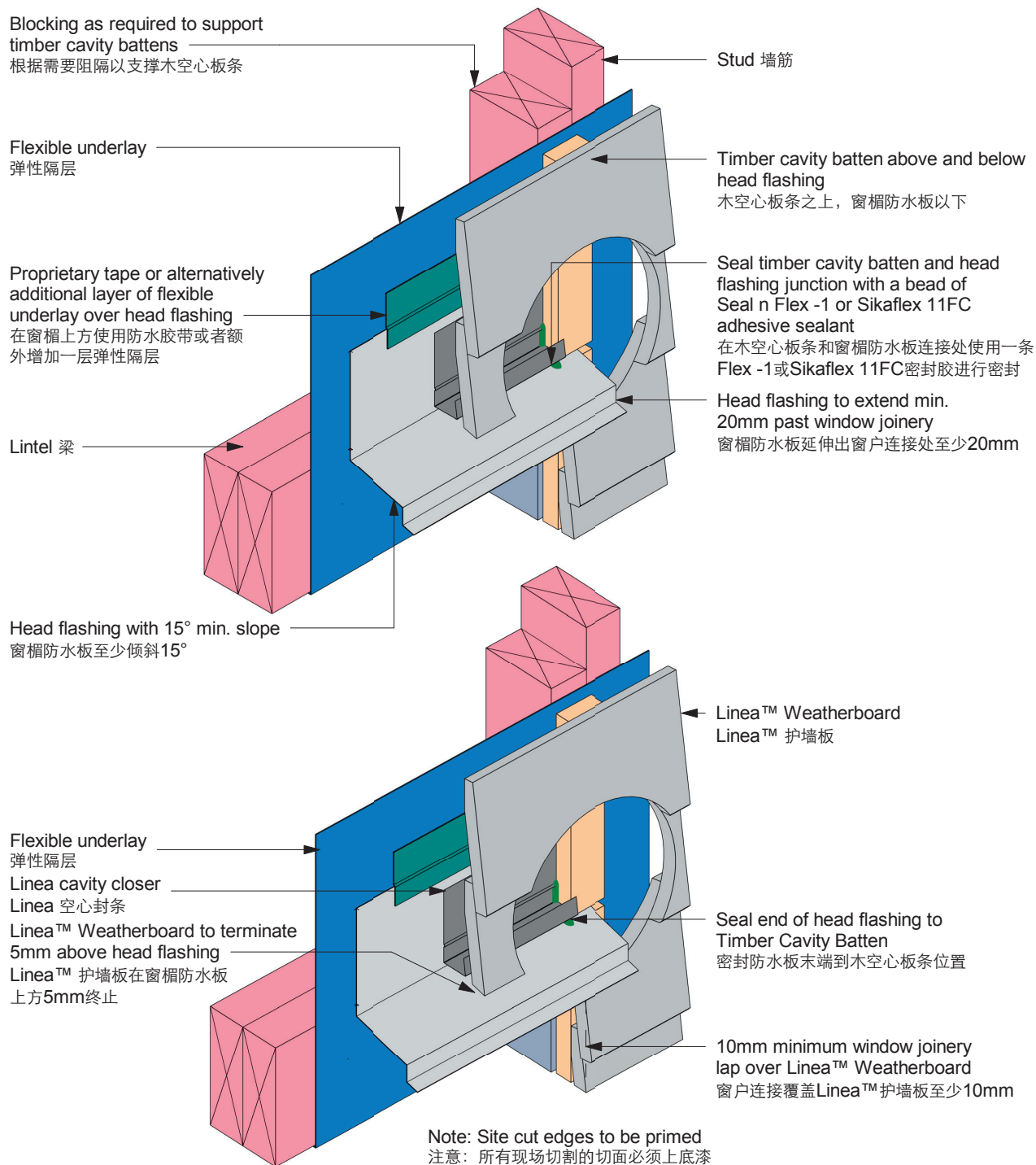
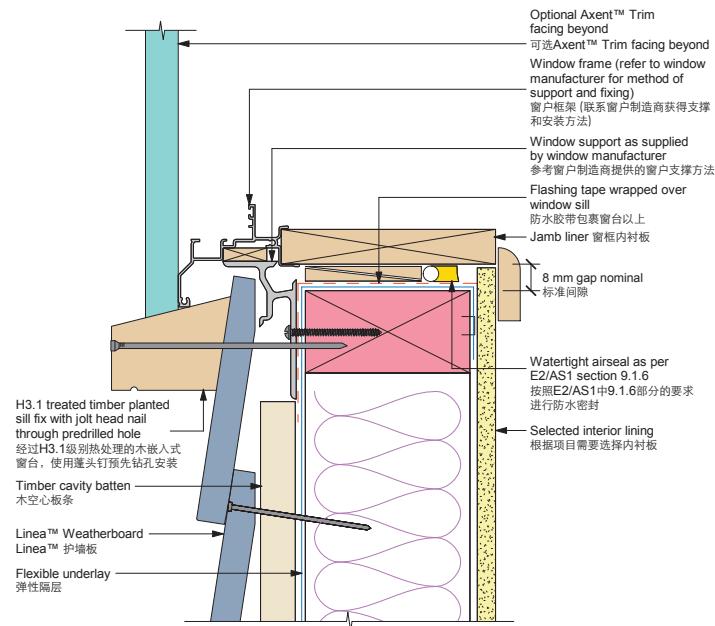


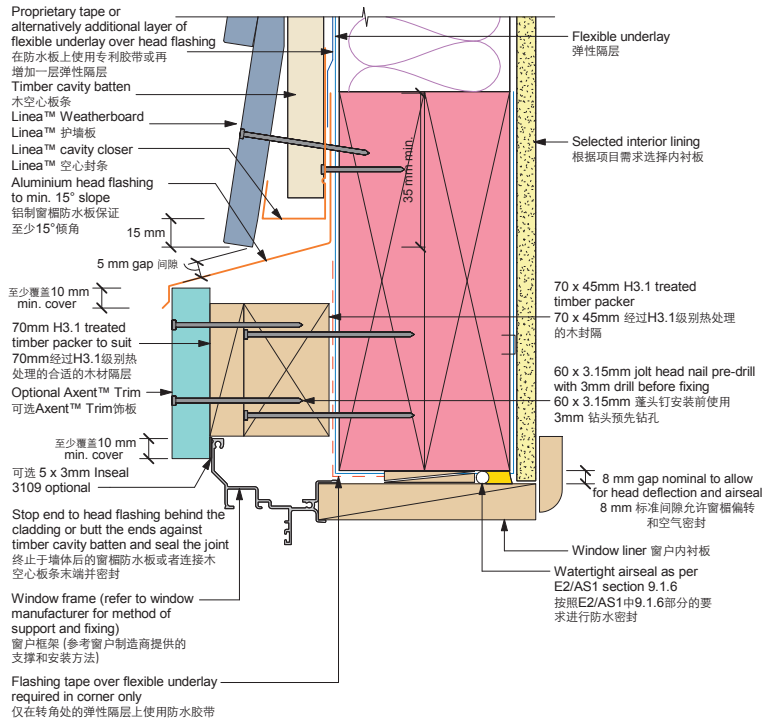
Figure 21: Window sill with facing | 图 21: 带有饰面的窗台



材料选择的建议:

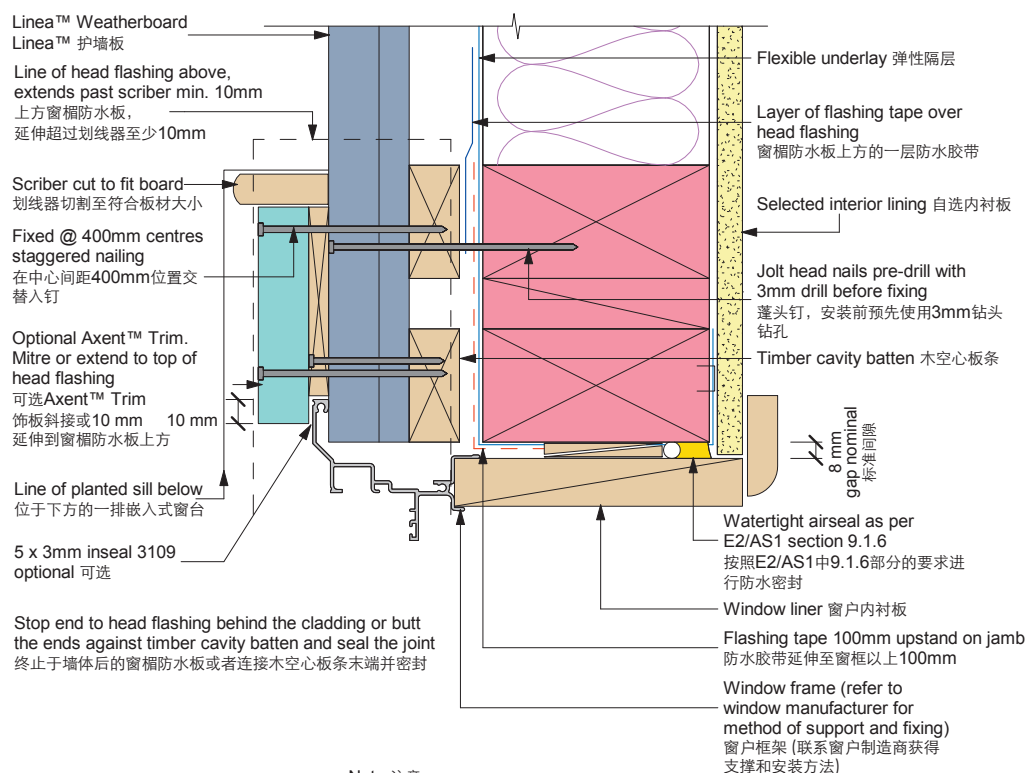
- Refer to the manufacturer or supplier for technical information for these materials
请参考制造商或供应商提供的相关技术参数

Figure 22: Window head with facings | 图 22: 带有饰面的窗楣



- Sealant must be installed between head flashing and window flange in VH and EH wind zones and SED pressures in VH and EH wind zones and special engineering design projects. 窗框防水板和窗戶法蘭之間必須使用密封膠
- Alternatively, the head flashings can be formed with stop ends as per E2/AS1
可以根据E2/AS1的要求，使用窗框防水板形成末端
- Refer to Figure 22 for sealing end battens to head flashing
參考圖22密封條至窗框防水板

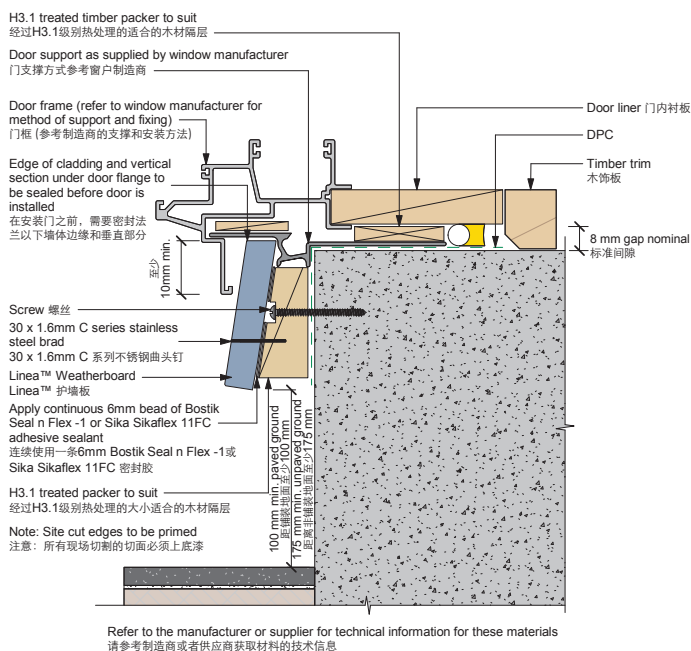
Figure 23: Window jamb with facings | 图 23: 带有饰面的窗框



Note 注意:

- Site cut edges to be primed
所有现场切割的切面必须上底漆

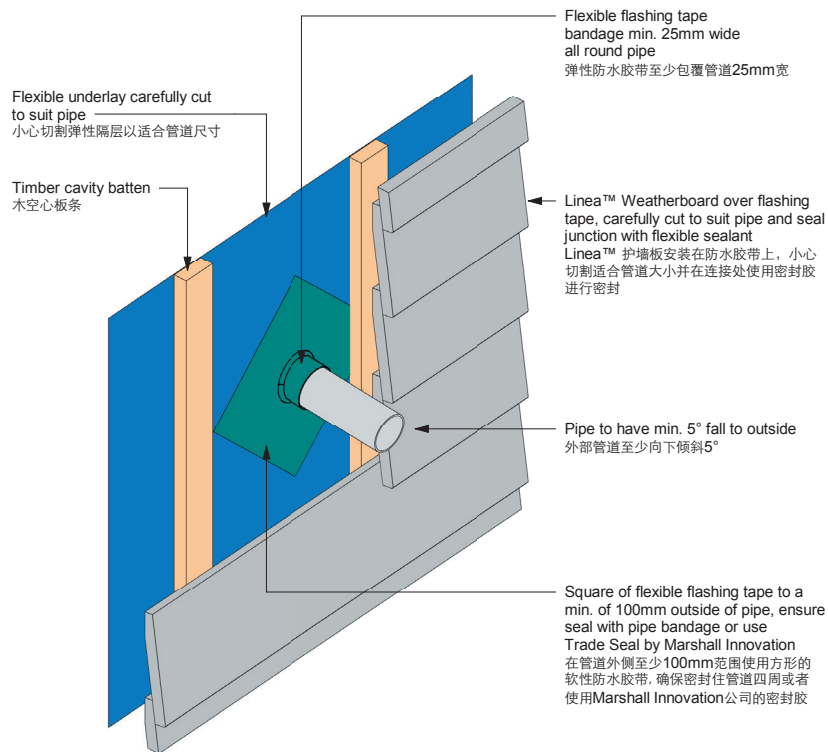
Figure 24: Door sill support detail | 图 24: 门槛支撑详图



General notes for materials selection:
材料选择的建议:

- Flashing materials must be selected based on environmental exposure, refer to NZS 3604 and Table 20 of the NZBC E2/AS1
防水板材料的选择需要根据环境暴露程度决定, 参考NZS 3604以及NZBC E2/AS1中表20的内容
- Flexible underlay must comply with acceptable solution E2/AS1
弹性隔层必须符合合格方案E2/AS1的要求
- Flashing tape must have proven compatibility with the selected flexible underlay and other materials with which it comes into contact
防水胶带必须与弹性隔层和其他接触材料相兼容
- Linea™ Weatherboard to have sealed butt joint over batten at each corner of opening
Linea™ 护墙板在每个板条上方的转角开口处都需要密封

Figure 25: Pipe penetration | 图 25: 管道穿透



Note: Site cut edges to be primed
注意: 所有现场切割的切面必须上底漆

Figure 26: Continous cladding over joist | 图 26: 龙骨上的连续墙体

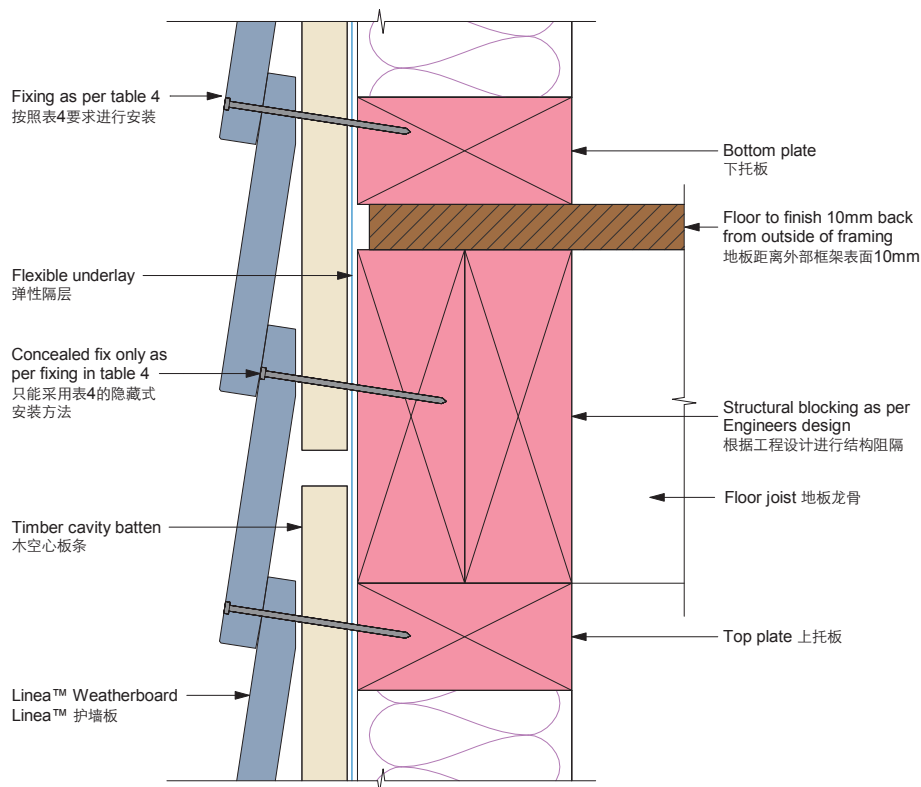
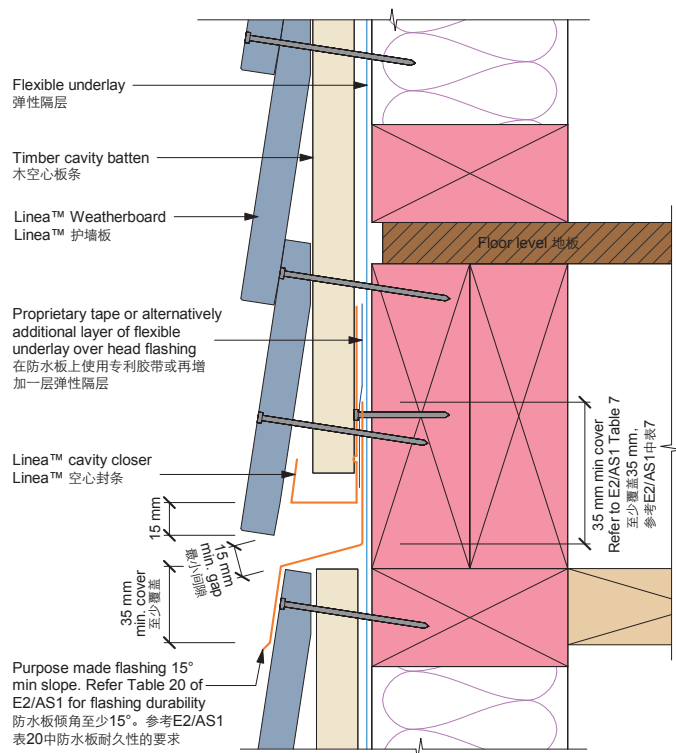


Figure 27: Drained flashing joint at floor level | 图 27: 房屋一层排水防水板的连接



Note 注意:
This detail is required to limit cavities to a maximum of 2 stories or 7 metres. Refer E2/AS1 clause 9.1.9.4.
本详图中需要限制空心板条最大应用为两层建筑或者7米。参考E2/AS1中条款9.1.9.4。

Figure 28: Timber deck junction | 图 28: 木露台连接

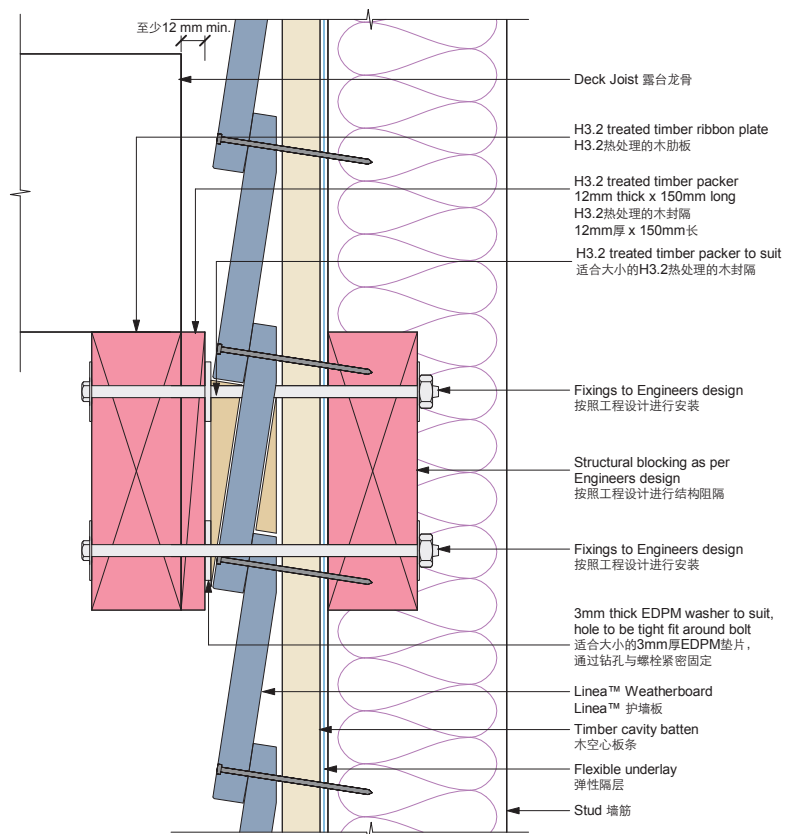
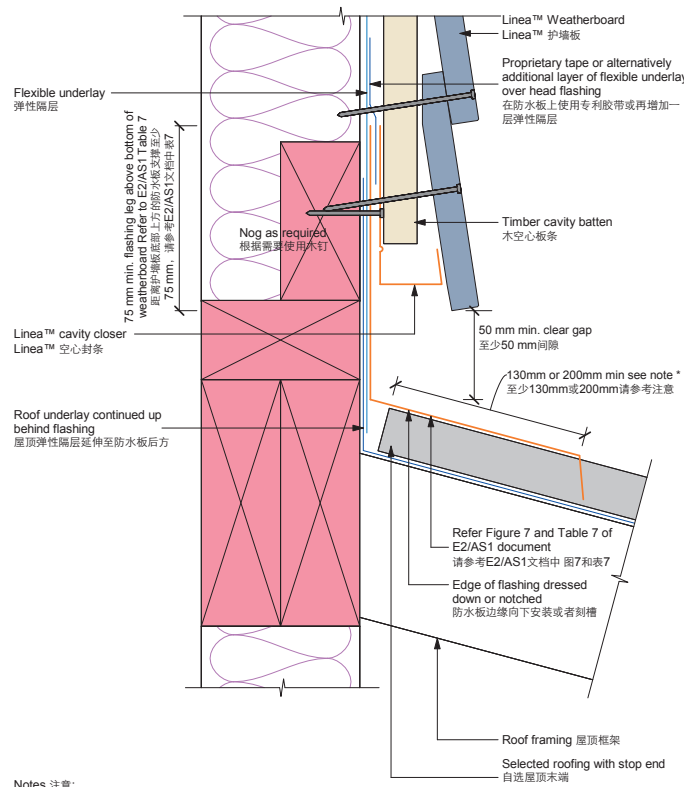
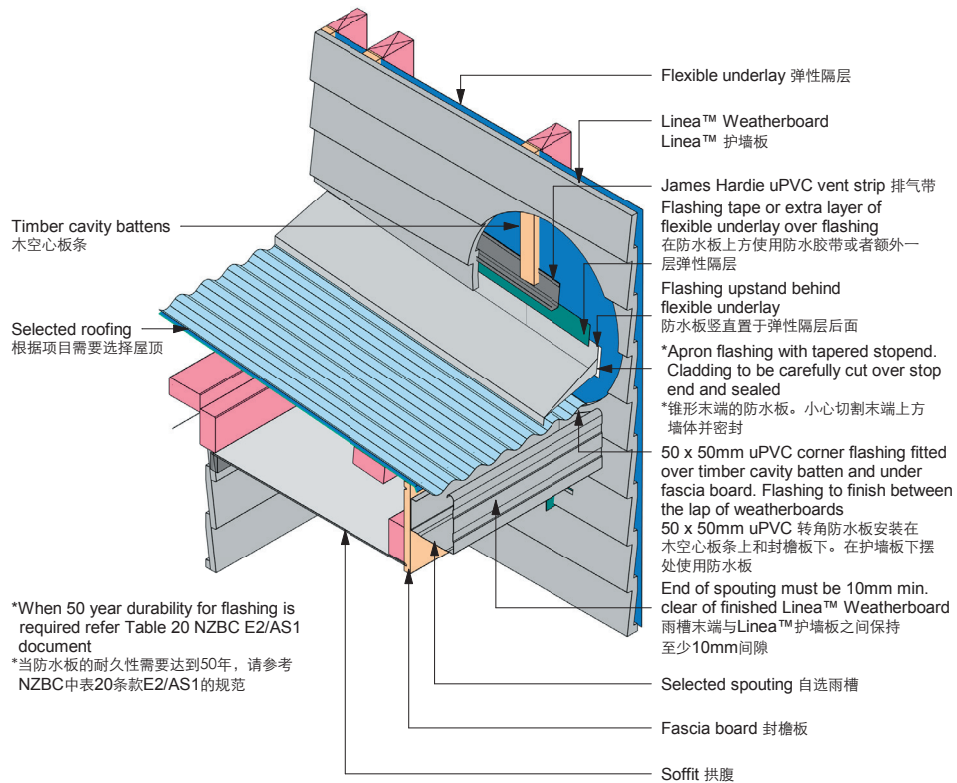


Figure 29: One piece apron flashing joint | 图 29: 一体式烟囱防水连接



Notes 注意:
 * When 50 year durability for flashing is required refer to Table 20 of E2/AS1 of the NZBC
 当防水板的耐久性需要达到50年, 请参考 NZBC中表20 条款E2/AS1的规范
 Site cut edges to be primed 所有现场切割的切面必须上底漆

Figure 30: Roof to wall junction detail | 图 30: 屋顶与墙体连接详图



Note: Site cut edges to be primed
 注意: 所有现场切割的切面必须上底漆

Figure 31: Parapet flashing | 图 31: 矮墙防水

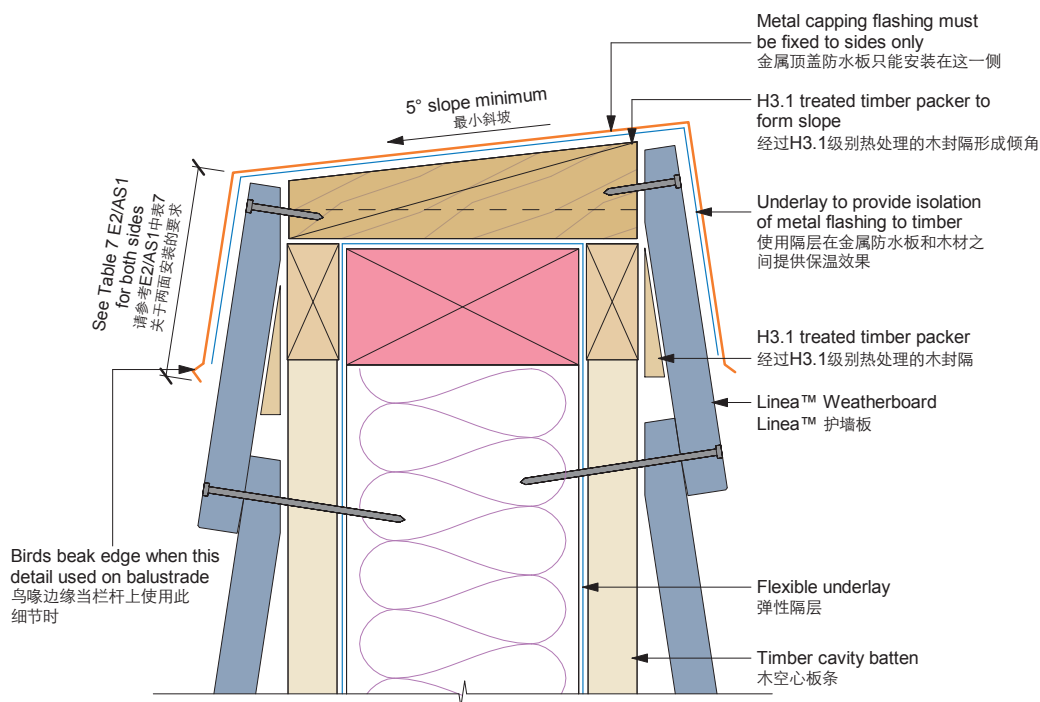


Figure 32: Enclosed deck balustrade to wall | 图 32: 封闭露台栏杆到墙体

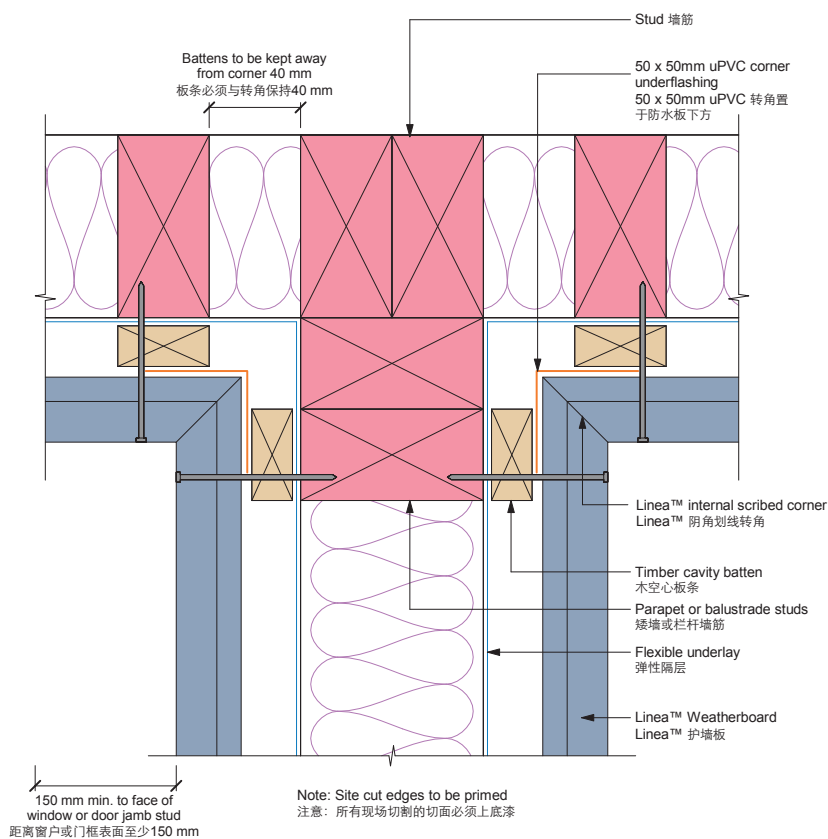


Figure 33: Enclosed balustrade to wall | 图 33: 封闭栏杆到墙体

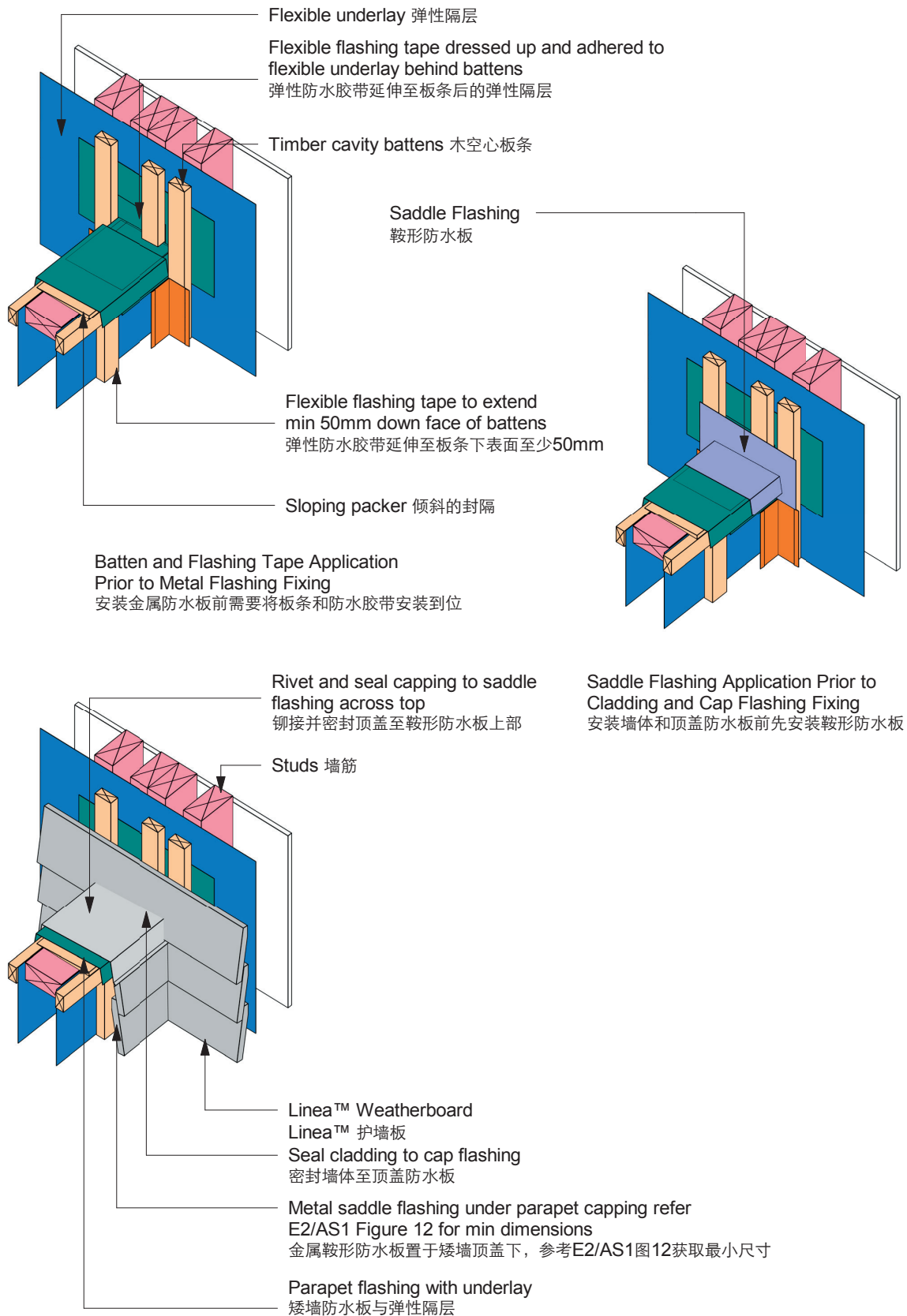
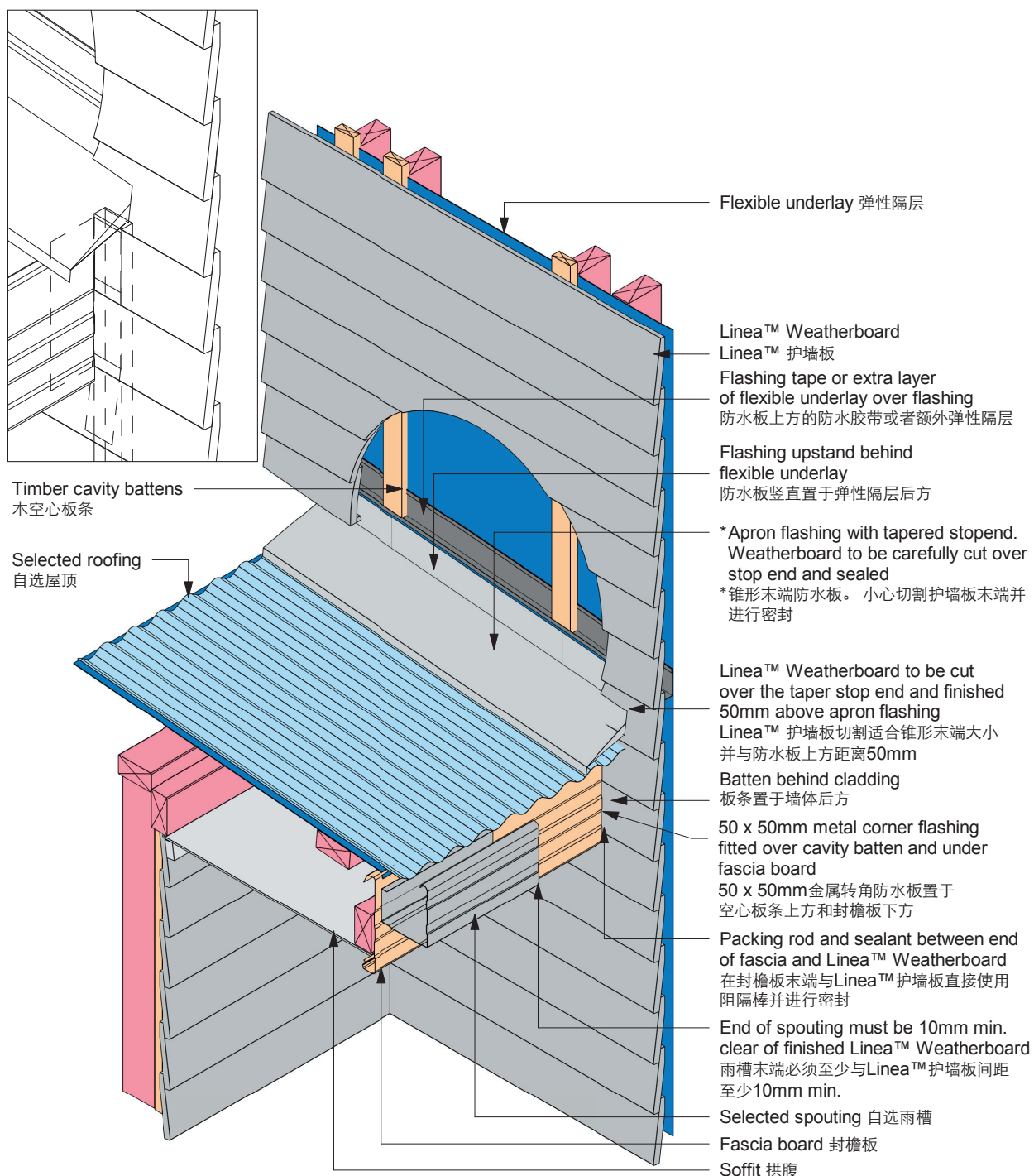


Figure 34: Junction Linea™ Weatherboard and fascia board | 图 34: 护墙板和封檐板的连接

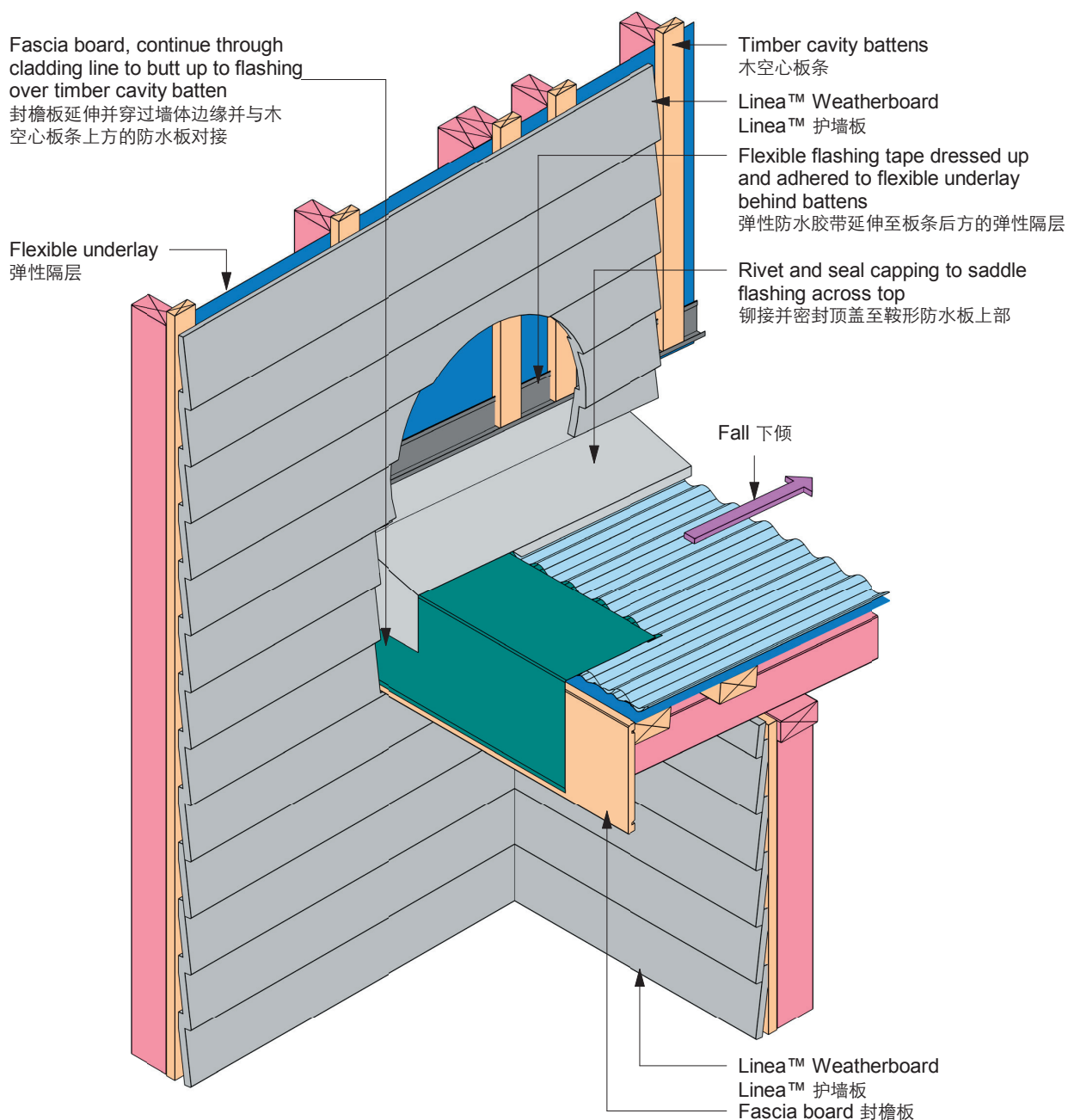


*When 50 year durability for flashing is required refer Table 20
NZBC E2/AS1 document

*需要防水板达到50年耐久性参考NZBC E2/AS1文档中 表20

Note: Site cut edges to be primed
注意: 所有现场切割的切面必须上底漆

Figure 35: Enclosed roof to wall intersection | 图 35: 封闭屋顶与墙体连接



50mm wide flashing welded to apron flashing
50mm宽防水板焊接到烟囱防水板上

Back flashing
防水板背部

50 x 50mm corner flashing
50 x 50mm 转角防水板

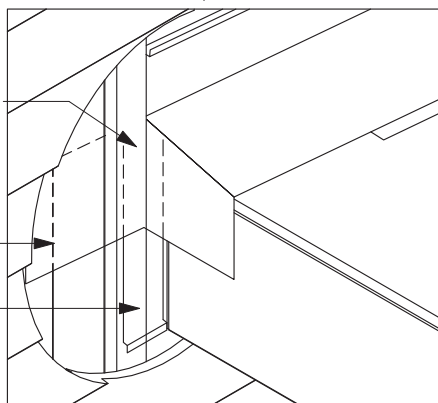
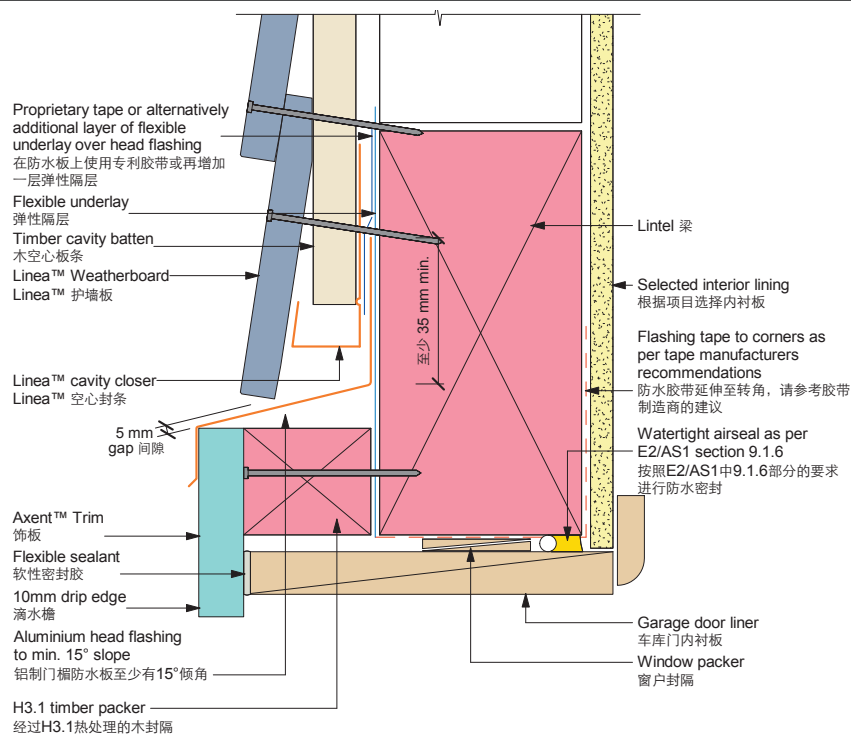


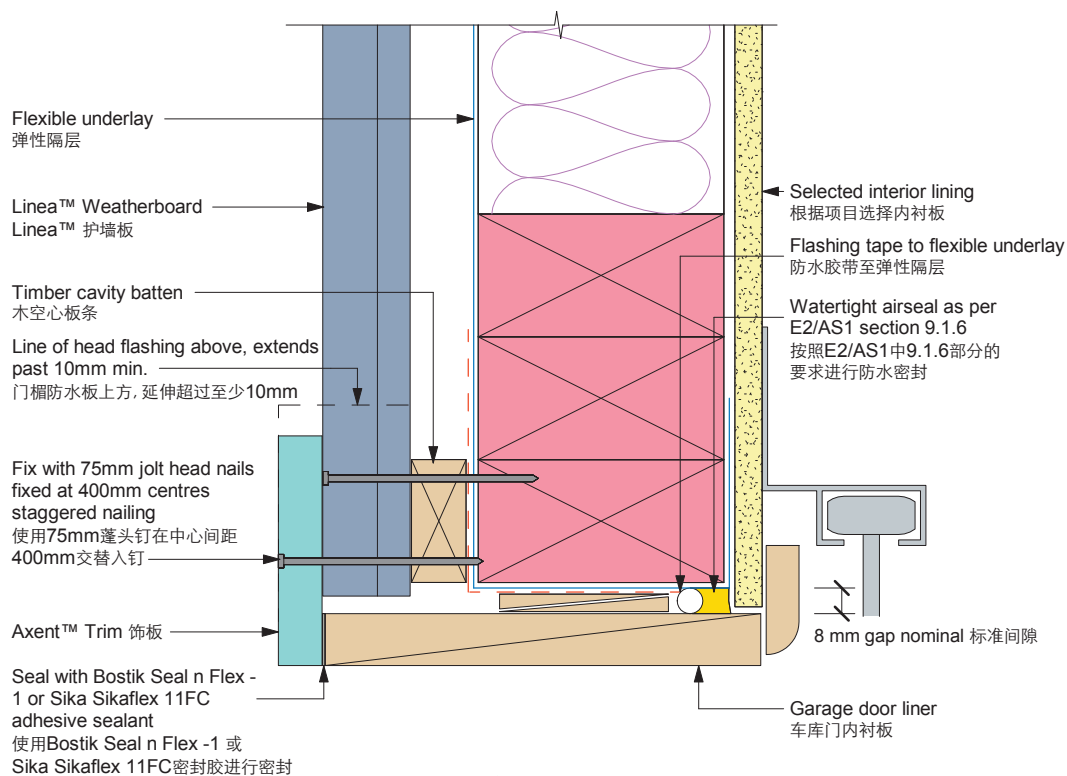
Figure 36: Garage door head | 图 36: 车库门楣



Note 注意:

- Sealant must be applied between head flashing and liner in VH and EH wind zones and SED wind pressures
在VH和EH风区以及特殊工程设计项目中, 门楣防水板与内衬板之间必须使用密封胶
- Site cut edges to be primed
所有现场切割的切面必须上底漆

Figure 37: Garage door jamb | 图 37: 车库门框



Note: Site cut edges to be primed
注意: 所有现场切割的切面必须上底漆

Figure 38: Framing setout building height over 10m | 图 38: 超过10m建筑的框架布局

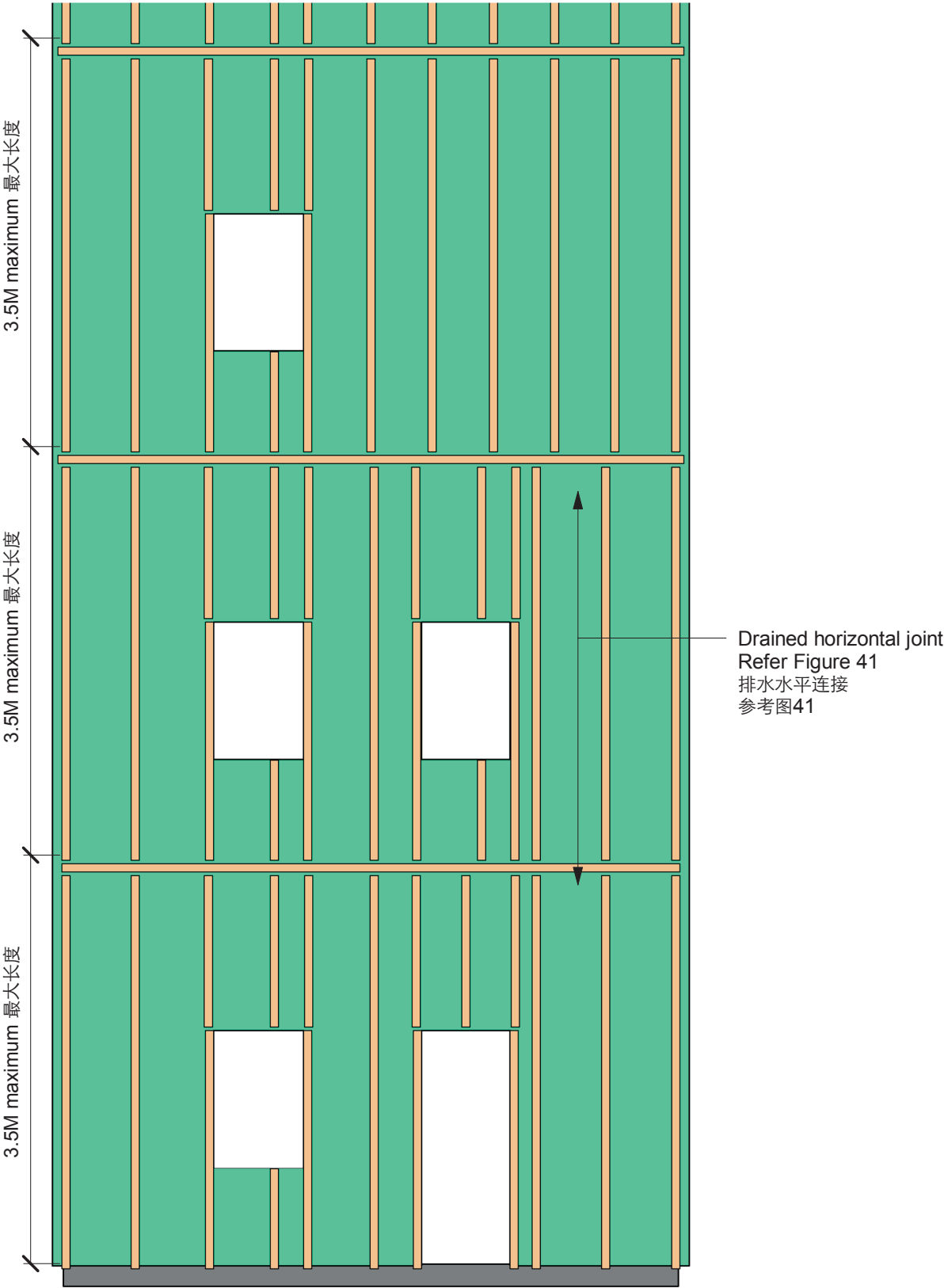
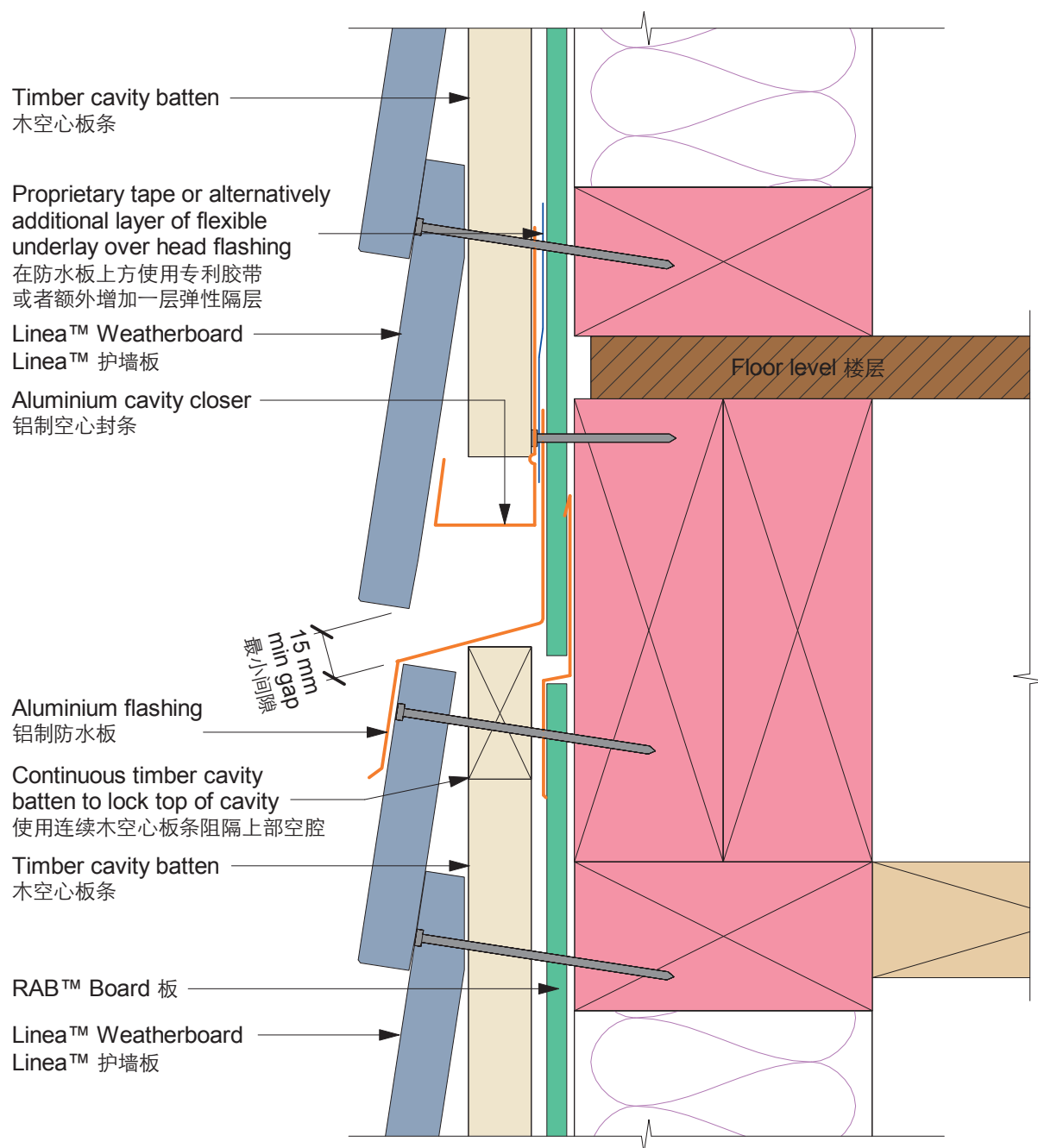


Figure 39: Intertenancy vertical fire separation | 图 39: 内部垂直耐火分隔



Product Warranty

质量保证

James Hardie New Zealand Limited (“James Hardie”) warrants for a period of 25 years from the date of purchase that the Linea™ Weatherboard (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 Axent™ Trim and 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™ 护墙板（简称“产品”）在售出之日起的25年内，不会出现由于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、防火、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 Axent™ Trim 饰板及配件在购买之日起的15年内不会出现由于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，因其在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.
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.
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.
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 (“The NZBC”), regulations and standards.
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.
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).

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，包括财产损失或人身伤害、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.
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.

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. James Hardie has tested the performance of Linea™ Weatherboard when installed in accordance with the appropriate Linea Weatherboard (cavity or direct fixed) technical specifications, in accordance with the standards and verification methods required by the NZBC and those test results demonstrate the product complies with the performance criteria established by the NZBC. 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.

免责声明：James Hardie 文件中的建议是基于良好的施工操作的前提下提出的，但并不能穷尽所有相关的信息，且受到上述 (c), (d), (f) 和 (g) 条款的限制。按照 Linea™ 护墙板安装技术规范(空心结构法或直接安装法) 安装的 Linea 护墙板经过 James Hardie 的检测，检测标准和验证方法符合 NZBC 的要求，检测结果显示产品符合 NZBC 对性能的要求。然而，整个施工系统的成功有赖于很多 James Hardie 无法控制的因素(如施工工艺和设计质量)。James Hardie 将不对其文件中的建议及其在实际运用中的性能负责，包括产品是否适用于特定的使用目的，是否符合 NZBC 及其他相关规定和标准等。因为建筑设计师有责任判断 James Hardie 安装手册中提供的详图和建议是否适合该项目的需要，并确保在需要时提供特殊设计。

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WEATHERBOARD



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