JamesHardie™

jameshardie.co.nz

Linea™ Weatherboard Cavity Fix

Linea™ 护墙板 空腔结构安装法





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Ask James Hardie™
邮箱：literaturefeedback@jameshardie.co.nz

Make sure your information is up to date

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When specifying or installing Hardie™ fibre cement 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.**

当具体说明或安装**Hardie™** 纤维水泥产品时，请确保您使用的是现行版本手册。更多安装、质保和提醒信息请见**www.jameshardie.co.nz**或致电**0800 808 868**垂询**James Hardie™** 。

Please note the English version shall always prevall in case of any discrepancy or inconsistency between English and its Chinese translation.
中英文如有歧义，概以英文为准。

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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 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。通过榫槽末端进行连接，类别为轻质外墙板，一般用于住宅和轻型商业建筑的外墙，或轻质钢结构的建筑外墙。Linea™ 护墙板共有150mm和180mm两种宽度。

James Hardie also has available:

James Hardie还提供以下产品:

- Hardie™ Axent™ Trim which is a 19mm thick, pre-primed fibre cement product available in three widths. For use as decorative trims around openings, for board and batten features and external corners.

  Hardie™ Axent™ 饰板为19mm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，适用于板条式立面和外部边角。

For fixing to a steel frame. Ask James Hardie™ on 0800 808 868 for specific requirements. Or refer to the Cladding to Steel Framing Technical Supplement by James Hardie about the installation of Linea™ Weatherboard to steel frame.

如需安装在钢结构上，请致电0800 808 868垂询Ask 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Linea™ 护墙板在钢结构上的安装信息。

Table 1 表1

Linea™ Weatherboard and Hardie™ Axent™ Trim sizes
Linea™ 护墙板和Hardie™ Axent™ 饰板尺寸

							Coverage Information 覆盖信息		
Product 产品	**Code 编号**	**Length (mm) 长度**	**Width (mm) 宽度**	**Thickness (mm) 厚度**	**End details 末端形状**	**Effective cover (mm) 有效覆盖长度**	**No. of planks/ metre height (approx.) 板数/一米高 (近似值)**	**Mass kg/lineal m (approx. at EMC) 重量公斤/线性米 (平衡含水率下的近似值)**	**Mass kg/m² (approx. at EMC) 重量公斤/平方米 (平衡含水率下的近似值)**
Linea™ Weatherboard 150 Linea™ 护墙板 150	402533	4200	150	16	T & G 榫槽	120	8.3	3.1	24.93
Linea™ Weatherboard 180 Linea™ 护墙板 180	401847	4200	180	16	T & G 榫槽	150	6.7	3.57	23.92

Hardie™ Axent™ Trim Hardie™ Axent™ 饰板	405260	3000	45	19	Square 方形	N/A	N/A	1.1	N/A
Hardie™ Axent™ Trim Hardie™ Axent™ 饰板	405257	3000	70	19	Square 方形	N/A	N/A	1.6	N/A
Hardie™ Axent™ Trim Hardie™ Axent™ 饰板	405258	3000	89	19	Square 方形	N/A	N/A	2	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™ 护墙板的有效厚度大约为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, water and proprietary additives. 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。

Hardie™ Axent™ Trim is an advanced lightweight cement composite cladding manufactured using a basic composition of Portland cement, ground sand, cellulose fibre, water and proprietary additives. The product is easily identified by the name 'Hardie Axent Trim' printed on the back and they come pre-sealed on all sides, ready for paint.

Hardie™ Axent™ 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、水和专利添加剂。本板材可以通过其背面印刷的“Hardie Axent Trim”字样进行识别，且所有表面都已预先密封，可直接涂漆。

Linea™ Weatherboard and Hardie™ Axent™ Trim products are manufactured in Australia to the Australian/New Zealand Standard AS/NZS 2908.2 ‘Cellulose-Cement Products’ (ISO 8336 ‘Fibre-Cement Flat Sheet’).

Linea™ 护墙板和Hardie™ Axent™ 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9 (ISO 8336 ‘Fibre-Cement Flat Sheet 9) 的要求。

Linea™ Weatherboard is classified Type A, Category 3 in accordance with the 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A型2类（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**0800 808 868**垂询Ask James Hardie™ 。

1.3 Components and Accessories 产品组件及配件

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 (mm) 尺寸**	**Code 编号**
	**External corner soaker 90° for Linea™ Weatherboard 180mm** **Linea™ 180mm 护墙板使用的90°阳角防漏嵌条** • Aluminium 铝制	200 long 长	**301186**
	**External corner soaker 135° for Linea™ Weatherboard 180mm** **Linea™ 180mm 护墙板使用的135°阳角防漏嵌条** • Aluminium 铝制	200 long 长	**301178**
	**External corner soaker 90° for Linea™ Weatherboard 150mm** **Linea™ 150mm 护墙板使用的90°阳角防漏嵌条** • Aluminium 铝制	170 long 长	**302820**
	**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 空腔封条**	3000 long 长	**306035**
	**Internal 'W' Mould 90°** **'W'型90°阴角覆膜** Etched primed aluminium extrustion used to create 900 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 extrustion used to create 135° internal corner 经过蚀刻的铝材，用于制造135°阴角	2700 long 长	**301183**
	**Hardie™ Corner Under Flashing 50 x 50mm** **Hardie™ 转角底部泛水件 50 × 50 mm** PVC moulding used as under fashing 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**
	**Hardie™ Flex Galvanised nail - 5kg** **Hardie™ Flex 镀锌钉 - 5kg**	60 x 3.15mm	**302784**
	**Hardie™ Flex Stainless steel nail - 5kg** **Hardie™ Flex 不锈钢钉 - 5kg**	60 x 3.15mm	**302782**
	**Hardie™ Blade Saw Blade** **Hardie™ Blade 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**
	**Hardie™ Blade Saw Blade** **Hardie™ Blade 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**

Table 3 表3

Accessories not supplied by James Hardie | 非 James Hardie 提供的配件

James Hardie recommends the following products for use in conjunction with its Linea™ Weatherboard. 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.

James Hardie建议在连接Linea™ 护墙板时使用以下产品。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。

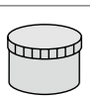
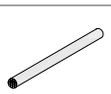
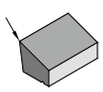
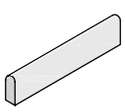
Accessories 配件	Description 产品描述	Size (mm) 尺寸	Material/ appearance 材料/外观
	**Flexible Underlay 弹性隔层** To comply with Table C.2.1.1 of E2/AS1 需根据表C.2.1.1中E2/AS1的要求安装		
	**D head or RounDrive Nail** **D形头钉或环纹螺丝钉** Gun nail for concealed fixing Linea™ Weatherboard. 使用钉枪对Linea™ 护墙板进行隐藏式安装。	60 x 2.87mm 75 x 3.06mm	Hot Dip Galvanised/ Stainless Steel 热浸镀锌/不锈钢
	**Hardie™ Flex Hot Dip Galv. Nails** **Hardie™ Flex 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	Sika®, Bostik® Soudal®, or similar Sika® , Bostik® Soudal® 或类似材料
	**CRC® ADOS® Builders Fill** **CRC® ADOS® 填充剂** Two part exterior grade fill to finish over jolt head nails. 双组分外墙级填充剂，用于填充蓬头钉的钉孔。		
	**PEF Rod** **PEF 棒**	Polyethylene foam 聚乙烯发泡	Sika® or similar Sika® 或类似材料

Table 3 contd. 表3 续

Accessories not supplied by James Hardie | 非James Hardie提供的配件			
Accessories 配件	**Description 产品描述**	**Size (mm) 尺寸**	**Material/ appearance 材料/外观**
 尺寸需适配	**Window flashing tape 窗用弹性胶带** 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自黏胶带，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	Thermakraft,®, Marshall Innovations or similar Thermakraft,® Marshall Innovations 或相似材料
	**Flashing Material 防水板材料** as per Table C.1.1.1A, 'E2/AS1' 按照表C.1.1.1A, 'E2/AS1'要求使用		Flashing Fabricator 防水板制造商
Dimension to suit 	**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
	**Timber Scriber 木制狗牙** 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 空腔封条 - 铝制** Used in walls taller than 10m for inter-tenancy fire separation. 用于墙高超过10m情况的内部火势蔓延防控。		
	Primers. Dulux® 1-Step Prep, Resene® Quick Dry etc. 底漆。Dulux® 1-Step Prep, Resene® Quick Dry等		
	**CladMate™** This easy to use tool gauges and supports the weatherboard for a one person install. 该工具操作简便，可用于精确定位并支撑外墙挂板，从而实现单人完成安装作业。		

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 assessed as per Part 3 of E2/AS1 and must be read in conjunction with the current CodeMark Certificate and BRANZ Appraisal. This installation method assessed as per Part 3 of E2/AS1 can also be used for buildings where the risk matrix score is 0 - 12 if desired.

本规范适用于根据E2/AS1第3部分的风险分数评定为13或者更高时，使用空腔结构安装Linea™ 护墙板的要求，并需结合现行的CodeMark认证以及BRANZ认证。如有需求，本安装方法也可以根据E2/AS1第3部分，风险分数评定为0-12的建筑上。

The document also serves the purpose of an installation manual for this product.

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垂询Ask James Hardie。

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

如果不使用空腔结构安装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, Subsection 1.1.1.

Linea™ 护墙板空腔结构适用于木框架建筑，这些建筑必须符合New Zealand Building Code (NZBC)合格方案E2/AS1中第1.1.1小节规定的范围。

Linea™ Weatherboard cavity construction is also suitable for use in specific engineering design projects (SED) subject to a wind pressure of 3.2kPa (ULS) maximum for building heights up to 25m.

Linea™ 护墙板空腔结构也适用在经过特殊工程设计 (SED) 且最大风压3.2kPa (ULS)，高度不超过25m的建筑项目中。

This specification covers the installation of Linea™ Weatherboard within the following scope:

本规范适用于在以下范围内安装Linea™ 护墙板：

- Linea™ Weatherboard must be installed horizontally
  Linea™ 护墙板必须水平安装
- An external wall framing that complies with the NZBC
  外墙框架须符合NZBC的相关要求

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地安装
- The minimum 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，则要使用挠曲。

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. Please refer to www.building.govt.nz or jameshardie.co.nz for a copy of the certificate.
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。请访问www.building.govt.nz或jameshardie.co.nz 获取证书副本。

CodeMark
CMNZ30018

Linea™ Weatherboard cavity fixed cladding also has a BRANZ Appraisal number 447 (2020) available at www.branz.co.nz or www.jameshardie.co.nz.
Linea™ 护墙板空腔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。

BRANZ Appraised
Appraisal No. 447

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 项目监管方

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 technical specification by James Hardie. 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 the Linea™ Weatherboard supplied is 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 Subsection 9.1.2 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中的9.1.2小节。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该间隙。

Linea™ Weatherboard must overhang the bottom plate on a concrete slab by a minimum of 50mm as per Table 9.1.2.1, and for timber sub floor framing as per Paragraph 9.1.2.8 of the NZBC Acceptable Solution E2/AS1.

根据NZBC合格方案E2/AS1表9.1.2.1中的要求，Linea™ 护墙板必须距离混凝土楼板至少50mm；在木结构楼板系统中，

则须符合E2/AS1第9.1.2.8段中的规定进行安装。

4.3 Structure 结构

4.3.1 Timber Framing 木框架结构

Timber framed buildings must either be in accordance with the NZS 3604 (Timber-framed buildings) or designed as per specific engineering design (SED) up to design wind pressures 3.2kPa (ULS).

木结构建筑必须符合NZS 3604（木结构建筑）标准，或依据特殊工程设计（SED）进行设计，最高可承受3.2 kPa（ULS）的风压。

A 90 x 45mm minimum framing size is required.

所需的框架尺寸最小为90 × 45 mm。

The information published in this specification has been assessed for a timber structural grade SG8 at minimum. Refer to the NZS 3604 for further information on structural grades and their application.

本规范中所提供的信息，均以最低达到SG8等级的结构用木材为评估基础。有关结构等级及其适用范围的更多信息，请参阅NZS 3604。

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 structural 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 in accordance with Section 3.3 of B2/AS1 'Durability' Clause of the NZBC. For further timber treatment information refer to Section 3.5.1 of Building Product Specification (BPS). 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.

木框架的处理必须须符合NZBC B2/AS1耐久性条款第3.3节的要求。有关更多木材处理的信息，请参阅Building Product Specification (BPS) 第3.5.1节。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 Bracing 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 the 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 墙体耐火等级

External walls with Linea™ Weatherboard cavity fix construction method can achieve fire resistance ratings up to 60/60/60 when constructed in accordance with the Fire and Acoustic Design Manual by James Hardie. Linea™ Weatherboard must be face fixed for fire rated applications. Nogs must be at 800mm centres maximum for fire rated walls.

根据James　Hardie《消防与隔音设计手册》，外部墙体使用Linea™ 护墙板空腔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。耐火墙体的横撑木间距最大不超过 800 mm。

Refer to the Fire and Acoustic Design Manual by James Hardie 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 Durability 耐久性

Linea™ Weatherboard and HomeRAB™ Pre-Cladding/RAB™ Board installed and maintained as per this technical specification will meet the durability requirement for cladding as per the NZBC clause B2 Durability.

Linea™ 护墙板 与 HomeRAB™ 预覆垫层 / RAB™ 板若按本技术规范进行安装与维护，可满足NZBC的B2条款中对外墙覆层耐久性的要求。

Linea™ Weatherboard is resistant to permanent moisture induced deterioration (rotting) and meets the requirements of the following tests in accordance with the AS/NZS 2908.2:

Linea™ 护墙板能长期耐受潮湿环境，不易因水分导致材料永久损坏或腐烂。其耐久性已按照AS/NZS 2908.2标准进行测试，并通过以下项目：

- Heat Rain (Clause 6.5) 热雨测试（条款 6.5）
- Water Permeability (Clause 8.2.2) 透水性测试（条款 8.2.2）
- Warm Water (Clause 8.2.4) 温水测试（条款 8.2.4）
- Soak Dry (Clause 8.2.5) 浸泡-干燥循环测试（条款 8.2.5）

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

Linea™ Weatherboard is classified as 'Type-A' material when tested to the requirements of Section 8.4 of Building Product Specification (BPS) of the NZBC and is suitable for use where 'Non Combustible Material' or ' Limited Combustibility Material' is required for use on external walls close to boundary as per the requirements of Clause C/AS1 and C/AS2 of the NZBC.

Linea™ 护墙板按NZBC中建筑规范(BPS)第8.4节的要求进行测试后，被归类为“A型（Type-A）”材料。适用于需要“非可燃材料”或“有限可燃性材料”的建筑，并且适用于NZBC的C/AS1与C/AS2条款内与用地边界位置相关的任何建筑。

- Where the upper floors contain sleeping uses or other property within the scope of Clause C/AS2, a horizontal flashed joint must be provided to block the top of lower cavity at each floor to stop fire spread within the cavities as per Subsection 5.5.3 of C/AS2 of the NZBC. Refer to Figure 38 and 39.

  当上部楼层用于睡眠用途，或包含符合NZBC C/AS2条款适用范围的其他用途时，必须设置水平防水接缝，以在每层楼或不超过3.5米的垂直高度间隔处封堵下层空腔顶部。该要求依据NZBC C/AS2第5.5.3小节执行。请参考图38与图39。
- On buildings greater than 10m in height a RAB™ Board must be used in conjunction with Linea™ Weatherboard.

  对于高度大于10米的建筑物，必须在使用Linea™ 护墙板的同时配套使用RAB™ 板。

4.9 Alpine Regions 高寒地区

In regions subject to freeze/thaw conditions, Linea™ Weatherboard must not stay 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 the 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。

4.10 Moisture Management 防潮管理

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

识图人员有责任识别特定建筑设计中与湿气相关的风险。

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 building should also be ventilated sufficiently to control moisture accumulation due to condensation, especially in artificially cooled/heated buildings.

墙体构造设计必须能够有效管理湿气，并同时考虑建筑内部与外部环境的影响，尤其是对于受风驱雨渗透风险较高的建筑。建筑亦应具备足够的通风条件，以控制冷凝导致的湿气积聚，特别是在人工制冷或供暖的建筑中。

Walls must include those provisions as required by the NZBC Acceptable Solution E2/AS1. 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 Ministry of Business, Innovation and Employment (MBIE) updates on the following websites respectively, www.branz.co.nz and www.building.govt.nz.

墙体必须包含NZBC合格方案E2/AS1所要求的相关防潮与排水构造措施。此外，所有墙体开口、穿透部位、交接节点、连接处、窗台、窗楣及窗框等位置，均须设置适当的防水构件以确保防水。用于外墙湿气管理的其他材料、构件及安装方法，必须符合相关标准及NZBC的要求。有关防水性设计的进一步指导，请参阅BRANZ Ltd及新西兰商业、创新与就业部（MBIE）在其官方网站www.branz.co.nz和www.building.govt.nz发布的最新信息。

In addition, the following issues must also be considered:

另外，还必须同时考虑以下事项：

- Sealant must be installed where detailed in this literature
  应在本技术资料所规定的部位使用密封胶
- For buildings up to 10m high, a drained horizontal joint must be provided at every two floors as minimum. For buildings more than 10m high a drained horizontal joint must be provided at each floor to accommodate the interstory deflections.
  对于高度不超过10m的建筑，至少每两层楼设置一道可排水的水平接缝；对于高度超过10m的建筑，每层楼都需设置可排水的水平接缝，以适应楼层间位移变形。
- 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.
  排烟管道、管线穿墙及其他固定装置的安装不得将湿气带入墙体内部，也不得阻碍墙体湿气向外排出的排水路径。

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

Hardie™ fibre cement 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.

Hardie™ 纤维水泥产品含有沙子，沙子中的可吸入结晶硅尘可能会导致癌症。如果吸入产品产生的粉尘，可能会损害肺部和呼吸系统，长期或反复吸入粉尘会导致肺部和呼吸系统损伤。

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（可吸入的）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 Hardie™ Blade name 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Hardie™ Blade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 Hardie™ Blade Saw Blade (or equivalent) and a dust reducing circular saw connected to a M Class or higher vacuum

使用Hardie™ Blade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

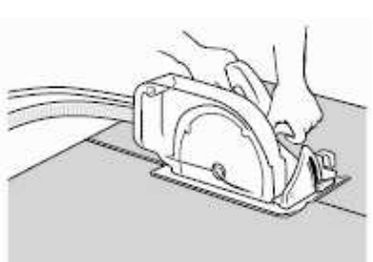
If concern still exists about exposure levels or you do not comply with the above practices, you should always consult a qualified industrial hygienist or contact James Hardie for further information.

如果您仍然担心暴露风险,或未遵循上述做法,应始终咨询合格的工业卫生师,或联系James Hardie获取更多信息。

Working Instructions 作业说明

Hardie™ Blade Saw Blade

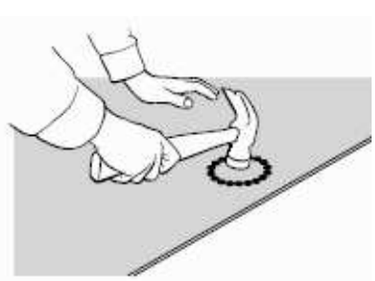
Hardie™ Blade 锯片



The Hardie™ Blade Saw Blade used with a dust-reducing saw is ideal for fast, clean cutting of 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.

Hardie™ Blade锯片与降尘圆锯一起使用,可以快速干净地切割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 储存和运输

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

Off loading 卸载

✓ Hardie™ fibre cement products should be off-loaded carefully by hand or by forklift
Hardie™ 纤维水泥产品须用手或叉车小心卸载

✓ Hardie™ fibre cement products should not be rolled or dumped off a truck during the delivery to the jobsite
Hardie™ 纤维水泥产品不应在运输至作业现场的过程中滚下或倾倒

Storage 存储

Hardie™ fibre cement products should be stored:

Hardie™ 纤维水泥产品的储存一定要：

✓ 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

Hardie™ fibre cement products must not be stored:

Hardie™ 纤维水泥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。

5.2 Tips for Safe and Easy Handling of Linea™ Weatherboard
轻松安全搬运Linea™ 护墙板的技巧

✕ Do not lift planked products flat and in the middle

请勿从中间平抬板材产品

✓ Carry the products on the edge

抬起产品的边缘处

✓ 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

当两人作业搬运板材时，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 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 up to and including EH wind zone, and 400mm centres maximum when in SED wind zones up to 3.2kPa (ULS)

  在超高（EH）风区及以下风区，墙筋最大中心间距为600mm；在根据特定工程设计（SED）风压最高至3.2 kPa（ULS）的风区，墙筋最大中心间距为600mm。
- Double studs are required at internal corners

  阴角需要设置双墙筋
- Extra packers may be required at external corners

  阳角可能需要额外封隔
- Extra studs are required for aluminium internal 'W' corner sections

  铝制W形阴角位置需要设置额外墙筋

When Linea™ Weatherboard used in a fire rated wall system by James Hardie, post fire stability stud spacing maybe required to be at closer centres. Refer to the Fire and Acoustic Design Manual by James Hardie.

当 Linea™ 护墙板用于James Hardie的耐火级别墙体系统时，为满足火后稳定性要求，墙筋间距可能需要适当减小。详见James Hardie《消防与隔音设计手册》。

6.1.1 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.

如果位于山墙一侧的桁架处于外墙框架的上托板上，那么框架尺寸必须符合由框架和桁架制造商/供应商提供的桁架设计和规格，并且桁架制造商/生产商有独立设计建筑商声明文件支持。

6.1.2 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 the 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. The 'Guide to tolerances, materials and workmanship in new residential construction 2015' can be found at www.building.govt.nz.

为了达到可接受的墙面效果，请务必保证框架平直。框架的误差必须符合NZS 3604和制造商规格的要求。所有的框架都必须齐平。成品外墙板的视觉效果可能因不同地点或安装产品的建筑工人而有所不同。建议参考MBIE发布的建筑指导文件，以了解建筑材料和工艺允许的误差范围。请访问www.building.govt.nz，查阅《2015年新住宅建筑中的误差、材料和工艺指南》。

6.2 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 Table C.2.1.1 E2/AS1 up to and including very high wind zone. For further information refer to Subsection 9.1.6 of E2/AS1.

弹性隔层或HomeRAB™ 预置垫层必须满足表 C.2.1.1 E2/AS1中包括极高风压区的要求。更多信息请参阅E2/AS1中的第9.1.6小节。

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 the HomeRAB™ Pre-Cladding and RAB™ Board 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《HomeRAB™ 预置垫层和RAB™ 板安装手册》的要求。

6.3 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 solution as per Paragraph 9.1.7.10 of E2/AS1 of the NZBC 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腔结构中。可以采用NZBC E2/AS1第9.1.7.10段中的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腔板条；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.
  当使用刚性隔板替代弹性隔层时。

6.4 Rigid Air Barrier or RAB™ Board 刚性密封板或RAB™ 板

As per paragraph 9.1.6.2 of E2/AS1 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.

根据E2/AS1第 9.1.6.2段的规定，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，即RAB™ 板替代弹性隔层。

For buildings more than 10m, RAB™ Board must be used. To achieve the temporary weathertightness using HomeRAB™ Pre-Cladding and RAB™ Board, windows/doors need to be installed with required flashing tapes and seals etc. Refer to HomeRAB™ Pre-Cladding and RAB™ Board Installation Manual for information regarding its installation and to achieve temporary weathertightness.

对于超过10米高的建筑，必须使用RAB™ 板。为了使用HomeRAB™ 预置垫层和RAB™ 板实现临时的防水性，窗户/门需要使用必要的防水胶带和密封等。有关其安装和实现临时防水性的详细信息，请参见《HomeRAB™ 预置垫层和RAB™ 板安装手册》。

6.5 Vent Strip 排气带

The Linea™ 35mm cavity closer vent strip must be installed at the bottom of all walls constructed using the drained and ventilated for cavity construction method. The Linea™ 35mm cavity closer vent strip has a ventilation area of 1000mm^2/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. Vent strip to be mitred at corners. Alternate cavity closer may be used ensuring compliance with Paragraph 9.1.7.7 of E2/AS1 and used with a cant strip.

Linea™ 35mm空腔封条排气带（uPVC）必须采用空腔结构安装法安装在所有墙体底部，以达到排水和通风效果。Linea™ 35mm空腔封条排气带通风面积为1000mm^2/m长。保证排气带开口位置没有任何阻挡非常重要，有利于空腔结构的排水和通风。通风条在转角处应切成45°拼角。也可采用其他空腔封条，但须符合E2/AS1第9.1.7.7段的要求，并配合安装嵌条一起使用。

6.6 Cavity Battens 空腔板条

The cavity battens are provided in accordance with Paragraph 9.1.7.4 of E2/AS1.

空腔板条应按照E2/AS1第 9.1.7.4段的要求设置。

The timber cavity 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 Paragraph 9.1.7.8 E2/AS1 and:

空腔板条必须满足E2/AS1第 9.1.7.8段的要求并且符合以下要求：

- Be minimum 18mm thick and 45mm wide
  至少18mm厚，45mm宽
- Fix cavity battens to framing with 40 x 2.8mm nails at 600mm centres maximum
  空腔板条应使用40 × 2.8 mm钉固定在框架上，最大中心间距为600mm

6.7 Fastener 紧固件

6.7.1 Fastener for Linea™ Weatherboard – Size and Method

Linea™ 护墙板紧固件—尺寸及安装方法

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

Linea™ 护墙板须直接安装在木框架结构上，安装过程请使用表4和表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/暴露式安装法或者隐藏式安装法
- Linea™ Weatherboard must be fixed into studs at fixing centres to coincide with stud spacing, refer to section 6.1 and figures in section 9 of this manual for further information
  Linea™ 护墙板必须直接安装在墙筋上，且安装中心间距与墙筋间距一致；更多信息请参阅本手册第6.1章节及第9章中的相关示意图。
- 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 needs a face nailing, refer to figures in section 9 of this manual
  当使用隐藏式安装法安装Linea™ 护墙板时，除了各转角及垂直边缘等必须采用表面安装的地方，所有的钉子都必须钉入板材平面下，请参考本手册第9章
- Nails must be fixed 25mm minimum from the end of the board when hand nailing. For gun nailing refer to Section 6.1.2
  当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** or **brad 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**或**直钉**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 face fixing Linea™ Weatherboard, the upper board must be pre-drilled before fixing with a jolt head nail
  当使用正面安装法安装Linea™ 护墙板时，上层板材需在使用蓬头钉安装前预先钻孔

Table 4 表4

This installation method can be used for non-fire rated walls and in wind zones up to and including VH maximum.

该安装方法适用于非耐火级别墙体，并可用于风区等级不高于 VH（含 VH）的建筑中。

Concealed Fixing Method (fixing under the lap) | 隐藏式安装法（穿过搭接处固定）			
Underlay 隔层	**Wind Zone 风区**	**Fixing Type 固定类型**	**Instructions 说明**
Flexible underlay 弹性隔层	Up to and including VH wind zone 最高至 VH 风区（含 VH）	60 x 3.15mm Hardie™ Flex nail, or 60 x 2.87mm 'D' head/round head gun nail 60 x 3.15mm Hardie™ Flex钉或60 x 2.87mm D形头钉/环纹射钉 **Refer to Figure 1 见图1**	The nails finished flush with board surface 保证钉头与板面齐平
HomeRAB™ Pre Cladding or RAB™ Board HomeRAB™ 预置垫层或 RAB™ 板	Up to and including VH wind zone 最高至 VH 风区（含 VH）	75 x 3.06mm Hardie™ Flex nail, or 75 x 3.06mm 'D' head/round head gun nail 75 x 3.06mm Hardie™ Flex钉或75 x 3.06mm D形头钉/环纹射钉 **Refer to Figure 1 见图1**	
RAB™ Board RAB™ 板	EH wind zone and above up to 3.2kPa wind pressure EH风区及设计风压最高至3.2kPa（ULS）的区域	75 x 3.06mm Hardie™ Flex nail, or 75 x 3.06mm 'D' head/round head gun nail 75 x 3.06mm Hardie™ Flex钉或75 x 3.06mm D形头钉/环纹射钉 **Refer to Figure 1 见图1**	

In addition to nailing as per table above, the weatherboards are also required to be face nailed at internal/external corners or at ends where they butt into another cladding or door/window jambs etc. Use a jolt head nail 75 x 3.15mm jolt head nail through a 3mm predrilled hole through face of weatherboard, or a ND 50 stainless steel Brad nail to lock the boards together.

除按上表规定进行钉固外，护墙板在内外转角处，以及板端与其他覆层或门窗侧框等部位对接处，也必须进行正面钉固。可通过护墙板正面预先钻设的3mm孔，使用75 × 3.15mm蓬头钉固定；或使用ND 50不锈钢直钉将板材锁紧。

The ND 50 stainless steel Brad nail may also be used elsewhere on the wall to lock the boards together, if required.

如有需要，ND 50不锈钢直钉亦可用于墙面其他位置，以加强板材之间的锁紧连接。

Table 5 表5

This installation method is used when installing Linea™ Weatherboard in fire rated wall systems, or when in wind zones EH or SED wind zone where the wind pressures are maximum up to 3.2kPa (ULS).

当Linea™ 护墙板用于耐火级别墙体系统，或用于EH风区及采用特定工程设计（SED）的高风压区域（设计风压最高至3.2kPa，ULS）时，应采用本安装方法。

Face Fixing Method (fixing through the lap) | 正面安装法（穿过搭接处固定）			
Underlay 隔层	**Wind Zone 风区**	**Fixing Type 固定类型**	**Instructions 说明**
Flexible underlay/ HomeRAB™ Pre-Cladding 弹性隔层/HomeRAB™ 预置垫层	All wind zones up to and including VH 所有风区，最高至 VH 风区（含 VH）	75 x 3.15mm jolt head nail through a 3mm ø predrilled hole 通过预先钻设的3mm孔，使用75 × 3.15mm蓬头钉固定 **Refer to Figure 2 见图2**	The nails punched 2mm below the board surface 钉子应打入并低于板面约2mm
RAB™ Board RAB™ 板	Wind zones EH or wind pressures up to 3.2kPa (ULS)) EH风区或设计风压最高至3.2kPa（ULS）的区域	90 x 3.55mm jolt head nail through a 3.5mm ø predrilled hole 通过预先钻设的3mm孔，使用90 × 3.55mm蓬头钉固定 For the 90 x 4mm jolt head nail through a 4mm ø predrilled hole 通过预先钻设的4mm孔，使用90 × 4mm蓬头钉固定 **Refer to Figure 2 见图2**	

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

为了达到耐火级别墙体的要求，Linea™ 护墙板必须正面安装。获取更多信息请致电0800 808 868垂询Ask James Hardie。

Table 6 表6

Nail requirements for Hardie™ Axent™ Trim | 安装Hardie™ Axent™ 饰板时对钉子的要求	
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 单层厚度加封隔	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™ Weatherboard must be face fixed. For more information Ask James Hardie on 0800 808 868.

为了达到耐火级别墙体的要求，Linea™ 护墙板必须正面安装。获取更多信息请致电0800 808 868垂询Ask James Hardie。

6.7.2 Gun Nailing 使用钉枪安装

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

当使用隐藏式安装法安装Linea™ 护墙板时，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，保证钉头与板面齐平。

6.7.3 Fastener Durability 紧固件耐久性

Fasteners must meet the minimum durability requirements of the NZBC. Refer to Table 7 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7中对用于室外暴露环境下的固件材质的要求。

Table 7 表7

Exposure conditions and nail selection prescribed by the NZS 3604 NZS 3604对室外暴露环境的定义及对钉子选用的要求		
Zone 区域	**Application 应用**	
D (sea spray) and geothermal hot spots D区（海雾）和地热区	General 通用	Stainless steel 304/316 不锈钢 304/316
	Fire 耐火	
C* and B C*区和B区	General 通用	Hot dip galvanised 热浸镀锌 Must comply with the AS/NZS 4680. 必须符合AS/NZS 4680标准的要求。
	Fire 耐火	

* Zone C areas where local knowledge dictates that increased durability is required, appropriate selection shall be made Microclimatic conditions as detailed in the 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）。

Also refer to the NZBC Acceptable Solution E2/AS1 Table C.1.1.1A and C.1.1.1B 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中的表C.1.1.1A和表C.1.1.1B，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。

6.8 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槽结构连接，并需错开墙筋位置。榫槽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弹性密封胶密封。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 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。

For fire rated walls up to 10m in height for single tenancy the Linea™ 35mm cavity closer uPVC can be used. Over 10m in height or multiple tenancy an aluminium cavity closer must be used.

对于高度不超过10m、且为单一产权单元的耐火级别墙体，可使用Linea™ 35mm uPVC空腔封条。当建筑高度超过10m，或为多产权单元建筑时，必须使用铝制空腔封条。

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：

- 90º corner soaker in aluminium
  铝制90º防漏嵌条
- 135º corner soaker 180mm aluminium
  铝制135°防漏嵌条
- Aluminium boxed corners
  铝制箱角
- Box corners using Hardie™ Axent™ Trim
  使用Hardie™ Axent™ 饰板的箱角

Refer to figures in section 9 of this manual.

请参考本手册第9章图示。

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：

- 90º or 135º Aluminium W-mould
  90º或135º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章图示。

6.9 Junctions and Penetrations 交汇和穿透

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节处理。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 is required in order to meet the durability requirements of the NZBC.

Linea™ 护墙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 准备工作和预涂底漆

The Linea™ Weatherboard must be dry before painting. Punch and fill all exposed jolt head 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 sand 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时会暴露在外的边缘都需要涂底漆。

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 gaps 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。但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底漆。

Linea™ Weatherboard 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 and accessories must be finished with an exterior paint system.

Linea™ 护墙板必须在安装完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，推荐采用低光泽油漆。

The dark colours in certain environments may fade quicker. 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。

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
保养与维护

The extent and nature of maintenance will depend on the geographical location and exposure of the building. Refer to Section 2.2 of E2/AS1 and Section 2.2 of B2/AS1 for essential maintenance requirements for claddings to achieve the required durability of materials and components etc. As a guide, it is recommended that basic normal maintenance tasks for Linea™ Weatherboard cladding 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。请参阅E2/AS1第2.2节及B2/AS1第2.2节中关于墙板的基本维护要求，以确保材料及构件达到规定的耐久性。建议对Linea™ 护墙板采取以下基本维护方案，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. Do not use a water blaster to wash down the cladding. Refer to your paint manufacturer for washing down requirements.

  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。不要使用高压水枪清洗墙板。请参阅油漆制造商的清洗要求。
- Re-coating exterior protective finishes. Always refer to your paint manufacturer for re-coating requirements

  重涂外部保护层时，请始终参阅油漆制造商的重涂要求
- Regular inspection and repair if necessary of the cladding joints, sealants, fillers, flashings etc

  定期检查护墙板接缝处、涂有密封胶处、填缝处、防水板等位置，并在需要时进行修补
- 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 Linea™ Weatherboard

  修剪靠近或接触Linea™ 护墙板的植被
- Remove any snow or ice build up that is in direct contact with the cladding for extended periods

  清除与墙板长时间直接接触的积雪或结冰，避免长期附着
- The clearances between the bottom edge of Linea™ Weatherboard and the finished/unfinished ground must always be maintained eg around concrete paths/drives etc 100mm minimum and natural ground/pebbles etc 175mm minimum

  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，如：靠近混凝土人行道/车道等硬质地面处，最小离地间隙为100mm；靠近自然地面、卵石等处，最小离地间隙为175mm
- 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

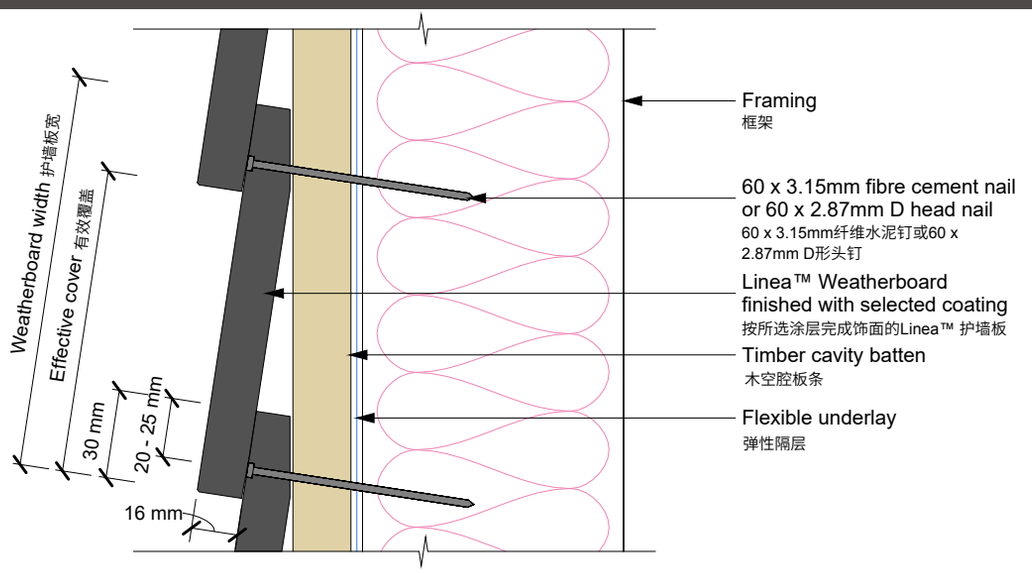
  在极端沿海地区及涌潮区，不锈钢防漏嵌条可能会出现“茶渍”现象，可以通过经常清洗和抛光解决美观问题

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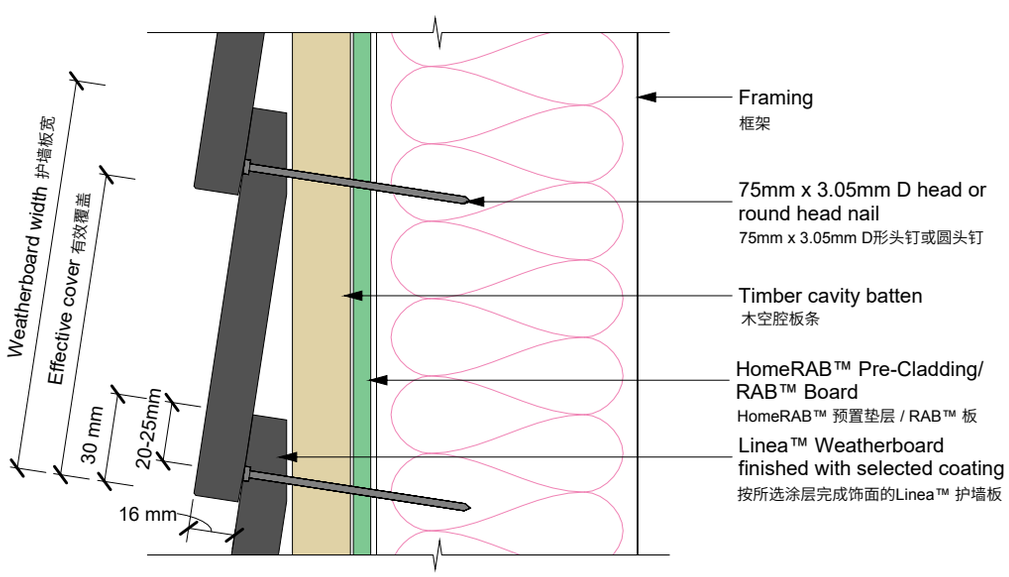
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了解更多细节，请访问**www.jameshardie.co.nz**或拨打**0800 808 868**咨询。

Figure 1: Concealed fixing detail | 图1: 隐藏式安装详图



Concealed Nailing over flexible underlay
在弹性隔层上的隐藏式安装法

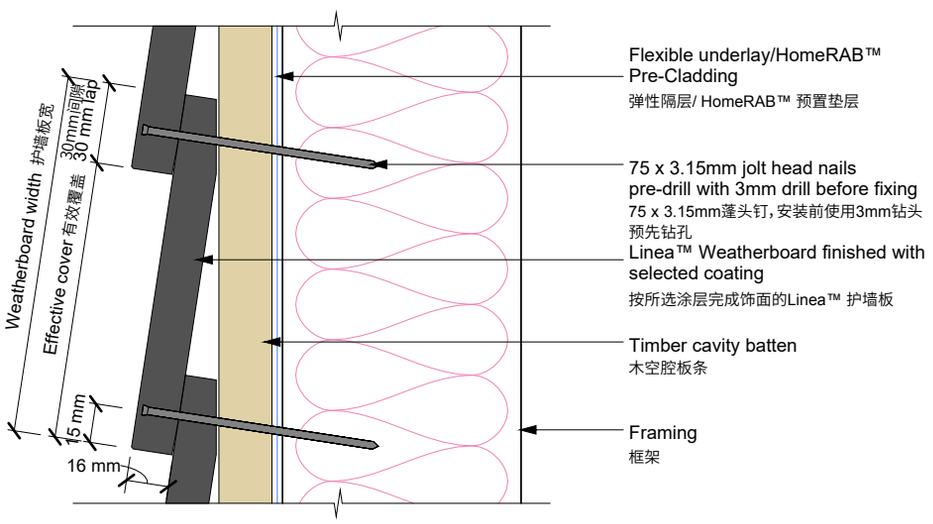


Concealed Nailing over HomeRAB™ Pre-Cladding/RAB™ Board
在 HomeRAB™ 预置垫层/RAB™ 板上的隐藏式安装法

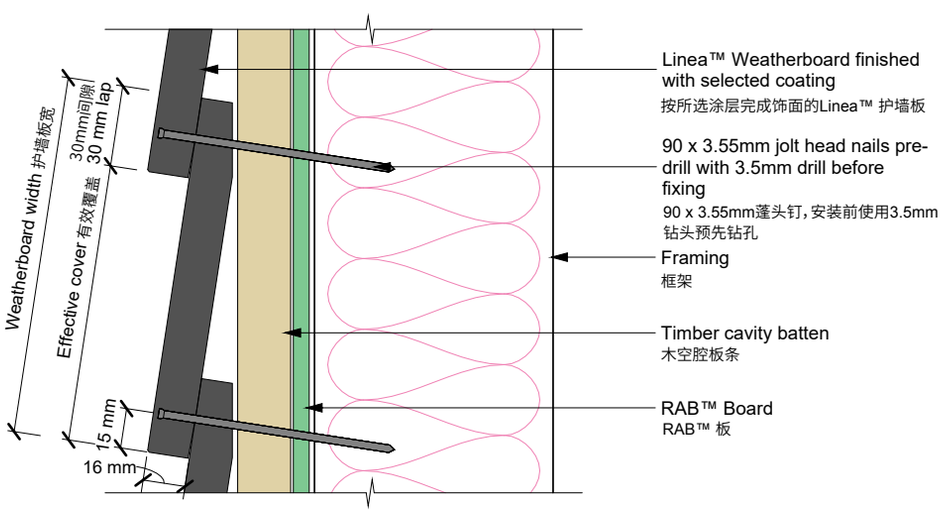
Important Notes: 重要说明:

- In addition to concealed fixing, Linea™ Weatherboards must be face fixed at corners and down window and door openings using either:
  除隐藏式安装法外，在转角处以及沿门窗开口边缘处，Linea™ 护墙板必须采用以下任一方式的正面安装法：
  a) Jolt head nails at 90° to face, punch 2mm below surface and fill.
  使用蘑头钉90°正面安装，钉子砸入板面2mm以下并填充。
  or; 或；
  b) ND50 stainless steel brad nails at 90° to face, punch 2mm below surface and filled.
  使用ND50不锈钢直钉90°正面安装，钉子砸入板面2mm以下并填充。
- In wind zones EH or wind pressures up to 3.2kPa (ULS) Linea™ Weatherboards must be face fixed with 90mm jolt head nails. Refer to Table 5 and Figure 2.
  在EH风区或设计风压最高至3.2 kPa（ULS）的区域，Linea™ 护墙板必须使用90mm蘑头钉正面安装。见表5与图 2。
- In fire rated wall systems Linea™ Weatherboards must be face fixed. Refer to Table 5 and Figure 2.
  在耐火级别墙体系统中，Linea™ 护墙板必须采用正面安装。见表5与图2。

Figure 2: Face/Exposed fixing for up to 3.2 kPa wind pressure and fire rated walls | 图2：适用于设计风压最高至3.2 kPa及耐火级别墙体的正面/暴露式安装法



Face/Exposed Nailing over flexible underlay/HomeRAB™ Pre-Cladding
在弹性隔层/HomeRAB™ 预置垫层上的表面/暴露式安装法

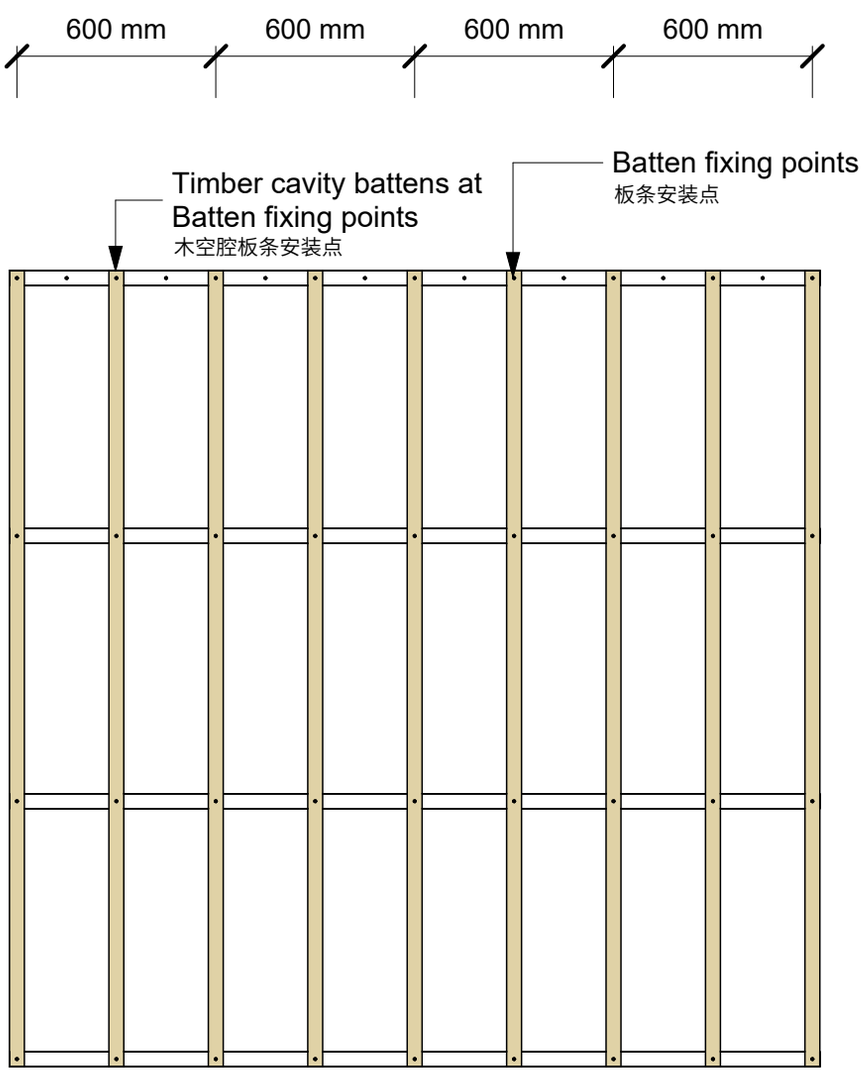


Face/Exposed Nailing over RAB™ Board
在RAB™ 板上的表面/暴露式安装法

Notes: 注意：

- Linea™ Weatherboards may be fixed with 90 x 4mm jolt head nail through 4mm ø pre-drilled hole. Refer to Table 5.
  Linea™ 护墙板可通过预先钻设的 4 mm孔，使用90 × 4mm蓬头钉固定。详见表5。
- Jolt head nails are punched 2mm below the surface and filled with CRC® ADOS® Builders Fill. Refer to Section 7 of the technical specification.
  蓬头钉应砸入板面2mm以下，并使用CRC® ADOS® Builders Fill进行填充。详见本技术规范第7章。

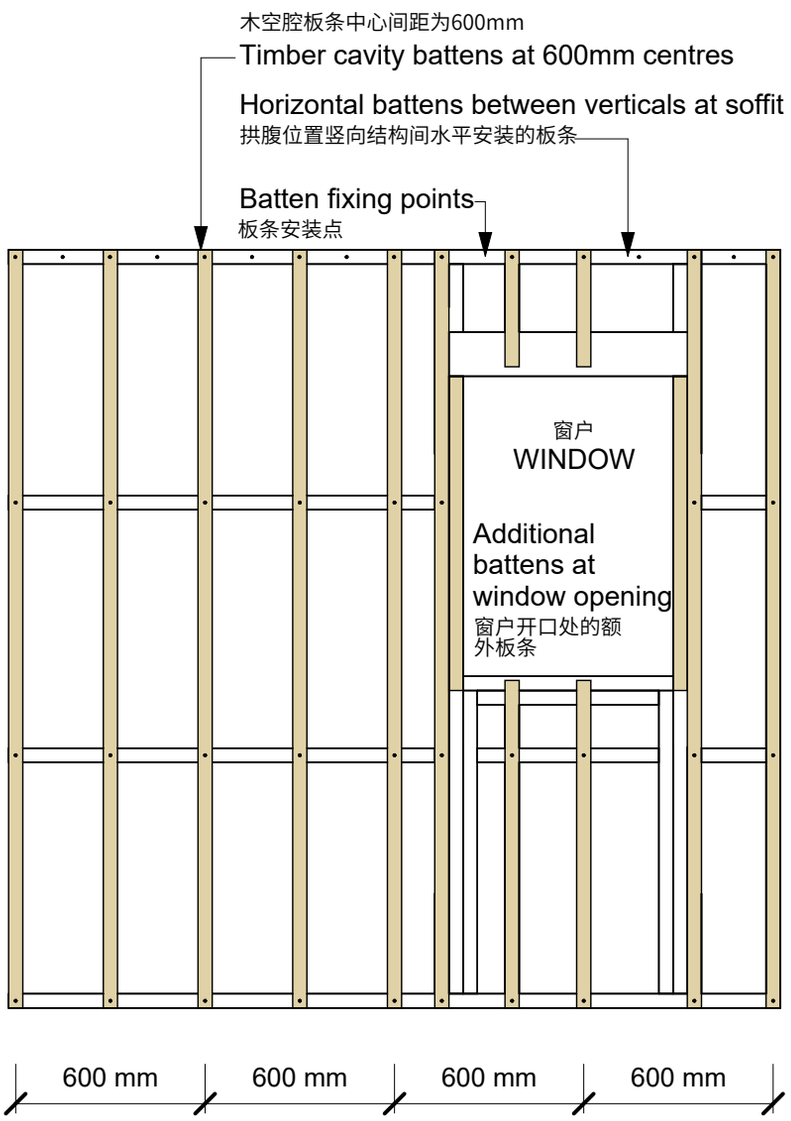
Figure 3: Framing setout | 图3：框架布局



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 9.1.7.10 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腔板条、聚丙烯胶带或者75mm镀锌铁丝网。请参考E2/AS1中9.1.7.10段的内容，聚丙烯胶带必须水平安装在中心间距300mm的位置并拉紧。

Figure 4: Batten setout | 图4：板条布局



-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 9.1.7.10 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腔板条、聚丙烯胶带或者75mm镀锌铁丝网。请参考E2/AS1中9.1.7.10段的内容，聚丙烯胶带必须水平安装在中心间距300mm的位置并拉紧。

Figure 5: Foundation detail | 图5：地基详图

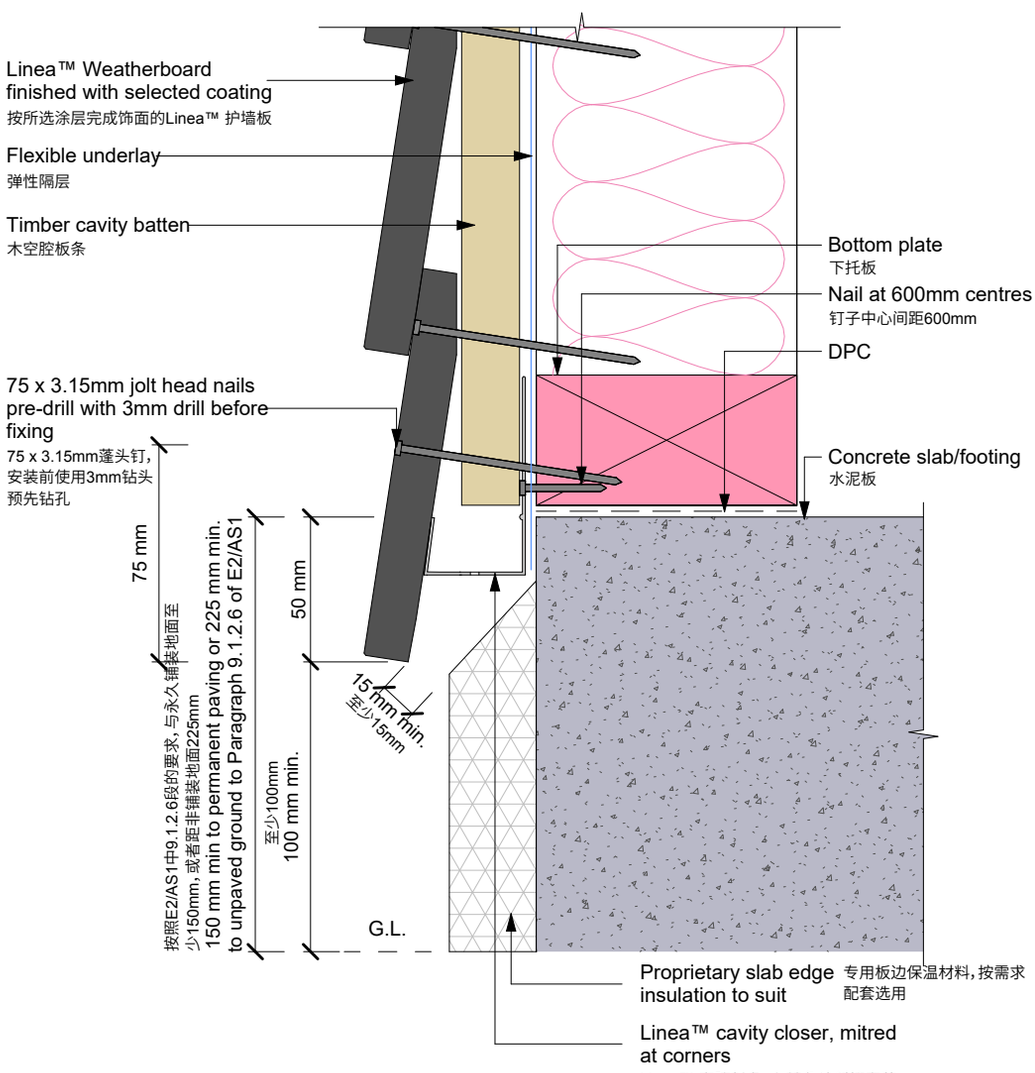


Figure 6: Enclosed deck | 图6：封闭式露台

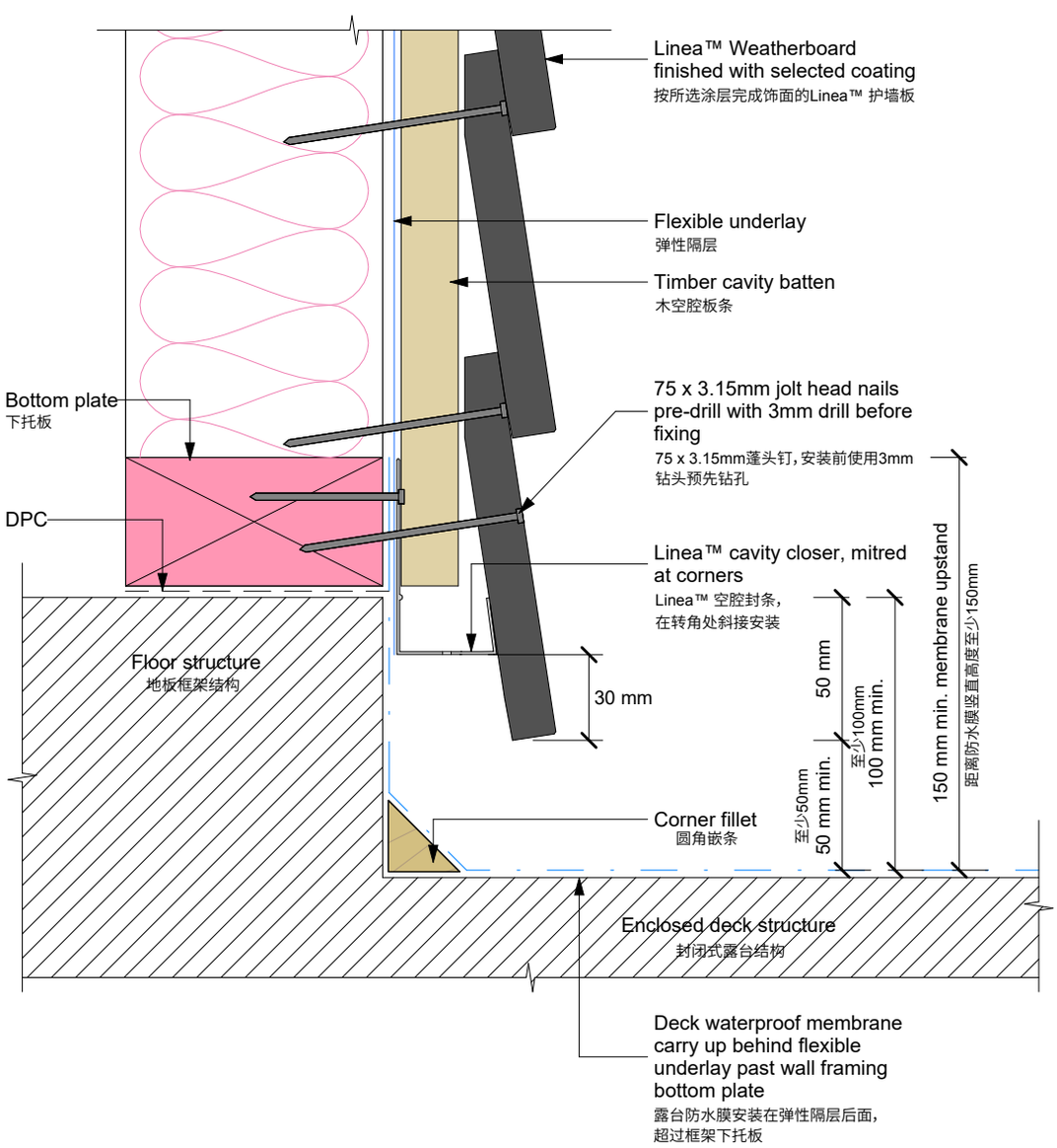


Figure 7: Jointing off stud | 图7：远离墙筋连接

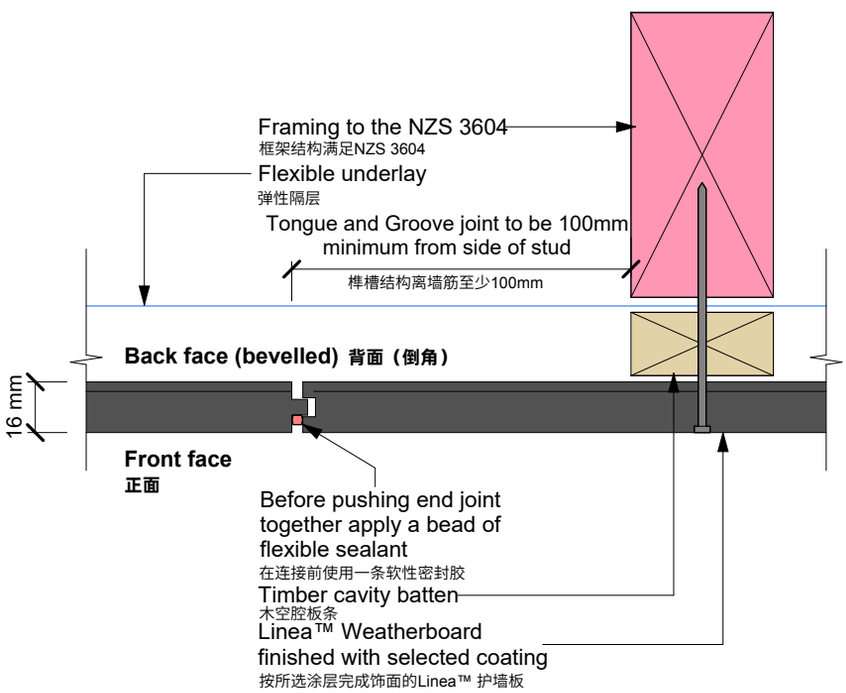


Figure 8: External corner soaker | 图8：阳角防漏嵌条

Interactive assembly instructions available

http://wksp.nz/jh-lin-excs

Get **WORKING**SPEC from Apple App Store/Google Play

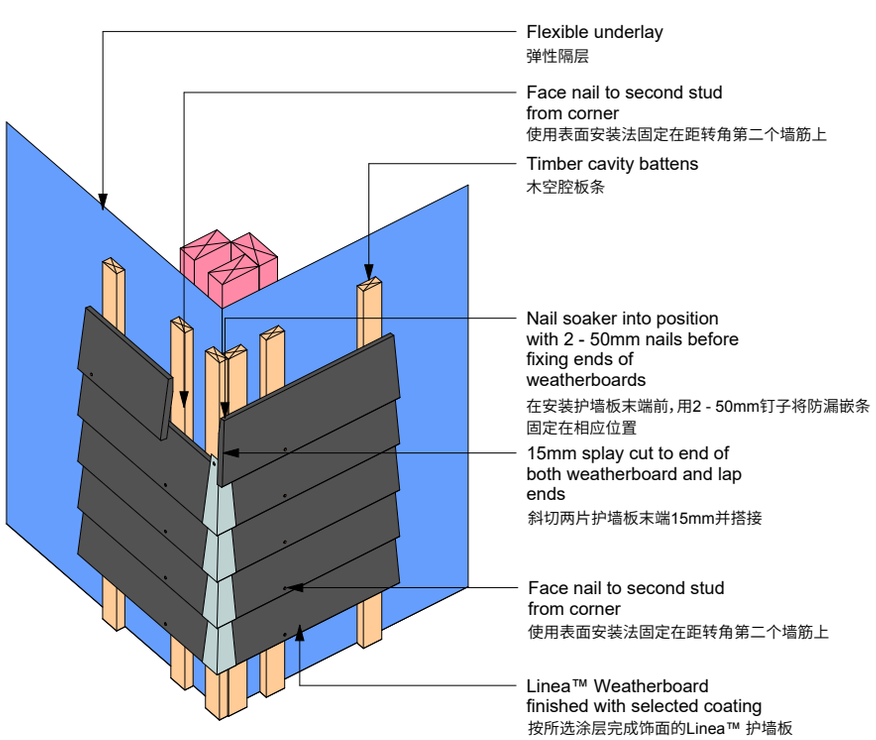


Figure 9: External aluminium box corner | 图9：铝制阳角箱角

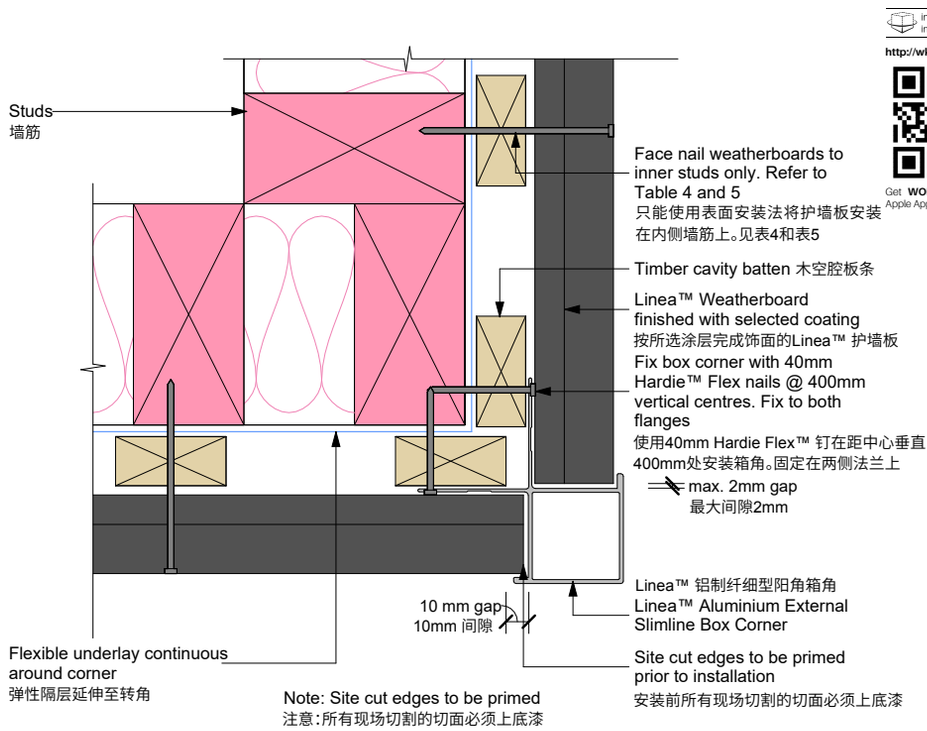


Figure 10: External box corner | 图10：阳角箱角

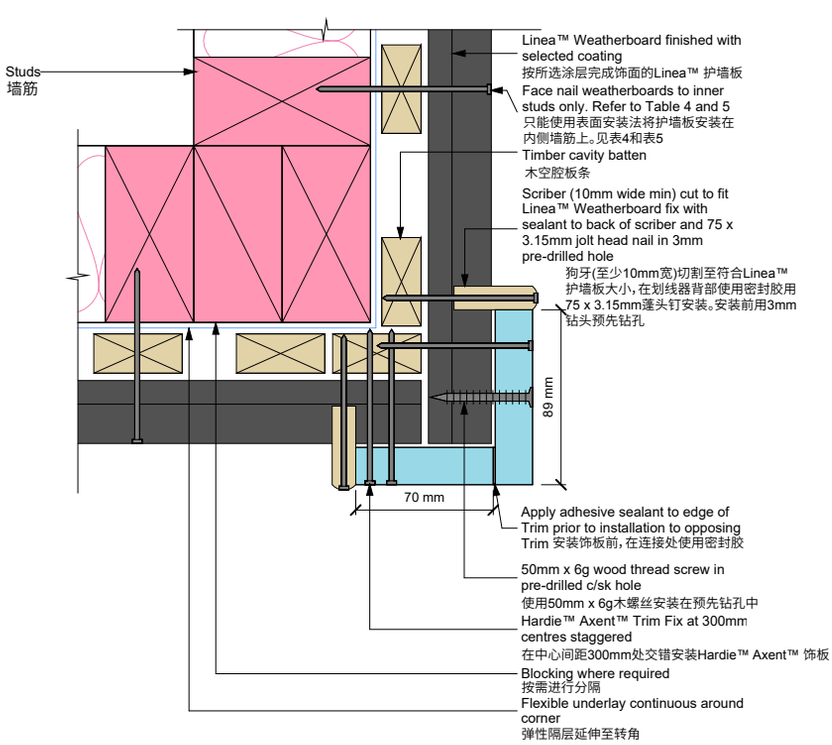


Figure 11: Internal aluminium corner | 图11：铝制阴角转角

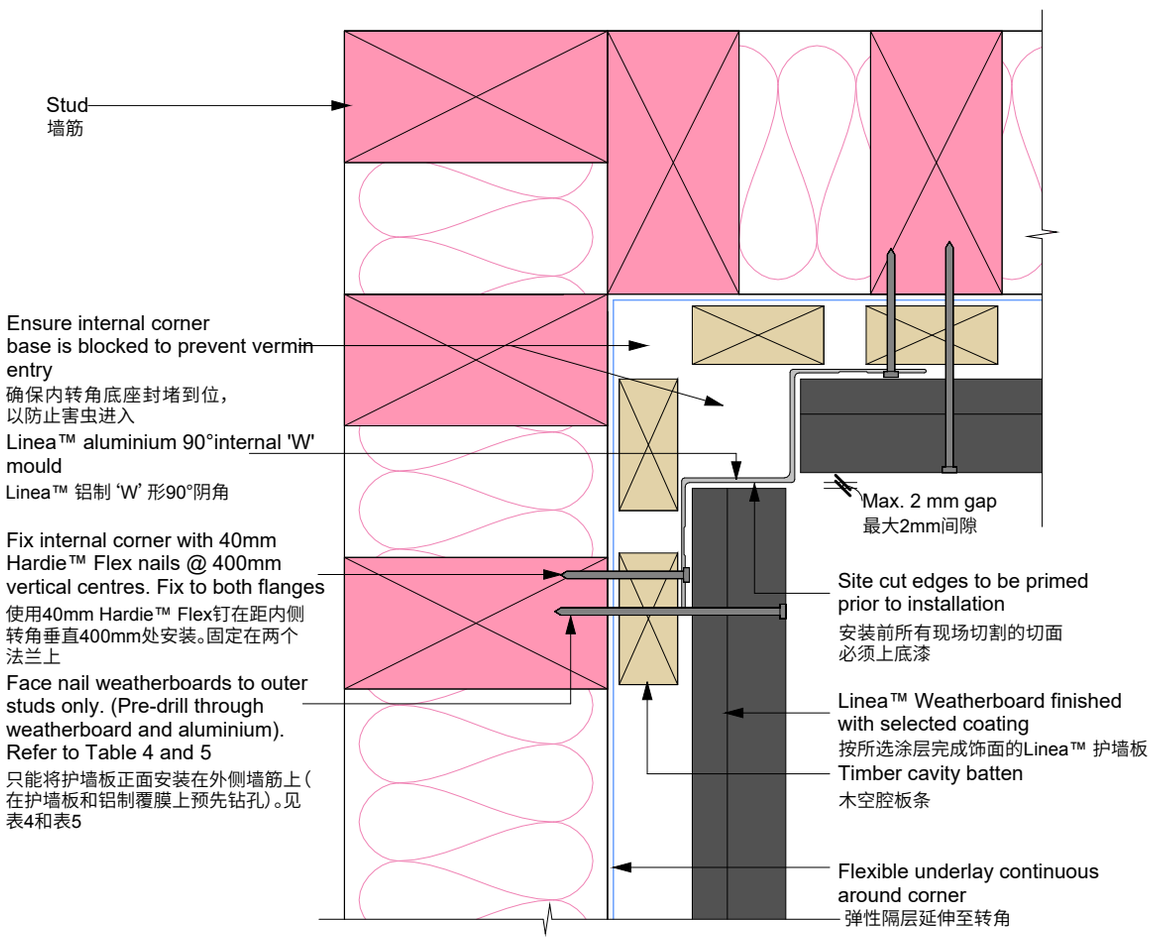


Figure 12: Internal 135° aluminium corner | 图12：铝制135°阴角转角

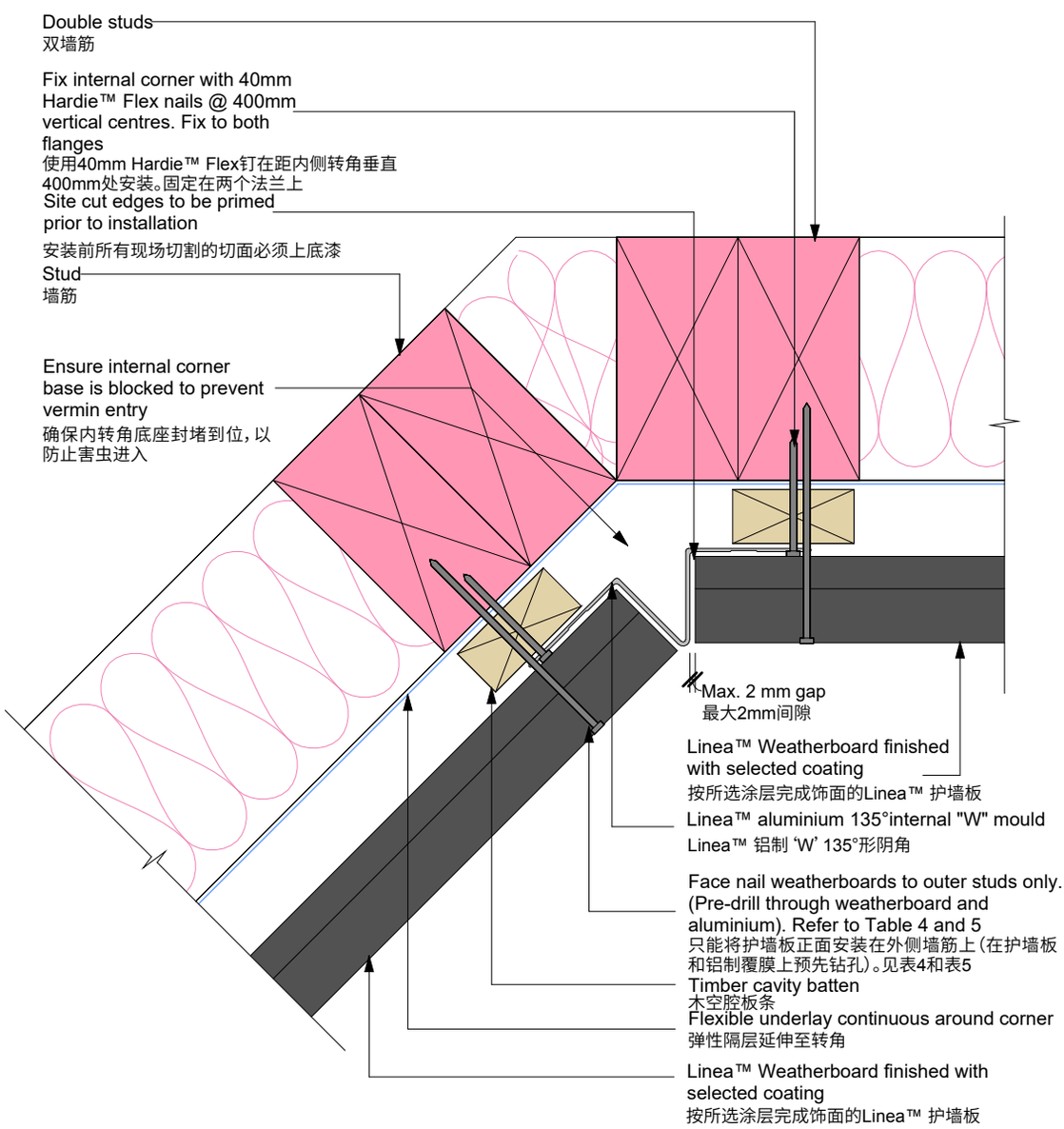


Figure 13: Scribed internal corner | 图13：贴合式阴角

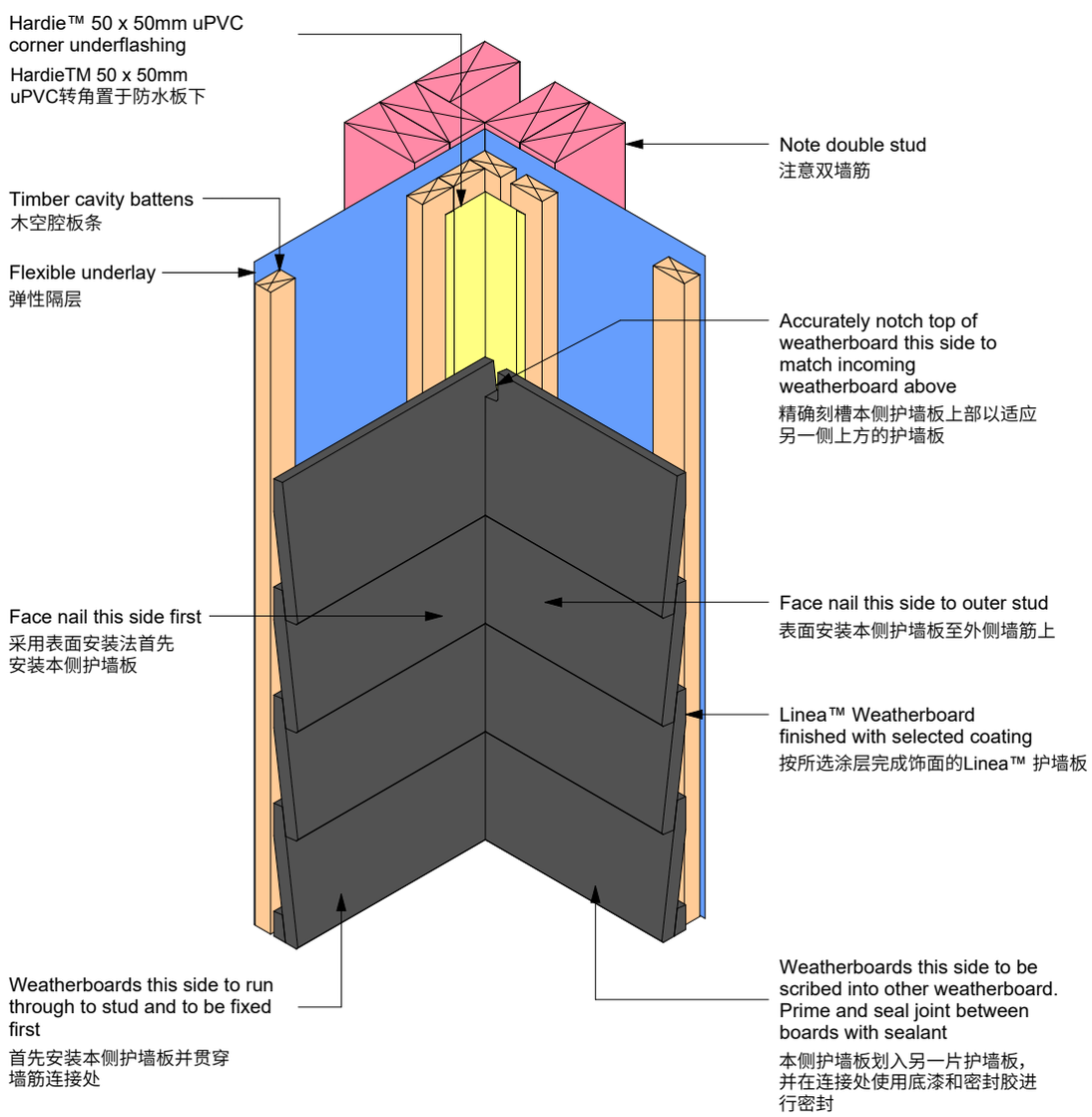
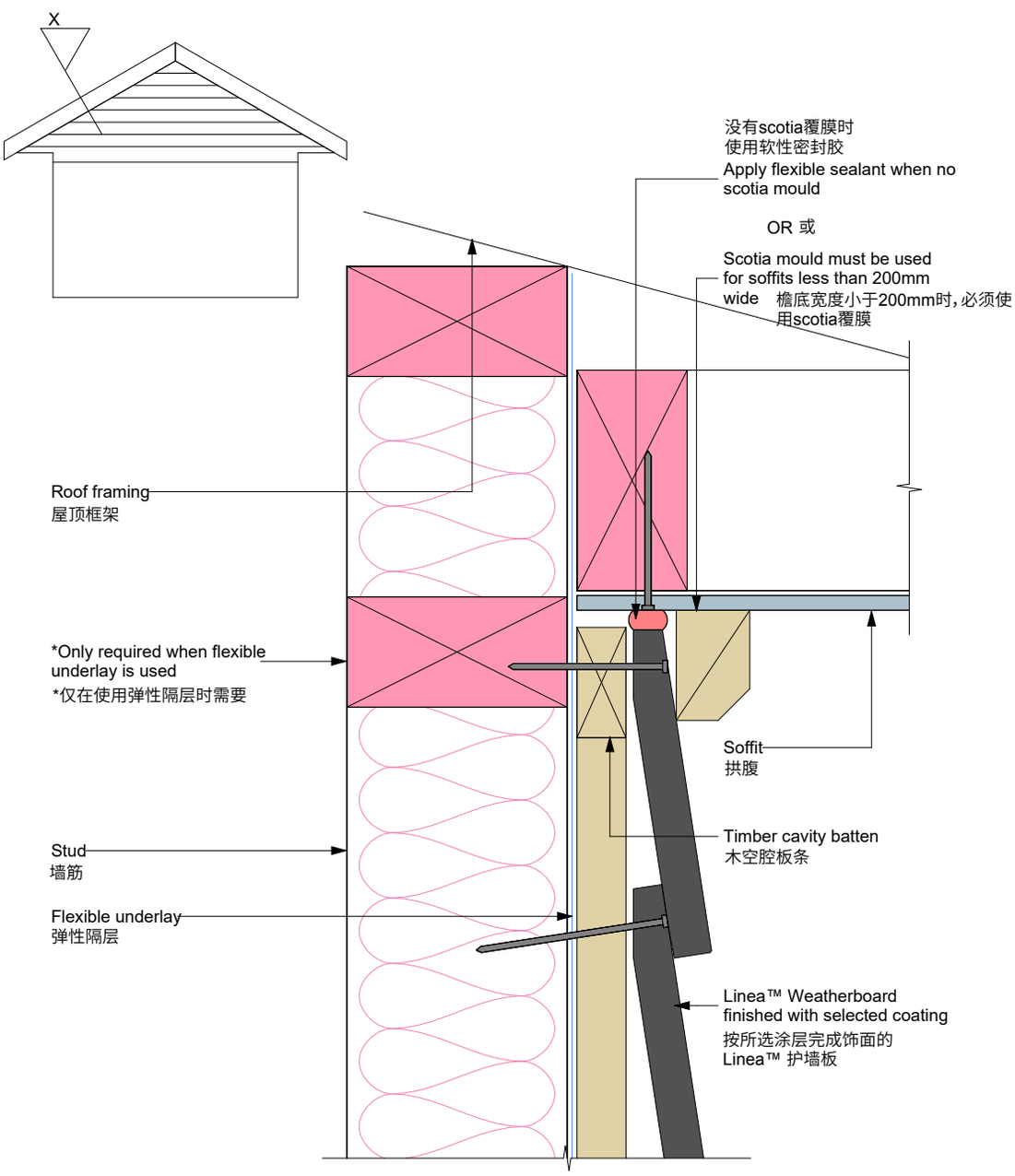


Figure 14: Wall to soffit/gable junction | 图14：墙体与拱腹/山墙连接



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。

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

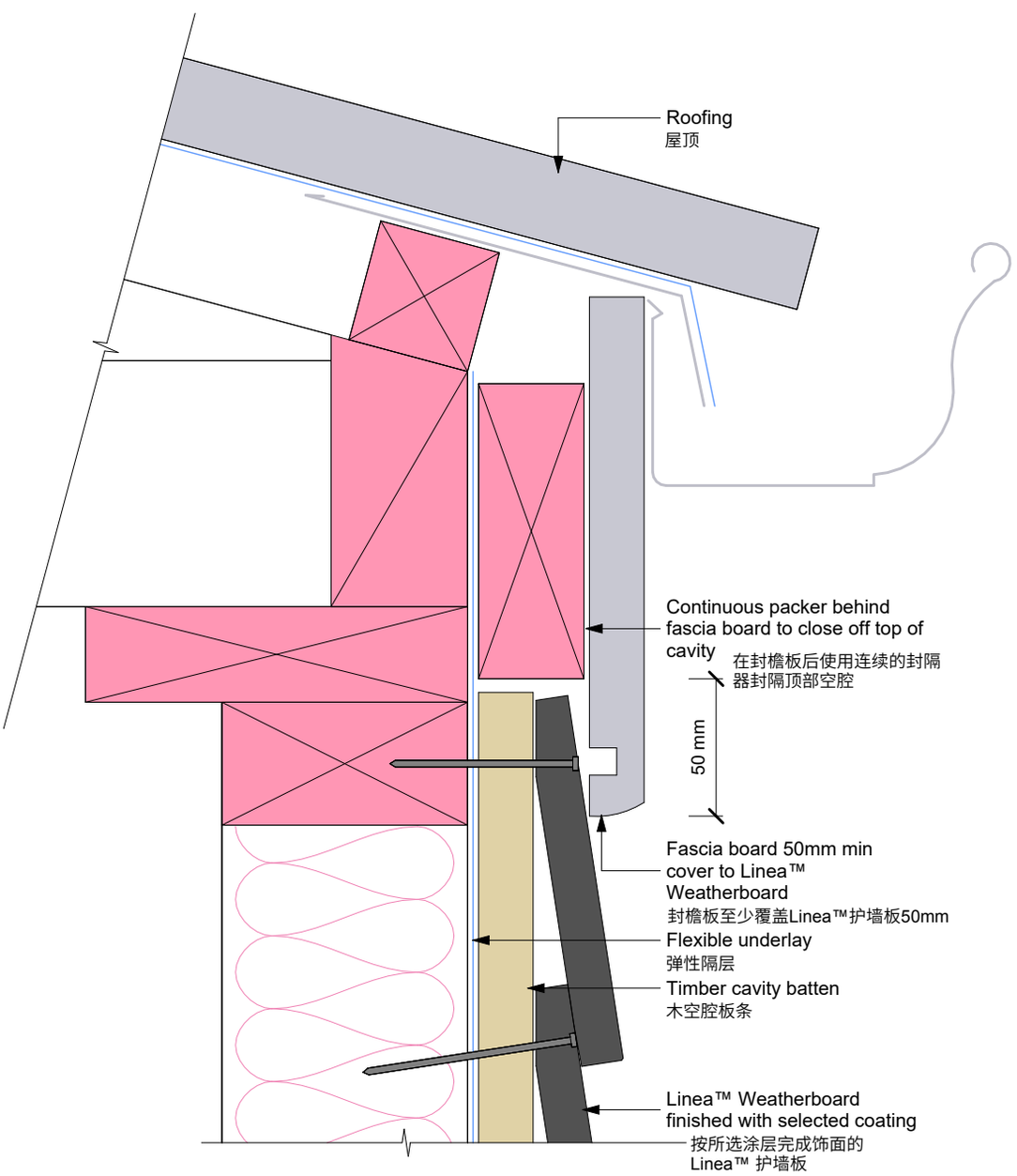
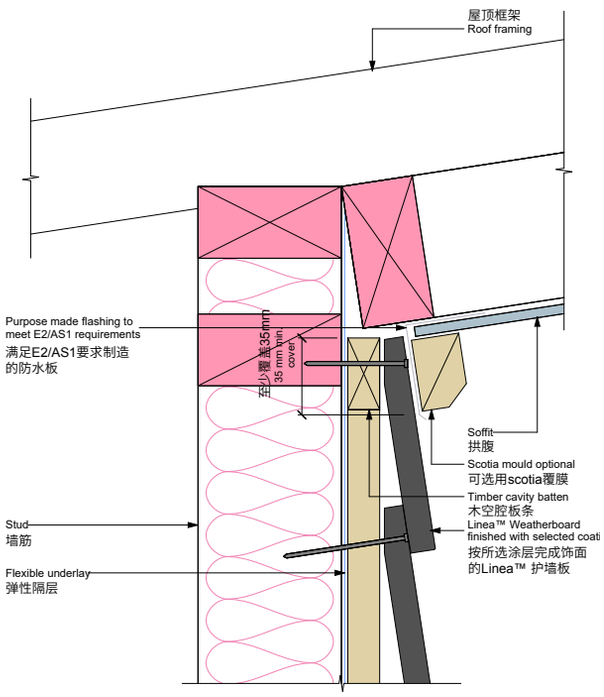


Figure 16: Sloping soffit and wall junction | 图16：倾斜拱腹与墙体连接

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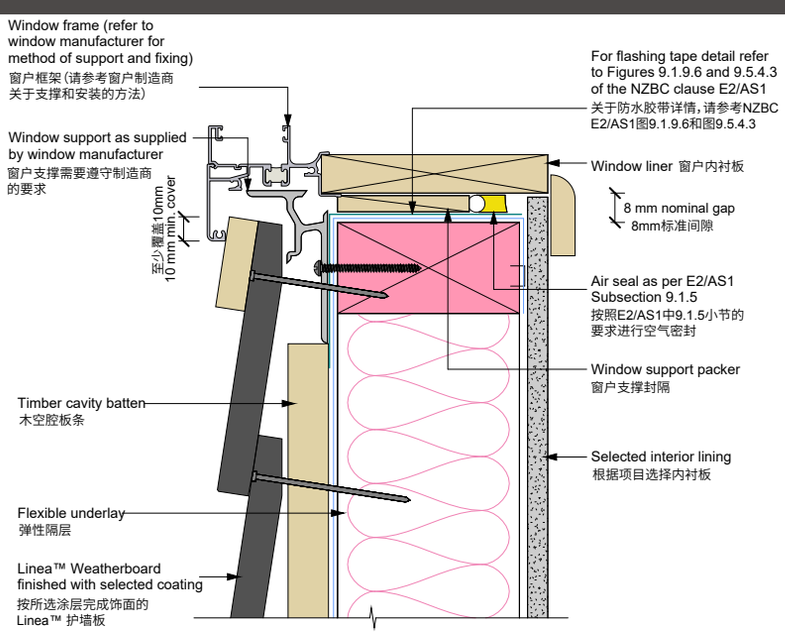
Note: Site cut edges to be primed
注意：所有现场切割的切面必须上底漆

Figure 17: Window sill | 图17：窗台

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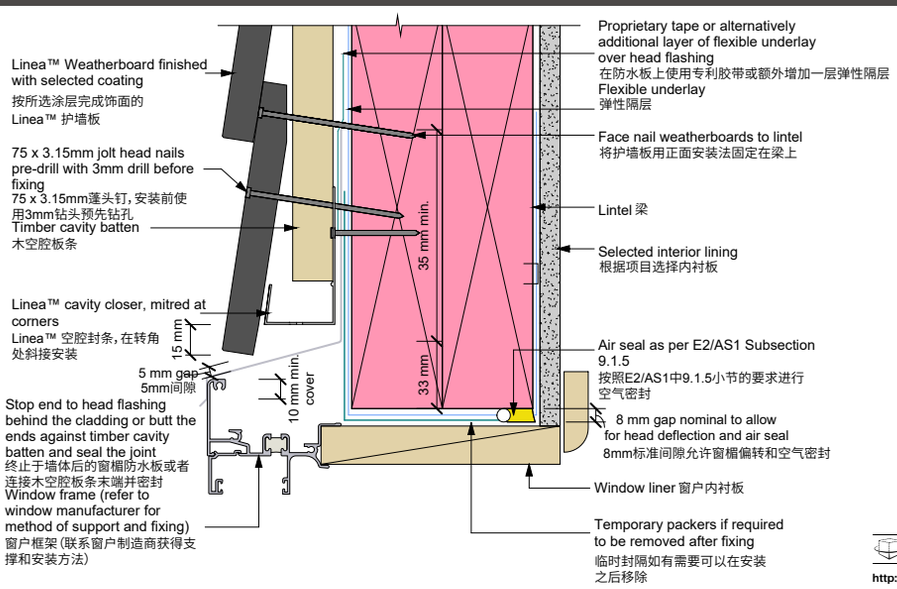


General notes for materials selection 材料选择的建议

1. Flexible underlay must comply with acceptable solution E2/AS1
   弹性隔层必须遵守合格方案E2/AS1
2. 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
请咨询制造商或者供应商获取材料的技术信息

Figure 18: Window head with cladding cut around head flashing
图18：窗楣护墙板绕窗楣防水板切割



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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SED风压区中，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 20 for sealing end battens to head flashing
  参考图20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

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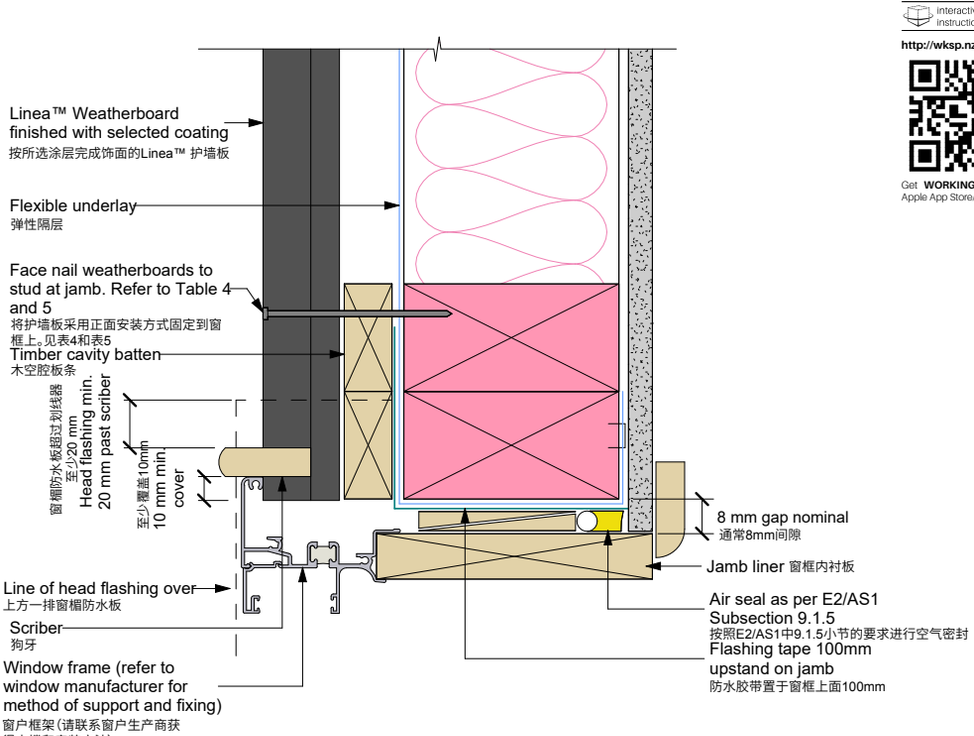
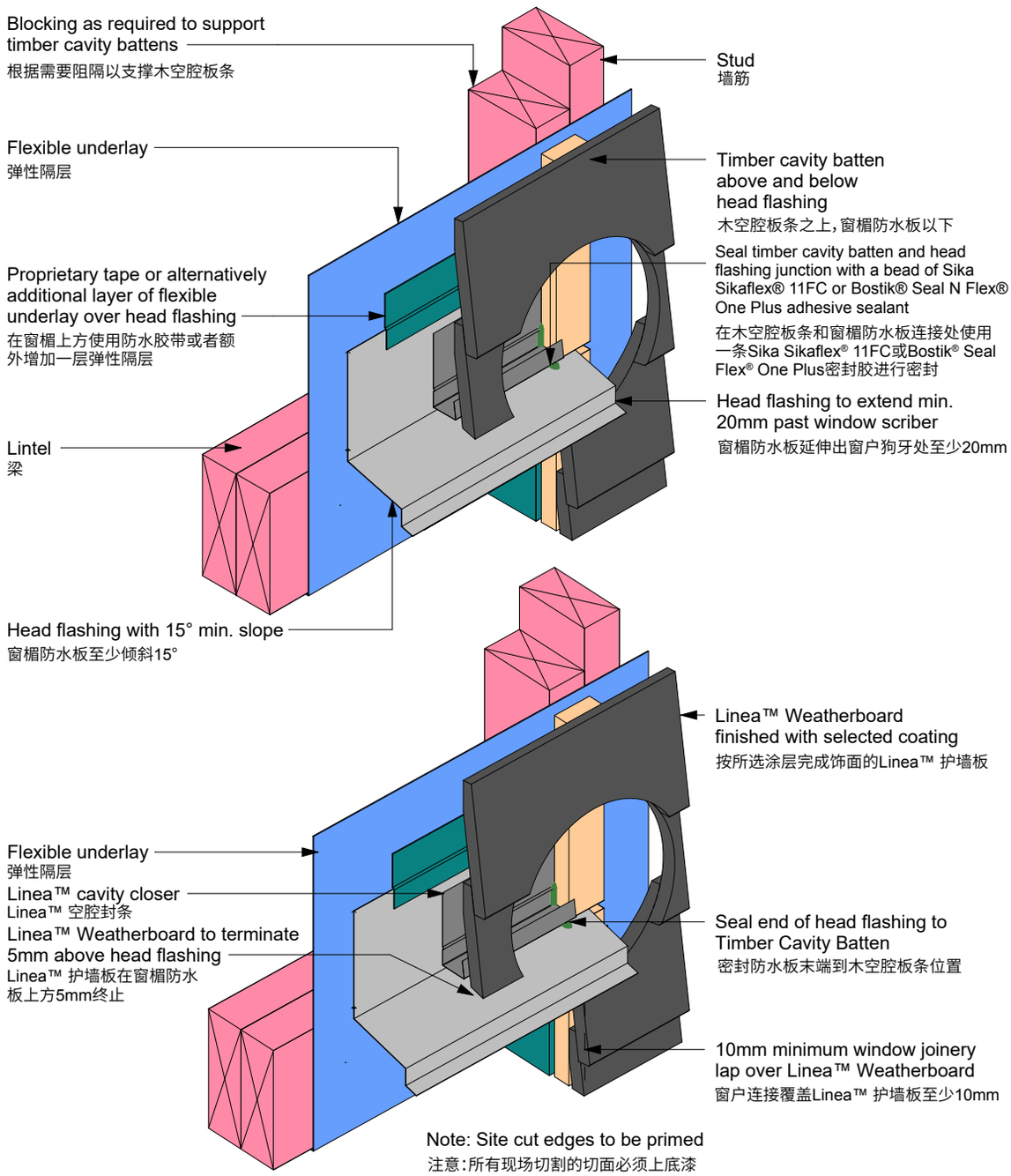


Figure 20: Window head stop end | 图 20: 窗楣末端

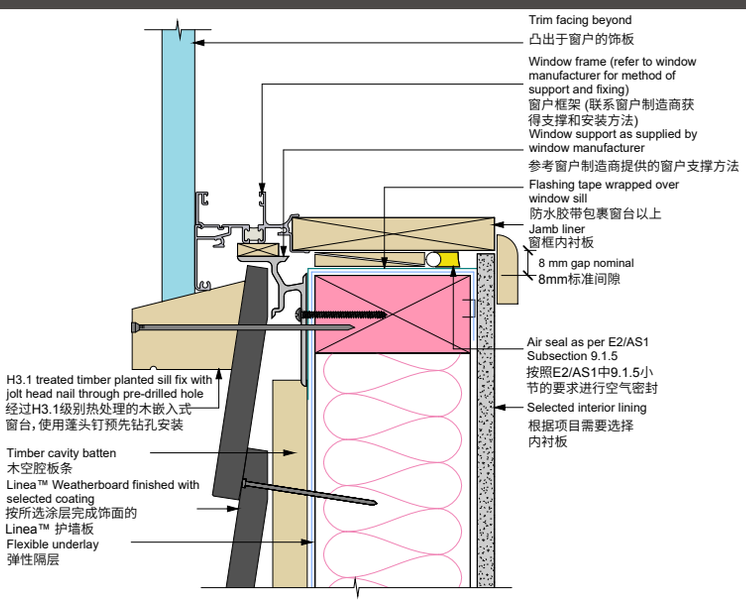


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Figure 21: Window sill with facing | 图 21: 带有饰面的窗台

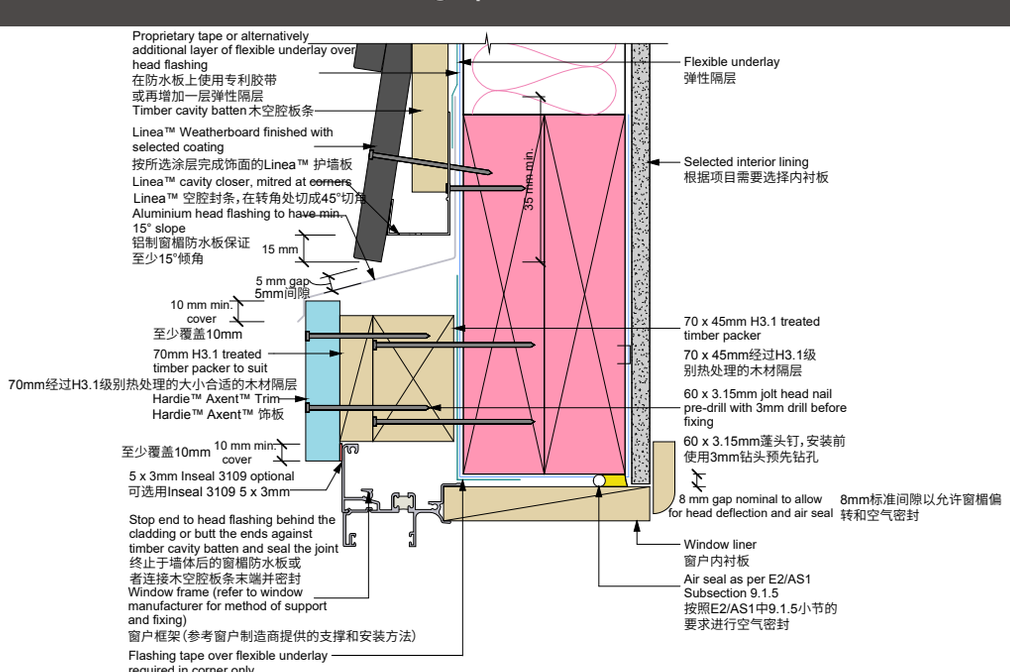


General notes for materials selection 材料选择的建议：

1. 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
2. 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

Refer to the manufacturer or supplier for technical information for these materials
请咨询制造商或者供应商获取材料的技术信息

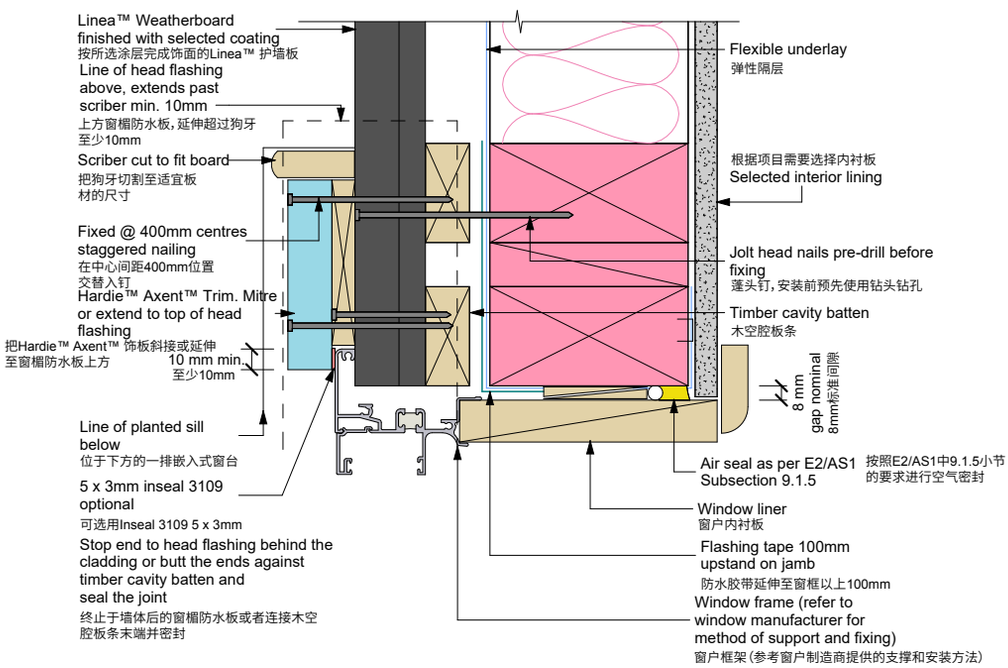
Figure 22: Window head with facings | 图 22: 带有饰面的窗楣



Note: 注意：

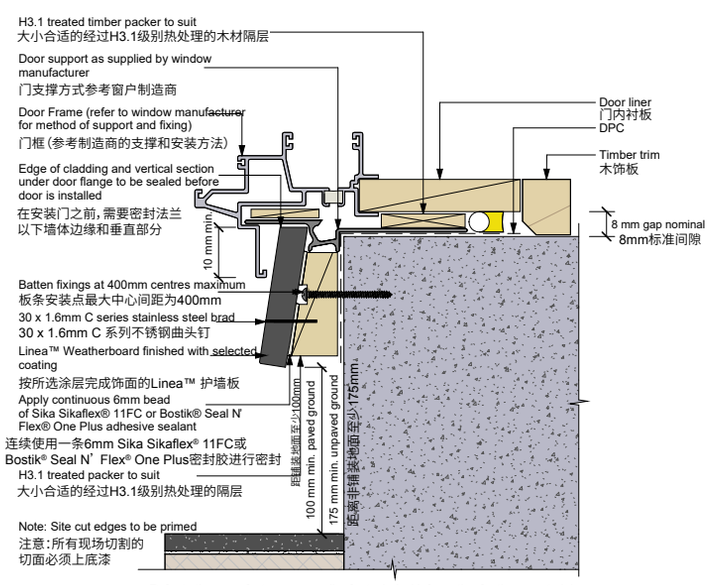
- Sealant must be installed between head flashing and window flange in VH and EH wind zones and SED pressures
  在VH和EH风区及SED风压区中，窗楣防水板和窗户法兰之间必须使用密封胶
- Alternatively, the head flashings can be formed with stop ends as per E2/AS1
  可以根据E2/AS1的要求，使用窗楣防水板形成末端
- Refer to Figure 20 for sealing end battens to head flashing
  参考图20密封板条至窗楣防水板

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

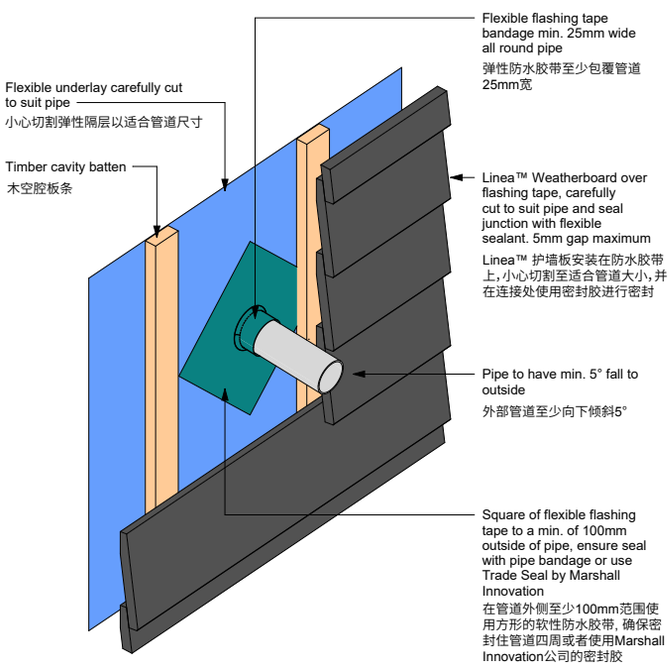


Refer to the manufacturer or supplier for technical information for these materials
请咨询制造商或供应商获取材料的技术信息

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

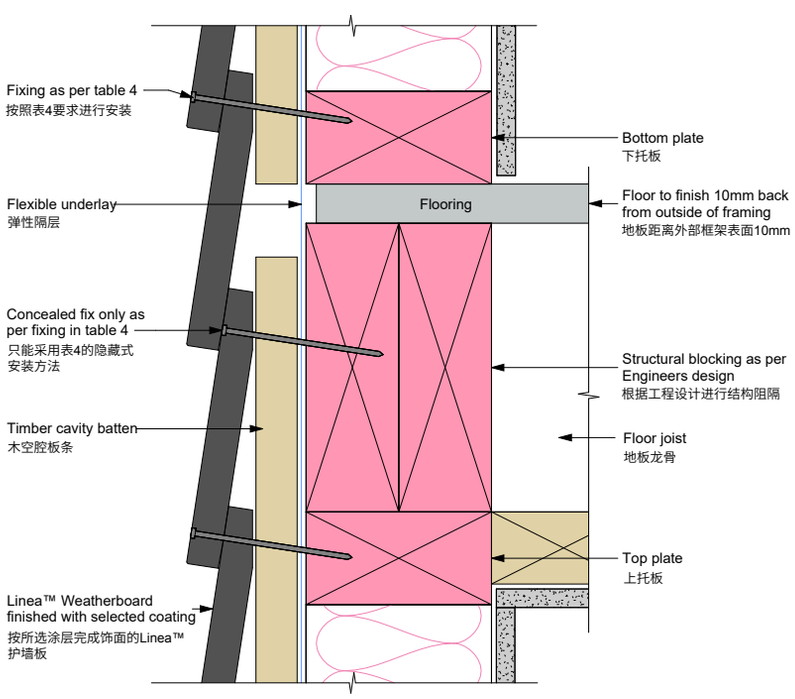
- Flexible underlay must comply with acceptable solution E2/AS1
  弹性隔层必须符合合格方案条款E2/AS1的规定
- Flashing tape must have proven compatibility with the selected flexible underlay and other materials with which it comes into contact
  防水胶带必须与弹性隔层和其他接触材料相兼容
- Linea™ Weatherboard to have sealed butt joint over 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



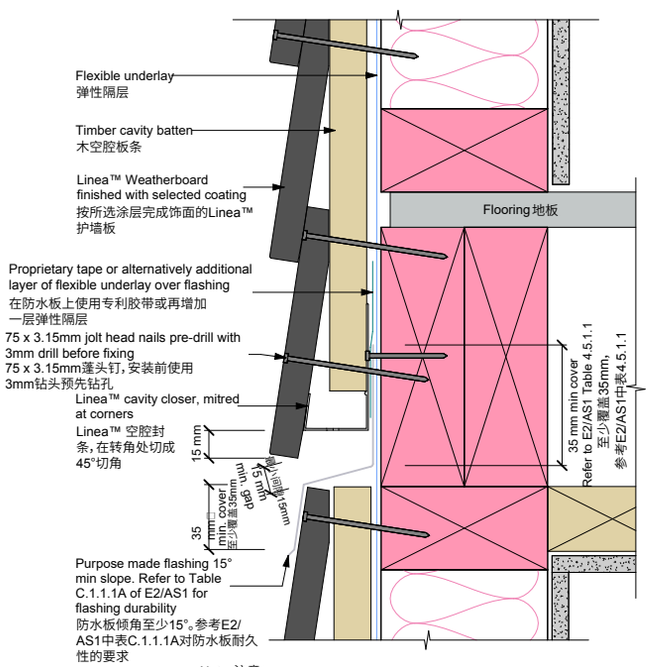
Note: Site cut edges to be primed
注意：所有现场切割的切面必须上底漆

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



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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 to E2/AS1 Paragraph 9.1.8.4
本详图中需要限制空腔板条最大应用为两层建筑或者7米。参考E2/AS1中第9.1.8.4段。

Figure 28: Timber cavity timber deck junction | 图28：木空腔木露台连接

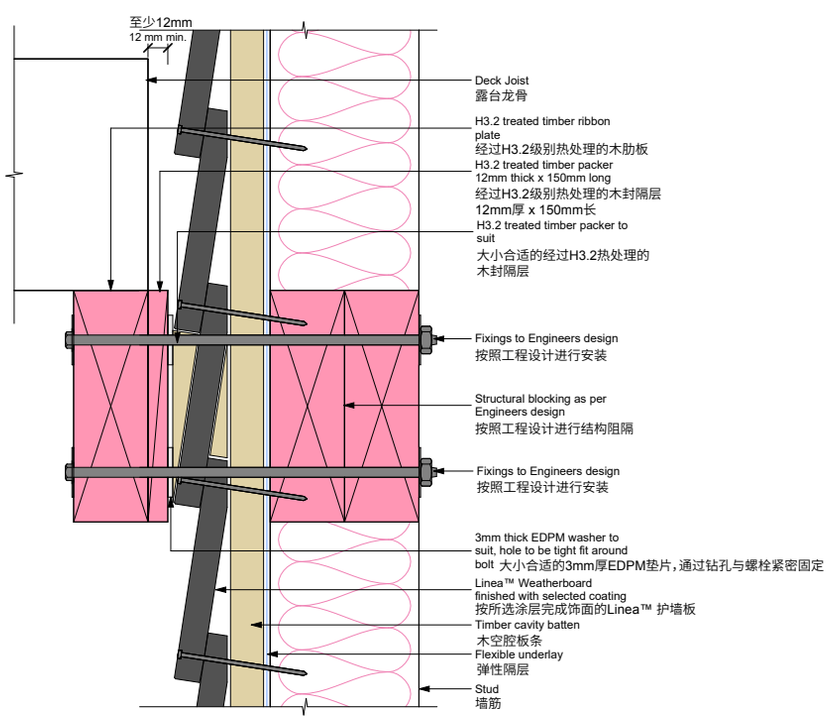
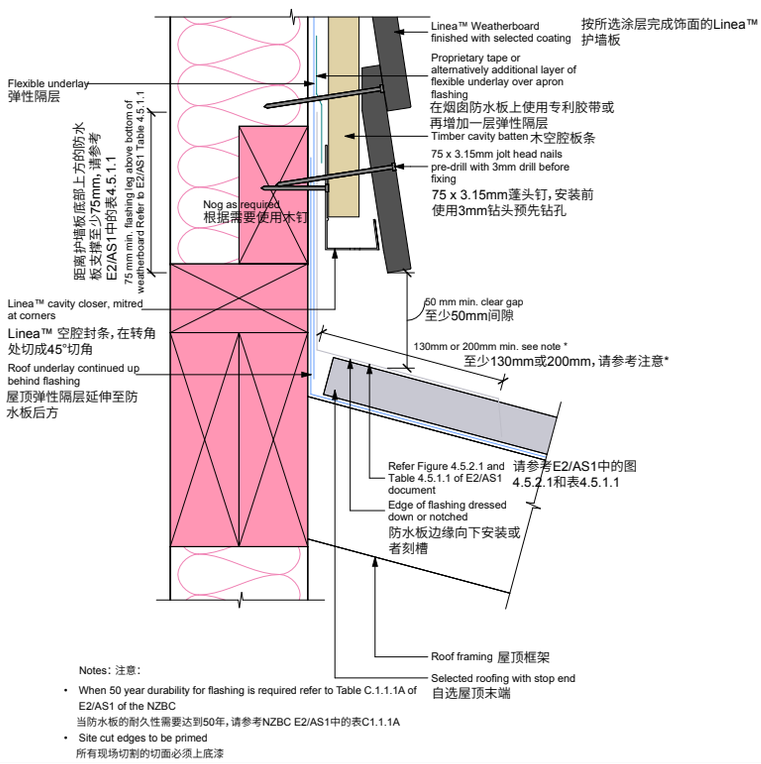


Figure 29: Apron flashing detail | 图29：烟囱防水板详图



Notes：注意：

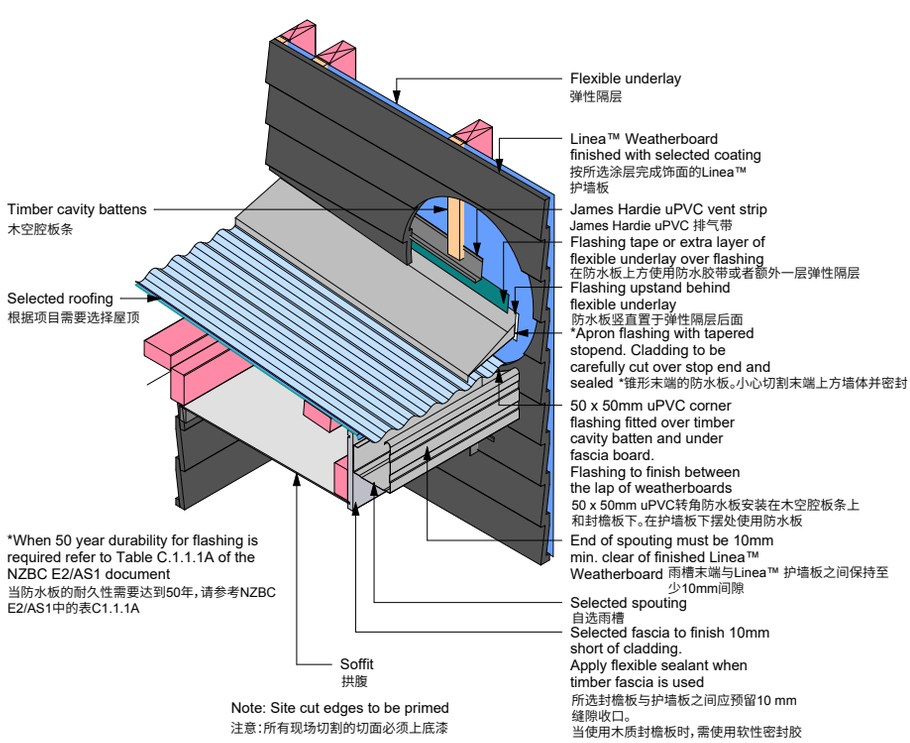
- When 50 year durability for flashing is required refer to Table C.1.1.1A of E2/AS1 of the NZBC
  当防水板的耐久性需要达到50年，请参考NZBC E2/AS1中的表C1.1.1A
- Site cut edges to be primed
  所有现场切割的切面必须上底漆

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

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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

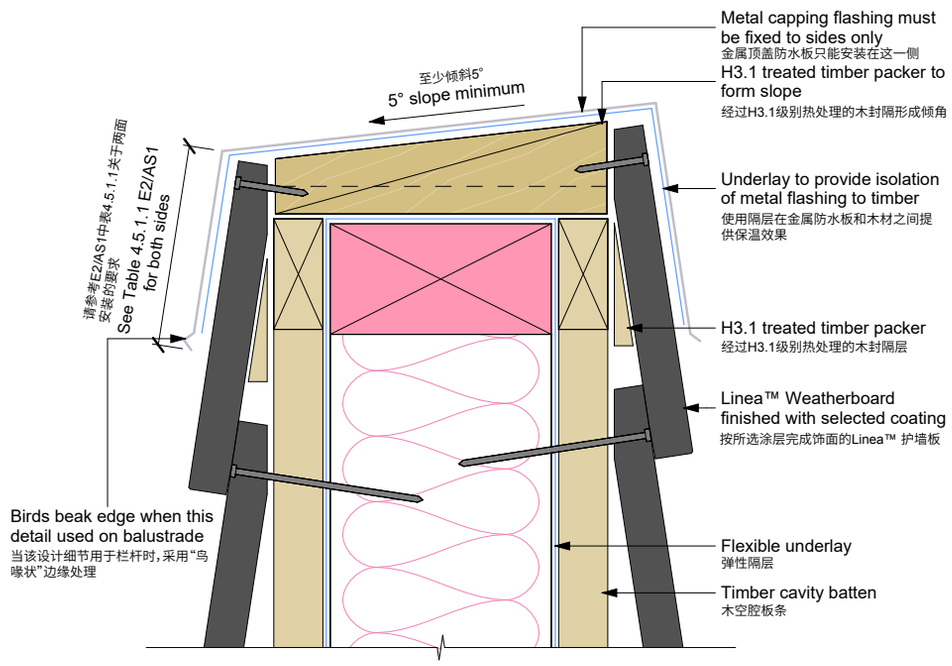


Figure 32: Balustrade to wall junction | 图32：栏杆到墙体的连接

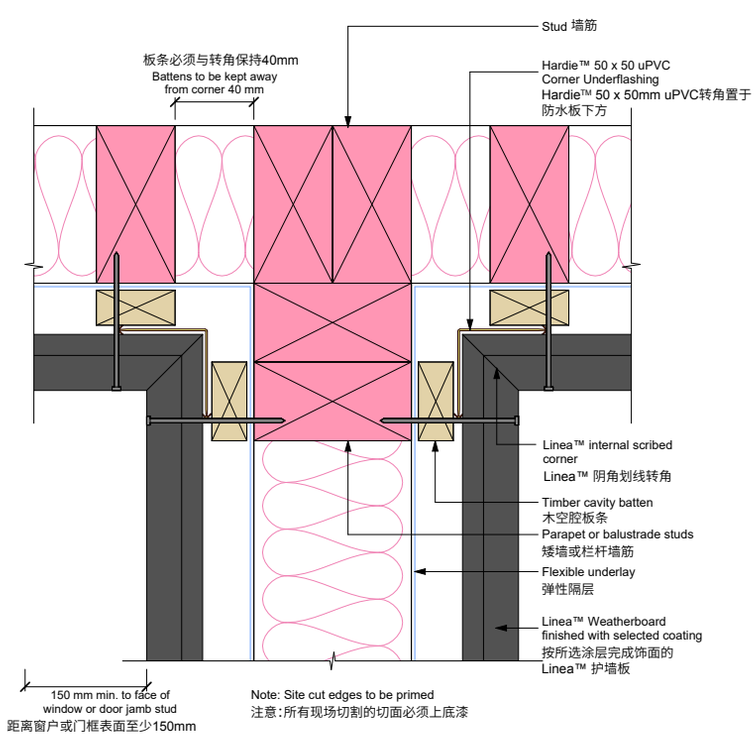
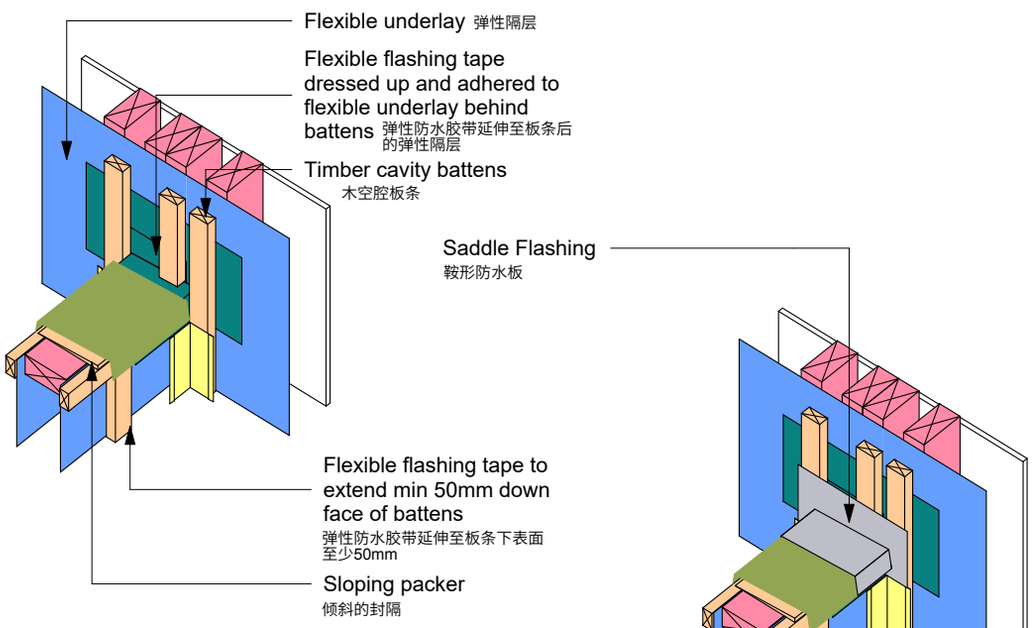


Figure 33: Timber cavity enclosed balustrade to wall | 图33：木空腔封闭栏杆到墙体



Batten and Flashing Tape Application Prior to Metal Flashing Fixing
安装金属防水板前需要将板条和防水胶带安装到位

Saddle Flashing Application Prior to Cladding and Cap Flashing Fixing
安装墙体和顶盖防水板前先安装鞍形防水板

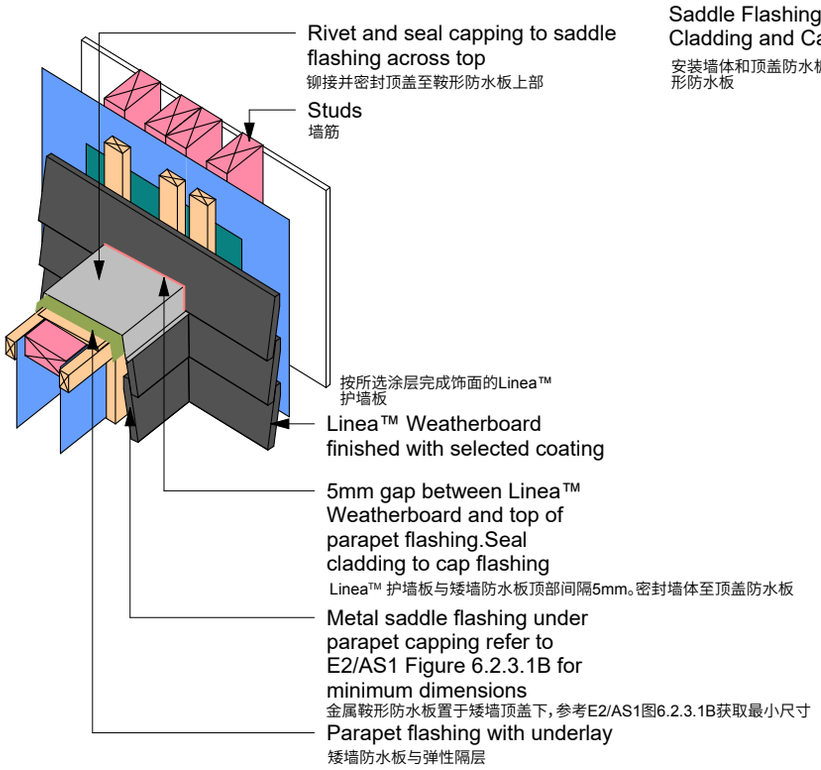
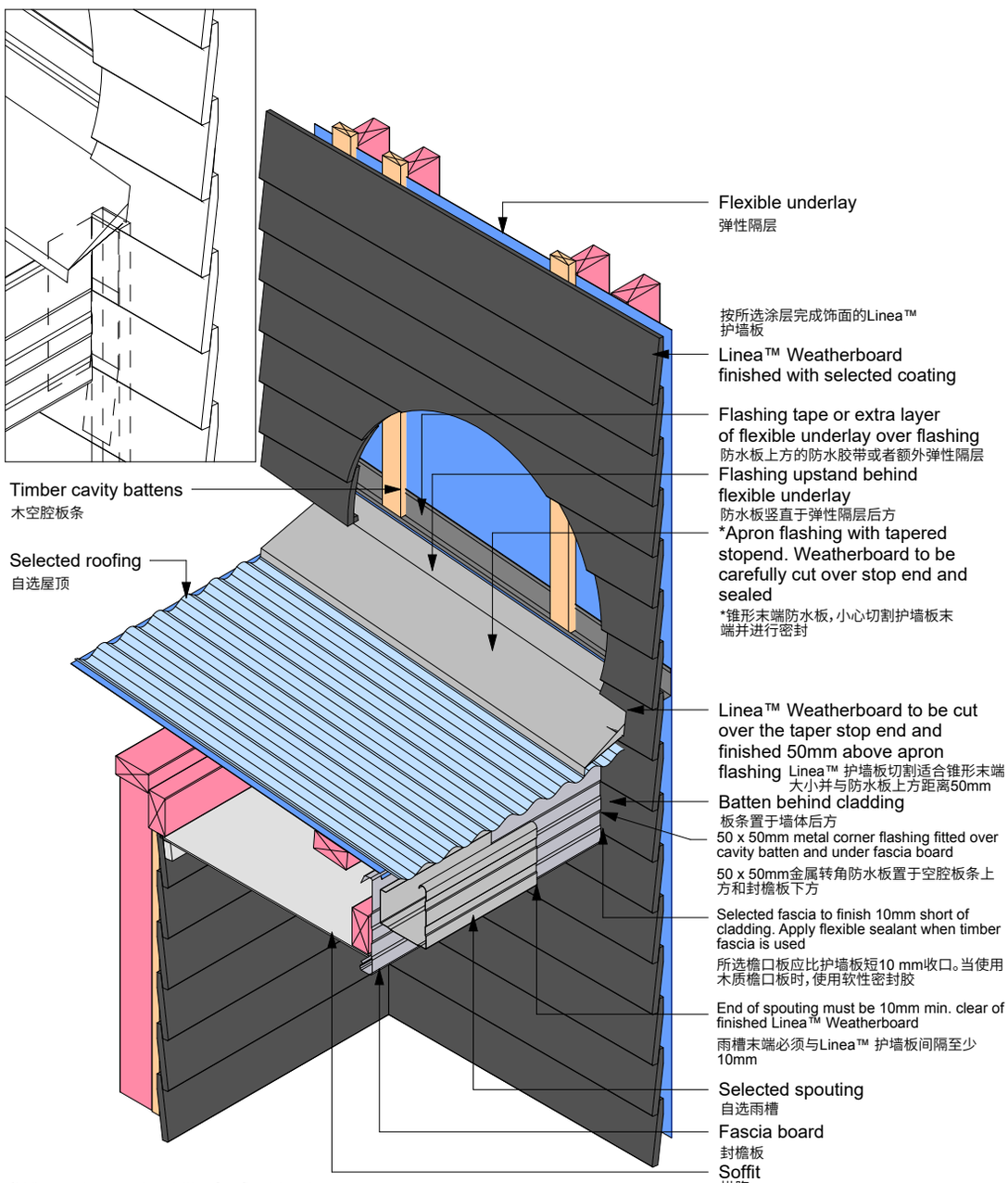


Figure 34: Junction of Linea™ Weatherboard and fascia board | 图34：Linea™ 护墙板和封檐板的连接



*When 50 year durability for flashing is required refer to Table C.1.1.1A of the NZBC E2/AS1 document

*需要防水板达到50年耐久性，参考NZBC E2/AS1中的表C.1.1.1A

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

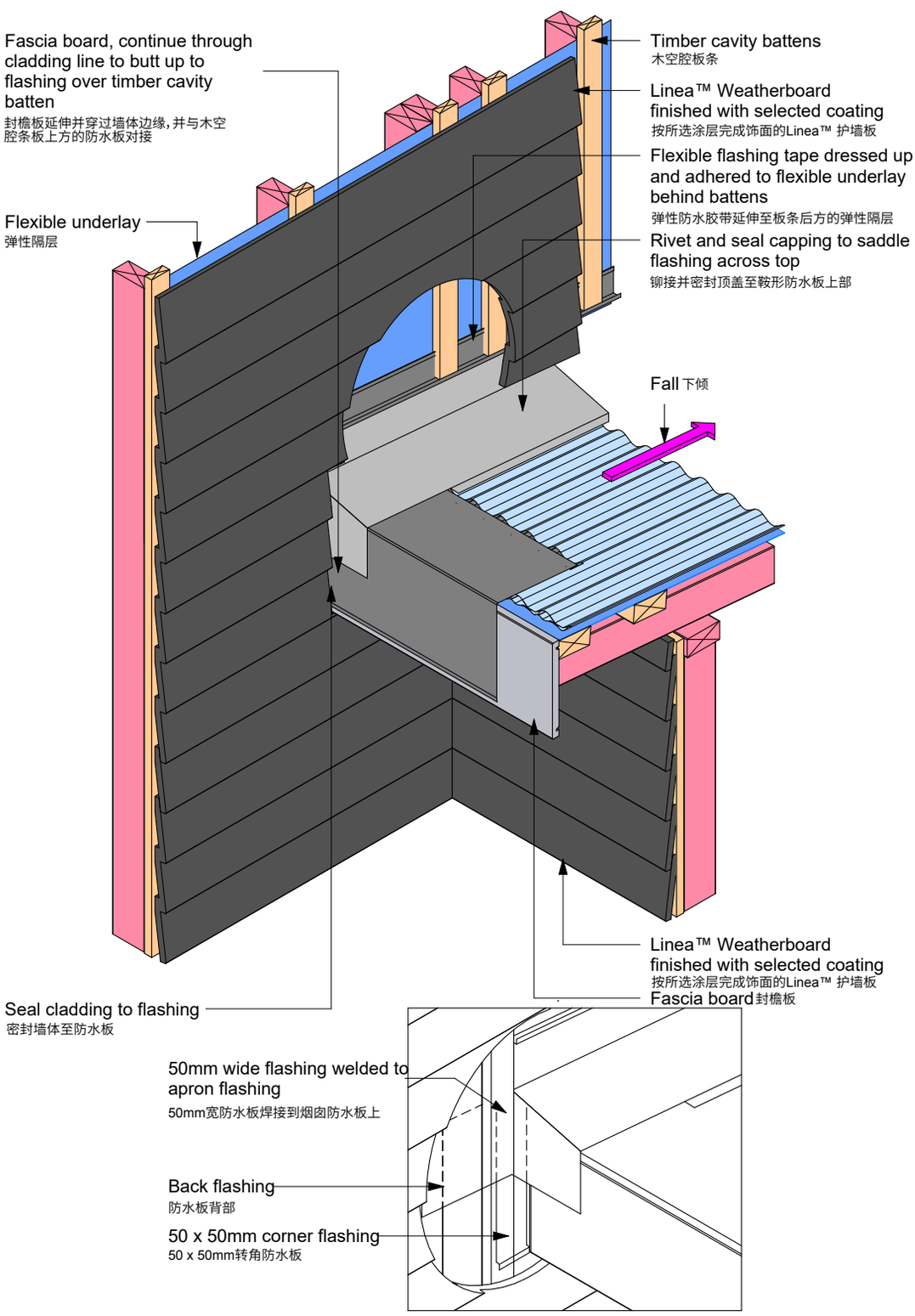
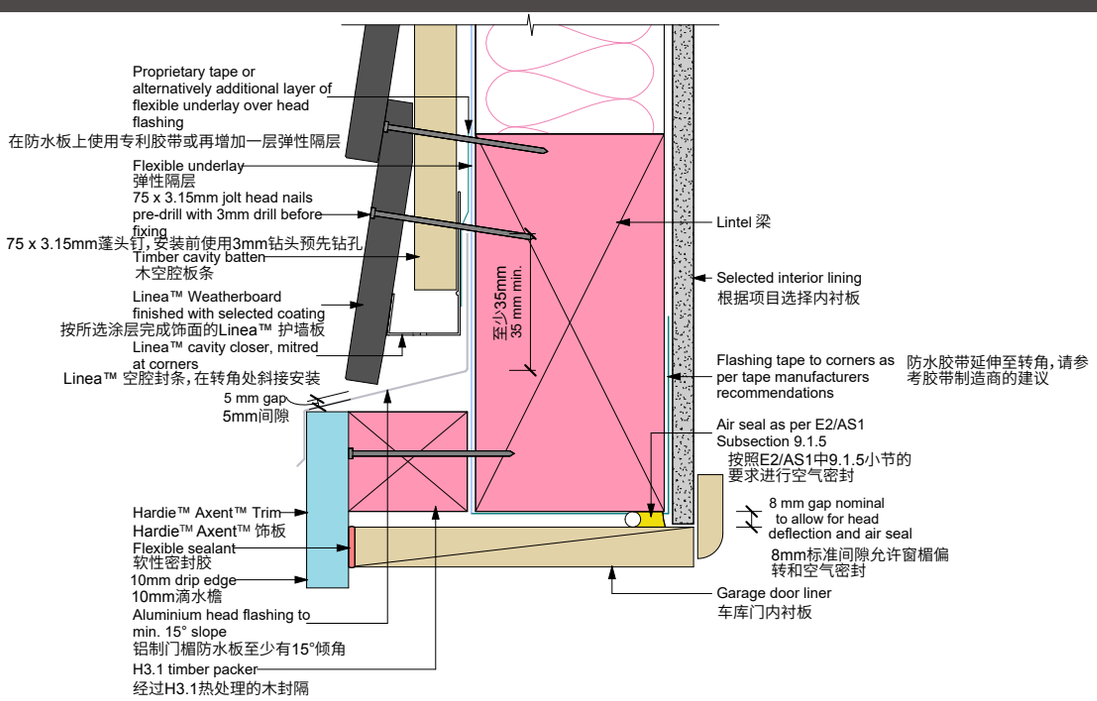
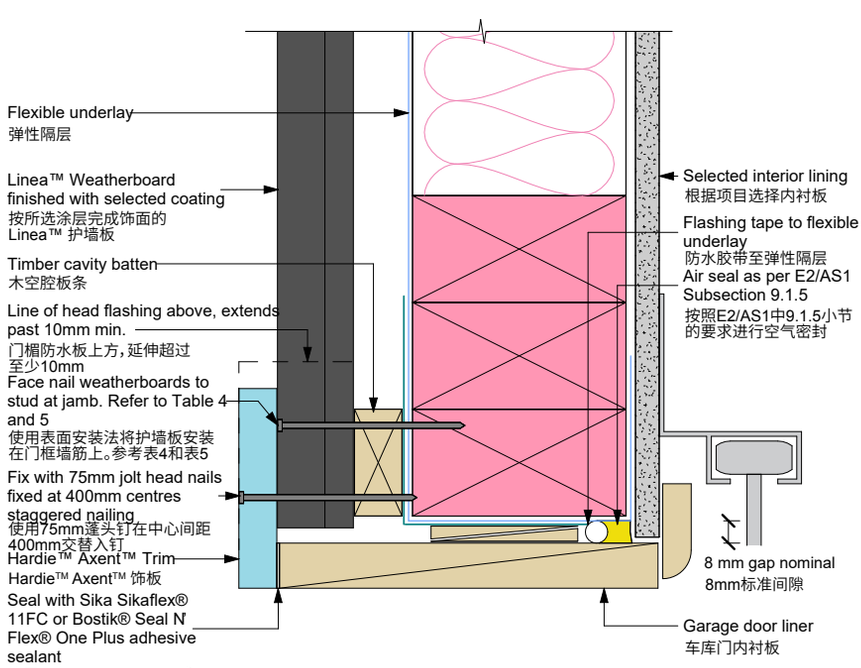


Figure 36: Garage door head | 图 36: 车库门楣



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风区及SED风压区中，窗楣防水板和窗户法兰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

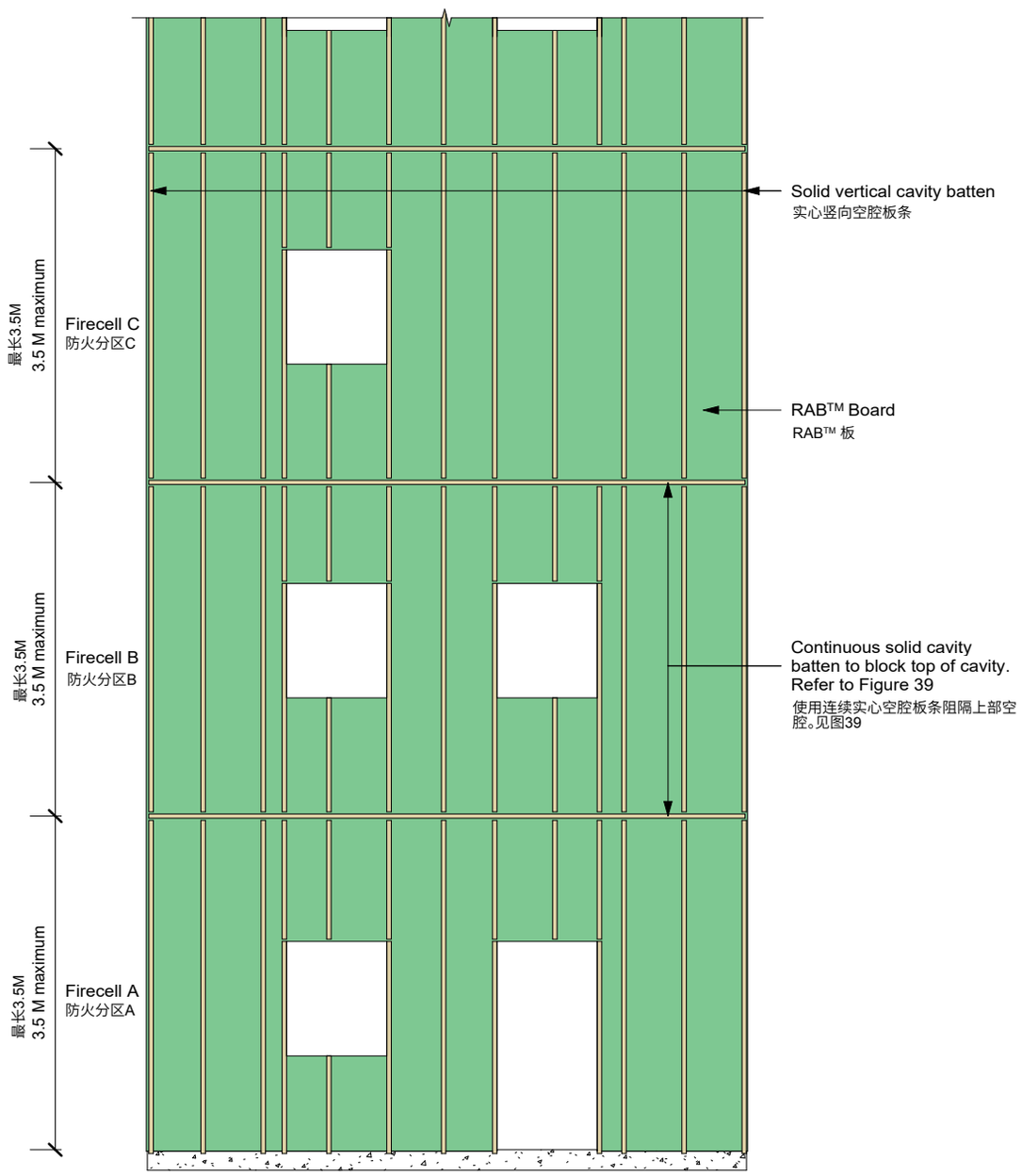
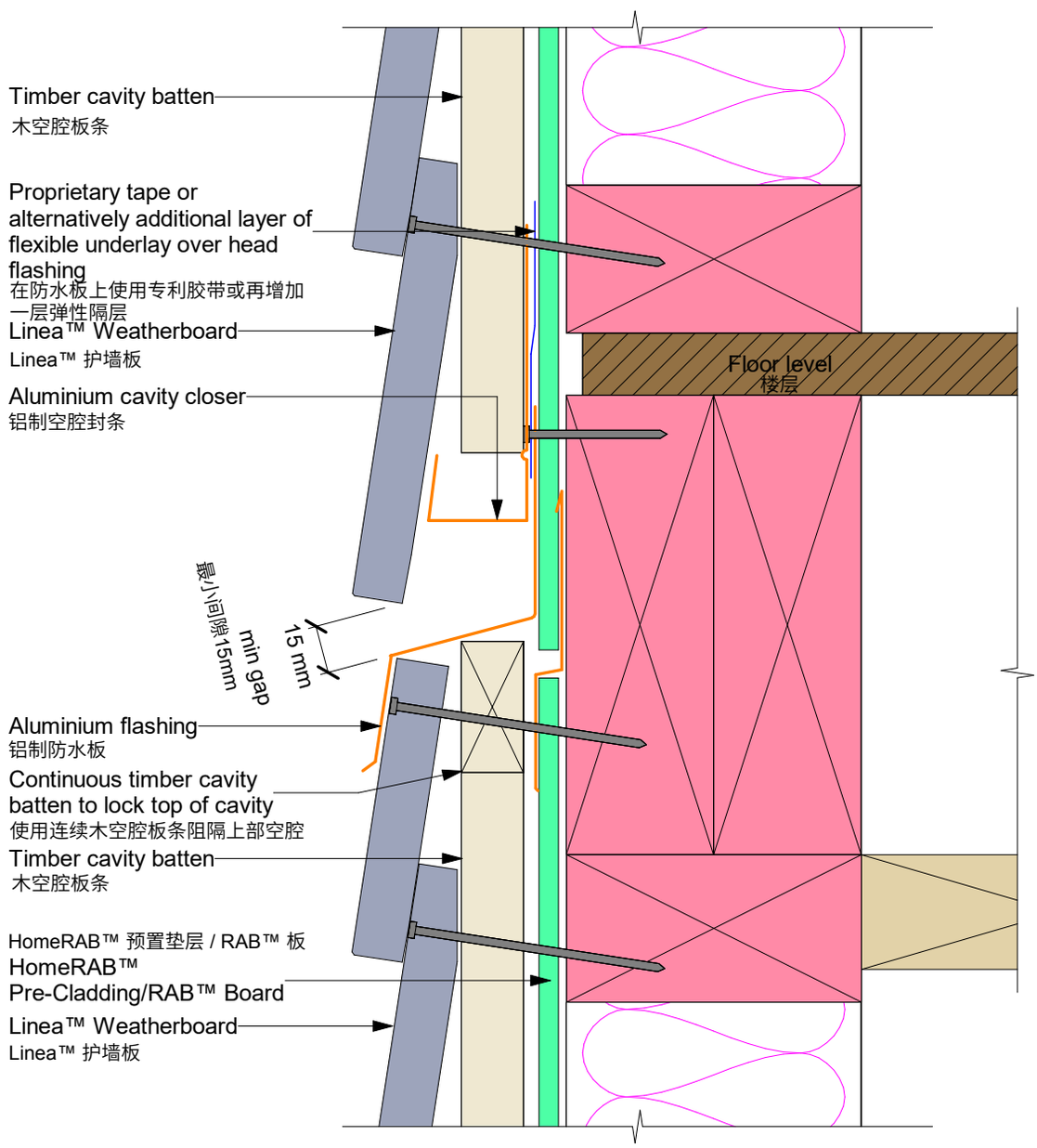


Figure 39: Inter-storey drainage and fire stopping joint | 图39：层间排水及防火封堵连接



Linea™ Weatherboard

JamesHardie™

Product Warranty
产品质保

NEW ZEALAND I Effective August 2024
新西兰版 I 2024年8月起生效

This warranty is given by James Hardie New Zealand Limited ("James Hardie", "we", "its" and "us").

本质量保证由James Hardie新西兰有限公司提供(简称"James Hardie"、"我们"和"其")。

In this warranty:

在此质量保证中:

- ***"Consumer"*** has the meaning given to it in the Consumer Guarantees Act;

"消费者"指根据《消费者保护法》定义的含义;

- ***"Product"*** refers to the item listed below:

"产品"指下述产品:

Linea™ Weatherboard

Linea™ 护墙板

- ***"Technical Literature"*** means the Product specific installation guide published by James Hardie at the time of installation of the product (copies of the current installation instructions are available at jameshardie.co.nz or by calling Ask James Hardie™ on 0800 808 868); and

"技术手册"指在产品安装时James Hardie发布的特定产品安装说明(当前安装说明的副本可在jameshardie.co.nz查阅或通过拨打0800 808 868联系Ask James Hardie获取);以及

- ***"Warranty Period"*** means twenty five (25) years.

"质保期" 指二十五(25)年。

Warranty 质量保证

1. Subject to the conditions and limitations set out below, we warrant that for the Warranty Period from the date of purchase, the Product will be free from defects due to defective factory workmanship or materials.

   在下述条件和限制的基础上,我们保证自购买之日起的保修期内,产品不会出现由于做工或材料问题导致的产品缺陷。

2. James Hardie further warrants that for a period of 15 years from the date of purchase of the Product that any associated accessories supplied by us will be free from defects due to defective factory workmanship or materials.

   James Hardie进一步保证,自产品购买之日起15年内,我们提供的任何相关配件不会因做工或材料问题而产生缺陷。

3. James Hardie warrants that at the time of manufacture the Product will comply with AS/NZS 2908.2:2000 Cellulose-cement products - Flat sheet.

   James Hardie保证,在制造时,产品将符合AS/NZS 2908.2:2000"纤维水泥产品" 的标准。

4. This warranty is not transferable and is only provided to and may only be relied upon by:

   本保修不可转让,仅适用于以下人员:

   (a) the first purchaser of the Product or accessory from James Hardie; and

   从James Hardie处首次购买产品或配件的买方;以及

   (b) the last purchaser of the Product or accessory prior to installation.

   安装前最后一次购买产品或配件的买方。

5. If a breach of this warranty occurs, we will (at our option) either: supply replacement Product or accessory; rectify the affected Product or accessory; or pay for the reasonable and substantiated cost of the replacement or rectification of the affected Product or accessory.

   如果发生本质保条款的违约,我们将(根据我们的选择)提供替换产品或配件;修复受影响的产品或配件;或支付替换或修复受影响产品或配件的合理且已证实的费用。

Warranty Conditions 质保条件

6. You may only claim under this warranty if:

   您只能在以下情况下根据此质保提出索赔:

   (a) the Product was installed and maintained strictly in accordance with the Technical Literature including the components or products specified or recommended in the Technical Literature; and

   产品的安装和维护严格按照技术手册的要求进行,包括技术手册中规定或推荐的组件或产品;

   (b) other products applied to or used in conjunction with the Product are applied or installed and maintained strictly in accordance with the relevant manufacturer's instructions and good trade practice; and

   其他与产品一起使用或应用的产品必须严格按照相关制造商的说明和良好的行业规范进行安装和维护;

   (c) the Product is used in an application designed and constructed in strict compliance with all relevant provisions of the New Zealand Building Code (**"NZBC"**), applicable laws, regulations and standards; and

   产品的使用必须符合所有相关的新西兰建筑规范(**"NZBC"**)、适用的法律、法规和标准,并在严格遵守这些规定的前提下进行设计和建造;

   (d) we are given reasonable opportunity to inspect the Product **before** any attempt is made to repair or remove the Product once it has been installed; and

   产品安装后,在做任何修理或移除产品的尝试**之前**,我们应有合理的机会对产品进行检查;

   (e) the requirements for bringing a claim under the warranty as set out in clause 8 are complied with.

   按照第8条规定的要求提出保修索赔。

7. Subject to clauses 10 and 11:

   在遵守第10条和第11条的前提下:

   (a) to the fullest extent permitted by law, we exclude all:

   在法律允许的最大范围内,我们排除所有以下内容:

   (i) other warranties, conditions, liabilities and obligations which may otherwise apply in respect

of the purchase or use of the Product and/or its Technical Literature, other than those specified in this warranty; and

除本质保中明确规定的以外，可能适用于产品购买或使用及其技术手册的其他质保、条件、责任和义务；以及

(ii) liability for any loss or damage (whether direct or indirect) including property damage or personal injury, consequential loss, economic loss or loss of profits, the purchase or use of the Product and/or its Technical Literature whether arising in contract, tort (including negligence), statute or equity.

对任何损失或损害（无论是直接的还是间接的）包括财产损失或人身伤害、后果性损失、经济损失或利润损失，因产品及其技术手册的购买或使用而产生的，不论是基于合同、侵权（包括过失）、法令或衡平法。

(b) if or to the extent that it is not permitted by law to so limit our liability as set out in clause 7(a), then to the fullest extent permitted by law, we limit our liability at our option to:

如果或在法律不允许按照第7(a)条规定限制我们的责任的情况下，那么在法律允许的最大范围内，我们选择以下方式限制我们的责任：

(i) the replacement of the Product or accessory or the supply of equivalent Product or accessory;

更换产品或配件，或提供同等的产品或配件；

(ii) the repair of the Product or accessory;

修理产品或配件；

(iii) the payment of the reasonable and substantiated cost of replacing the Product or accessory, or of acquiring equivalent Product or accessory; or

支付更换产品或配件的合理和有据的费用，或获取同等产品或配件的费用；

(iv) the payment of the reasonable and substantiated cost of having the Product or accessory repaired;

支付修理产品或配件的合理和有据的费用；

(c) this warranty does not cover defects which are not due to defective factory workmanship or materials, including but not limited to damage or defects caused by or arising from or attributable to:

本保修不包括因非做工或材料缺陷引起的缺陷或损坏，包括但不限于以下原因或情形：

(i) use of the Product in applications not recommended by us or in accordance with the Technical Literature;

将产品用于我们不建议的应用或不符合技术手册要求的应用；

(ii) the Product being subjected to abnormal treatment including impact, abrasion or mechanical action;

产品受到异常处理，包括冲击、摩擦或机械作用；

(iii) surface marking, scratches or stains arising during or after the installation of the Product;

在安装过程中或安装后产生的表面标记、划痕或污渍；

(iv) poor workmanship or installation, poor design or detailing, settlement or structural movement and/or movement of materials to which the Product is attached;

施工质量差、安装不当、设计或细节差、沉降或结构移动和/或产品附着材料的移动；

(v) incorrect design of the structure;

结构设计错误；

(vi) acts of God including but not limited to earthquakes, fire, cyclones, floods or other severe weather conditions or unusual climatic conditions;

不可抗力事件，包括但不限于地震、火灾、气旋、洪水或其他严重天气条件或异常气候条件；

(vii) efflorescence, normal wear and tear, growth of mould, mildew, fungi, bacteria, or any organism on any Product surfaces or Product (whether on the exposed or unexposed surfaces);

盐霜、正常磨损、霉菌、霉斑、真菌、细菌或任何有机物在产品表面或产品上的生长（无论是在暴露面还是未暴露面）；

(viii) contact with chemicals such as solvents, detergents and pollutants, or exposure to a harsh chemical environment or an excessively salty environment;

接触化学物质，如溶剂、清洁剂和污染物，或暴露在恶劣的化学环境或过度盐分的环境中；

(ix) use of adhesive tapes, sealants or mastics on the Product, or recoating of the surface of the Product outside of the recommended maintenance guidelines in the Technical Literature; or

在产品上使用胶带、密封剂或密封胶，或在不符合技术手册中推荐的维护指南的情况下对产品表面进行重新涂层；或

(x) failure of third party coating systems, including but not limited to sealers and paints; and

第三方涂层系统的失效，包括但不限于密封剂和油漆；或

(xi) **this warranty does not cover** any variation in the look of the Product including but not limited to: any variation in colour or surface pattern; any variation between different batches of the Product; or any variation against any sample material provided. The architect/builder/installer must ensure **prior to specification** that variation in look between items of Product is acceptable and ensure that each item of Product meets all aesthetic requirements **prior to installation.** Subject to the terms of this warranty, after installation of the Product, **we are not liable** for claims arising from aesthetic variations or defects if such variations or defects were, or would upon reasonable inspection have been, **apparent prior to installation.**

本保修不涵盖产品外观的任何变化，包括但不限于：颜色或表面图案的任何变化；不同批次产品之间的任何差异；或与提供的样品材料之间的任何差异。建筑师、建造者、安装者必须在**规范之前**确保产品外观之间的差异是可以接受的，并确保每件产品在**安装前**满足所有美学要求。根据本保修条款，产品安装后，如果外观变化或缺陷在**安装前**显而易见或通过合理检查可以察觉，我们不对因外观变化或缺陷引起的索赔负责。

Making a Claim Under Warranty
质保索赔

If you are the property owner and did not purchase the product

yourself, and you believe you have any issue with James Hardie product installed at your home, in the first instance you should contact the builder who purchased and installed the product. If you purchased the product yourself, you can make a claim under this warranty as detailed below.

如果您是房主但并未自行购买该产品，并且您认为James Hardie安装在您家中的产品存在任何问题，首先您应联系购买并安装该产品的建筑商。如果您是自行购买该产品的，您可以按照以下详细说明提出保修索赔。

8. In order to make a claim under this warranty, you must provide the following information in writing to us using the contact details below within 30 days after the alleged 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:

   如需提出保修索赔，您必须在发现或应合理发现该缺陷后30天内，或在缺陷于安装前已合理显现时，在安装前提出索赔，并通过以下联系方式以书面形式向我们提供以下信息：

   (a) proof of purchase;
   购买证明；

   (b) description of the defect and the issue;
   缺陷和问题的描述；

   (c) photographs of the defect; and
   缺陷的照片；以及

   (d) your contact details.
   您的联系信息。

9. Subject to New Zealand Consumer Law, you must bear any expenses you incur as a result of claiming under this warranty, except where you are entitled to recover such expenses under the New Zealand Consumer Law, in which case we will bear or otherwise reasonably compensate you for such expenses. All claims for such expenses are to be notified to us in writing within 21 days from the later of: when you make a claim under this warranty; or when we notify you that we, acting reasonably, accept responsibility for these expenses.

   根据《新西兰消费者法》，您必须承担因保修索赔而产生的任何费用，除非您有权根据新西兰消费者法收回此类费用，在这种情况下，我们将承担或以其他方式合理补偿您此类费用。所有此类费用的索赔必须在以下情况后的21天内以书面形式通知我们：您提出保修索赔之日或我们通知您我们合理地承担此类费用之日，以较晚者为准。

New Zealand Consumer Law
新西兰消费者法

10. If you acquire the Product or accessories manufactured or supplied by us as a Consumer, that Product or accessories may come with guarantees that cannot be excluded under the Consumer Guarantees Act. If so, and we are a supplier, you are entitled to a replacement or refund for a failure of a substantial character or a failure that cannot be remedied, and compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality or fail to meet some other guarantee and can be remedied and the failure is not of a substantial character. Where we or a related entity are the manufacturer, then you will have the rights set out in the Consumer Guarantees Act if the goods do not comply with this warranty or the consumer guarantees under the Consumer Guarantees Act.

    如果您作为消费者购买了我们生产或供应的产品或配件，该产品或配件可能会附带《消费者保护法》下不可排除的保证。如果是这样，并且我们是供应商，您有权在出现重大缺陷或无法修复的缺陷时，获得更换或退款，并对其他合理可预见的损失或损害进行赔偿。如果产品未能达到可接受的质量标准或未能满足其他保证要求，并且该缺陷可以修复且不属于重大缺陷，您也有权要求修理或更换商品。如果我们或相关实体是生产商，且商品未符合本保修条款或《消费者保护法》下的消费者保障，您将依据《消费者保护法》的规定享有权利。

11. Other than as lawfully excluded or limited by the other terms of this warranty, any rights a Consumer may have under this warranty are in addition to other rights and remedies of a Consumer under a law in relation to the goods to which this warranty relates. Nothing in this warranty shall exclude or modify any legal rights a purchaser and/or Consumer may have under the Consumer Guarantees Act, Fair Trading Act or otherwise which cannot be excluded or modified at law.

    除非根据本保修的其他条款合法排除或限制，否则消费者在本保修下的任何权利均为消费者在法律上对相关商品享有的其他权利和补救措施的补充。本保修中的任何内容均不得排除或修改购买者和/或消费者在《消费者保护法》、《公平交易法》或其他法律下享有的任何法律权利，这些权利在法律上不可被排除或修改。

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The recommendations in James Hardie's literature are based on good building practice but are not an exhaustive statement of all relevant information. Further, 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 that Technical Literature and the performance of the relevant system, including its suitability for any purpose or ability to satisfy the relevant provisions of the NZBC, laws, regulations and standards. It is the responsibility of the building designer to ensure that the details and recommendations provided in the relevant James Hardie Technical Literature are suitable for the intended project and that specific design is conducted where appropriate.

James Hardie手册中的建议基于良好的建筑实践，但并非所有相关信息的详尽陈述。此外，由于相关系统的成功性能取决于众多James Hardie无法控制的因素（例如工艺质量和设计），James Hardie对该技术手册中的建议以及相关系统的性能，包括其适用性或是否符合NZBC、法律、法规和标准的要求，不承担任何责任。建筑设计师有责任确保James Hardie相关技术手册中提供的细节和建议适用于预期项目，并在适当情况下进行具体设计。

Our Contact Details
我们的联系方式

James Hardie New Zealand Limited

James Hardie 新西兰有限公司

Address: 1 O'Rorke Road, Penrose, Auckland, 1061

地址: 1 O'Rorke Road, Penrose, Auckland, 1061

Postal address: PO Box 12070, Penrose, Auckland 1642

邮政地址: PO Box 12070, Penrose, Auckland 1642

Telephone: "Ask James Hardie™" on 0800 808 868

电话: "Ask James Hardie™" on 0800 808 868

Website: www.jameshardie.co.nz

网站: www.jameshardie.co.nz

Email: info@jameshardie.co.nz

邮箱: info@jameshardie.co.nz

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JamesHardie™

Ask James Hardie™ | Call 0800 808 868 | jameshardie.co.nz
咨询James Hardie™ 请拨打0800 808 868，或登录网站jameshardie.co.nz

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