JamesHardie™

jameshardie.co.nz



Oblique™ Weatherboard 14mm Horizontal Installation

Oblique™ 护墙板 14mm 横向安装

Technical Specification 技术规范

October 2022 New Zealand

2022年10月 新西兰

Please note the English version shall always prevail 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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Ask James Hardie™
literaturefeedback@jameshardie.co.nz

Make sure your information is up to date

请确保获取最新信息

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.**

指定或安装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**Ask James Hardie™ 0800 808 868**。

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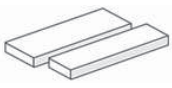
1 Product Overview 产品概况

1.1 Product Information 产品信息

Oblique™ Weatherboard installed as per this specification gives a rusticated profile weatherboard appearance. Oblique™ Weatherboard can be fixed to timber framed external walls. A wide range of colours can be used varying from light to dark. Oblique™ Weatherboard is available in 200mm or 300mm wide x 4200mm or 2750mm lengths and is 14mm thick.

按照本规范安装的Oblique™ 护墙板会呈现出带有凹凸纹理的外观。Oblique™ 护墙板可以固定在木框架外墙上。可喷涂成多种颜色，深浅皆宜。Oblique™ 护墙板提供200mm或300mm两种宽度 x 4200mm、2750mm两种长度选择，厚度14mm。

Table 1 表1

Oblique™ Weatherboard information | Oblique™ 护墙板产品信息					
Product 产品	**Description 产品描述**	**Size (mm) 尺寸**			**Code 产品编号**
		Thickness 厚度	**Length 长度**	**Width 宽度**	
	**Oblique™ Weatherboard** **Oblique™ 护墙板** A 14mm profiled weatherboard for residential cladding. Factory sealed on all six sides. Each weatherboard has a manila white colour primer applied on its face, which accepts a wide range of paint finishes. 一种14mm厚的护墙板，用于住宅外墙。所有六个面都经过工厂密封处理。每块板材的正面都涂有马尼拉白色底漆，可接受各种涂装。	14	2750 4200	200 300 200 300	**405322** **405323** **405320** **405321**
	**Hardie™ Axent™ Trim** **Hardie™ Axent™ 饰板** Hardie™ Axent™ Trim is a 19mm thick, pre-primed fibre cement product available in two widths. For use as decorative trims around openings and external corners. Hardie™ Axent™ 饰板是预涂底漆的纤维水泥产品，厚度19mm，提供两种宽度选择，是用于开口和阳角处的装饰性饰条。	19	3000	70 89	**405257** **405258**

Note: All dimensions and masses provided are approximate only and subject to manufacturing tolerances.

注：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。

Oblique™ Weatherboard is manufactured in 14mm thickness and has a mass of 16kg/m^2.

Oblique™ 护墙板的厚度为14mm，重量为16kg/m^2。

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

根据NZS 3604标准，Oblique™ 护墙板被定义为轻质外墙材料（不超过30kg/m^2）。

1.2 Manufacturing and Classification 制造工艺及分类

Oblique™ Weatherboard is an advanced lightweight cement composite cladding manufactured using James Hardie formulation. Basic composition is Portland cement, ground sand, cellulose fibre and water. The product is easily identified by the name 'Oblique Weatherboard'.

Oblique™ 护墙板是一种先进的轻质水泥复合外墙材料，采用James Hardie的配方进行生产。其基本组成包括波特兰水泥、细砂、纤维和水。本产品可通过“Oblique™ Weatherboard”的名称轻松辨认。

Hardie™ 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 'Hardie Axent' printed on the back.

Hardie™ Axent™ 饰板是一种先进的轻质水泥复合外墙材料，生产采用波特兰水泥、细砂、纤维和水。该产品在背面印有"Hardie Axent"的名称，可以轻松辨认。

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

Oblique™ 护墙板和Hardie™ Axent™ 饰板产自澳大利亚，满足澳大利亚/新西兰标准AS/NZS 2908.2 "纤维水泥产品"（ISO 8336 "纤维水泥板"）的要求。

Oblique™ Weatherboard and Hardie™ Axent™ Trim products are classified Type A, Category 2 in accordance with AS/NZS 2908.2 “Cellulose-Cement Products”.

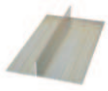
根据AS/NZS 2908.2 “纤维水泥产品”标准，Oblique™ 护墙板被分类为 Type A, Category 2。

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

请访问**www.jameshardie.co.nz**或致电**0800 808 868**垂询**Ask James Hardie™**，获取安全数据表。

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 尺寸**	**Code 编码**
	**Hardie™ 14mm Aluminium Trimline Joint Flashing Hardie™ 14mm铝制边线接缝防水板** Aluminium extrusion used behind cladding at vertical joints. 铝制挤压成型产品，用于外墙板后方的纵向接缝。	3000mm long	**305827**
	**Trimline Horizontal Jointer 边线横向连接件** A jointer to cover the butt joint of Oblique Trimline Joint Flashing 用于覆盖Oblique™ 边线接缝防水板的对接缝。	100mm long	**305871**
	**Trimline External Corner Jointer 边线阳角连接件** Joins Trimline Joint Flashing at an external corner 在阳角处与边线接缝防水板相接。	55 x 55mm	**305870**
	**Trimline Internal Corner Jointer 边线阴角连接件** Joins Trimline Joint Flashing at an internal corner 在阴角处与边线接缝防水板相接。	60 x 60mm	**305872**

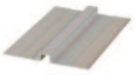
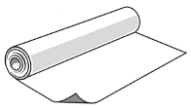
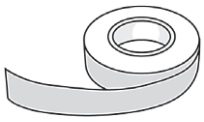
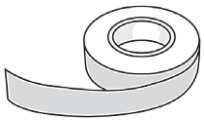
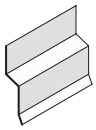
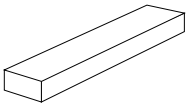
	**Hardie™ 14mm Vertical Flashing Stop Aluminium** **Hardie™ 14mm纵向铝制防水挡** Aluminium extrusion used behind cladding at vertical joints. 铝制挤压成型产品，用于外墙板后方的纵向接缝。	3000mm long	**305507**
	**Weatherboard Internal 'W' Corner** **护墙板“W”型阴角** Anodised aluminium extrusion used to create internal corners. 经过阳极氧化处理的铝制挤压成型产品，用于打造房屋阴角。	2750mm long 4000mm long	**306220** **306180**
	**Hardie™ 14mm Aluminium External Box Corner** **Hardie™ 14mm铝制护墙板阳角箱角** Anodised aluminium extrusion used to create external corners. 经过阳极氧化处理的铝制挤压成型产品，用于打造房屋阳角。	2750mm long 4000mm long	**306160** **305823**
	**Hardie™ 14mm Aluminium Jamb Flashing** **Hardie™ 14mm铝制窗框防水板** Aluminium moulding used beside window opening to end butt the Oblique™ Weatherboard. 铝制模具用于窗口开口处旁边，对接Oblique™ 护墙板的尾端。	3000mm long	**305430**
	**Hardie™ 28mm Aluminium Cavity Closer** **Hardie™ 28mm铝制空腔封闭条** Aluminium moulding used as vermin proofing. 铝制模具，用于防治虫害。	3000mm long	**305431**
	**uPVC Vent Strip** **uPVC通风条** PVC moulding used as vermin proofing. PVC模具，用于防治虫害。	3000mm long	**302490**
	**Oblique™ 14mm Plug** **Oblique™ 14mm填充塞** To fill recess in Oblique™ Weatherboard 14mm 用于填充14mm Oblique™ 护墙板的凹槽。		**306154**
Tools 工具			
	**Hardie™ Blade Saw Blade** **Hardie™ Blade锯片** Diamond tip fibre cement circular saw blade. Spacers not included. 金刚石刀头纤维水泥切割圆锯片。不含垫片。	184mm 254mm	**300660** **303375**

Table 3 表3

Accessories/tools not supplied by James Hardie 非James Hardie提供的配件／工具	
James Hardie recommends the following products for use in conjunction with Oblique™ Weatherboard and HomeRAB™ Pre-Cladding/RAB™ Board. James Hardie does not supply these products and does not provide a warranty for their use. Please contact component manufacturer for information on their warranties and further information on their products. James Hardie推荐以下产品同Oblique™ 护墙板及HomeRAB™ 预置垫层/RAB™ 板搭配使用。James Hardie不售卖这些产品，因而也不提供使用这些产品的任何质保。欲得到关于产品质保及更多详细信息，请联系相应的供应商。	
Product 产品	**Description 产品描述**
	**Flexible underlay 弹性垫层** Must comply with Table 23 of E2/AS1. 必须符合E2/AS1的表23要求。
	**Flexible window opening flashing tape** **窗口用弹性防水胶带** A flexible self-adhesive tape used in preparation of a window. Refer to the window installation section in this manual for more information. 一种有弹力的粘性胶带，用于做安装窗户前的准备工作。请参见本手册关于窗户安装的章节获取更多信息。 e.g. Protecto® or Super-Stick Building Tape® by Marshall Innovations or 3M™ All Weather Flashing Tape 8067 by 3M™ 例如：由 Marshall Innovations生产的Protecto®或Super-Stick Building Tape®，或由3M™生产的3M™ All Weather Flashing Tape 8067。 Marshall Innovations: 0800 776 9727 3M™: 0800 474 787
	**Rigid air barrier vertical joint sealing tape** **刚性密封板纵向接缝密封胶带** The tape to be used to seal HomeRAB™ Pre-Cladding/RAB™ Board vertical joints. 用于HomeRAB™ 预置垫层/RAB™ 板纵向接缝的密封胶带。 Thermakraft™ Premium Joining Tape, Thermaflash® Self Adhesive Window Flashing tape by Thermakraft™ Ltd or Super-Stick Building Tape® by Marshall Innovations or 3M™ All Weather Flashing Tape 8067 by 3M™ Marshall Innovations: 0800 776 9727 由Thermakraft™ Ltd生产的Thermakraft™ Premium Joining Tape, Thermaflash® Self Adhesive Window Flashing tape，由 Marshall Innovations生产的Super-Stick Building Tape®，或由3M™生产的3M™ All Weather Flashing Tape 8067。 3M™: 0800 474 787 Thermakraft™ Ltd 0800 806 595
	**Flexible sealant 弹性密封胶** Required to seal the vertical joints. Bostik® Seal N Flex-1™, Sikaflex® AT Facade, Sikaflex® MS or similar. 用于密封纵向接缝。Bostik® Seal N Flex-1™, Sikaflex® AT Facade, Sikaflex® MS或类似产品。
	**65 x 2.87mm 'D' head nail or 65 x 2.87 RounDrive nail** **65 x 2.87mmD头钉或65 x 2.87mm RounDrive环纹螺丝钉** (ring shank hot dipped galvanised/stainless steel) For fixing Oblique™ Weatherboard. （环纹热浸镀锌/不锈钢）用于固定Oblique™ 护墙板

	**75 x 3.06mm 'D' head nail or 75 x 3.15 RounDrive nail** **75 x 3.06mm的D头钉或75 x 3.15mm RounDrive环纹螺丝钉** (hot dipped galvanised or ring shank stainless steel) For fixing Oblique™ Weatherboard. （热浸镀锌或环纹不锈钢）用于固定Oblique™ 护墙板
	**40 x 2.8mm or longer Hardie™ Flex nail** **40 x 2.8mm或较长的Hardie™ Flex钉** For fixing timber cavity battens and aluminium flashings. 用于固定木制空腔板条和铝制防水板。
	**Meter box 电表箱** Refer electrical suppliers. 参见电力供应商说明
	**Head flashing 窗楣防水板** Required over window heads to be supplied by window installer. Material must comply with Table 20 and 21 of E2/AS1. 必须安装在窗楣上，由窗户安装商提供。材料必须符合E2/AS1的表20和21。
	**Timber cavity batten 木制空腔板条** H3.1 minimum treated Timber cavity batten the cladding is fixed over. 至少经过H3.1处理的木制空腔板条，墙板安装在其之上。
	**Exterior grade filler 外用级别填充剂** CRC® ADOS® Builders Fill or similar two part filler to fill over nail holes CRC® ADOS® Builders Fill 或类似的双剂式填充剂，用于填充钉孔。

2 Application and Scope
应用与范围

2.1 Application 应用

Oblique™ Weatherboard can be fixed to either timber or lightweight steel-framed external walls.

Oblique™ 护墙板可被安装在木框架或轻型钢框架上。

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

如需固定在钢架上，请致电0800 808 868垂询Ask James Hardie™，了解具体要求。您还可以参见《James Hardie的钢框架技术补充手册》，获取更多信息。

Specifiers 项目规范方

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规范方或其他责任方，请确保本文件中的信息适用于您所计划的用途。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。

Installers 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. All of 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方，请确保遵循设计师及这本James Hardie技术规范提供的设计、湿度管理原则、相关图表和材料选择。本文件中提供的所有详图都必须结合项目规范阅读。

2.2 Scope 应用范围

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

本规范涵盖以下范围内Oblique™ 护墙板的安装：

- The Oblique™ Weatherboard must be installed horizontally
  Oblique™ 护墙板必须横向安装。
- An external wall structure that complies with the NZBC for an existing building or new building where the designer and/or installer has established that the external wall frame is suitable for the cladding installation
  外墙结构符合新西兰建筑规范（NZBC）对现有建筑或新建筑的要求，且设计师和/或安装方确定外墙框架适合安装此护墙板。
- In all wind zones up to a design wind pressure of 3.2kPa (ULS) up to 25m of the building height. In wind zones greater than Very High (VH), a rigid air barrier must be used.
  适合所有风区，只要设计风压不超过3.2kPa(ULS)，建筑高度不超过25m。在风压极高区域 (VH) 以上风区，必须用刚性密封板。

Refer to Oblique™ Weatherboard Vertical Installation technical specification when installing vertically.

如需纵向安装，请参见《Oblique™ 护墙板纵向安装技术规范》。

2.3 Details 详图

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

这本技术规范的“详图”部分提供了各种典型的Oblique™ 护墙板横向安装的详图。请访问我们的网站www.jameshardie.co.nz 下载dwg、dxf、jpg及pdf格式的详图文件。

All dimensions shown are in millimetres unless noted otherwise.

除特殊标明单位处之外，详图中所有其它尺寸默认单位为毫米。

2.4 Specific Design 特殊设计

For use of the Oblique™ Weatherboard on a specific design project that is outside the scope of this literature, the designer, architect or engineer must ensure that applicable clauses of the NZBC have been considered and a specific design has been undertaken.

如在超出本文件范围的“特殊工程设计（SED）”项目中使用Oblique™ 护墙板，设计师、建筑师或工程师必须确保考虑到NZBC中的适用条款，并进行特殊设计。

3 Compliance合规

Oblique™ Weatherboard installed in accordance with this specification has been tested to demonstrate compliance with clauses E2, B1, B2 and F2 of the NZBC.

按照本规范安装的Oblique™ 护墙板已经过测试，证明其符合新西兰建筑规范（NZBC）的E2、B1、B2和F2条款的要求。

When installed in accordance with the conditions of CodeMark number GM-CM30147 Oblique™ Weatherboard complies with all relevant requirements of the NZBC. Please refer to www.building.govt.nz or www.jameshardie.co.nz for a copy of the certificate.

按CodeMark编号GM-CM30147的条件安装时，Oblique™ 护墙板符合新西兰建筑规范（NZBC）的所有相关要求。请访问www.building.govt.nz或www.jameshardie.co.nz获取证书的副本。

CODEMARK™
CMNZ30147

Oblique™ Weatherboard Horizontal Installation has a BRANZ Appraisal number 1231 (2022) to demonstrate compliance with the requirements of the NZBC. Please refer to our website **www.jameshardie.co.nz** for a copy of the BRANZ appraisal.

Oblique™ 护墙板横向安装获得BRANZ评估编号1232（2022年），证明其符合新西兰建筑规范（NZBC）的要求。请访问我们的网站**www.jameshardie.co.nz**获取BRANZ评估的副本。

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. For applications outside the scope of this literature and details which are not provided herein, the architect, designer or engineer must undertake specific design. It should be ensured that the intent of their design meets the requirements of the NZBC.

项目规范方或其他责任方必须确保本规范中的信息和详图适用于项目的实际应用，并针对特殊设计或超出本技术规范范围的区域提供额外的详图。对于超出本文献和详图范围的应用，未在此提供的，建筑师、设计师或工程师必须进行具体设计，并确保其设计的意图符合新西兰建筑规范（NZBC）的要求。

All New Zealand Standards referenced in this document are current editions and must be complied with.
本手册中涉及的新西兰标准均为现行版本，必须严格遵守。

Make sure your information is up to date 请确保获取最新信息

When specifying or installing products by James Hardie, 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.

当指定或安装James 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Ask James Hardie™。

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

为确保生产的所有产品都符合我们的质量标准，James Hardie进行严格的质量检查。在安装之前，承建方有责任确保产品满足审美要求。安装后，James Hardie将不负责修正明显的审美上的表面差异。

4.2 Site and Foundation 场地及地基

The site on which the building is situated must comply with E1/AS1 Surface Water Clause of the NZBC. Foundations design must comply with relevant regulations, standards and meet the requirements of NZBC. The grade of adjacent finished ground must slope away from the building to avoid any possibility of water accumulation.

建筑物所在的场地必须符合NZBC可接受方案E1/AS1“地表水”条款的要求。地基的设计必须符合NZS 3604“木框架建筑”部分的要求，或者符合特殊工程设计的要求。根据新西兰建筑规范（NZBC）的要求，与房屋相连接的已铺地面其坡度必须由房屋起向外向下倾斜，以避免造成积水。

4.3 Clearances 离地间隙

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

外墙板下缘与已铺／未铺地面的间隙必须符合E2/AS1的第9.1.3条的规定。已铺地板层的高度也必须符合以上规定。并且须要一直保持这一间隙标准，贯穿建筑物寿命始终。

Oblique™ Weatherboard must overhang the bottom plate by a minimum of 50mm, as required by E2/AS1.

按照E2/AS1要求，Oblique™ 护墙板须悬出底板至少50mm。

Oblique™ Weatherboard must maintain a minimum clearance of 100mm from paved ground and 175mm from unpaved ground.

Oblique™ 护墙板须与铺装地面保持最小间隙100mm，与未铺装地面保持最小间隙175mm。

On roofs and decks, the minimum clearance must be 50mm.

用于屋顶和露台时，最小间隙须为50mm。

Do not install external cladding such that it may remain in contact with water or ground. Refer to Figures 5 and 6.

不要将外墙板安装在可能持续接触到水或地面的地方。参见图5和图6。

4.4 Moisture Management 湿度管理

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

识别与特定建筑设计相关的湿度风险是规范方的责任。

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

墙体结构设计必须考虑建筑物的内部和外部环境，有效地管理湿度，特别是对于那些由于风向原因而容易灌入雨水的建筑。同时，建筑物还应当充分通风，以控制由于水汽凝结而导致的湿气聚积，尤其是那些经常使用人工制冷或制热的建筑物。

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.

墙体须要符合NZBC可接受方案E2/AS1的相关规定。另外，所有的墙体开口处、穿透处、交汇处、连接处，窗沿、窗楣和窗框都必须安装合适的防水板用于隔离湿气。用于管理外墙湿度的其他材料、组件和安装方法必须符合相关标准和新西兰建筑规范（NZBC）的要求。更多有关防风雨设计的指导，请参见BRANZ Ltd和新西兰商业创新与就业部（MBIE）的网站更新，网址分别为www.branz.co.nz和www.building.govt.nz。

In addition, the following issues must also be considered:

此外，还须考虑以下几点：

- Sealant must be installed where detailed in this literature
  在本规范中详图说明要使用密封胶处，请务必使用。
- 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，每两层楼至少须要一个横向排水接缝。对于高度超过10m的建筑，每层楼都须要一个横向排水接缝，以适应楼层之间的挠曲变形。
- 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
  当安装烟囱、管道及其它固定设施时，必须防止将湿气引入墙体，或阻碍湿气排出室外。

4.5 Structure 结构

4.5.1 Timber Framing 木框架

Timber framed buildings must either be in accordance with NZS 3604 (Timber-framed buildings) or designed as per specific engineering design (SED).

木框架建筑必须符合新西兰标准NZS 3604（木框架建筑），或按照特定工程设计（SED）进行设计。

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 etc.

对于长度超过12米的木框架墙体，最佳处理方法是给施工接缝留出一定空间，以适应后期木材收缩或负重变形等现象导致的移位。

4.5.2 Dimensions 尺寸

A 90 x 45mm minimum framing size is required.

须要使用最小尺寸为90 x 45mm的框架。

4.5.3 Structural Grade 结构等级

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

建筑物所使用的木材等级必须符合NZS 3604中的规定。

4.5.4 Durability 耐久性

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

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

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

有关木材处理及木材含水量可接受范围的信息，请参见NZS 3602（用于建筑的木材及木质产品）以及NZS 3640(圆形锯木的化学防腐)，了解木材处理程度最低限值及处理要求。

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

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

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

注：请参见NZS 3602，了解木框架允许的含水率的相关信息。

4.6 Wind Pressures 风压

Oblique™ Weatherboard is suitable for use in wind zones up to and including EH as defined in NZS 3604.

Oblique™ 护墙板适用于NZS 3604定义的EH级别以下的风区(包括EH级别在内)。

Oblique™ Weatherboard is also suitable in specific design projects up to wind pressures of 3.2kPa ULS.

Oblique™ 护墙板也适用于风压不超过3.2kPa (ULS)的特定设计项目。

4.7 Structural Bracing 结构支撑

Oblique™ Weatherboard installed as per this specification cannot be used to achieve any structural bracing. However, bracing can be achieved by using a HomeRAB™ Pre-Cladding/RAB™ Board installed direct to framing instead of a flexible underlay or by using Villaboard™ Lining bracing system on the internal face of the wall. Refer to the Bracing Design Manual by James Hardie for further information.

按照本规范安装的Oblique™ 护墙板不能起到任何结构支撑作用。但是，用HomeRAB™ 预置垫层/RAB™板代替常规的弹性垫层直接安装在屋体框架上，或在内墙墙面上使用 Villaboard™ 内衬支撑系统，可以达到支撑效果。更多关于结构支撑的信息，请参见《James Hardie支撑设计手册》。

4.8 Energy Efficiency 隔热能效

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

按照本技术规范使用Oblique™ 护墙板建造的外墙必须使用适当的保温材料来满足新西兰建筑规范（NZBC）中H1/AS1“隔热能效”条款的最低保温要求。

4.9 Fire Rated Walls 墙面耐火等级

Oblique™ Weatherboard when fixed over timber cavity battens to external walls can achieve fire ratings up to 60/60/60 to comply with Clause C/AS1 and C/AS2 of the NZBC, when the walls are constructed in accordance with the current Fire and Acoustic Design Manual by James Hardie.

按照现行的《James Hardie消防与隔音设计手册》指导安装，把Oblique™ 护墙板固定在外墙木制空腔板条上，耐火等级可达到60/60/60，符合NZBC中的C/AS1和C/AS2条款。

Oblique™ Weatherboard is classified as a 'non-combustible' material suitable for use on walls close to a boundary.

Oblique™ 护墙板被划分为“不可燃”材料，适用于临近边界的墙体。

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

Oblique™ Weatherboard material is classified as 'Type-A' as per Table C1.3 when tested to the requirements of Appendix C7.1.1 (b) of C/AS2 of NZBC and is suitable for use where 'Non Combustible Material' or ' Limited Combustibility Material' is required for for use in buildings located anywhere in relation to the relevant boundary for building within the scope of C/AS1 or C/AS2.

根据NZBC的C/AS2附录C7.1.1(b)的要求进行测试时，Oblique™ 护墙板按表C1.3被划分为“Type-A”，并适用于须要使用“非可燃材料”或“有限可燃材料”的建筑物，无论其相对于相关边界的位置如何，只要建筑物在C/AS1或C/AS2的范围内。

- At intervals of no greater than 3.5m vertical height where the upper floors contain sleeping uses or other property, a horizontal flashed joint must be provided to block the top of lower cavity. Refer to Figure 44.

  当上层楼面包含居住用途或其他设施时，在纵向高度不超过3.5m的间隙处，须提供横向防水接缝，以阻挡下层空腔的顶部。请参见图44。
- On buildings greater than 10m in height a RAB™ Board must be used.

  对于高度超过10m的建筑物，须使用RAB™ 板。

4.11 Durability 耐久性

Oblique™ 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.

按照本技术规范安装和维护的Oblique™ 护墙板和HomeRAB™ 预置垫层/RAB™ 板符合NZBC的B2“耐久性”条款对外墙耐久性的要求。

Oblique™ 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:

Oblique™ 护墙板能够抵抗长期潮湿所导致的恶化 (腐烂)， 并成功通过了AS / NZS 2908.2规定的测试：

- Heat Rain (Clause 6.5)

  热雨（第6.5条）
- Water Permeability (Clause 8.2.2)

  透水性（第8.2.2条）
- Warm Water (Clause 8.2.4)

  温水（第8.2.4条）
- Soak Dry (Clause 8.2.5)

  浸泡后风干（第8.2.5条）

4.12 Alpine Regions 高寒地区

In regions subject to freeze/thaw conditions, Oblique™ Weatherboard, HomeRAB™ Pre-Cladding/RAB™ Board must not be in direct contact with snow or ice build up for extended periods, e.g. external walls in alpine regions must be protected where snowdrifts over winter are expected.

对于经常出现冰冻/融化状况的地区， Oblique™ 护墙板和HomeRAB™ 预置垫层/RAB™ 板不得长时间直接接触积雪或冰块。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。

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

以上产品符合AS/NZS 2908.2的第8.2.3条的要求。

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

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，及清理，处理或移动时产生的含有可吸入结晶二氧化硅粉尘引起的。

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/NZS 1716 P1滤芯，并参见《澳大利亚/新西兰1715:2009标准 - 选择，使用和维护呼吸防护设备》的全面指导及其提供的更丰富的作业用呼吸器选择。欲知更多信息，请查看www.jameshardie. co.nz，参见我们的安装说明及安全数据表。

FAILURE TO ADHERE TO OUR WARNINGS, SAFETY DATA SHEETS, AND INSTALLATION INSTRUCTIONS MAY LEAD TO SERIOUS PERSONAL INJURY OR DEATH.

未能遵守我们的警告，安全数据表和安装说明可能会导致严重的人身伤害或死亡。

Crystalline Silica is
结晶二氧化硅是

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

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

- Silica can be breathed deep into the lungs when present in the air as a very fine (respirable) dust
  二氧化硅以极细（可呼吸）的粉尘形式存在于空气中时，可深吸到肺部。

- Exposure to silica dust without taking the appropriate safety measures to minimise the amount being breathed in, can lead to a potentially fatal lung disease – silicosis – and has also been linked with other diseases including cancer. Some studies suggest that smoking may increase these risks

  接触二氧化硅粉尘而未采取适当的安全措施以最大程度地减少吸入量，可能会导致致命的肺部疾病–矽肺病，并且还与包括癌症在内的其他疾病有关。一些研究表明，吸烟可能会增加这些风险。
- The most hazardous dust is the dust you cannot see!

  危害最大的粉尘是你看不见的粉尘!

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

- It's dangerous to health if safety protocols to control dust are not followed when cutting, drilling or rebating a product containing crystalline silica and when cleaning up

  在切割，钻孔，打磨或清理含有结晶二氧化硅的产品时，如不遵守控制粉尘的安全守则，会危害健康
- Products containing silica are harmless if intact (e.g. an un-cut sheet of wall board)

  含硅的产品在完整的情况下是无害的（比如，未切割的墙板）

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

Safe working practices
安全施工守则

✕ NEVER use a power saw indoors or in a poorly ventilated area

切勿在室内或通风不佳的区域使用电锯。

✕ NEVER dry sweep

切勿干扫。

✓ ALWAYS use M Class or higher vacuum or damp down dust before sweeping up

始终使用M级或更高级别的吸尘器，或在清扫之前沾湿粉尘。

✕ NEVER use grinders

切勿使用研磨机。

✓ ALWAYS use a dust reducing circular saw equipped with a sawblade specifically designed to minimise dust creation when cutting fibre cement – preferably a sawblade that carries the 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
在切割时

✓ Work outdoors only

仅在室外作业。

✓ Make sure you work in a well ventilated area

确保作业环境通风良好。

✓ 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（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

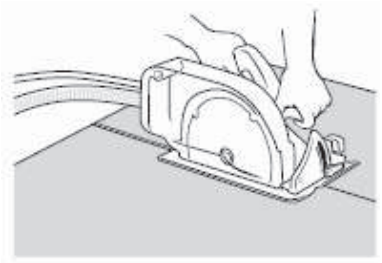
确保清洁，但切勿干扫。始终用水管冲洗或用湿抹布清洁，又或使用M级或更高级别的吸尘器。

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JamesHardie以获取更多信息。

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，可以快速干净的切割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，请将直线边缘夹在平板上作为导向，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:
不规则的孔

- 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

保证产品和人员安全。

Off loading 卸货

✓ Hardie™ fibre cement products should be off-loaded carefully by hand or by forklift
  Hardie™ 纤维水泥产品须手工搬运或使用叉车小心卸载。

✓ 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 储存

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，接触到化学品

James Hardie is not responsible for damage due to improper storage and handling.
因储存和搬运不当导致的产品损坏不在James Hardie的责任范围内。

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

✕ Do not lift planked products flat and in the middle

不要将板材平着从中抬起。

✓ 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

Oblique™ Weatherboard must be installed horizontally using the cavity construction method as per the details and information published in this document.

Oblique™ 护墙板须根据本手册中发布的详图和信息使用空腔结构法横向安装。

Oblique™ Weatherboard must be kept under cover whilst in storage or at sites and they must be dry at the time of their installation. All site-cut weatherboard edges must be sealed with Dulux® 1 Step, Acraprime® 501/1, Resene® Quick Dry or a similar sealer compatible with the finish coat before installation.

Oblique™ 护墙板在储存仓库中及施工现场都必须受到遮挡，并保证安装时处于干燥状态。所有施工现场切割过的板材在安装前须在边缘涂上Dulux® Acraprime® 501/1、Dulux® 1 Step，Resene® Quick Dry，或其它类似的可与板材表面涂料相兼容的密封剂。

Oblique™ Weatherboard must be fully supported and fixed through timber cavity battens. Ensure that cladding is hard against the battens to avoid drumminess.

Oblique™ 护墙板必须安装在木制空腔板条上，并得到足够的支撑。请确保外墙板牢固紧密地固定在板条上，以避免鼓胀不稳。

To achieve best aesthetic results it is recommended to position the vertical jointer by the corner of openings or coinciding with the centre line of openings.

为了达到美观的效果，建议将纵向接缝放置在开口的角落，或者与开口的中心线重合。

This technical specification only covers the horizontal installation of Oblique™ Weatherboard. Refer to the Oblique™ Weatherboard Vertical Installation Technical Specification for vertical installation.

本技术规范仅涵盖Oblique™ 护墙板的横向安装。关于纵向安装，请参见《Oblique™ 护墙板纵向安装技术规范》。

6.1 Fastener 紧固件

6.1.1 Fastener – Size and Layout
紧固件 — 尺寸和排布

Oblique™ Weatherboard must be fixed horizontally to framing using fixings as specified in Tables 4 and 5 on the next page and follow the edge distance required for nails as shown in the details.

Oblique™ 护墙板必须使用下页中表4和表5指定的紧固件横向固定到框架上，并遵循详图所示的钉子边距要求。

Table 4 表4

Oblique™ Weatherboard 200mm Oblique™护墙板 200mm			
Cavity Construction 空腔结构	**Wind Zone 风区**	**Fixing 固定**	**Fastener Type 紧固件类型**
Over flexible underlay 安装于弹性垫层之上	Up to and including VH wind zone VH级别以下风区（包括VH风区在内）	Fix one nail 100mm from bottom edge of board per board/per stud. Refer to Figure 3 每块板/立筋一枚钉子，在距离护墙板下缘100mm处入钉。参见图3	65 x 2.87mm D head or 65 x 2.87mm RounDrive ring shank nails or 75 x 3.15mm Hardie™ Flex nails 65 x 2.87mm D头钉或RounDrive环纹螺丝钉或75 x 3.15mm的Hardie™ Flex钉
Over HomeRAB™ Pre-Cladding 安装于HomeRAB™ 预置垫层之上	Up to and including VH wind zone VH级别以下风区（包括VH风区在内）	Fix one nail 100mm from bottom edge of board per board/per stud. Refer to Figure 3 每块板/立筋一枚钉子，在距离护墙板下缘100mm处入钉。参见图3	75 x 3.06mm D head or 75 x 3.15mm RounDrive ring shank nails or 75 x 3.15mm Hardie™ Flex nails 75 x 3.06mm D头钉或75 x 3.15mm的RounDrive环纹螺丝钉或75 x3.15mm的Hardie™ Flex钉
Over RAB™ Board 安装于RAB™ 板之上	Up to and including EH wind zone and SED projects EH级别以下风区（包括EH风区在内）和SED项目	Fix one nail 100mm from bottom edge of board per board/per stud. Refer to Figure 3 每块板/立筋一枚钉子，在距离护墙板下缘100mm处入钉。参见图3	75 x 3.06mm D head nails or 75 x 3.15mm RounDrive ring shank nails 75 x 3.06mm D头钉或75 x 3.15mm的RounDrive环纹螺丝钉

- The loose 75 x 3.15mm Hardie™ Flex nail is only suitable for use up to VH wind zone
  75 x 3.15mm的Hardie™ Flex钉仅适用于VH级别以下风区。

Table 5 表5

Oblique™ Weatherboard 300mm Oblique™ 护墙板 300mm			
Cavity Construction 空腔结构	**Wind Zone 风区**	**Fixing 固定**	**Fastener Type 紧固件类型**
Over flexible underlay 安装于弹性垫层之上	Up to and including VH wind zone VH级别以下风区（包括VH风区在内）	Fix one nail 150mm from bottom edge of board per board/per stud. Refer to Figure 3 每块板／立筋一枚钉子，在距离护墙板下缘150mm处入钉。参见图3	65 x 2.87mm D head or 65 x 2.87mm RounDrive ring shank nails 65 x 2.87mm D头钉或RounDrive环纹螺丝钉
Over HomeRAB™ Pre-Cladding 安装于HomeRAB™ 预置垫层之上	Up to and including VH wind zone VH级别以下风区（包括VH风区在内）	Fix one nail 150mm from bottom edge of board per board/per stud. Refer to Figure 3 每块板／立筋一枚钉 子，在距离护墙板下缘150mm处入钉。参见图3	75 x 3.06mm D head or 75 x 3.15mm RounDrive ring shank nails 75 x 3.06mm D头钉或75 x 3.15mm的RounDrive环纹螺丝钉
Over RAB™ Board 安装于RAB™ 板之上	Up to and including EH wind zone and SED projects with studs at 400mm centres maximum EH级别以下风区（包括EH风区在内）和SED项目，立筋最大间距400mm	Fix one nail 150mm from bottom edge of board per board/per stud. Refer to Figure 3 每块板／立筋一枚钉子，在距离护墙板下缘150mm处入钉。参见图3	75 x 3.06mm D head nails or 75 x 3.15mm RounDrive ring shank nails 75 x 3.06mm D头钉或75 x 3.15mm的RounDrive环纹螺丝钉
Over RAB™ Board 安装于RAB™ 板之上	Up to and including EH wind zone and SED projects with studs at 600mm centres maximum EH级别以下风区（包括EH风区在内）和SED项目，立筋最大间距600mm	Fix two nails 80mm from bottom and top edge of board per board/per stud. Refer to Figure 4 每块板/立筋两枚钉子，在距离护墙板上缘和下缘80mm处入钉。参见图4	75 x 3.06mm D head nails or 75 x 3.15mm RounDrive ring shank nails 75 x 3.06mm D头钉或75 x 3.15mm的RounDrive环纹螺丝钉

- When fixing the weatherboards using nail guns, refer to the nail gun manufacturer for information about nails and the type of nail gun to be used
  使用钉枪固定护墙板时，请参见钉枪制造商关于钉子和所需使用的钉枪类型的信息。
- D head nails - finish nails 2mm below the weatherboard surface
  D头钉 – 需钉进护墙板表面2mm。
- RounDrive nails - finish nails flush with the weatherboard surface
  RounDrive环纹螺丝钉 – 钉子与护墙板表面齐平。
- Hardie™ Flex nails - finish nails flush with the weatherboard surface
  Hardie™ Flex钉 – 钉子与护墙板表面齐平。

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

如需其他固定选项，请致电**0800 808 868**垂询Ask James Hardie™。

6.1.2 Fastener Durability 紧固件耐久性

Fasteners must meet the minimum durability requirements of the NZBC. NZS 3604 specifies the requirements for fixing materials to be used in relation to exposure conditions and are summarised in Table 6.

紧固件必须符合NZBC关于最低耐久性的要求。NZS 3604详细规定了用于室外暴露环境下的金属固件材质的要求，汇总于表6。

Fasteners must be fully compatible with the other materials that they are to be in contact with, to ensure the duraility of the complete assembly.

紧固件必须与它所能接触到的其他材料完全兼容，以确保房屋整体的耐久性。

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择的要求		
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**
	Fire 耐火	

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

在C区，如果当地情况证明须要提高耐用性，则需做出适当的选择，根据NZS 3604第4.2.4条的要求，按微气候条件进行特殊工程设计。

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

**热浸镀锌必须符合AS / NZS 4680的规定。

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.

还请参见NZBC可接受方案E2/AS1的表20和21，了解有关选择合适的固定材料以及与其他材料兼容性的信息。

6.2 Framing 框架

Oblique™ Weatherboard can be fixed either to a timber-frame or steel-frame.

Oblique™ 护墙板可以固定在木框架或钢框架上。

For fixing to a steel frame Ask James Hardie™ on 0800 808 868 for specific requirements.

如需固定在钢框架上，请致电0800 808 868垂询Ask James Hardie™，了解具体要求。

6.2.1 Special Framing Requirements 特殊框架要求

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

以下是对于木框架和钢框架通用的特殊框架要求：

- Double studs are required at internal corners, refer to Figure 13
  阴角须要双立筋，参见图13。
- Extra packers may be required at external corners.
  阳角可能需要额外的封隔。

6.2.2 Tolerances 误差

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

为了达到所需的性能和可接受的墙面效果，必须保证框架是直的。框架的误差必须符合NZS 3604中表2.1的要求和框架生产商的说明。所有的框架都必须齐平。

Also refer to MBIE guidance to tolerances , materials and workmanship etc. at www.building.govt.nz

请访问www.building.govt.nz，参见MBIE有关误差、材料、工艺等问题的指导。

6.2.3 Frame Construction 框架结构

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

木框架的使用方法必须符合NZS 3604标准的规定并遵照生产厂商的具体说明。框架必须是坚固的，且不能倚靠外墙板的支撑。木框架材料的尺寸和布局都必须符合NZS 3604标准的规定并遵照本技术手册的说明。

The following framing is required:

安装须要以下框架：

- Studs must be provided at 600mm centres maximum
  立筋间距不得超过600mm。
- Nogs must be provided at 800mm centres maximum
  水平加固件间距不得超过800mm。
- When studs are spaced at 400mm centres then the nogs/dwangs may be provided at 1200mm centres
  当立筋间距400mm时，水平加固件/加强筋间距可以是1200mm。
- An extra stud is required in internal corners
  阴角须要额外的立筋。
- For specific design projects exposed to wind speeds higher than 55m/sec, the stud size and spacing must be as per the SED design requirements but not exceeding 600mm maximum.
  对于位于风速大于55m/sec的地区的特殊设计项目来说，立筋的尺寸和距离必须依照项目具体的工程设计要求，但间距不得超过600mm。

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 an independent design provider statement.

如果位于山墙一侧的桁架处于外墙框架的上托板上，那么框架结构的尺寸必须符合桁架生产商／销售商所提供的设计和说明，且该设计及规范须要附有独立的设计生产声明。

6.3 Flexible underlay or HomeRAB™ Pre-Cladding 弹性垫层或HomeRAB™ 预置垫层

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

根据NZBC可接受方案E2/AS1中E2“外部湿度（ExternalMoisture）”条款的要求，房屋必须铺设弹性垫层或HomeRAB™ 预置垫层。对弹性垫层的选择必须符合E2/AS1中表23的要求。

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

弹性垫层必须根据E2/AS1中第9.1.7条的要求和弹性垫层生产商的建议来安装。

Walls which are not lined on the inside face (e.g. garage walls or gable ends) must include a rigid sheathing or an air barrier behind the cladding which complies with Table 23 of E2/AS1. For attached garages, flexible underlays must be selected in accordance with the NZBC Acceptable Solution E2/AS1, Paragraph 9.1.3.4. HomeRAB™ Pre-Cladding by James Hardie complies with these requirements and is suitable for use in this situation. It must be installed in accordance with the HomeRAB™ Pre-Cladding/RAB™ Board Installation Manual.

对于无内衬面的墙体（如车库墙或山墙），必须在外墙板的内层安装一层刚性隔板或密封板，以符合NZBC可接受方案E2/AS1中表23的要求。对于与屋体连接的车库墙，必须依照NZBC可接受方案E2/AS1中第9.1.3.4条的要求选择预置垫层。 James Hardie生产的HomeRAB™ 预置垫层符合以上规范，且适用于以上情况。请务必按照《HomeRAB™ 预置垫层和RAB™ 板安装手册》的指导进行安装。

6.4 Intermediate Support for Flexible Underlays 弹性垫层的居中支撑

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

当立筋的间距达到600mm时，应该加入居中支撑，以防止弹性垫层和保温棉向空腔方向鼓胀。有效合格的处理方法有以下几种，请选择使用其一：

- Intermediate cavity batten between the studs; or
  立筋之间加入居中空腔板条；或者
- 75mm galvanised mesh; or
  使用75mm的镀锌丝网；或者
- Polypropylene tape at 300mm centres fixed horizontally and drawn taut
  使用聚丙烯胶带，间距300mm，横向固定并拉紧。

No intermediate supports are required:

以下情况无需居中支撑：

- When studs are spaced at 400mm centres; or
  立筋间距为400mm；或者
- When rigid air barriers instead of flexible underlays are used
  使用刚性密封板代替了弹性垫层。

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风区或特定设计风区，必须使用刚性密封板，即RAB™ 板，而非弹性垫层。

For buildings more than 10m, RAB™ Board must be used.

对于高度超过10米的建筑物，必须使用RAB™ 板。

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.

使用HomeRAB™ 预置垫层和RAB™ 板实现临时的防风雨性，安装窗户/门时需要符合要求的防水胶带和密封剂等。请参见《HomeRAB™ 预置垫层和RAB™ 板安装手册》，了解有关其安装和实现临时防风雨性能的信息。

6.6 Flashings 防水板

All wall openings, penetrations, intersections, connections, window sills, heads and jambs must be flashed prior to Oblique™ Weatherboard installation. Refer to moisture management requirements in Clause 2.5. The flexible underlay/rigid air barrier must be appropriately incorporated with penetration and junction flashings using flashing tapes. Materials must be lapped in such a way that water tracks down to the exterior on the face of the flexible underlay or rigid air barrier board.

所有的墙体开口处、穿透处、交叉处、连接处，及窗沿、窗楣和窗框处，都必须在安装Oblique™ 护墙板之前做防水。请参见本技术手册第2.5条关于湿度管理的要求。必须使用防水胶带将弹性垫层／刚性密封板与墙体穿透处和交汇处的防水板妥善地相接合。材料必须搭接良好，保证水流是沿着弹性隔层或刚性密封板的外表面向下流。

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

所选防水材料必须符合NZBC中对于耐久性的要求。详情请参见 E2/AS1中的表20。

When using HomeRAB™ Pre-Cladding/RAB™ Board, the entire framing around openings must be protected with a flashing tape. The tape must be finished over the face of the rigid air barrier. Ensure to check the compatibility of flashing tapes and sealants with their manufacturer. Refer to the HomeRAB™ Pre-Cladding and RAB™ Board Installation Manual for further information.

当使用HomeRAB™ 预置垫层/RAB™ 板时，墙体开口处周围的所有框架结构必须用防水胶带封好。胶带必须延伸粘贴到刚性密封板的外表面。请务必与相关制造商确认防水胶带和密封涂料与建筑其他部分是否兼容。更多信息请参见《HomeRAB™ 预置垫层和RAB™ 板安装手册》。

6.7 Cavity Closure/Vent Strip 空腔封闭条/通风条

The Hardie™ 28mm Aluminium Cavity Closure or uPVC cavity vent strip must be installed at the bottom of all walls and above all openings constructed using the drained and ventilated cavity construction method. It is important that the openings in the cavity closure/vent strip are kept clear and unobstructed to allow free drainage and ventilation of cavities. Hardie™ cavity closure/vent strip has an opening area of 1000mm^2/m length.

所有墙体的底部及墙体所有开口处必须安装Hardie™ 28mm铝制空腔封闭条或uPVC空腔通风条，采用排水通风的空腔结构。请务必保持通风口开口处无遮挡、无堵塞，以便空腔顺利排水和通风。Hardie™空腔封闭条／通风条的开口面积为1000mm^2/米长。

6.8 Cavity Battens 空腔板条

Oblique™ Weatherboard must be installed on a cavity. The battens provide ventilation and drainage between the frame and the weatherboard and are considered a “packer” only in this specification.

Oblique™ 护墙板须安装在空腔板条上。板条在框架和护墙板之间起到通风和排水的作用，本技术规范且仅限本规范称之为“封隔”。

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

Hardie™ 横向空腔板条按照NZS 3640标准经过H3.1处理（化学防腐处理），以满足B2/AS1的耐久性要求。

Cavity battens must comply with E2/AS1 and:

空腔板条必须符合E2/AS1的要求，并且

- Be minimum 18mm thick
  最小厚度18mm
- Be as wide as the width of studs
  与立筋同宽
- Fixed vertically to studs
  纵向固定在立筋上
- Must be fixed by the cladding fixings to the main framing over the flexible underlay. Therefore until claddings are fixed the battens only need to be tacked to framing by 40 x 2.8mm or longer nails at 800mm centres
  须用外墙钉穿过弹性垫层固定在主框架上。因此，在固定护墙板之前，仅需用40 x 2.8mm或更长的钉子把板条临时固定在框架上，间距800mm。

6.9 Joints 接缝

6.9.1 Vertical Joint 纵向接缝

Oblique™ Weatherboard shall be jointed using the trimline joint flashing. Refer to Figures 8 to 10.

Oblique™ 护墙板应使用边线接缝防水板连接。参见图8至图10。

A single stud is required when using the trimline joint flashing. Refer to Figure 8.

在使用边线接缝防水板时，须要使用单立筋。参见图8。

Alternatively if a vertical joint flashing shall be used a double stud is required for this joint, refer to Figure 10.

或者，如果使用纵向接缝防水板，须要使用双立筋。参见图10。

6.9.3 Horizontal Joint 横向接缝

Oblique™ Weatherboards are lapped over each other as per Figures 3 and 4. There is a 23-25mm lap between the two weatherboards. Ensure that the Oblique™ Weatherboards are securely interlocked before nailing. Oblique™ Weatherboard can run continuous over floor joists without any horizontal joint when LVL timber floor joists or an engineered joist are used, refer to Figure 31.

Oblique™ 护墙板相互搭接，如图3和图4示意。两块护墙板之间的搭接部分在23-25mm。确保入钉之前，Oblique™ 护墙板已经相互锁死。Oblique™ 护墙板可以连续不断的铺于地板龙骨之上，而无需横向接缝，前提是龙骨材质为单板层积材木质龙骨或工程龙骨。参见图31。

When using a solid timber joist, a horizontal joint or a movement joint must be formed at floor joist, refer to Figures 30 and 32.

当使用的是实木龙骨时，必须在地板龙骨上形成横向接缝或移动接缝，参见图30和图32。

6.9.4 Drainage Joint 排水接缝

After every two floors a horizontal drainage joint flashing is required, refer to Figure 32.

每两层楼即须安装一块横向排水接缝防水板。参见图32。

For buildings higher than 3 storey, from a vertical fire spread safety perspective, a horizontal drainage joint is required at each floor.

对于高于三层的建筑物，从纵向火势蔓延安全性的角度考量，每层楼都需安装一块横向排水接缝防水板。

6.9.5 External Corner 阳角

An external box corner flashing is used to fix the external corners, refer to Figure 11. Alternatively an Hardie™ Axent™ Trim external boxed corner can also be formed, refer to Figure 12.

在固定阳角时，需要使用阳角箱角防水板，参见图11，或者形成Hardie™ Axent™ 饰板阳角箱角，参见图12。

6.9.6 Internal Corner 阴角

An internal corner flashing is to be used to form an internal corner joint, refer to Figure 13.

在形成阴角接缝时，需要使用阴角防水板，参见图13。

An extra stud is required in internal corners.

阴角须要额外的立筋。

Note: All joint mouldings to be fixed at 400mm centres both sides.
注：所有接缝模具都须要固定两侧，间距400mm。

6.10 Junctions and Penetrations 交汇和穿透

Refer to Clause 2.5 of this specification for moisture management requirements. All windows and doors must be detailed as per the requirements of this specification. For an example of window details for Oblique™ Weatherboard which meet the performance requirements of E2 External Moisture, an approved document of the NZBC, refer to Figures 18 to 28.

参见本技术规范第2.5条关于湿度管理的要求。所有门窗必须根据本规范的要求来设计详图。若需要Oblique™ 护墙板窗户细节处理的示例详图，请参见详图18至28，这些详图符合NZBC核准文件中E2“外部湿度”条款的要求。

7 Finishes 表面处理

7.1 Preparation 准备工作

The D head nail must be finished 2mm below the weatherboard surface. The nail holes must be filled with an exterior grade two part builders fill, ie. CRC® ADOS® Builders Fill or similar two part external grade filler. The RounDrive nail heads must finish flush with weatherboard surface.

D头钉必须钉进护墙板表面以下2mm，钉孔须用外用级工程填充剂，如CRC® ADOS® Builders Fill，或类似的外用双剂型填充剂。RounDrive环纹螺丝钉头必须与护墙板表面齐平。

7.2 Painting 刷漆

Oblique™ Weatherboard is pre-primed and is suitable for site applied acrylic paints.

Oblique™ 护墙板已经预涂底漆，适于在施工现场刷上丙烯涂料。

In order to seal cut edges or sanded patches, Dulux® 1 Step, Acraprime® 501/1, Resene® Quick Dry, Taubmans® Underproof Acrylic Primer undercoat or a similar product should be applied. The primer should be compatible with the paint to be used.

为了对板材的切割面和砂纸抛光面进行密封，应使用Dulux® 1 Step, Acraprime® 501/1, Resene® Quick Dry, Taubmans® Underproof 丙烯酸底漆或其它类似产品。底漆应与涂料相兼容。

Painting of Oblique™ Weatherboard is mandatory to meet the durability requirements of the NZBC and 25 year James Hardie product warranty. Oblique™ Weatherboard must be dry and free of any dust or grime before painting. The weatherboards must be painted within 90 days of their installation. There is no restriction on the LRV of paint to be applied on the Oblique™ Weatherboard.

为了符合NZBC关于耐久性的要求和James Hardie的25年质保要求，Oblique™ 护墙板必须刷漆。在刷漆前，请保持板材干燥和清洁无污。刷漆必须在安装后90天内完成。Oblique™ 护墙板对于所刷漆的LRV值没有要求。

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

James Hardie建议至少涂两层外用级别的聚丙烯涂料。请遵照涂料制造商的建议来预处理板材表面，并充分地隐藏固件和密封钉孔。

For best aesthetic results a low sheen paint is recommended.

为了美观，建议使用低光泽度的涂料。

7.3 Flexible Sealant 弹性密封胶

Sealant used must comply with the relevant requirements of the NZBC. Their application and usage must be in accordance with the manufacturer's instructions. Check with the sealant manufacturer prior to coating over sealant. Some sealant manufacturers do not recommend coating over their product.

密封胶的使用必须遵照NZBC的相关要求。密封胶的用法和用途必须符合制造商的规定。在密封胶表层上刷漆之前，请先与密封胶制造商确认。有些密封胶的制造商并不建议在其产品上刷漆。

8 Care and Maintenance
保养与维护

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

房屋外墙所需的维护方法和程度跟其所在的地理位置和暴露在什么样的环境有关系。工程规范方有责任确定该建筑物所需的日常维护要求，以保证外墙发挥正常的功能。

As a guide, it is recommended that the basic normal maintenance tasks shall include, but not be limited to:

作为指南，我们仅建议一些基本的维护措施，包括但不仅限于：

- Washing down exterior surfaces every 6 - 12 months 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个月使用低压水和刷子清洗外墙表面，在极端沿海条件或海雾区每3-4个月清洗一次。不要使用高压水枪清洗外墙。请参见涂料制造商的清洗要求。
- Re-coating exterior protective finishes. Always refer to your paint manufacturer for re-coating requirements.
  重新粉刷保护涂层。始终参见涂料制造商有关重新粉刷的要求。
- Regular inspection and repair if necessary of the cladding, joints, sealants, nail head fillers
  定期检查外墙板接缝、密封胶和钉头填充剂，必要时进行修复。
- Cleaning out gutters, down pipes and overflow pipes as required
  根据需要清理排水沟、下水管和溢流排水管。
- Pruning back vegetation which is close to or touching the Oblique™ Weatherboard as well as ensuring the NZBC ground clearance requirements are maintained, especially where gardens are concerned
  经常修剪与Oblique™ 护墙板靠近或有接触的植物。确保遵守NZBC关于离地间隙的要求，尤其是当涉及到花园时。
- The clearance between the bottom edge of the Oblique™ Weatherboard and the finished/unfinished ground must always be maintained
  确保Oblique™ 护墙板的底边与已铺／未铺的地面始终保持适当的距离。

9 Details 详图

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

本文档中的通用详图是为空腔结构提供的。

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Figure 1: Typical storey Layout | 图1：典型楼层布局

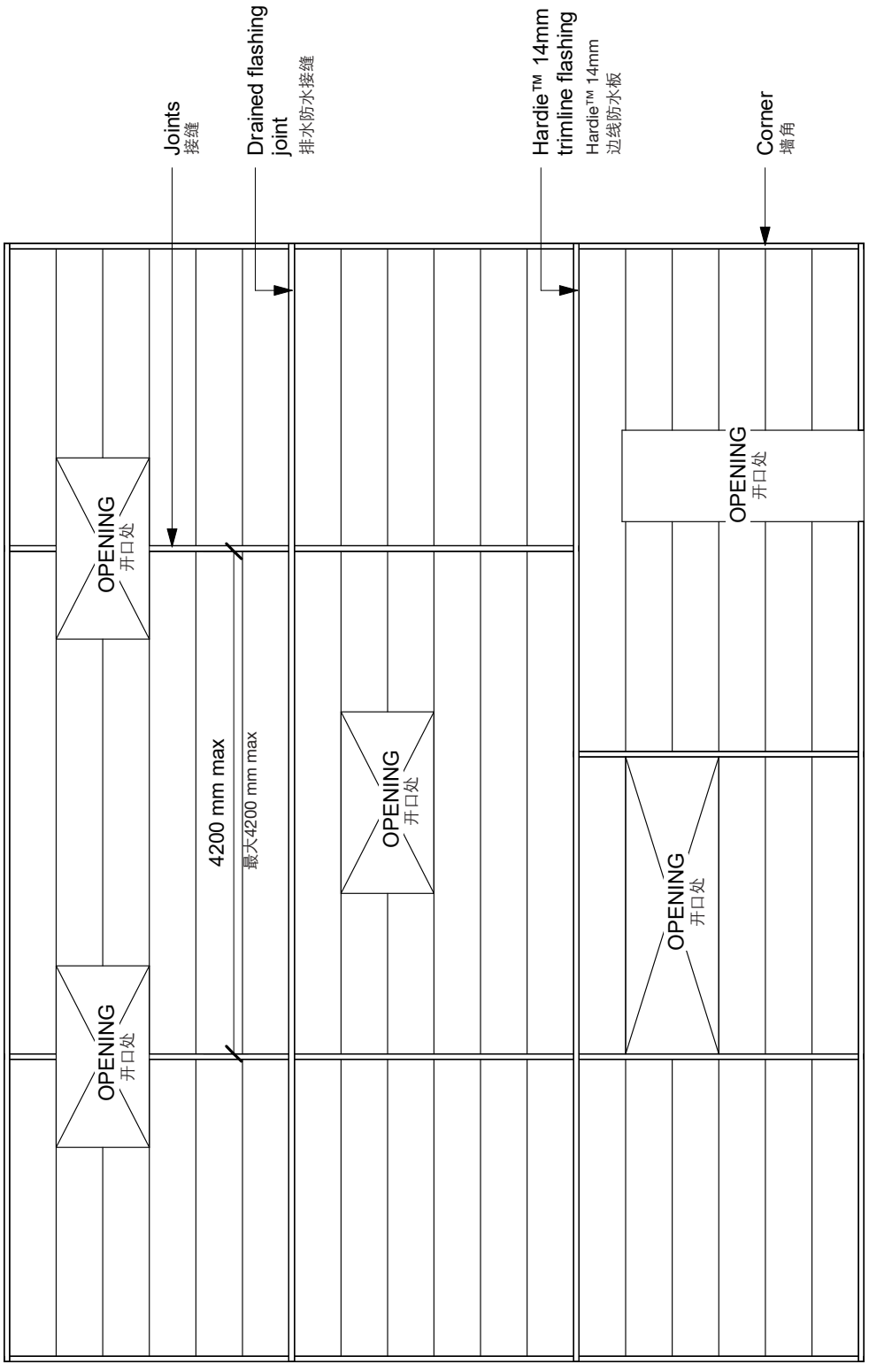
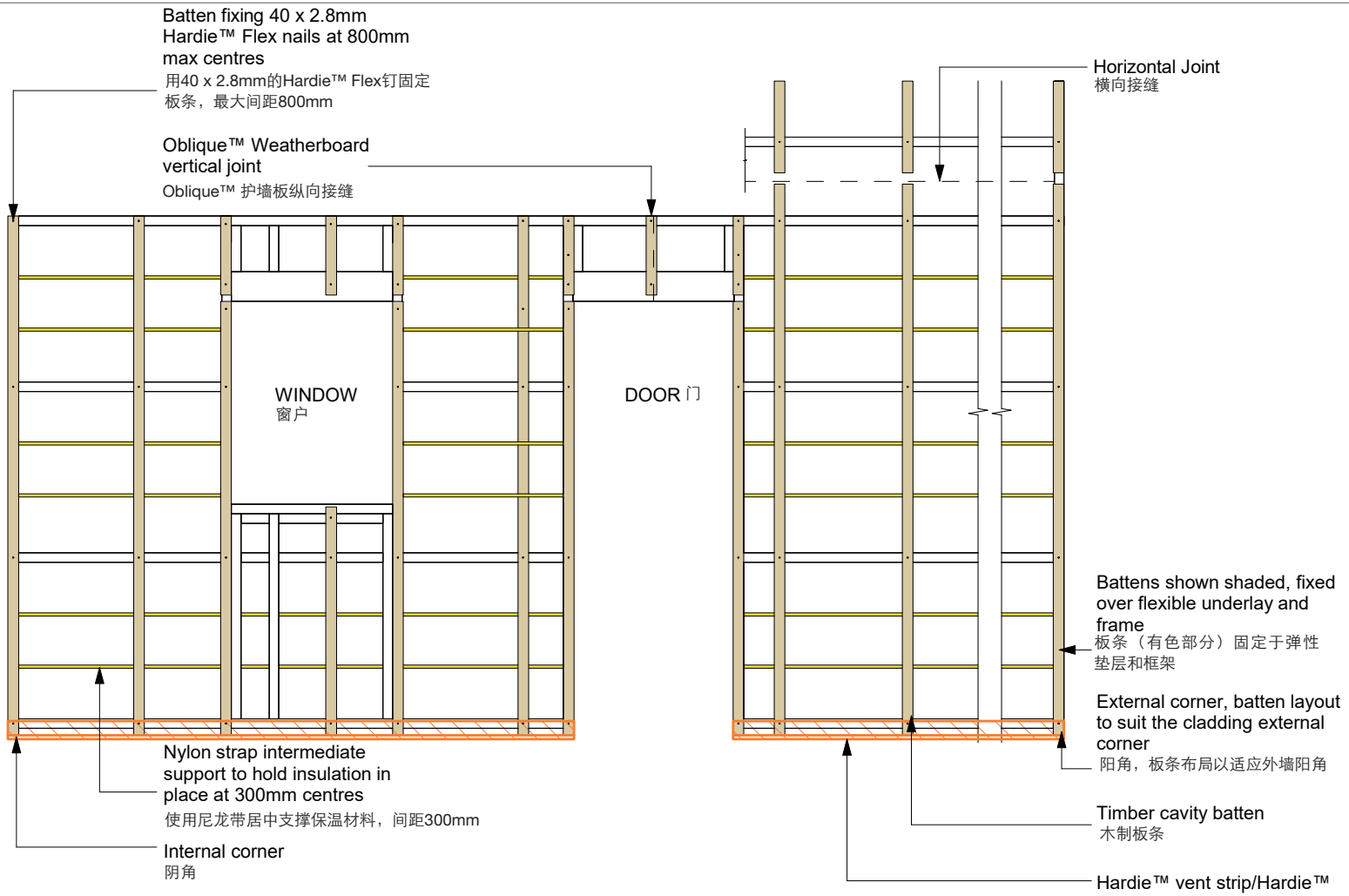


Figure 2: Batten set out | 图2：板条布局



Note: 注：

- Maximum stud spacing 600mm centres
  立筋最大间距600mm。
- If studs are placed at 400mm centres no intermediate support is required
  当立筋间距400mm时，无须居中支撑。

Figure 3: Fixing detail ｜图3：固定详图

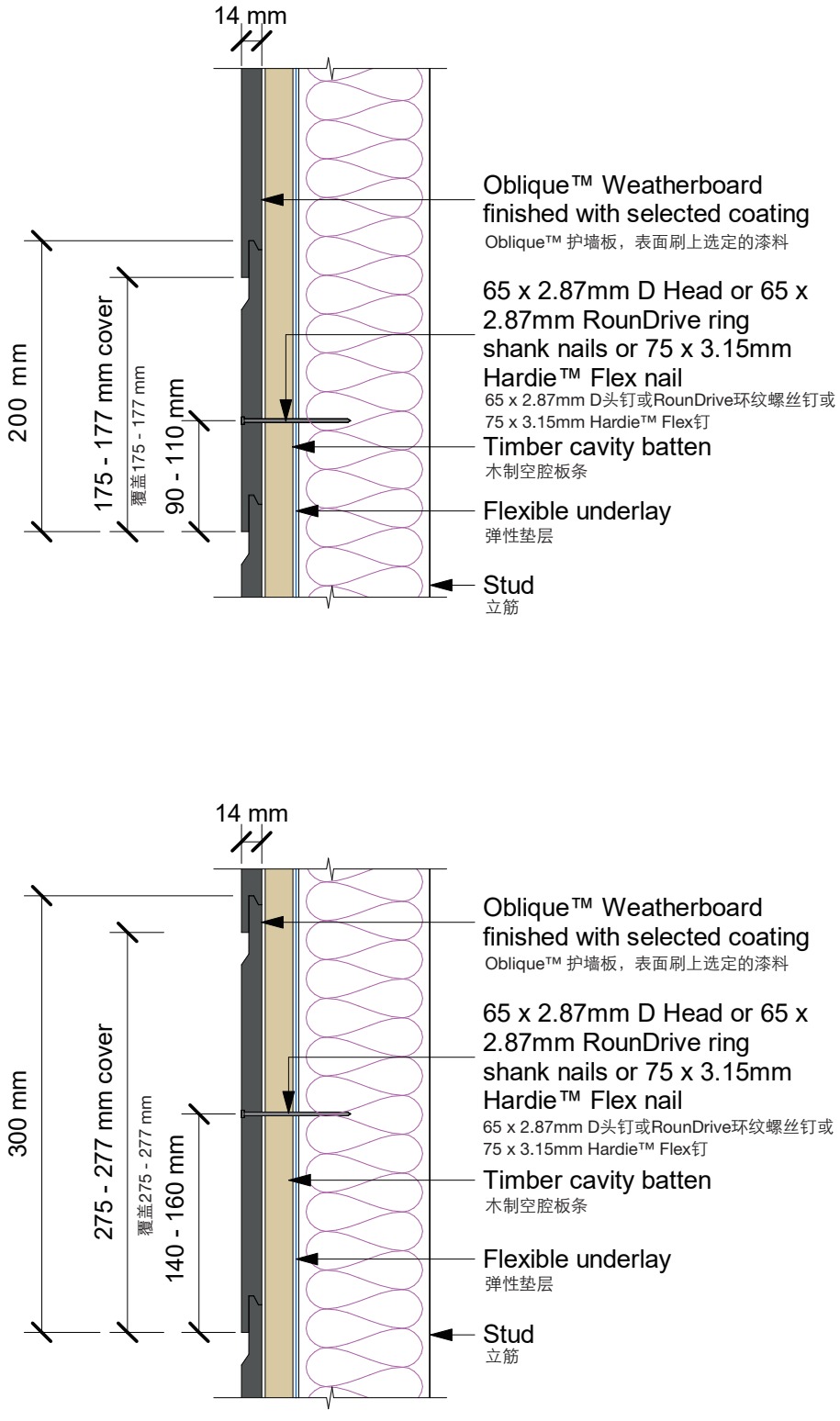


Figure 4: Fixing in EH or SED wind zone | 图4：在EH或SED风区的固定

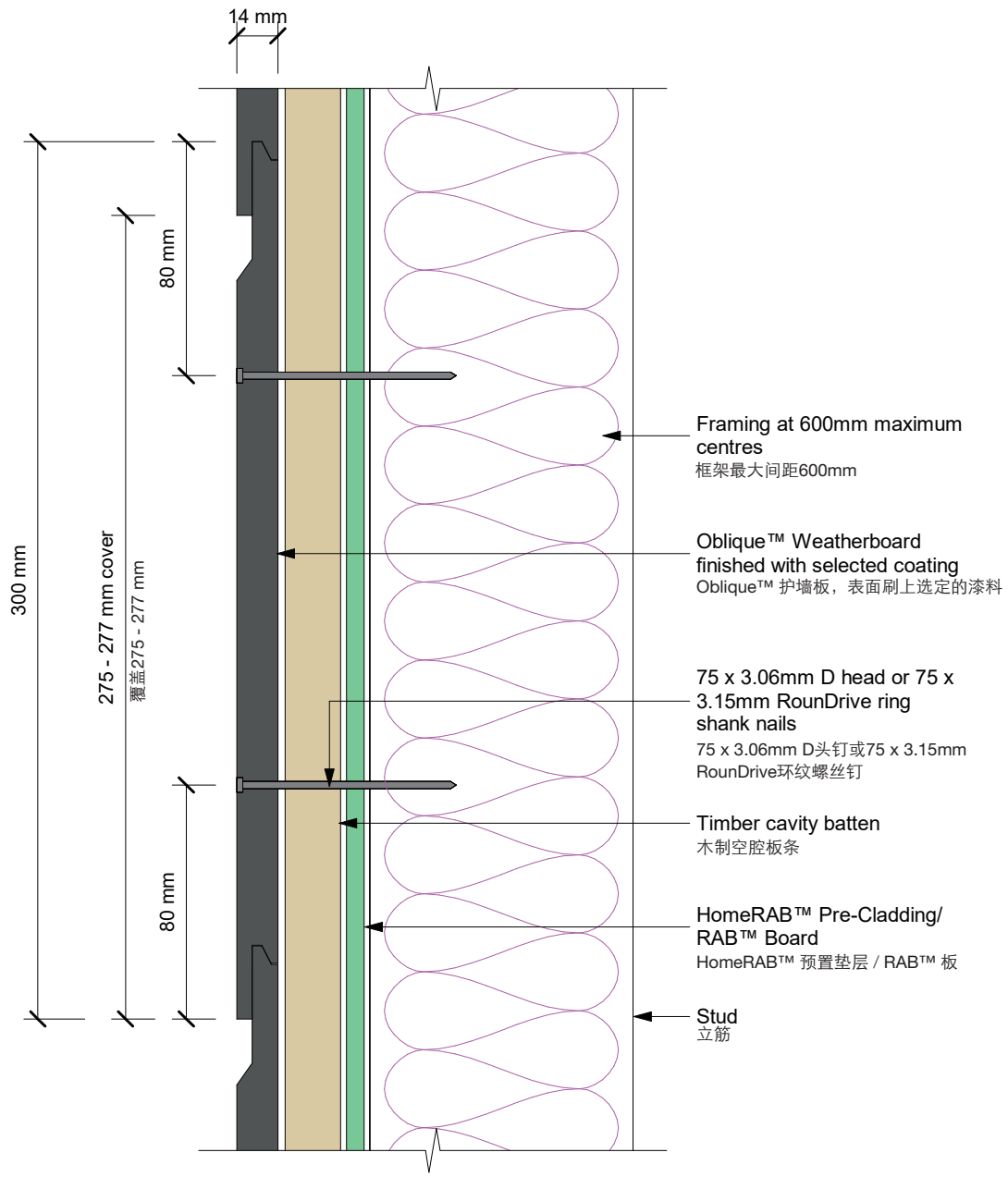
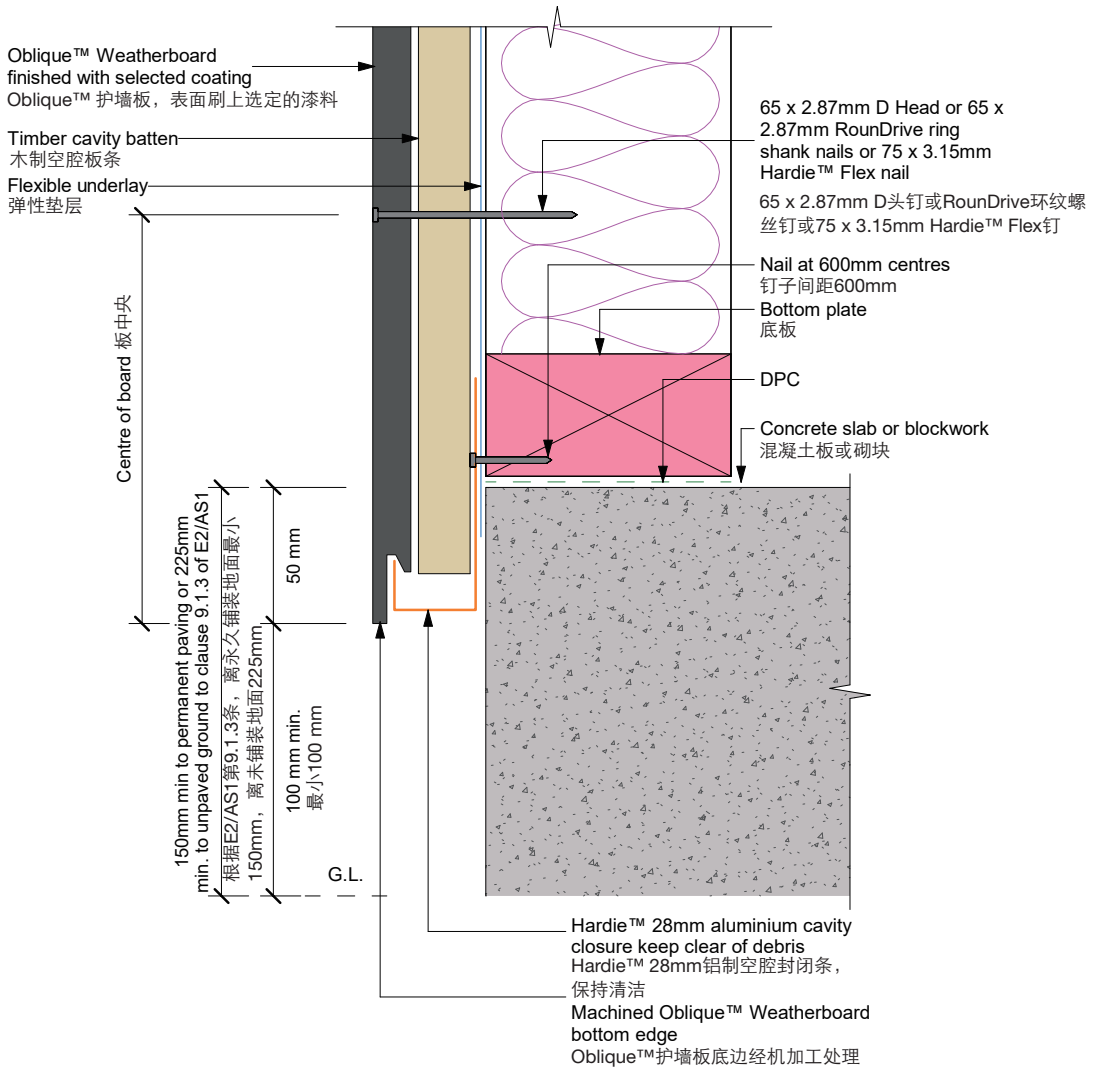
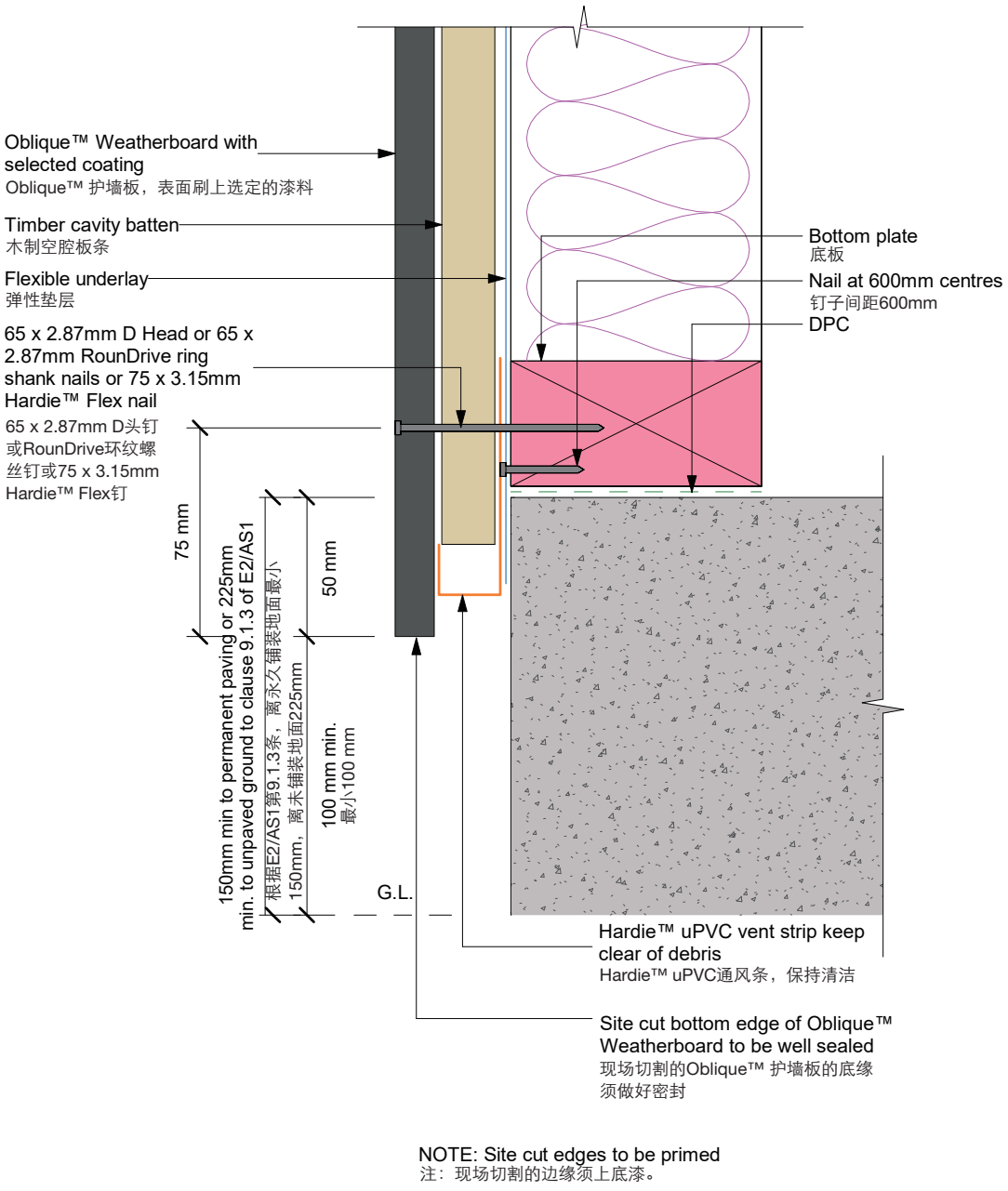


Figure 5: Foundation detail – option 1 | 图5：地基详图 – 方案1



Note: Site cut edges to be primed
注：现场切割的边缘须上底漆。

Figure 6: Foundation detail – option 2 | 图6：地基详图 - 方案2



NOTE: Site cut edges to be primed
注：现场切割的边缘须上底漆。

Figure 7: Enclosed deck | 图7：封闭式露台

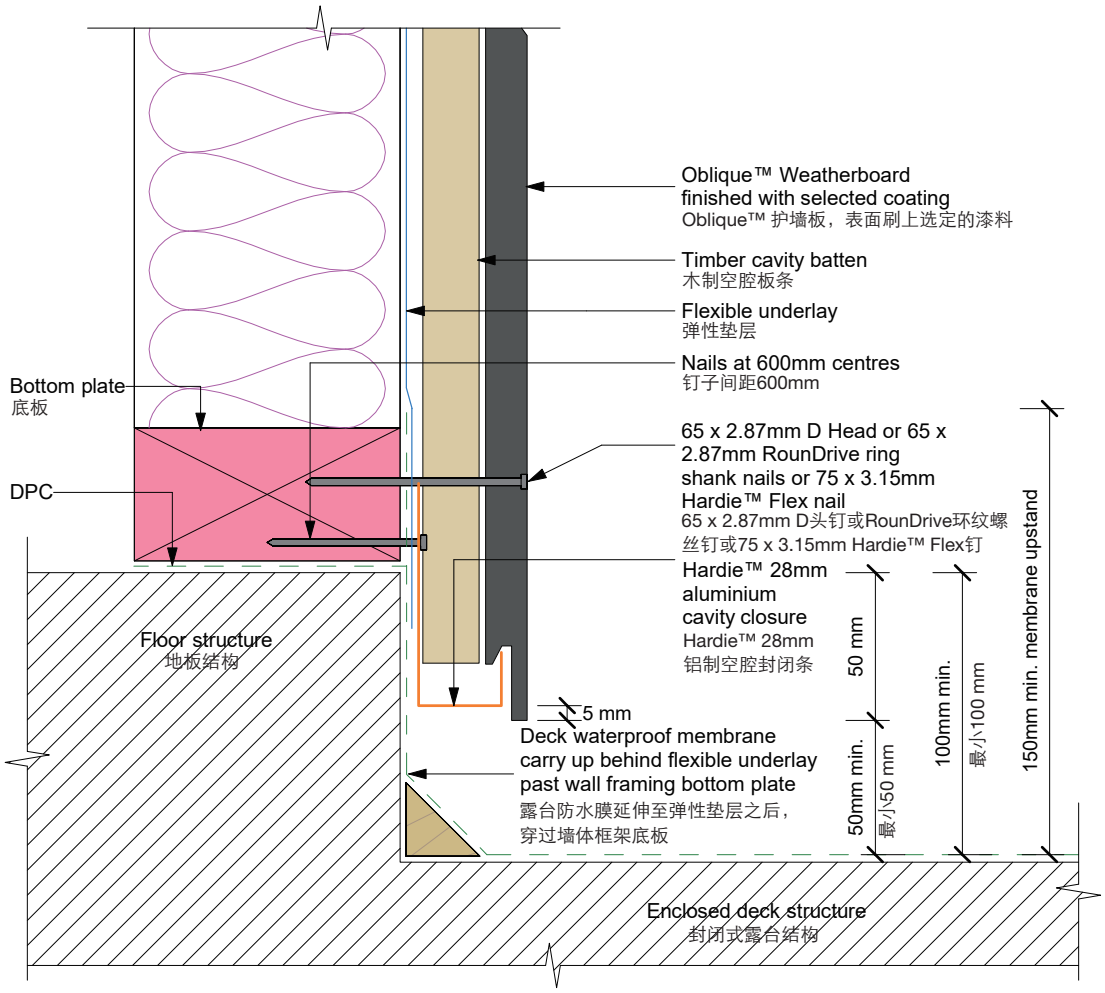


Figure 8: Vertical jointing option 1 | 图8：纵向接缝 – 方案1

65 x 2.87mm D Head or 65 x 2.87mm RounDrive ring shank nails or 75 x 3.15mm Hardie™ Flex nail
65 x 2.87mm D头钉或RounDrive环纹螺丝钉或75 x 3.15mm Hardie™ Flex钉

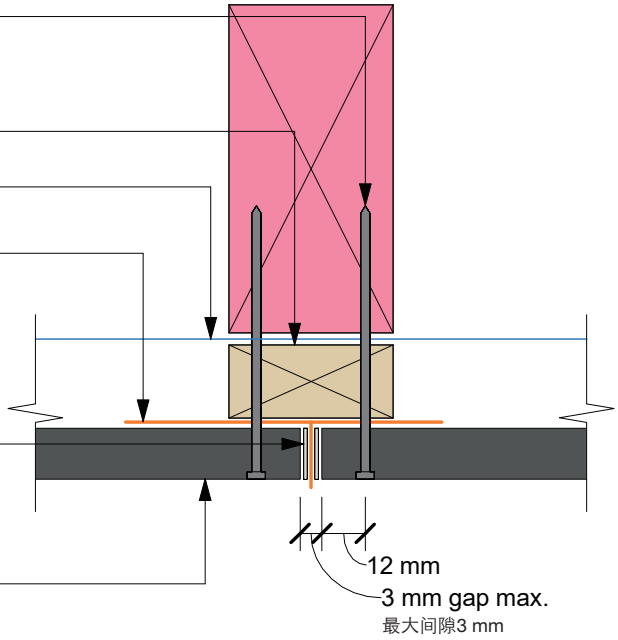
Timber cavity batten
木制空腔板条

Flexible underlay
弹性垫层

Hardie™ 14mm trimline joint flashing
Hardie™ 14mm边线接缝防水板

Apply 4mm continuous bead of flexible sealant to end of Oblique™ Weatherboard prior to butting to trimline joint
与边线接缝防水板对接之前，在Oblique™护墙板的尾端涂上连续4mm的弹性密封胶

Oblique™ Weatherboard with selected coating
Oblique™ 护墙板，表面刷上选定的漆料



Note: Site cut edges to be primed
注：现场切割的边缘须上底漆。

Figure 9: Vertical trimline joint flashing | 图9：纵向边线接缝防水板

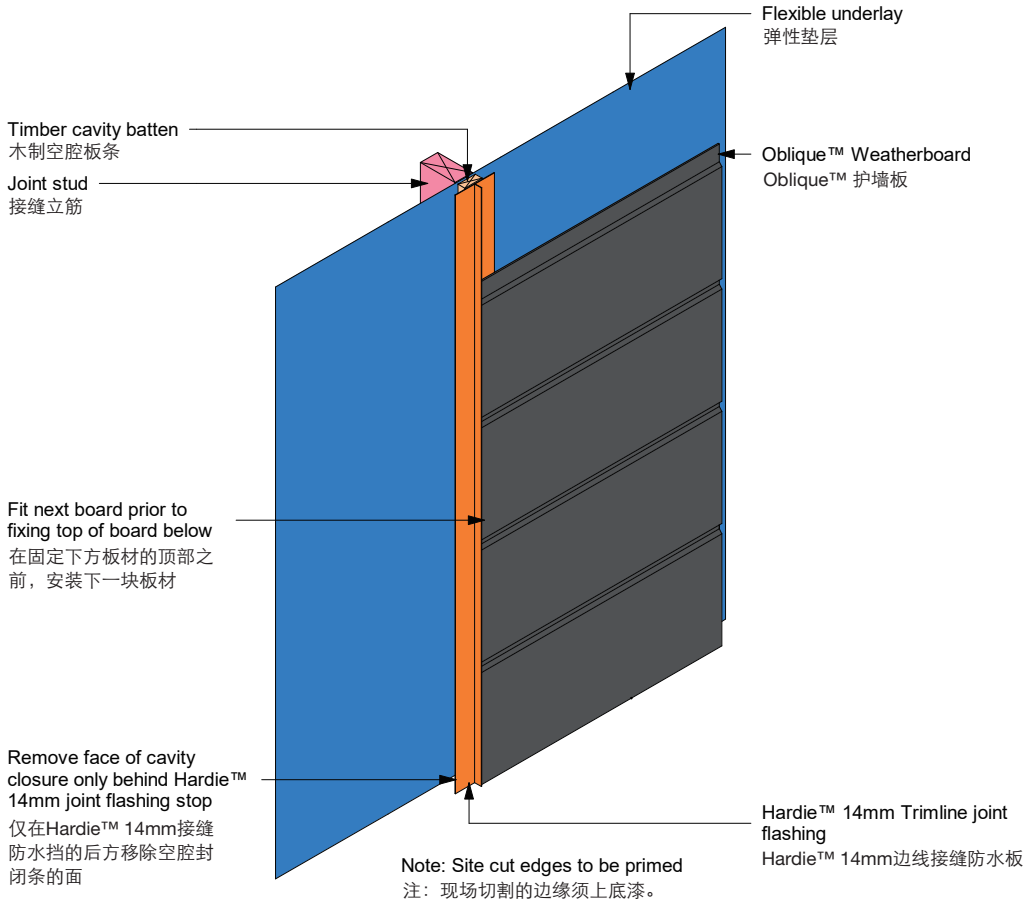


Figure 10: Vertical jointing option 2 | 图10：纵向接缝 – 方案2

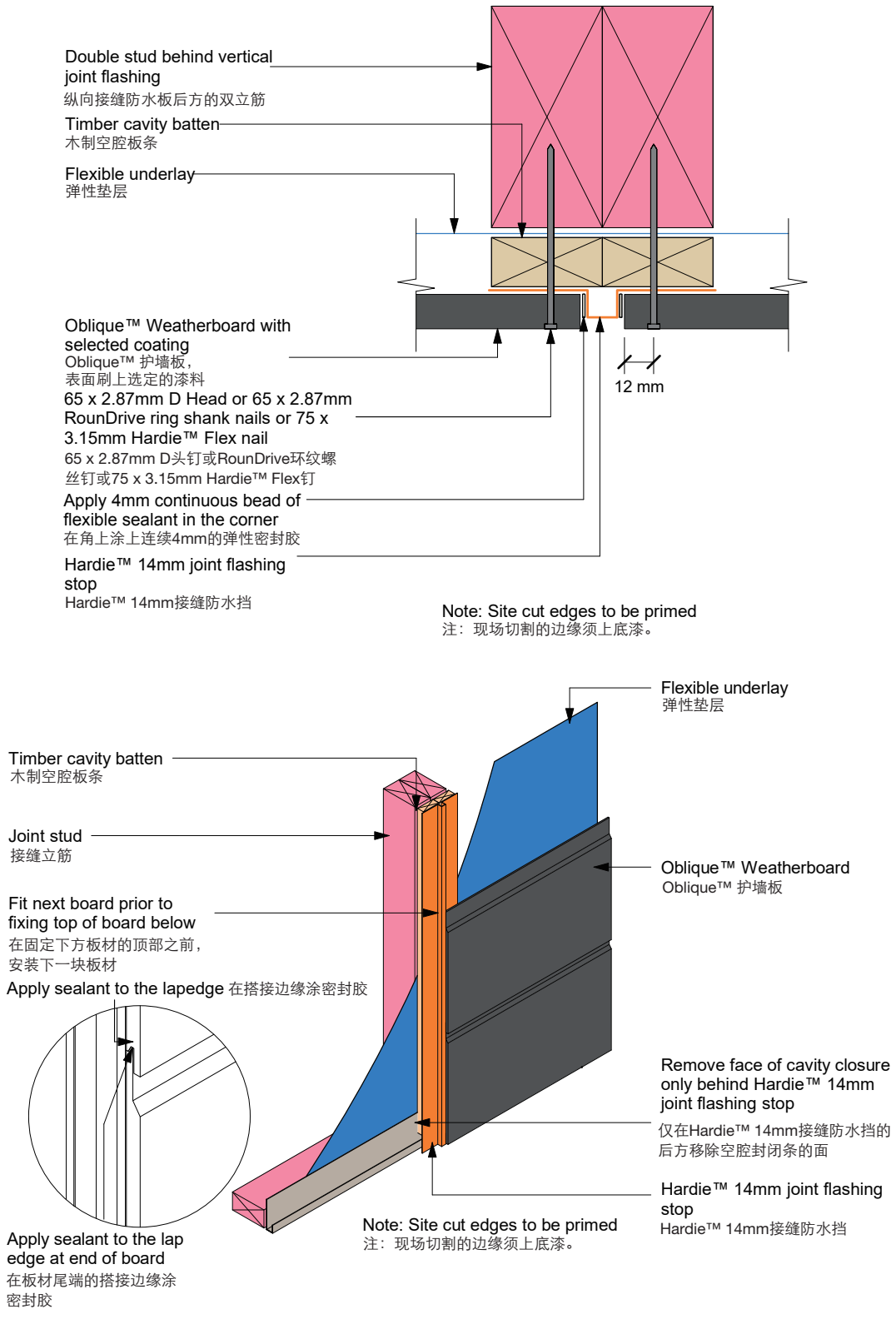


Figure 11: External aluminium box corner | 图11：铝制阳角箱角

interactive assembly instructions available

http://wksp.nz/jh-lio-hexab

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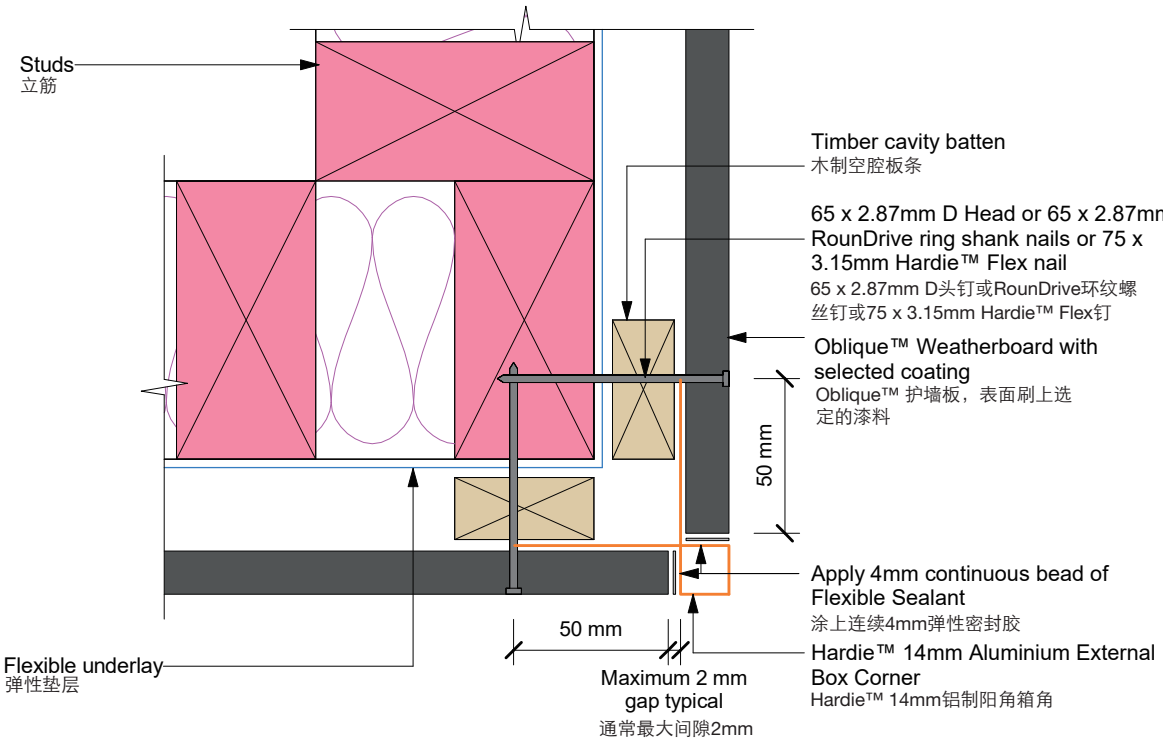

Note: Site cut edges to be primed
注：现场切割的边缘须上底漆。

Figure 12: Trim external box corner | 图12：饰板阳角箱角

interactive assembly instructions available

http://wksp.nz/jh-lio-hexat

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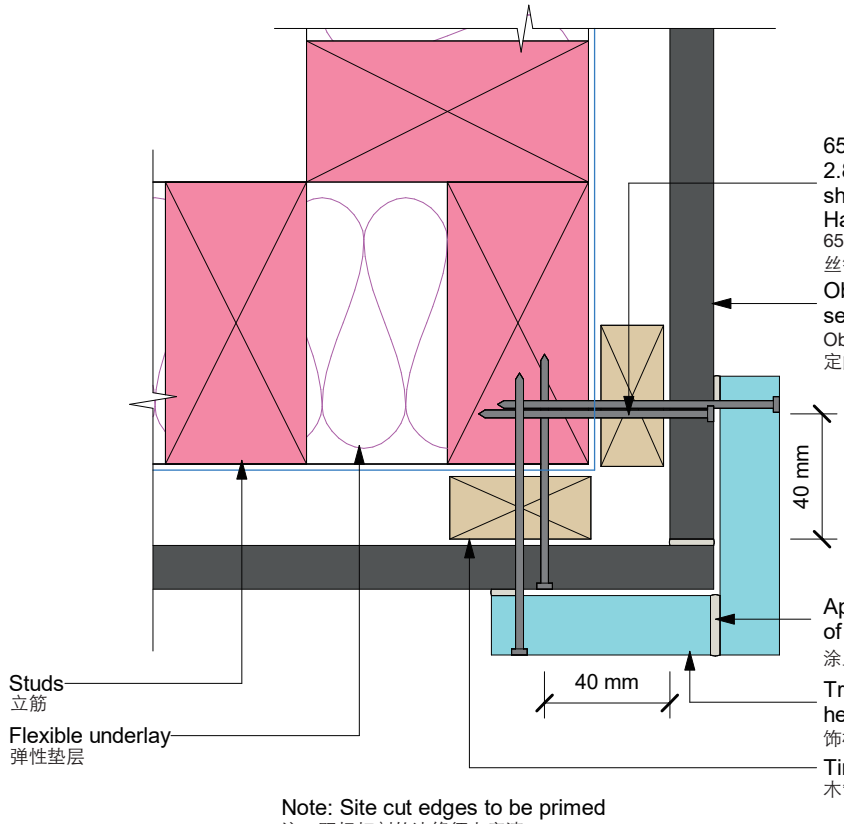

Note: Site cut edges to be primed
注：现场切割的边缘须上底漆。

Figure 13: Internal aluminium corner ｜图13：铝制阴角

interactive assembly instructions available

http://wksp.nz/jh-lio-hinc

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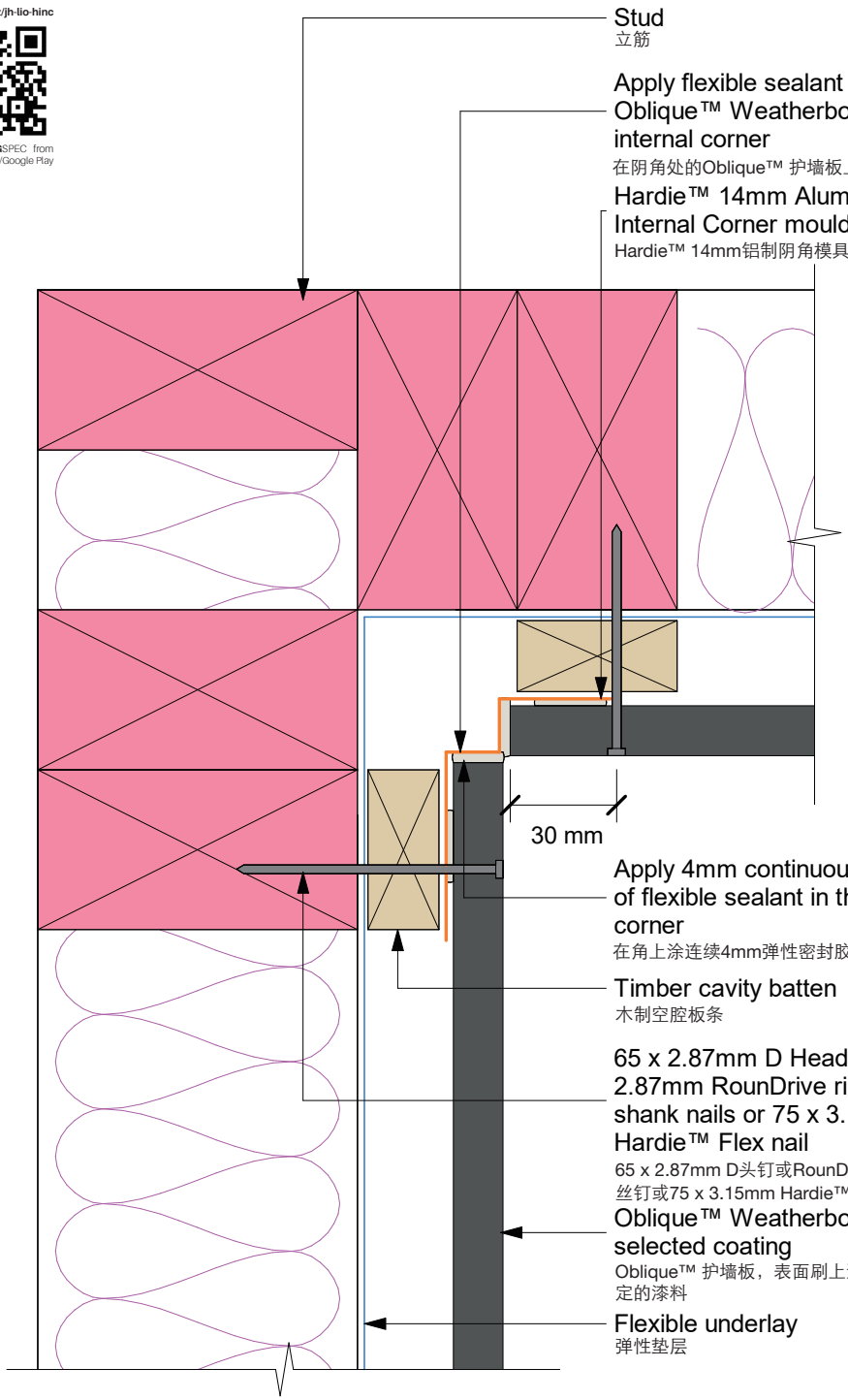
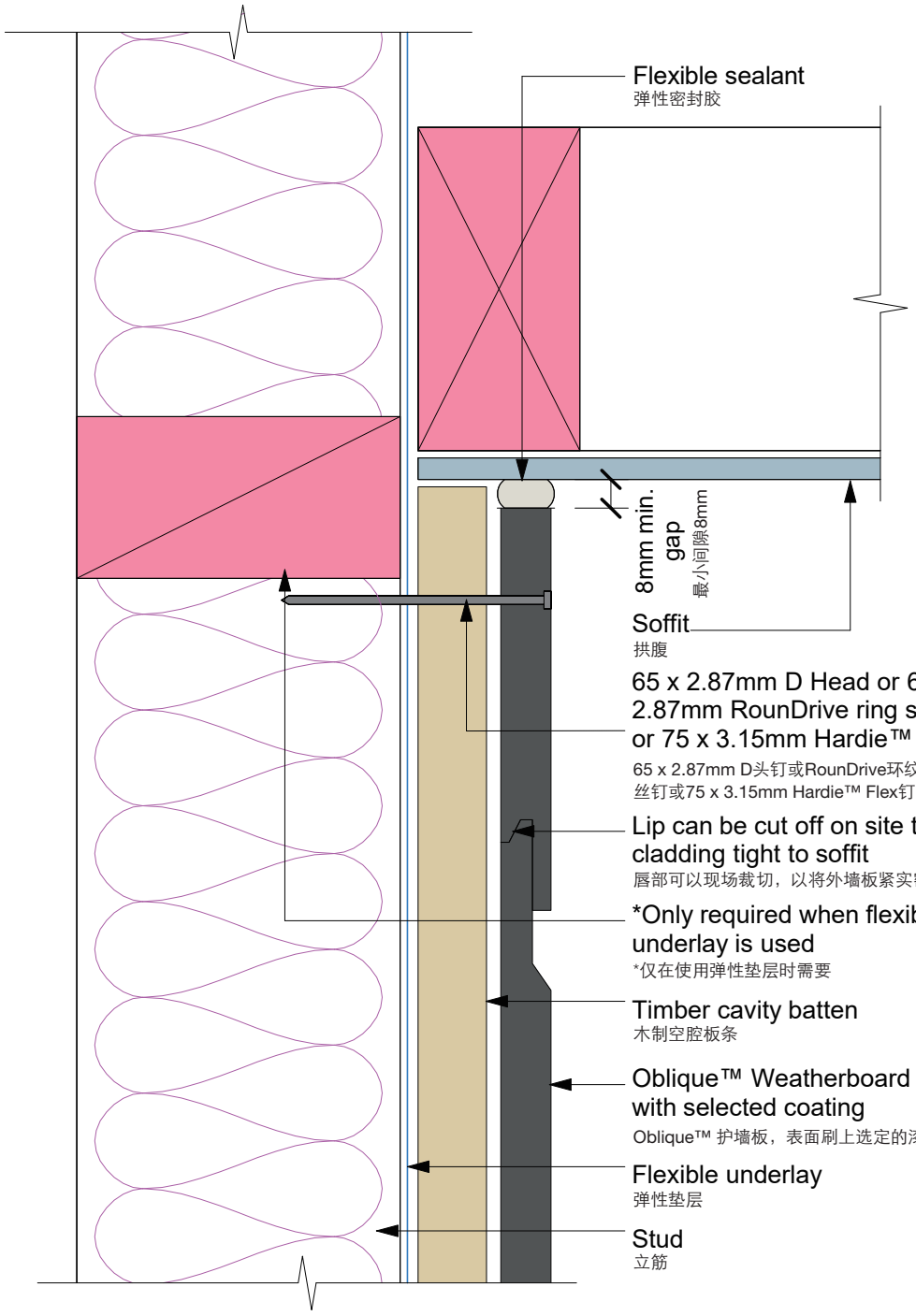


Note: Site cut edges to be primed

注：现场切割的边缘须上底漆。

Figure 14: Soffit detail ｜图14：拱腹详图



Note: Site cut edges to be primed
注：现场切割的边缘须上底漆。

Figure 15: Nil soffit ｜图15：零拱腹详图

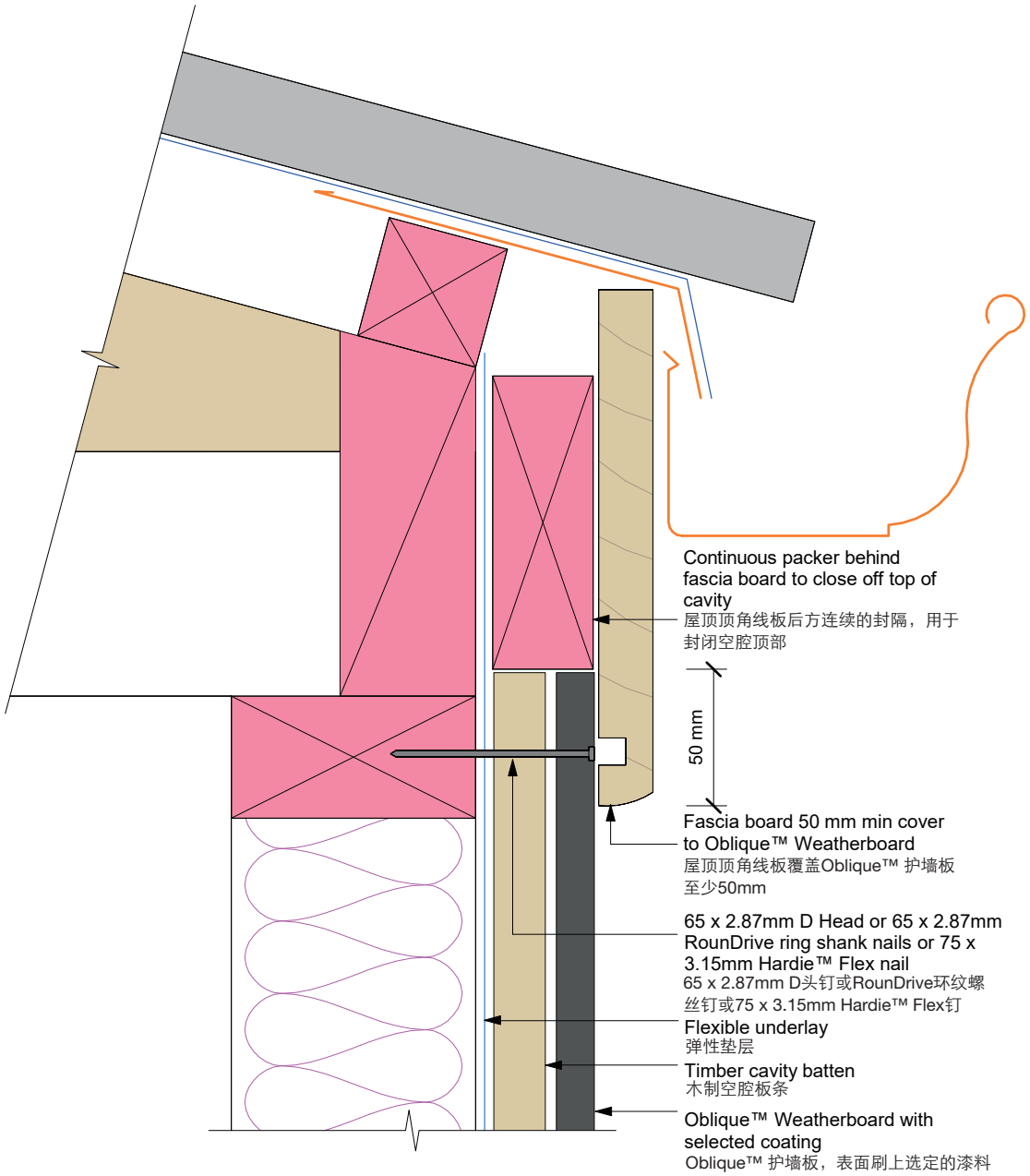


Figure 16: Soffit top ventilation | 图16：拱腹顶部通风详图

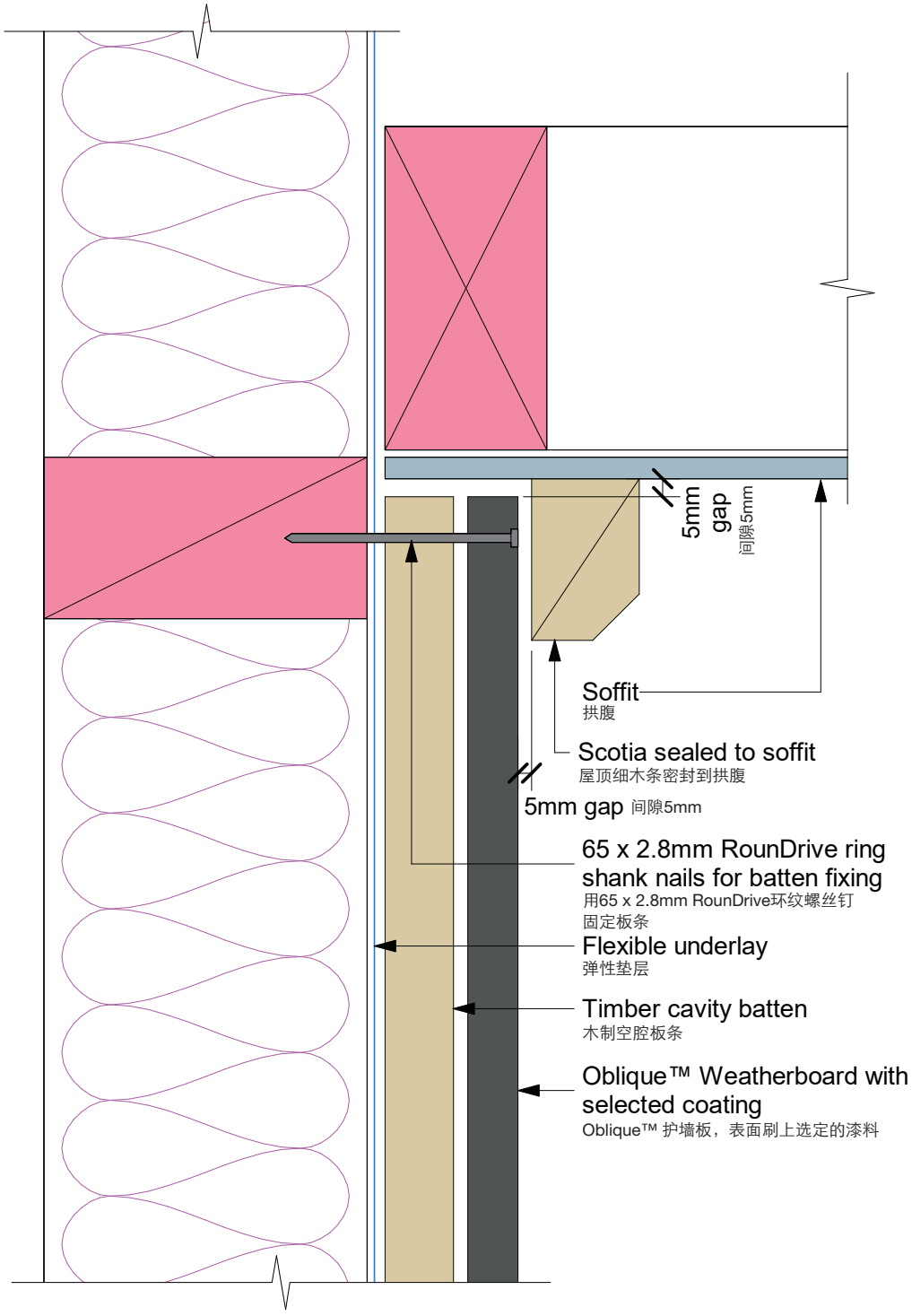


Figure 17: Nil soffit top ventilation ｜图17：零拱腹顶部通风详图

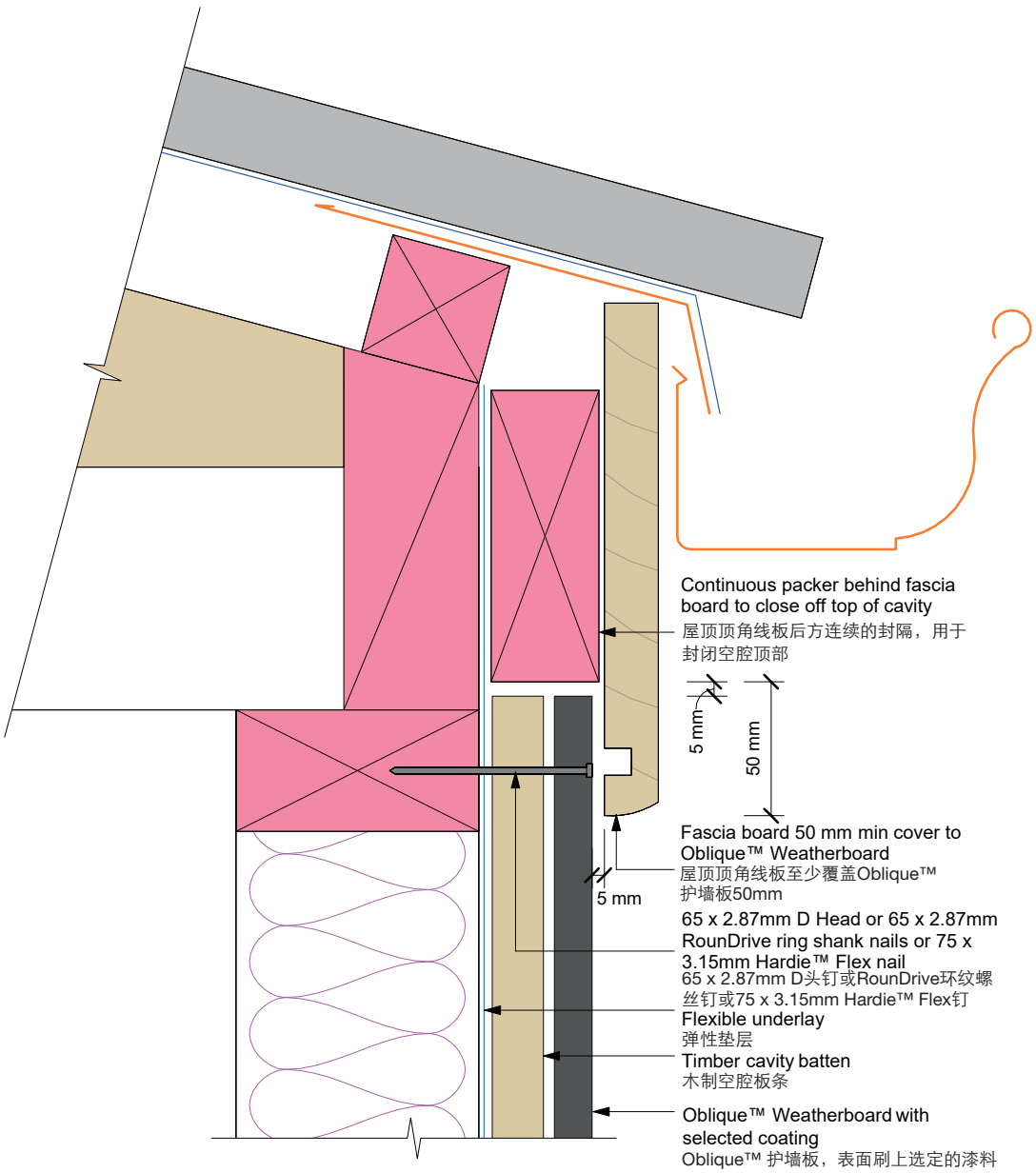


Figure 18: Window sill ｜图18：窗沿

interactive assembly instructions available

http://wksp.nz/jh-lio-hwin

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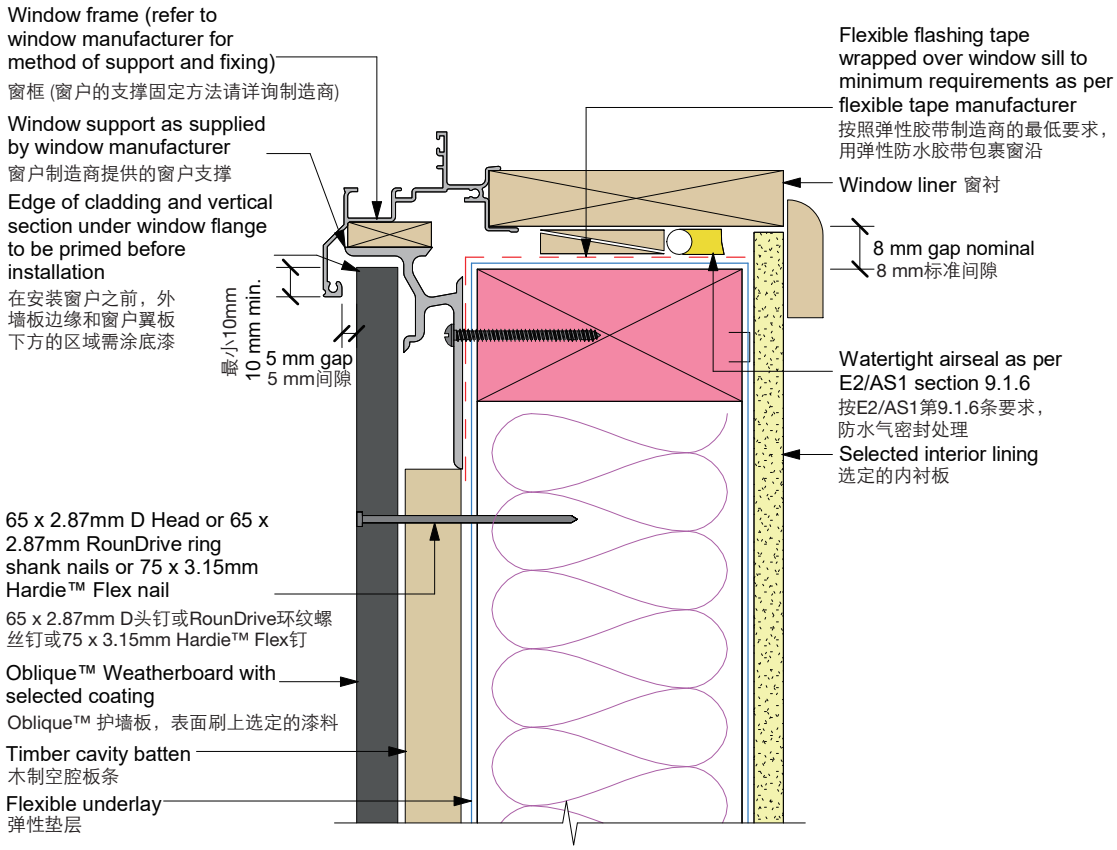


General notes for materials selection
关于材料选择的常规注意事项:

1. Flashing materials must be selected based on environmental exposure, refer to NZS 3604 and Table 20 of the NZBC E2/AS1
   防水材料必须基于所处的环境来选择, 详情请参见NZS 3604和NZBC E2/AS1表20。
2. Flexible underlay must comply with acceptable solution E2/AS1
   弹性垫层必须符合可接受方案E2/AS1的规定。
3. Flashing tape must have proven compatibility with the selected flexible underlay and other materials with which it comes into contact
   防水胶带必须与所选的弹性垫层或其它相互接触的材料兼容。

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材料技术信息。

Figure 19: Window jamb ｜图19：窗框

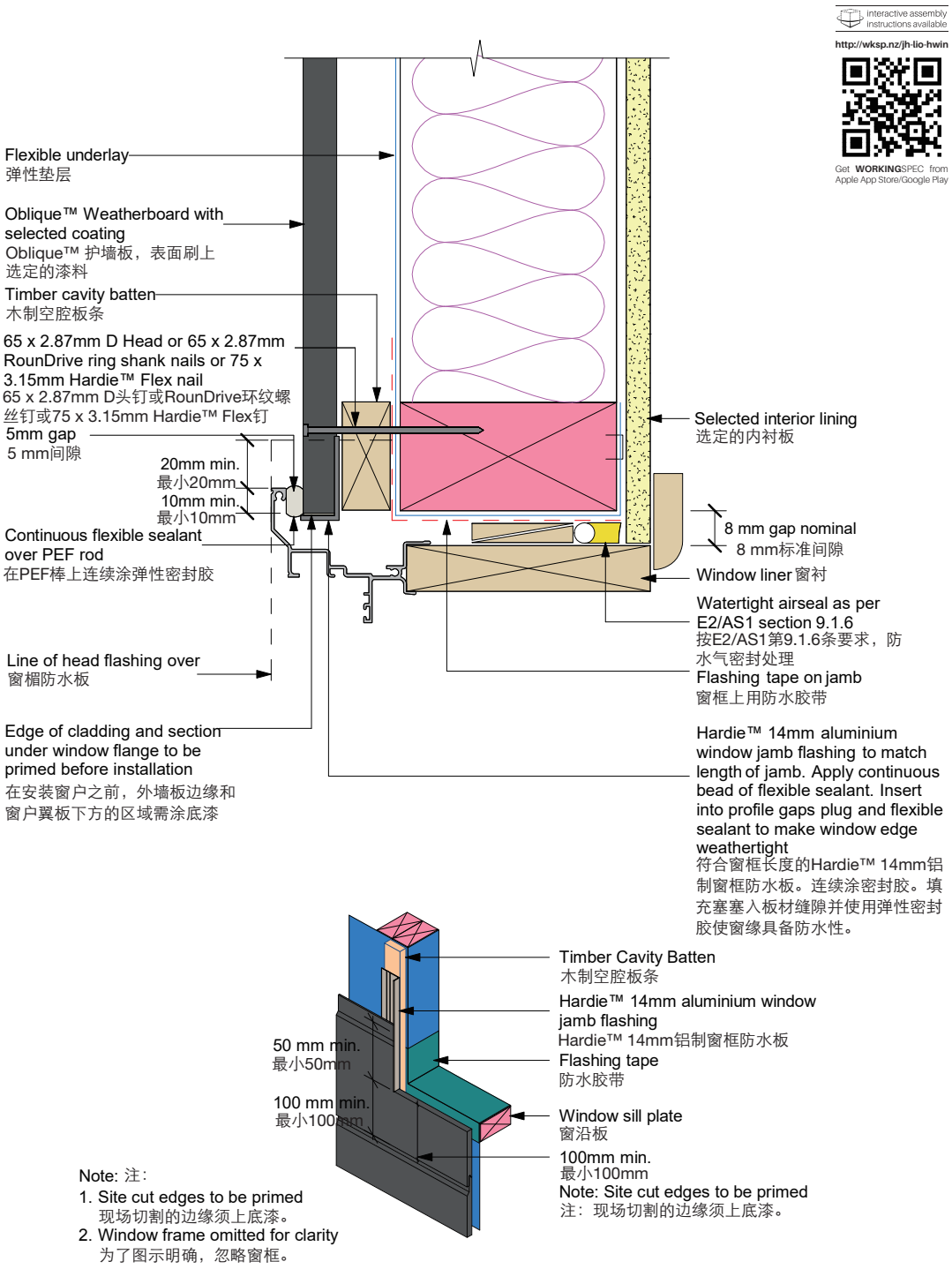
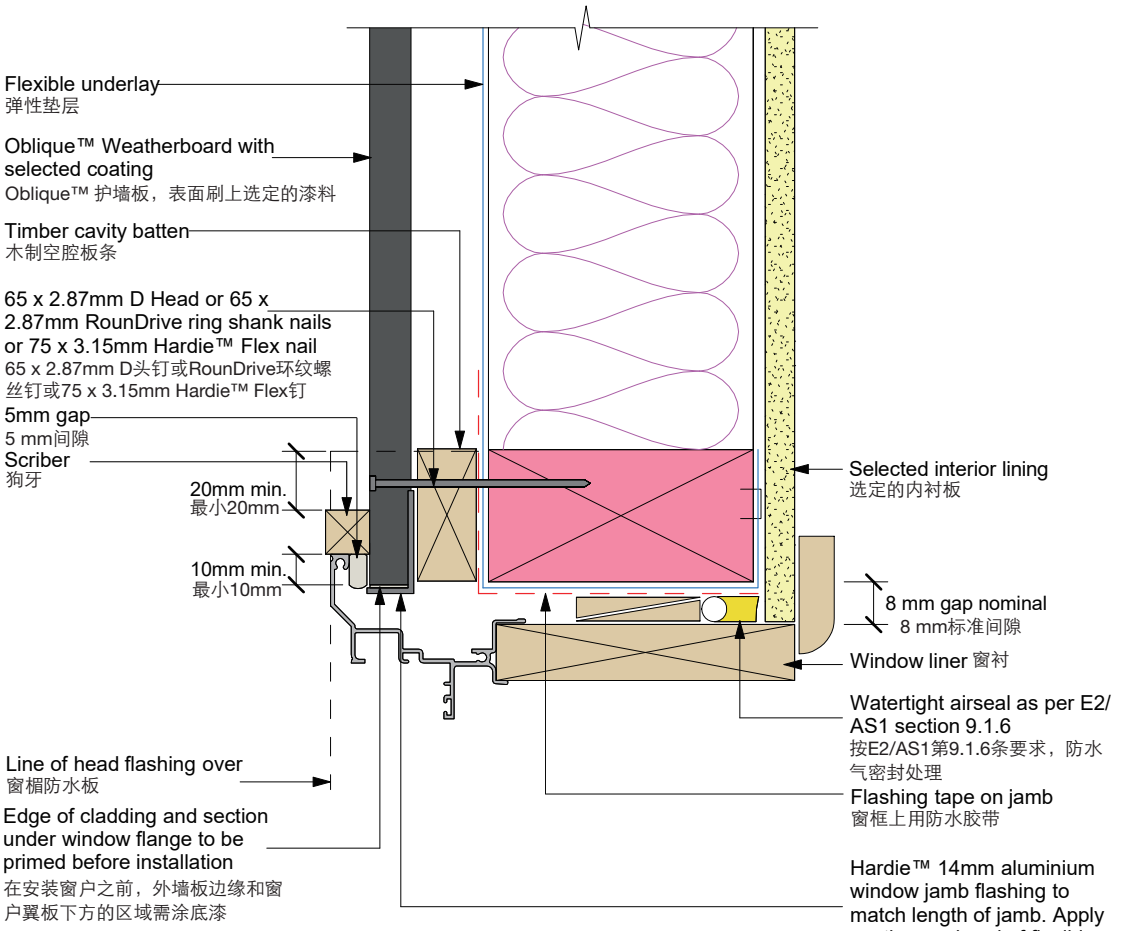


Figure 20: Window jamb with scriber ｜图20：窗框及狗牙（scriber）

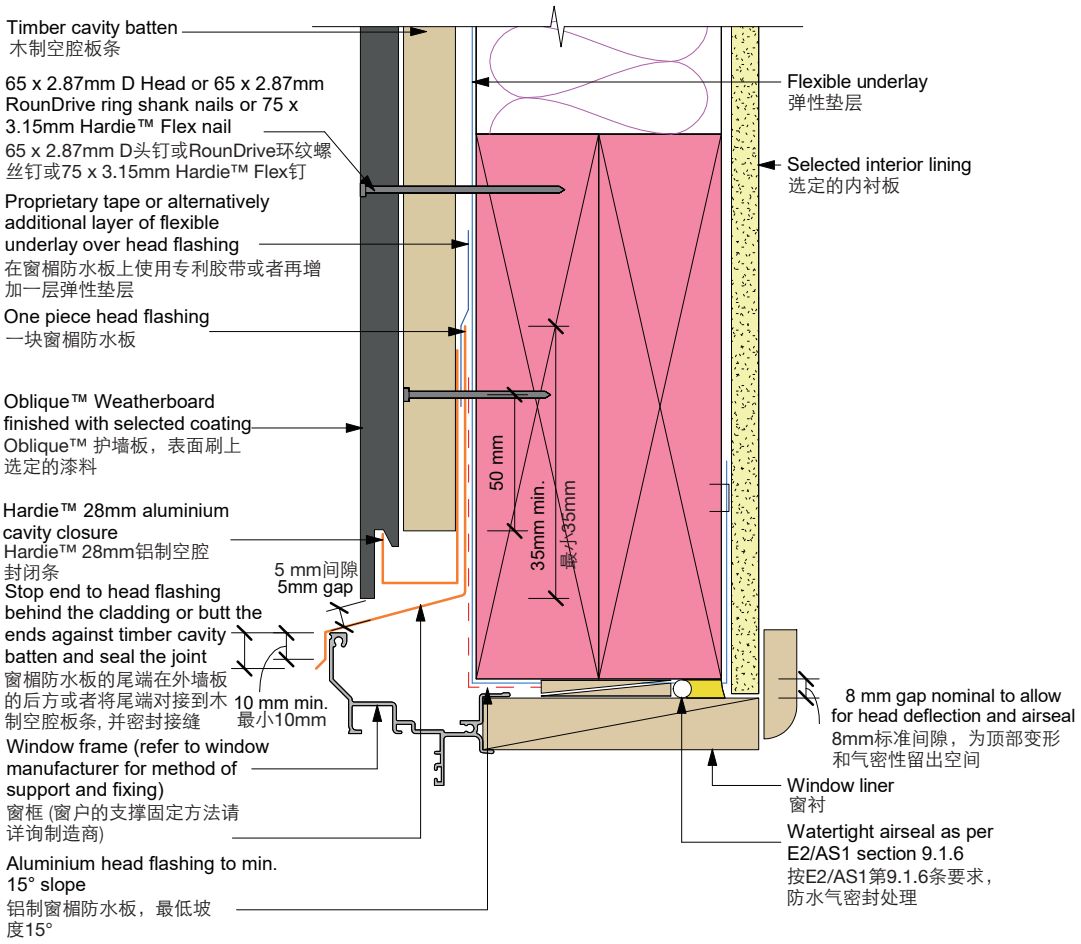


Note: When HomeRAB™ Pre-Cladding/RAB™ Board are used flashing tape to be applied to the entire window opening

注：当使用HomeRAB™ 预置垫层/RAB™ 板时，整个窗户开口处都要用防水胶带。

Figure 21: Window head with full cladding across flashing
图21：窗楣及窗楣防水板周边的外墙板处理

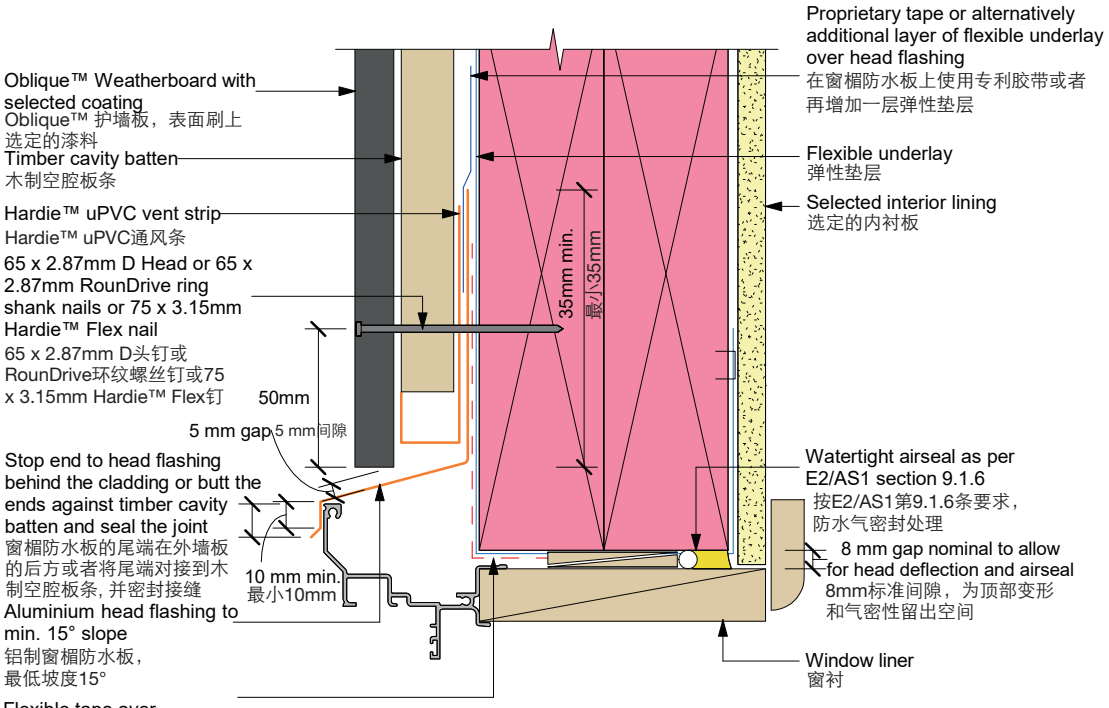
interactive assembly instructions available
http://wksp.nz/jh-lio-hwin
Get **WORKING**SPEC from Apple App Store/Google Play



Note: 注：

- Site cut edges to be primed
  现场切割的边缘须上底漆。
- Sealant must be installed between head flashing and window flange in VH and above wind zones. Refer to Figure 71 of E2/AS1
  在VH及以上风区，窗楣防水板和窗户翼板之间须涂密封胶。参见E2/AS1图71。

Figure 22: Window head with cladding cut around head flashing
图22：窗楣及窗楣防水板周边的外墙板切割处理



Note: 注：

- Site cut edges to be primed
  现场切割的边缘须上底漆。
- Sealant must be installed between head flashing and window flange in VH and above wind zones. Refer to Figure 71 of E2/AS1
  在VH及以上风区，窗楣防水板和窗户翼板之间须涂密封胶。参见E2/AS1图71。

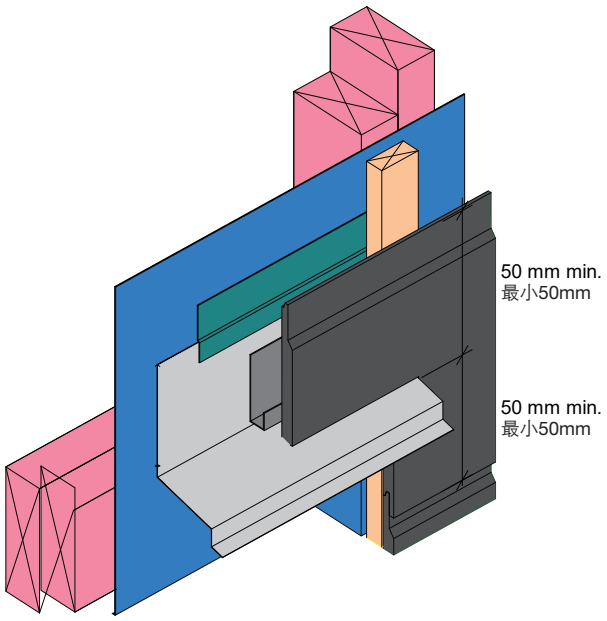


Figure 23: Window head stop end ｜图23：窗楣尾端

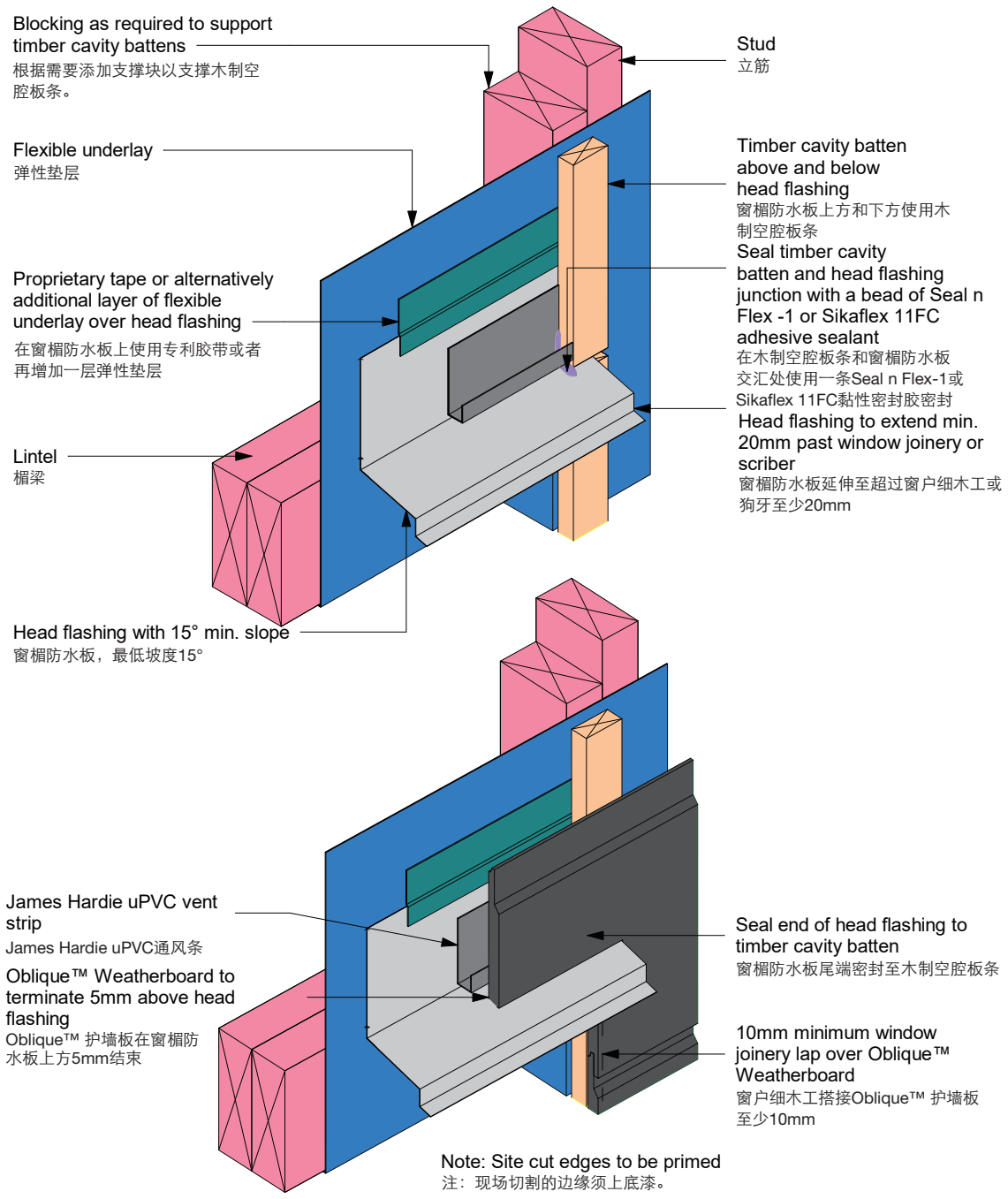


Figure 24: Window jamb flashing ｜图24：窗框防水板

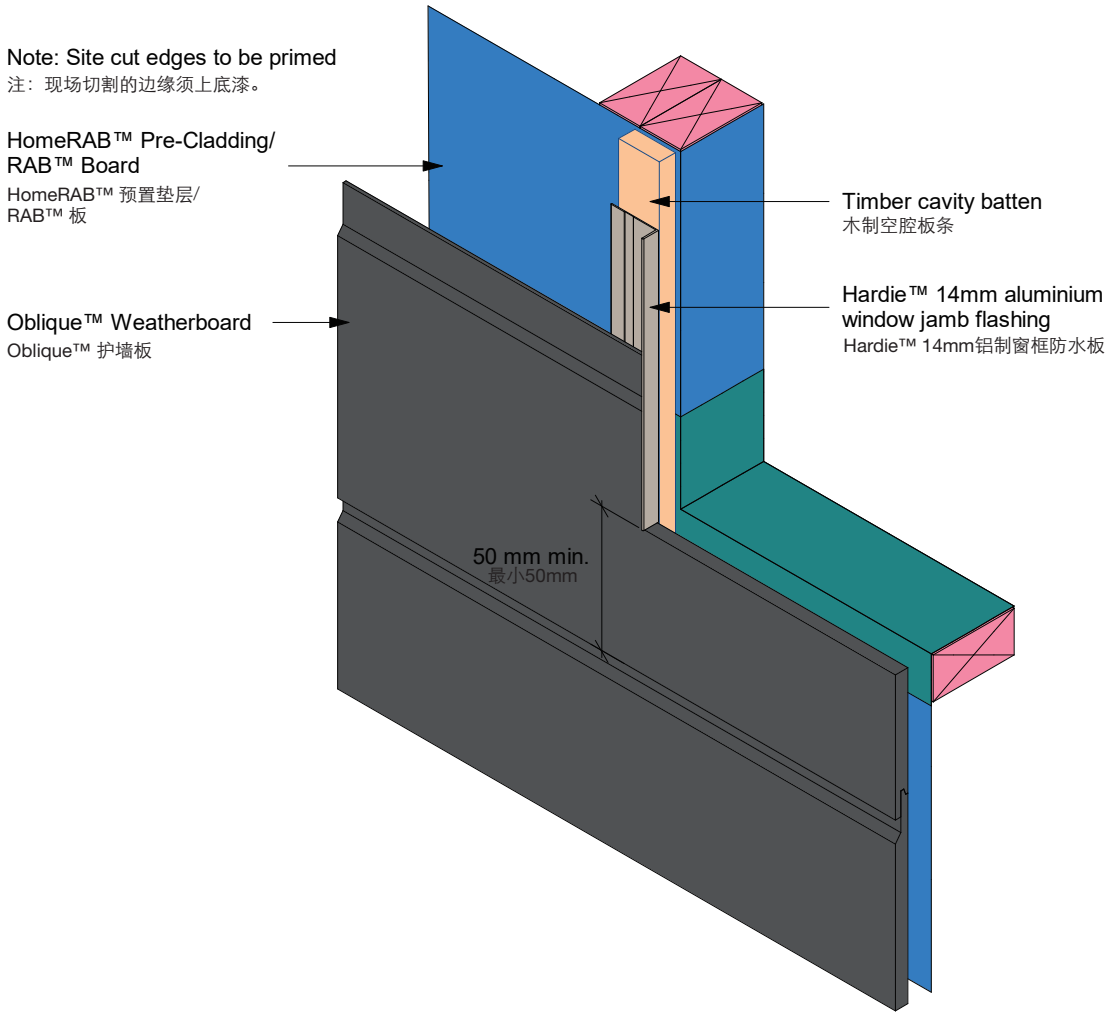
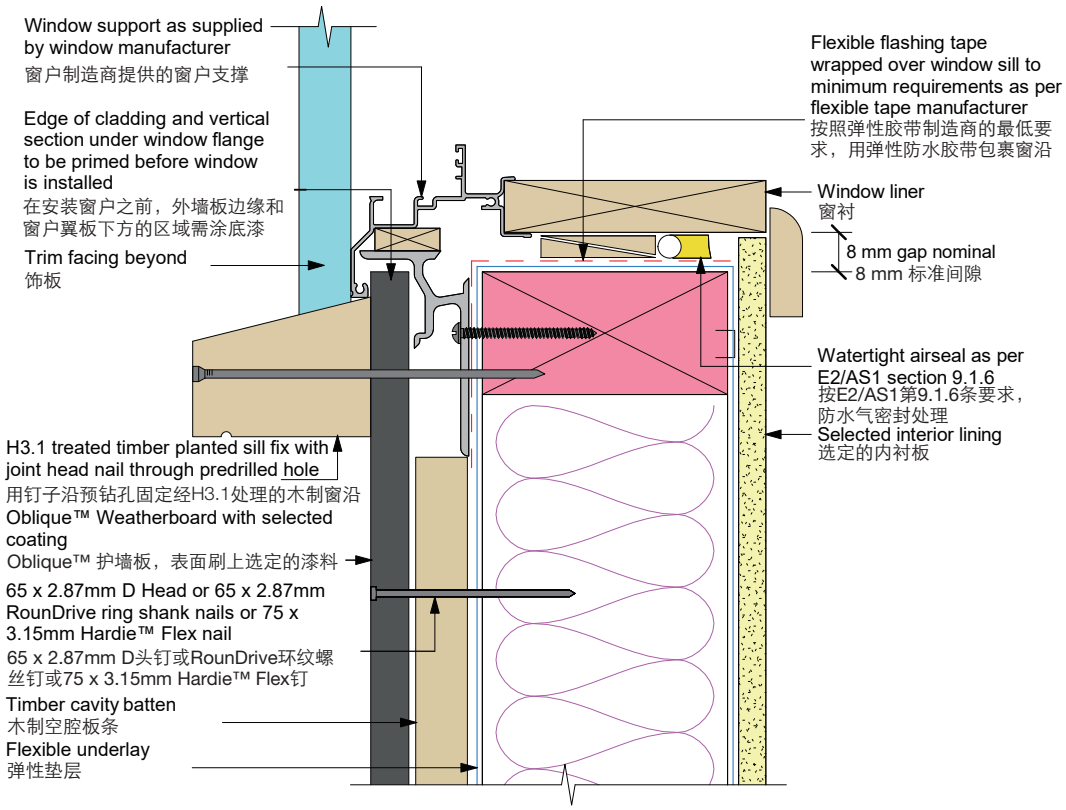


Figure 25: Window sill with facing ｜图25：带饰面的窗沿



General notes for materials selection
关于材料选择的常规注意事项:

1. Flexible underlay must comply with acceptable solution E2/AS1
   弹性垫层必须符合可接受方案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
   防水胶带必须与所选的弹性垫层或其它相互接触的材料兼容。

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材料技术信息。

Figure 26: Window jamb with facing | 图26：带饰面的窗框

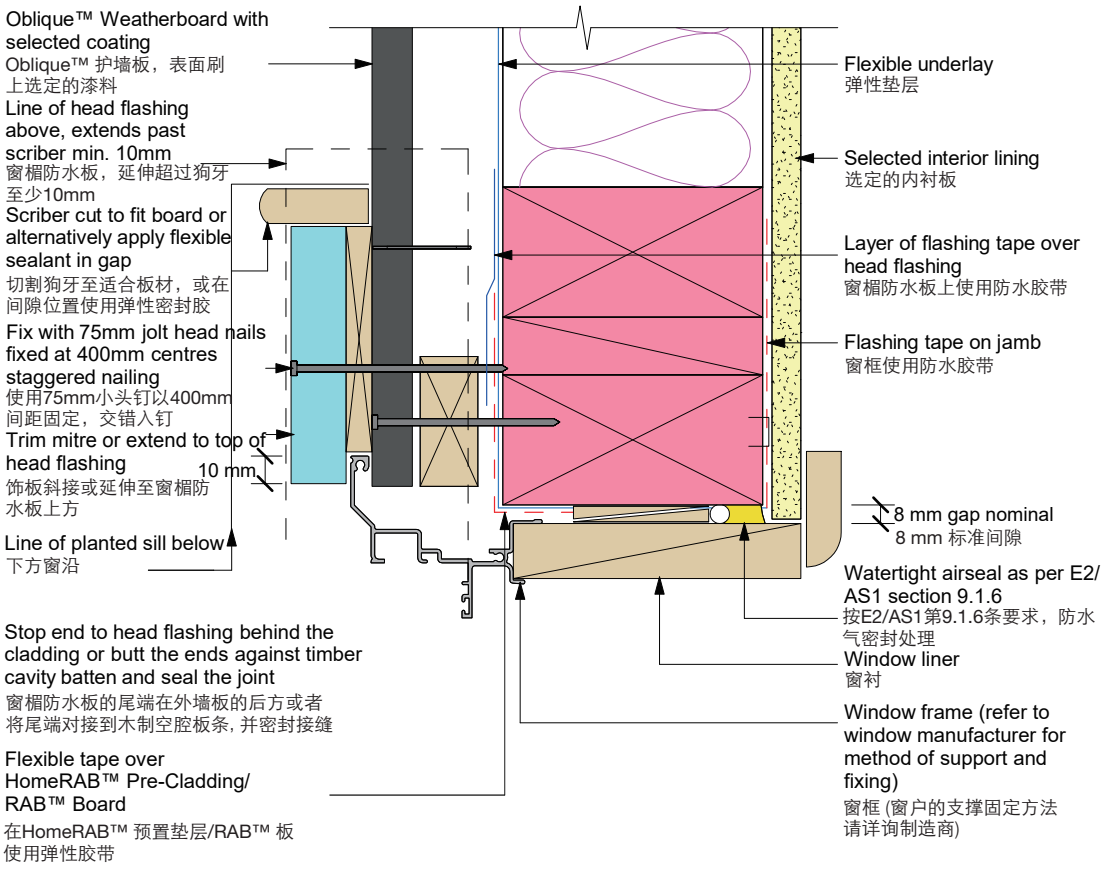
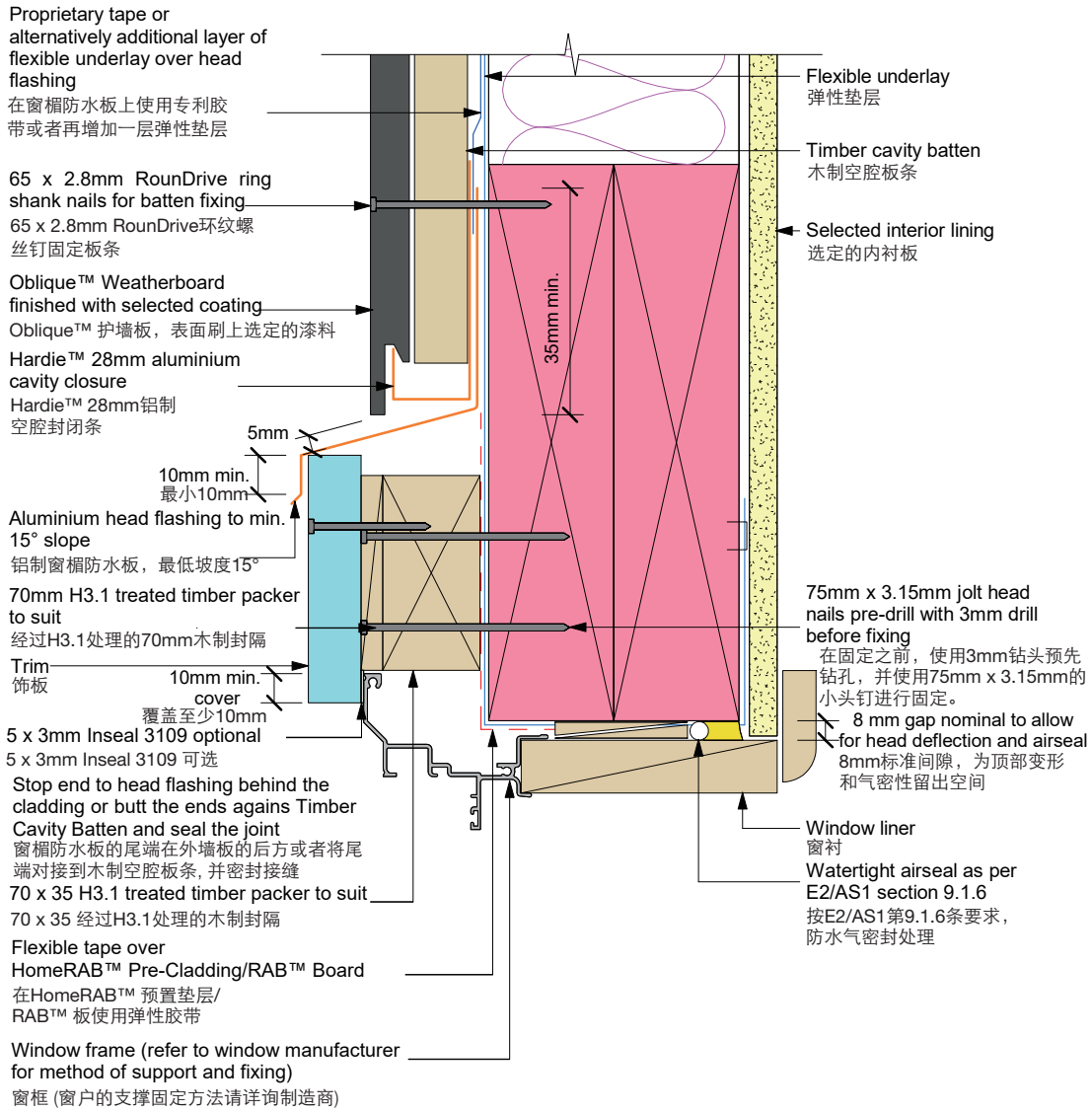


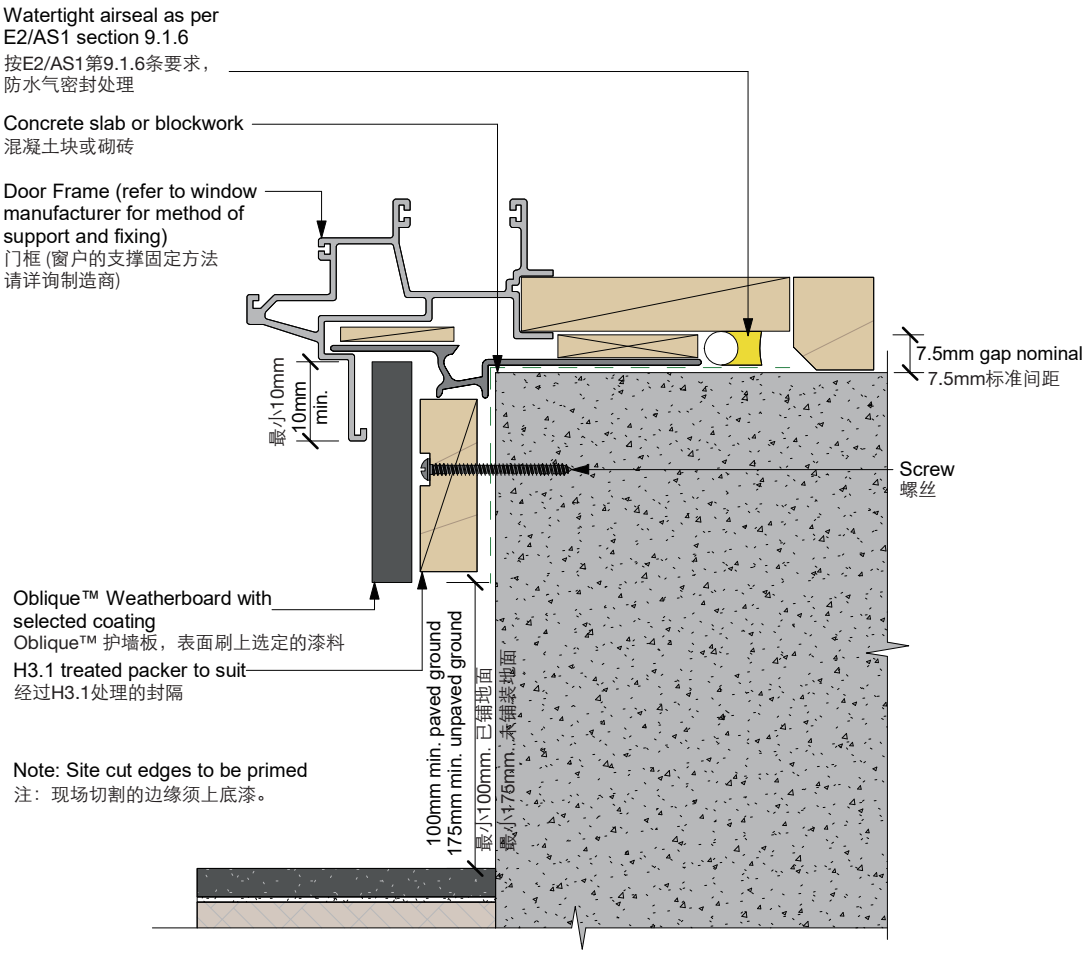
Figure 27: Window head with facing ｜图27：带饰面的窗楣



Note: 注：

- Alternatively, the head flashings can be formed with stop ends as per E2/AS1
  或者，窗楣防水板可以按照E2/AS1要求形成尾端
- Sealant must be installed between Trim and window flange in VH and EH wind zones and SED pressures
  VH、EH风区及SED项目，窗户翼板和饰板之间须涂密封胶。

Figure 28: Door sill support detail ｜图28：门槛支撑详图

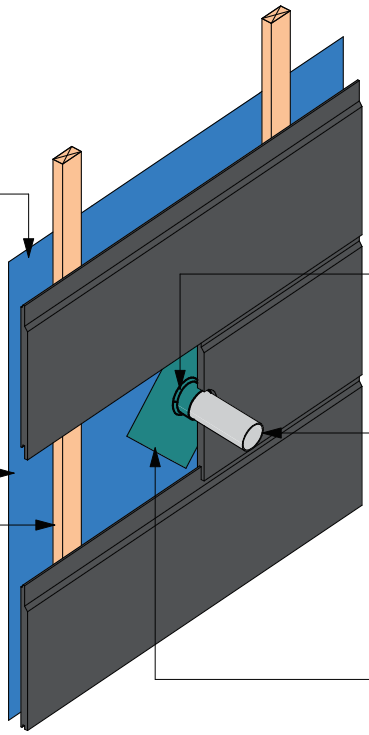


Refer to the manufacturer or supplier for technical information for these materials
请参考制造商或供应商提供的材料技术信息。

General notes for materials selection
关于材料选择的常规注意事项

1. Flexible underlay must comply with acceptable solution E2/AS1
   弹性垫层须符合可接受方案E2/AS1的要求。
2. Flashing tape must have proven compatibility with the selected flexible underlay and other materials with which it comes into contact
   防水胶带必须与所选的弹性垫层或其它相互接触的材料兼容。

Figure 29: Pipe penetration | 图29：管道穿透



Flexible underlay carefully cut to suit pipe
小心切割弹性垫层至适合管道

Oblique™ Weatherboard over flashing tape, carefully cut to suit pipe and seal junction with flexible sealant
Oblique™ 护墙板安装在防水胶带之上，小心切割至适合管道，使用弹性密封胶密封交汇处。

Timber cavity batten
木制空腔板条

Flexible flashing tape bandage min. 25mm wide all round pipe
管道四周使用最小宽度25mm的弹性防水胶带包裹

Pipe to have min. 5° fall to outside
管道向外向下倾斜至少5°

Square of flexible flashing tape to a min. of 100mm outside of pipe, ensure seal with pipe bandage or use Trade Seal by Marshall Innovation
在管道外侧至少100mm 范围使用方形的弹性防水胶带, 确保密封住管道四周或者使用Marshall Innovation公司的Trade Seal

Note: Site cut edges to be primed
注：现场切割的边缘须上底漆。

Figure 30: Trimline joint flashing at floor level
图30：地板层边线接缝防水板

Interactive assembly instructions available
http://wksp.nz/jh-lio-htrjfl
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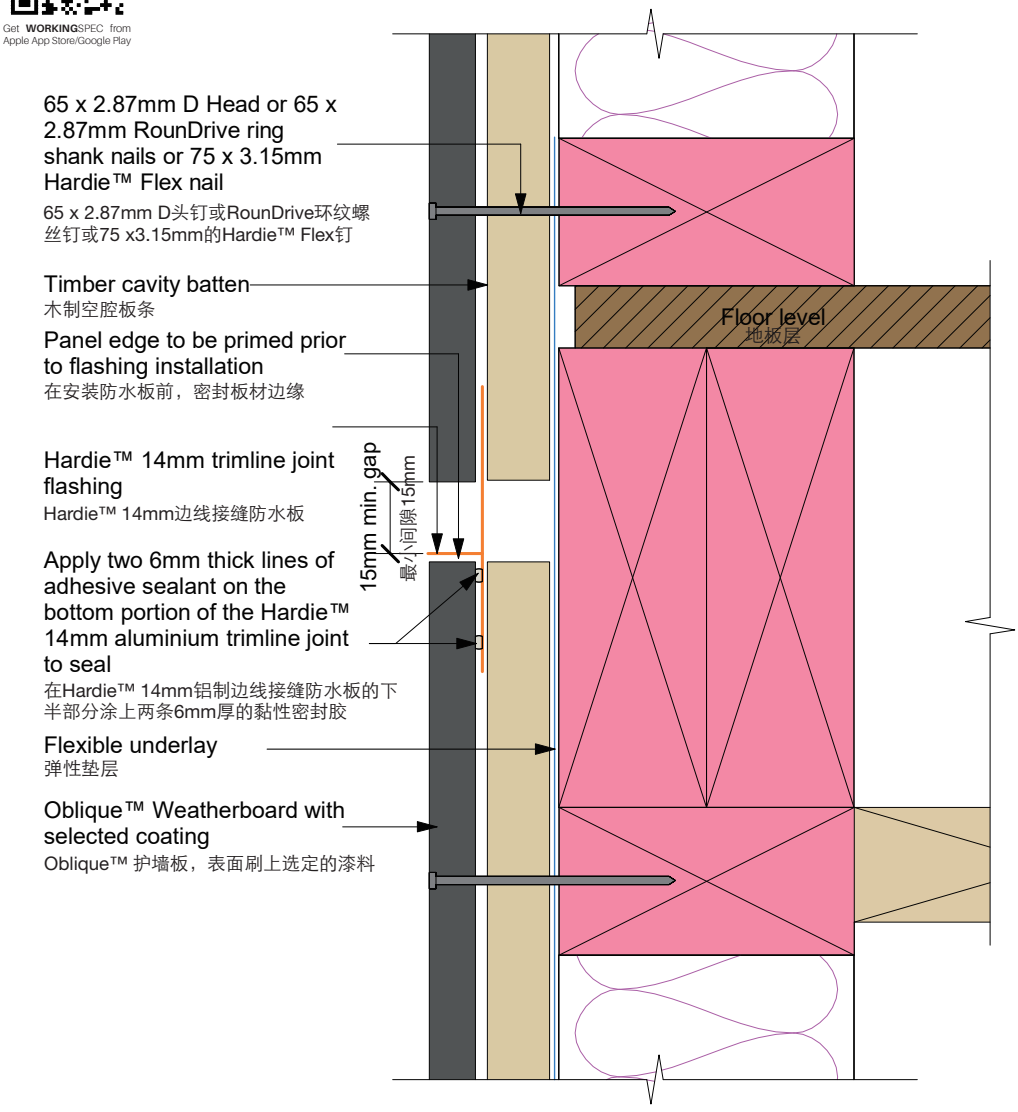


Notes: 注:

- The flashing to be placed in the centre of the floor joists. Do not fix cavity battens or cladding into floor joists
  防水板应置于地板龙骨的中心位置。不要把空腔板条或外墙板固定在地板龙骨上。
- Hardie™ 14mm aluminium trimline joint, take care to ensure continuous seal is formed between panel and the trimline joint
  Hardie™ 14mm铝制边线接缝防水板，注意确保板材和边线接缝防水板之间连续密封。
- Trimline horizontal jointer 'L' shaped flashing will be required over the butt joint of the Hardie™ 14mm aluminium trimline joint
  Hardie™ 14mm铝制边线接缝防水板的对接缝需要使用“L型”边线横向连接件。
- Site cut edges to be primed
  现场切割的边缘须上底漆。

Figure 31: Continous cladding over joist at floor level
图31：地板层沿龙骨连续的外墙板

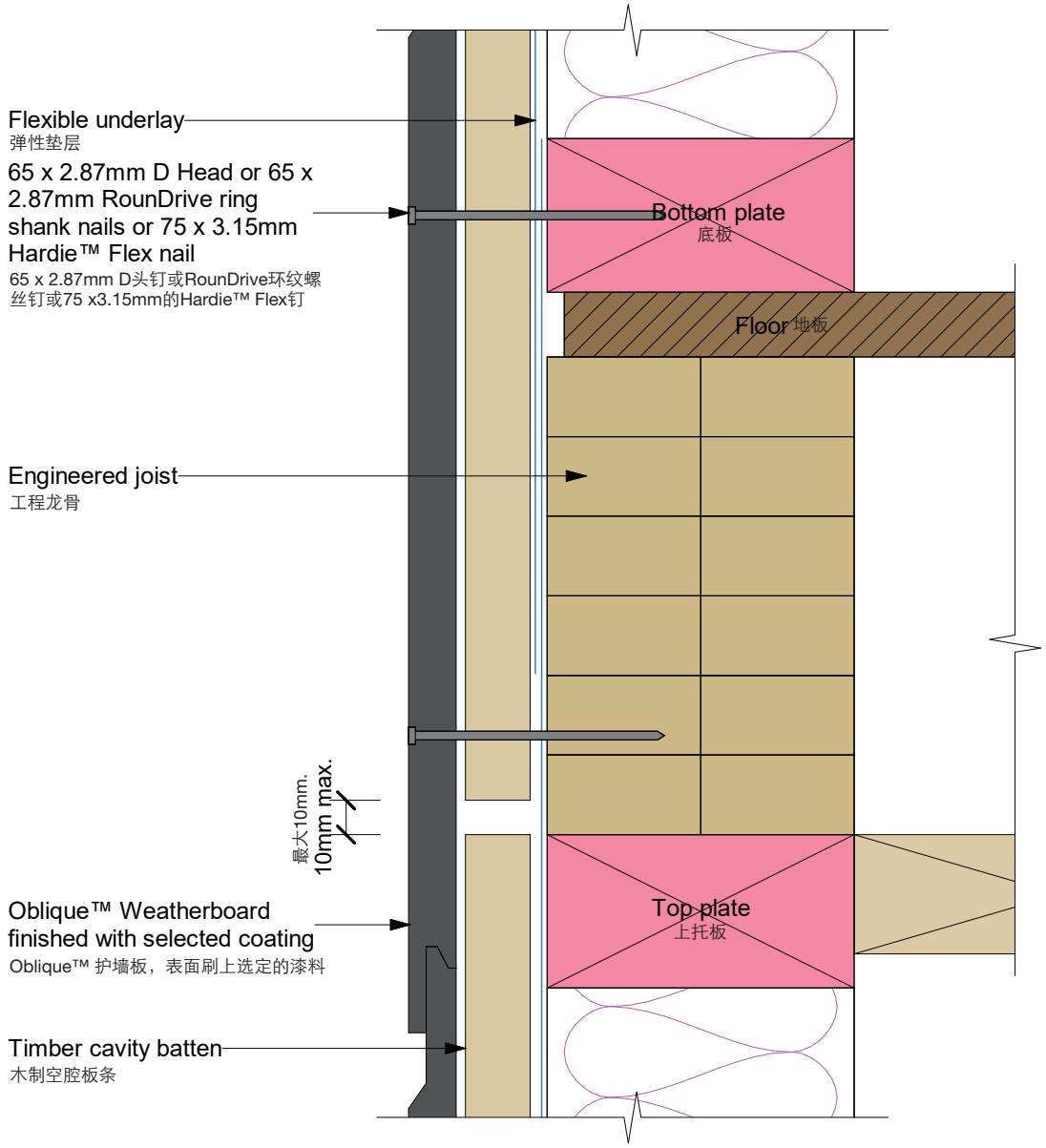
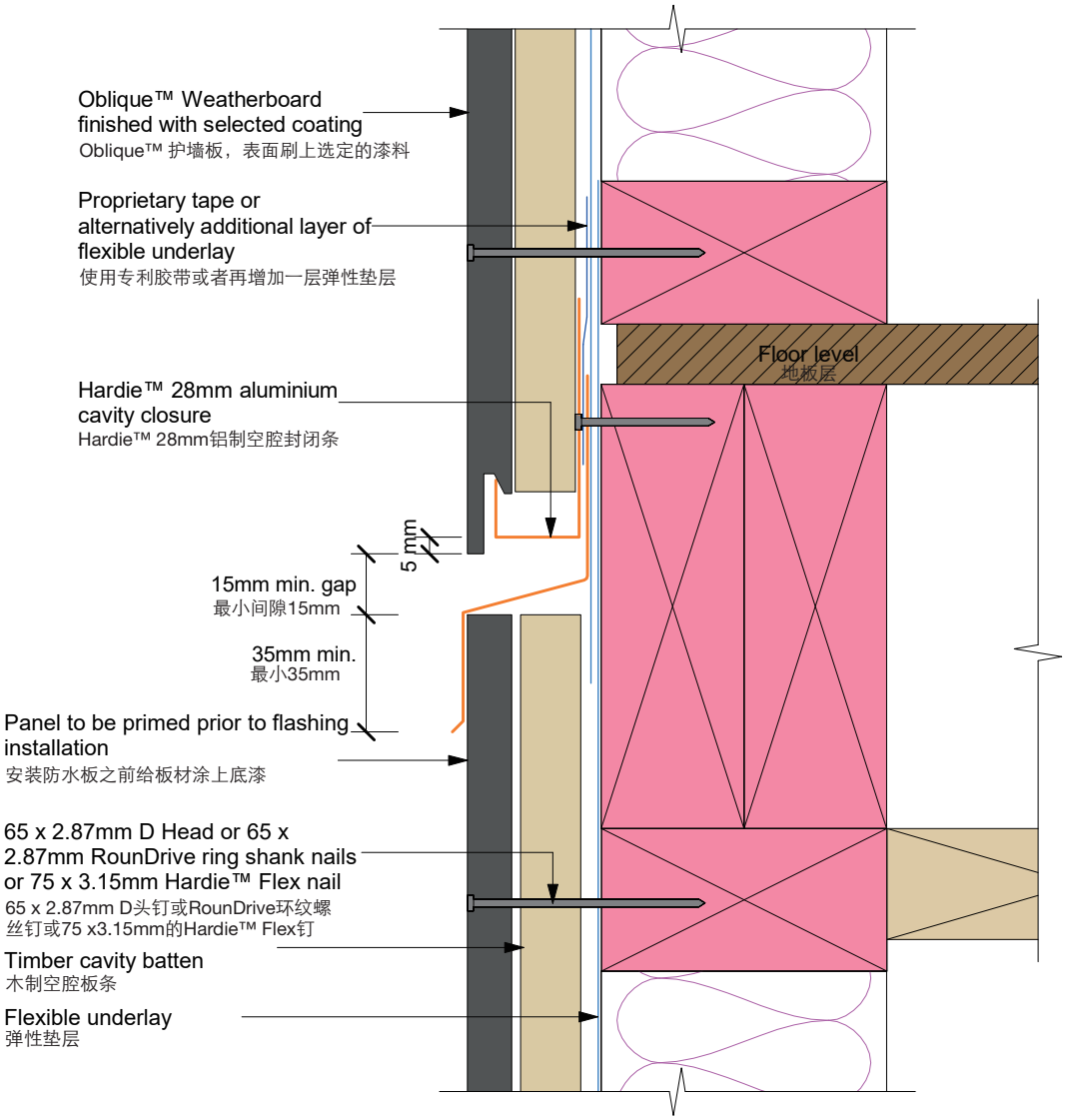


Figure 32: Drained flashing joint at floor level ｜图32：地板层排水防水接缝



Notes: 注：

- The flashing to be placed in the centre of the floor joists. Do not fix timber cavity battens or cladding into floor joists
  防水板应置于地板龙骨的中心位置。不要把空腔板条或外墙板固定在地板龙骨上。
- This detail is required to limit cavities to a maximum of 2 stories or 7 metres. Refer to E2/AS1 clause 9.1.9.4
  本详图要求将空腔限制在最多两层或7米内。参见E2/A1第9.1.9.4条。

Figure 33: Trimline joint flashing at external corner ｜图33：阳角边线接缝防水板

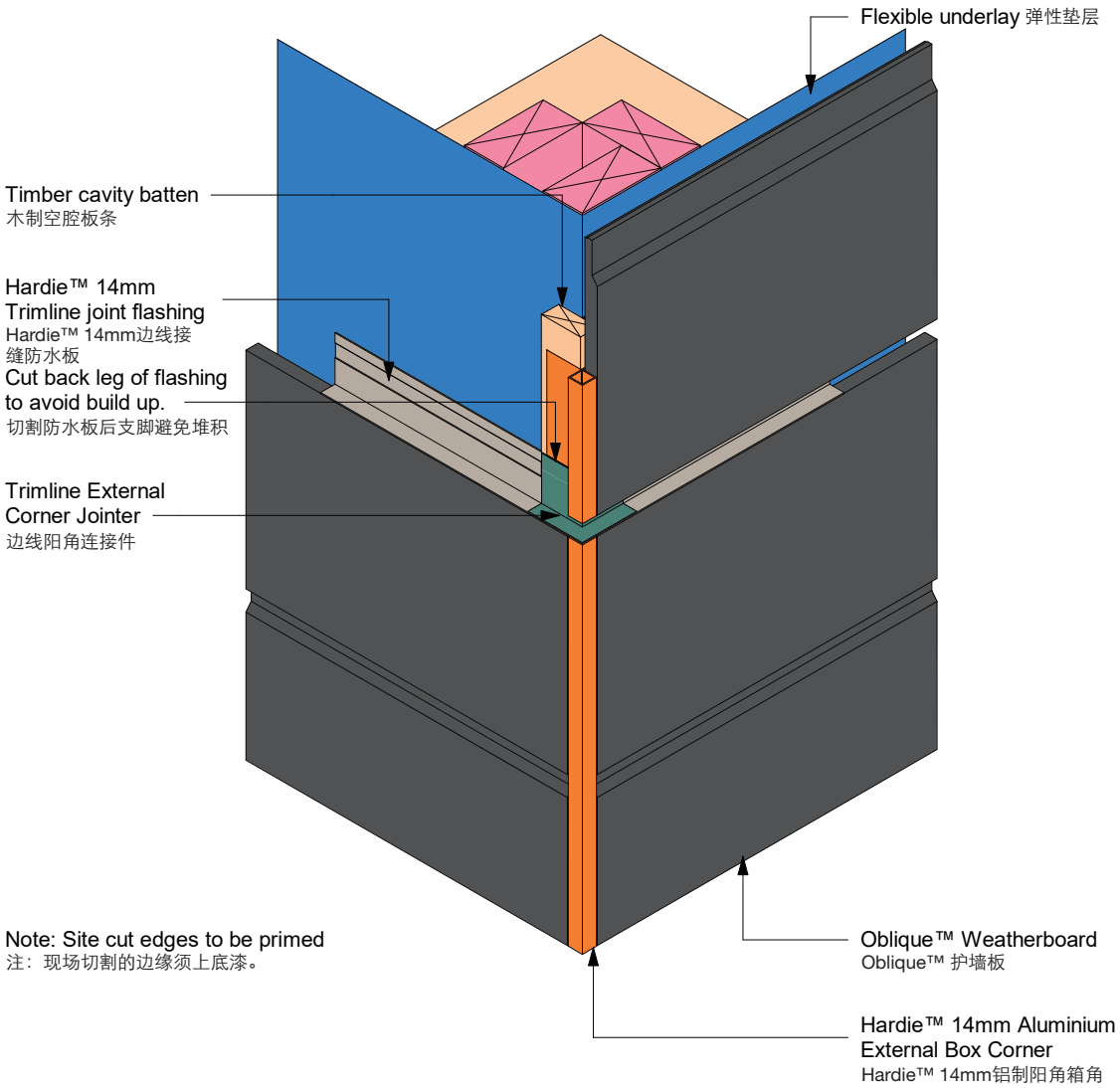


Figure 34: Trimline joint flashing at full external corner
图34：完整的阳角边线接缝防水板

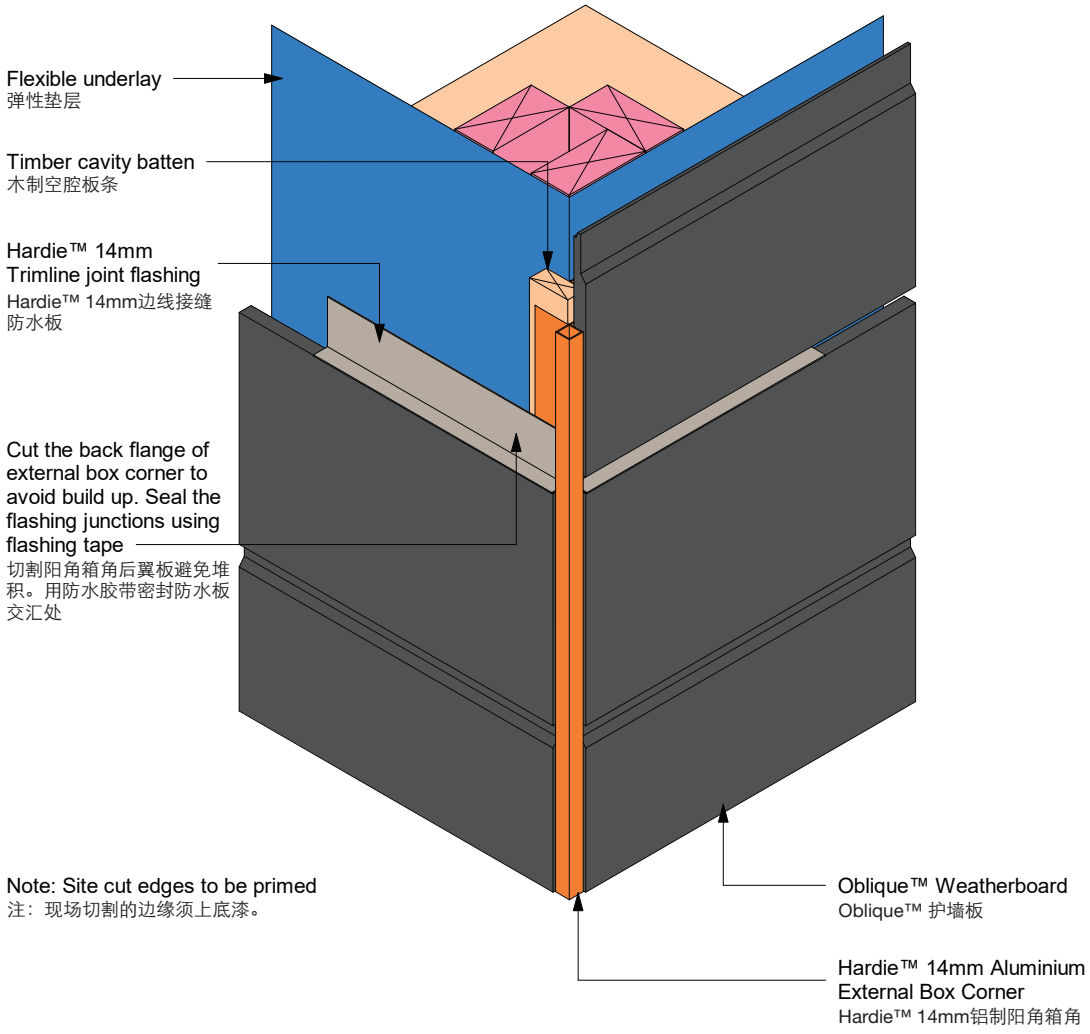


Figure 35: Trimline joint ｜图35：边线接缝

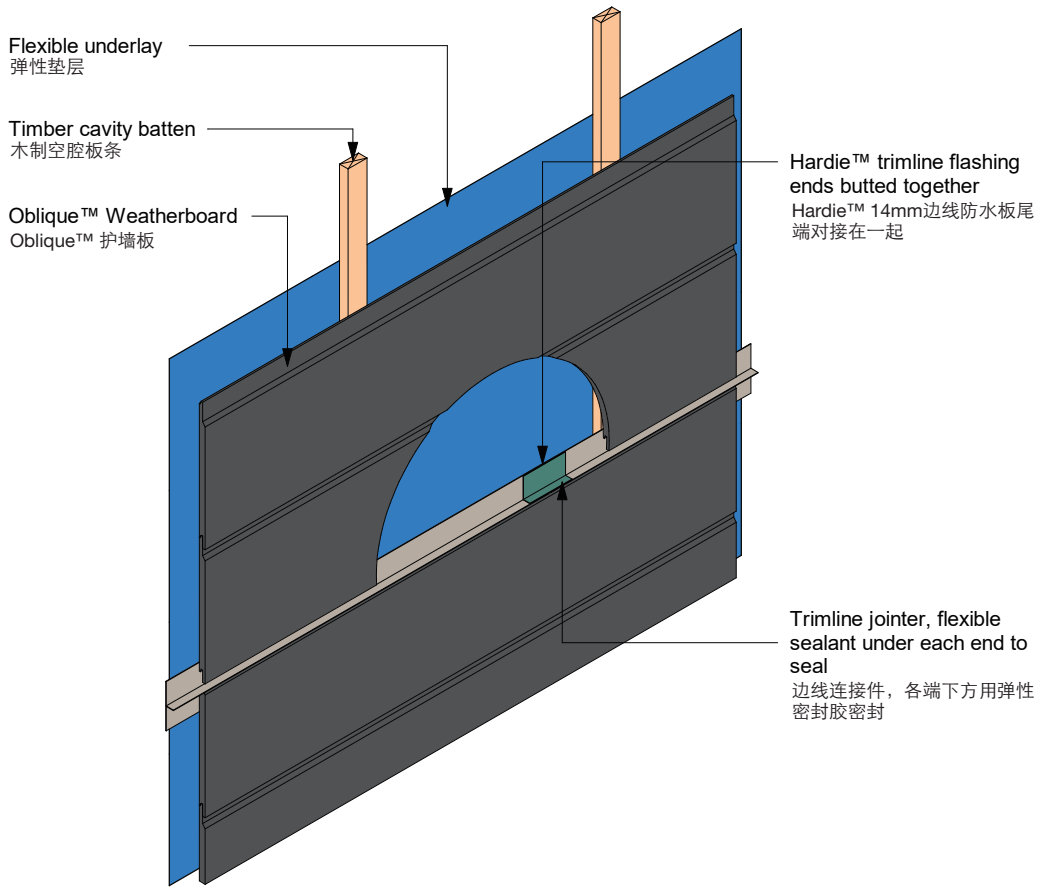


Figure 36: Trimline joint flashing at internal corner
图36：阴角边线接缝防水板

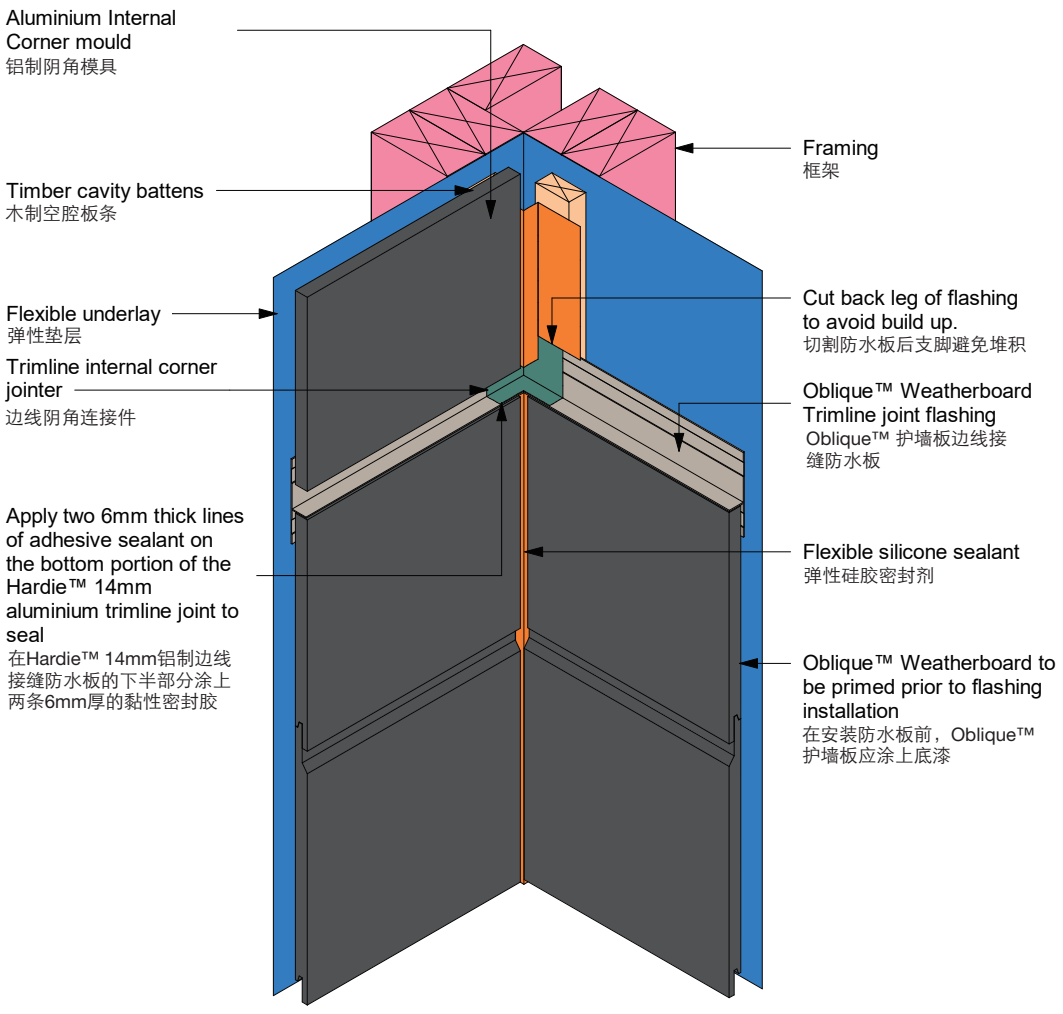
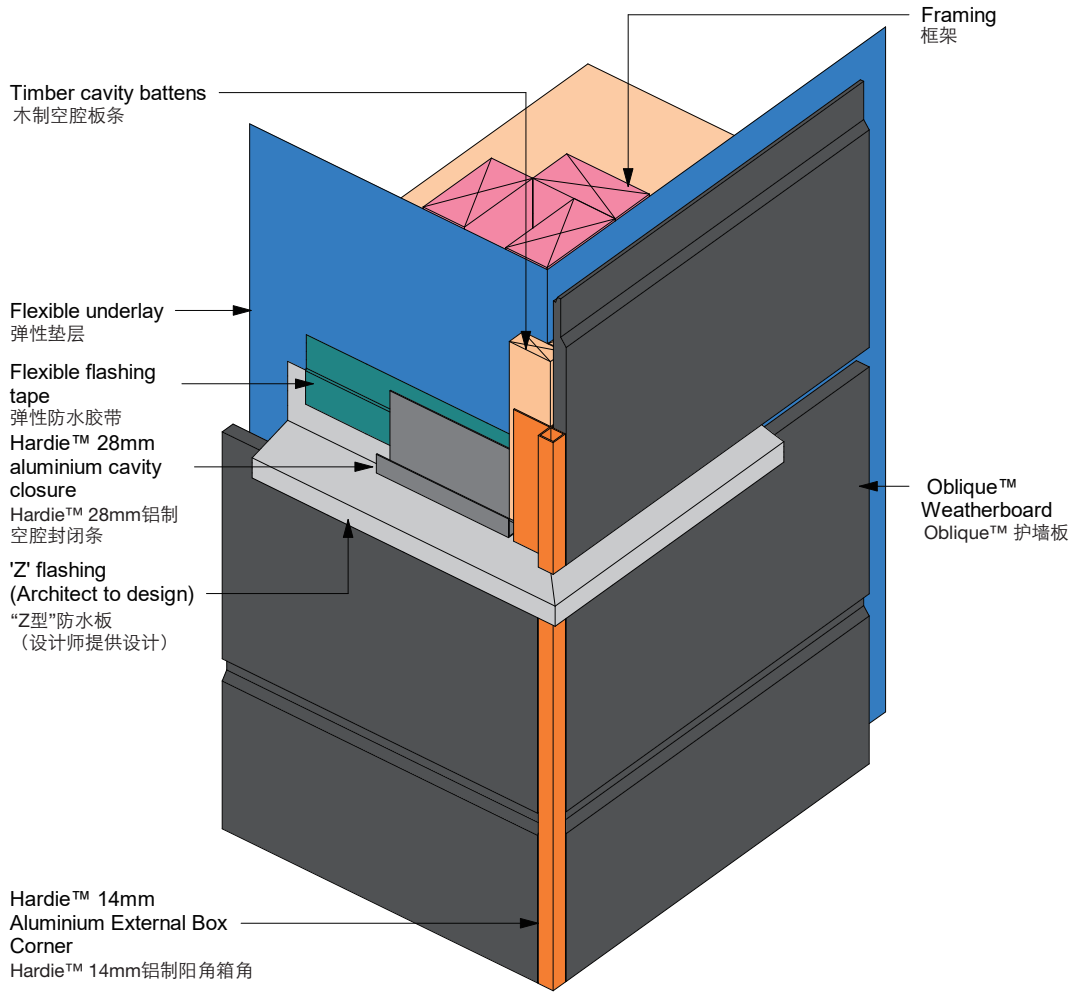


Figure 37: Drained flashing joint at external corner
图37：阳角排水防水接缝



Note: Site cut edges to be primed
注：现场切割的边缘须上底漆。

Figure 38: Parapet flashing ｜图38：矮墙防水板

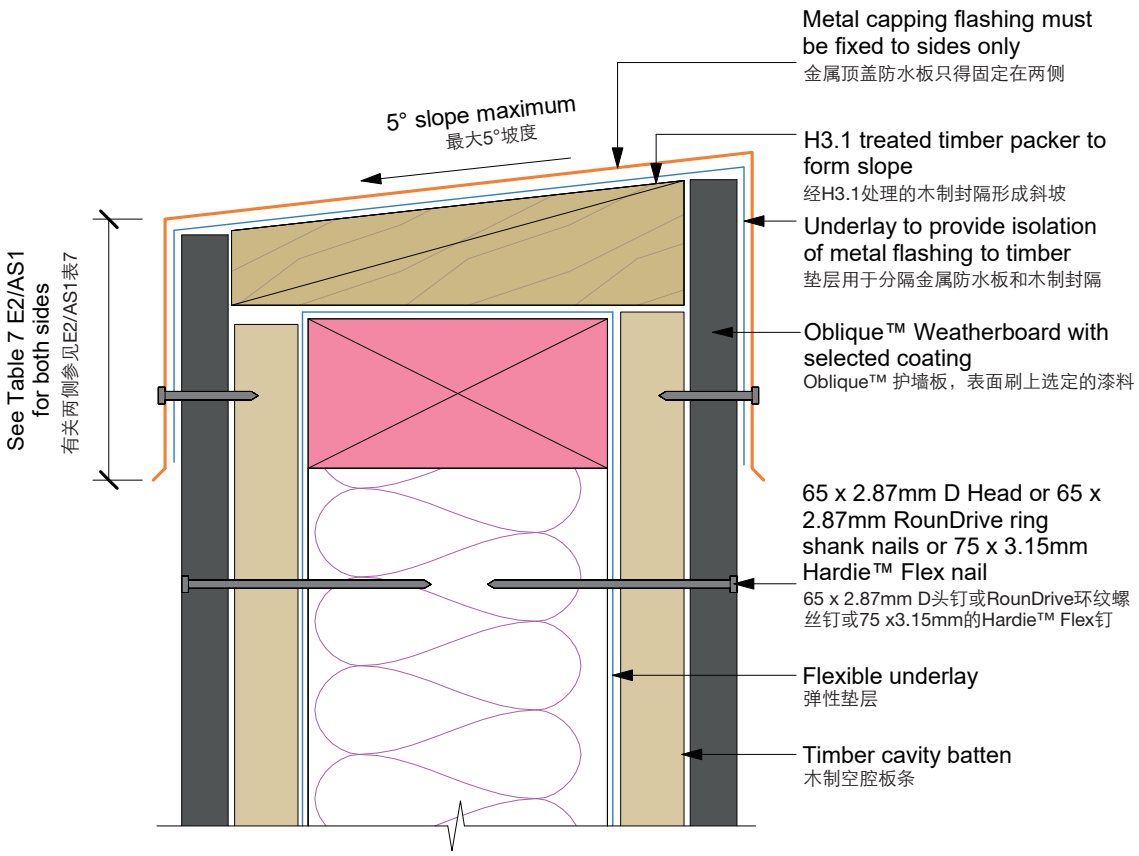
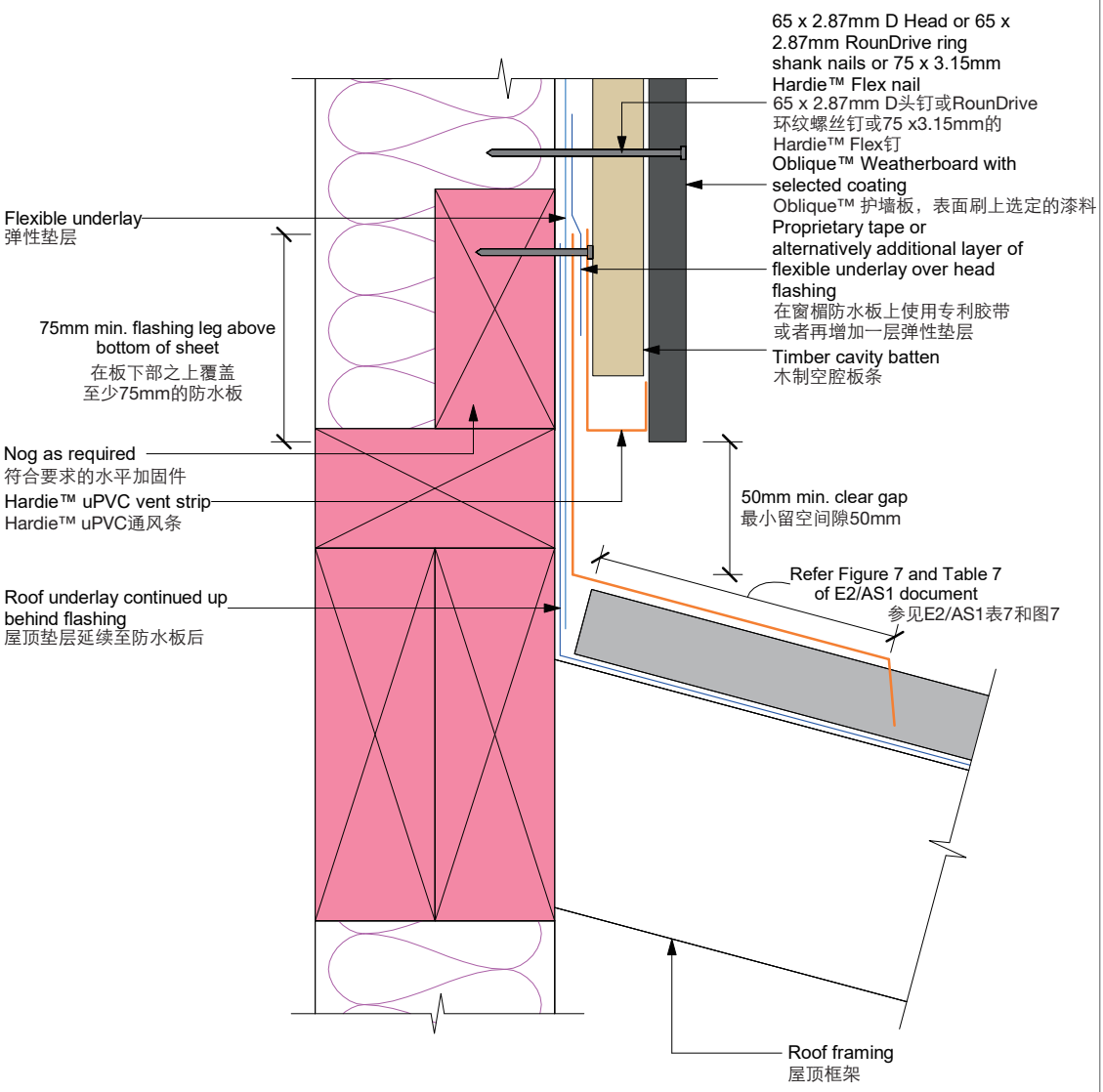


Figure 39: Apron Flashing detail ｜图39：屋顶斜坡与墙面之间的防水板详图



Notes: 注：

- When 50 year durability for flashing is required refer to Table 20 NZBC E2/AS1 document
  如需满足耐久50年，参见E2/AS1表20。
- Site cut edges to be primed
  现场切割的边缘须上底漆。

Figure 40: Roof to wall junction detail ｜图40：屋顶与墙体交汇处详图

Interactive assembly instructions available

http://wksp.nz/jh-lio-hrfw

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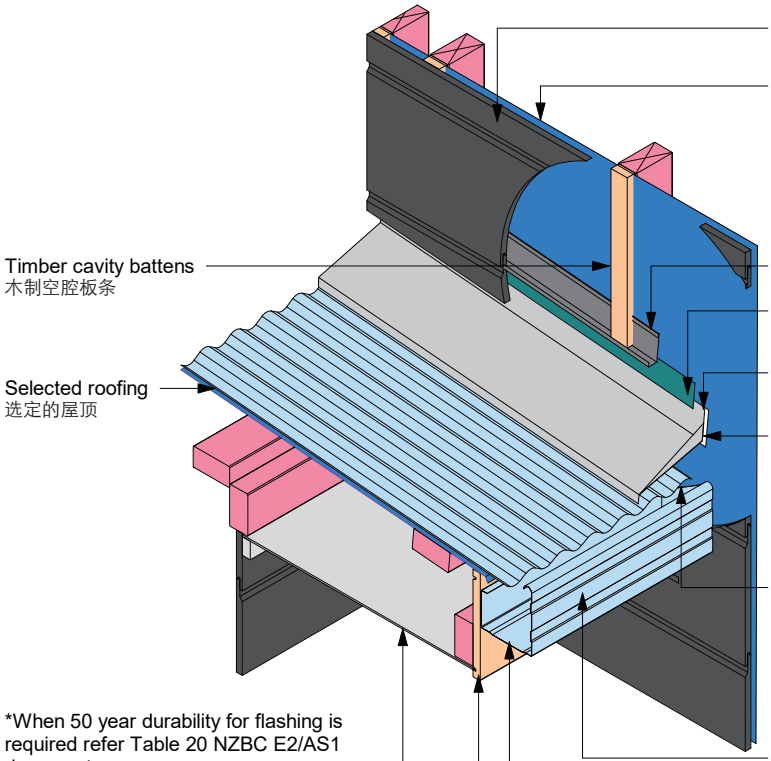


Oblique™ Weatherboard
Oblique™ 护墙板

Flexible underlay
弹性垫层

Timber cavity battens
木制空腔板条

Hardie™ uPVC vent strip
Hardie™ uPVC通风条

Flashing tape or extra layer of flexible flexible underlay over flashing
在防水板上使用防水胶带或额外一层弹性垫层

Selected roofing
选定的屋顶

Flashing upstand behind flexible underlay
弹性垫层后方的防水板

*Apron flashing with tapered stopend. Cladding to be carefully cut over stop end and sealed
*屋顶斜坡与墙面之间的防水板的锥形尾端。外墙板须在尾端小心切割并密封。

Apply flexible sealant to seal Oblique™ Weatherboard to fascia board
使用弹性密封胶将Oblique™ 护墙板密封在屋顶顶角线板上。

End of spouting must be 10mm min. clear of finished Oblique™ Weatherboard
排水管的末端必须与完工的Oblique™ 护墙板保持至少10mm的间隙。

*When 50 year durability for flashing is required refer Table 20 NZBC E2/AS1 document
*如需满足耐久50年，参见NZBC E2/AS1表20

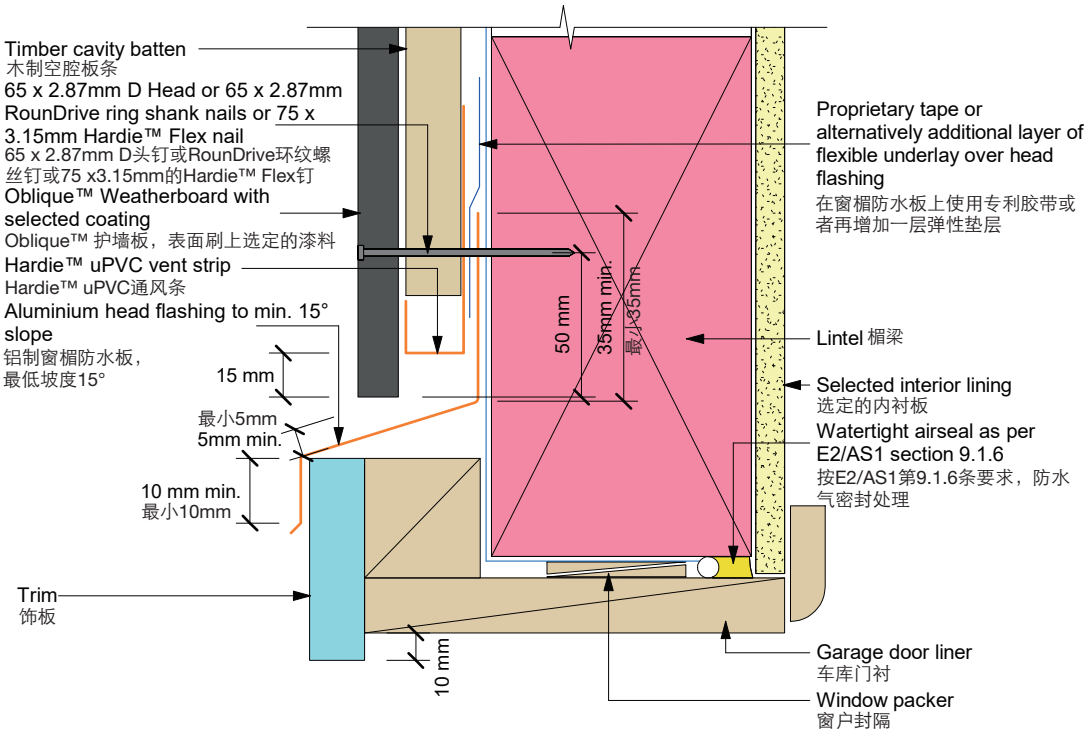
Selected spouting
选定的排水管

Fascia board
屋顶顶角线板

Soffit
拱腹

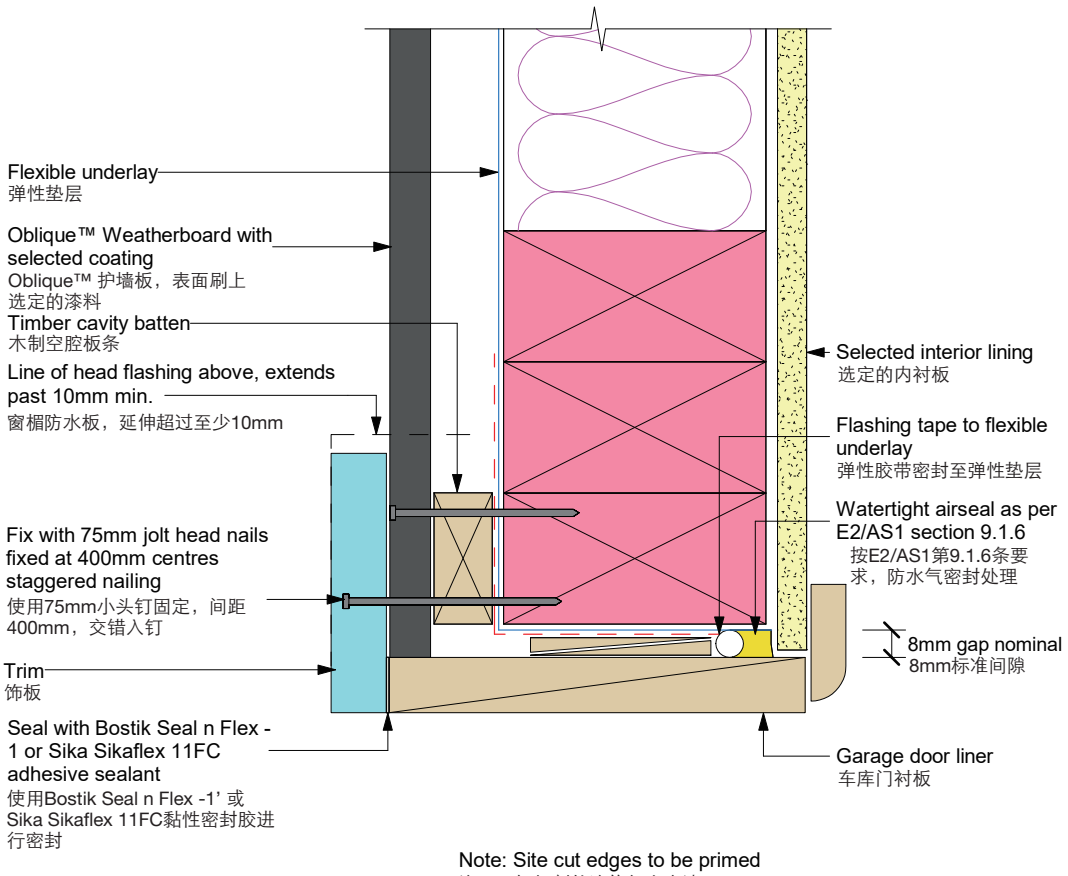
Note: Site cut edges to be primed
注：现场切割的边缘须上底漆。

Figure 41: Garage head | 图41：车库门楣



- Sealant must be applied between head flashing and liner in VH and EH wind zones and SED wind pressures
  VH、EH风区及SED项目，窗楣防水板和衬板之间须涂密封胶。
- Site cut edges to be primed
  现场切割的边缘须上底漆。

Figure 42: Garage jamb ｜图42：车库门框



Note: Site cut edges to be primed
注：现场切割的边缘须上底漆。

Figure 43: Buildings Height over 10m in risk group SM
图43：风险组别为SM的高度超过10m的建筑物

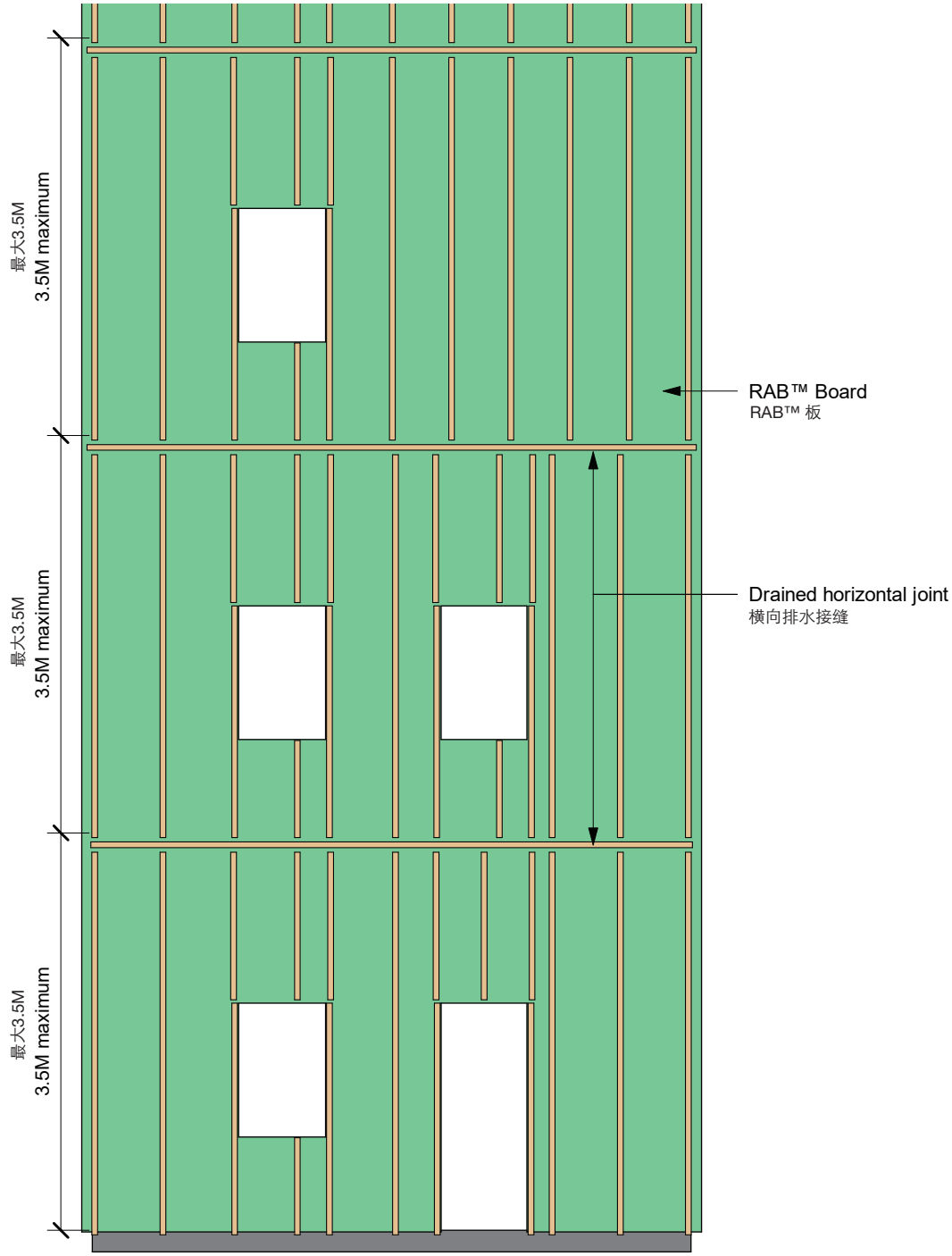
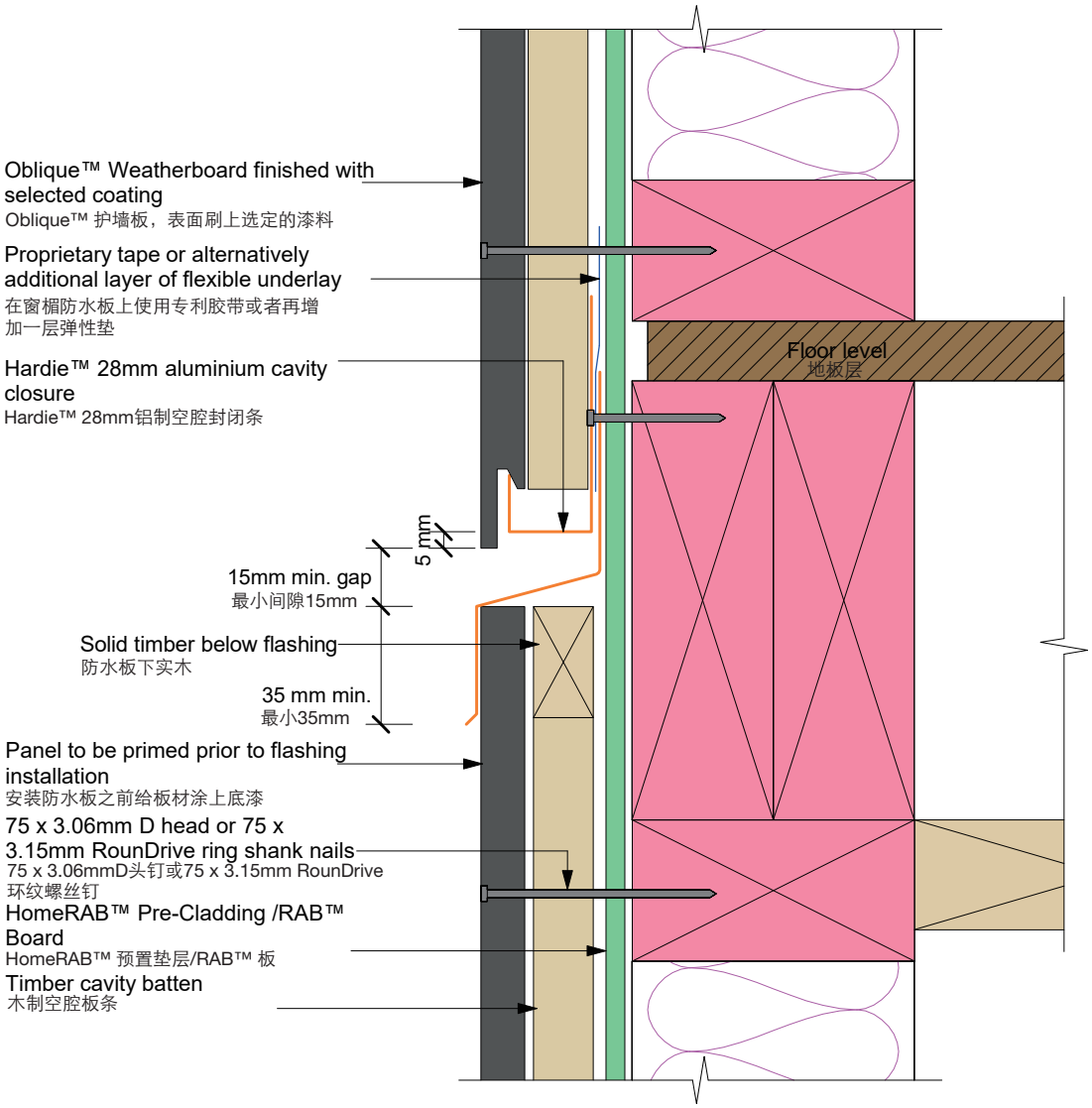


Figure 44: Horizontal flashed joint at IT floor
图44：间隔地板层横向防水接缝



Notes 注:

- Check architect's plans for the type of flashing to be used
  查看设计师规划，了解需要用哪种类型的防水板。
- Cut edges need to be primed
  切割边缘须上底漆。
- When 50 year durability is requred refer Table 20 E2/AS1
  如需满足耐久50年，参见E2/AS1表20。
- The flashing to be placed in the centre of the floor joists. Do not fix timber cavity battens or cladding into floor joists
  防水板应置于地板龙骨的中心位置。不要把空腔板条或外墙板固定在地板龙骨上。
- This detail is required to limit cavities to a maximum of 2 stories or 7 metres. Refer to E2/AS1 clause 9.1.9.4
  本详图要求将空腔限制在最多两层或7米内。参见E2/A1第9.1.9.4条。

Oblique™ Weatherboard
Oblique™ 护墙板

Product Warranty 产品质保

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

James Hardie 新西兰有限公司（简称 "James Hardie"）保证Oblique™ 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，其耐裂、耐腐蚀、耐火、耐白蚁咬噬造成的损害等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提供的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.

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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，包括涂料和连接系统，都必须严格按照相应制造商的说明和最佳行业守则进行使用、安装和维护；

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

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

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

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. Oblique™ Weatherboard has been appraised by BRANZ as an alternative solution and found to meet the required provisions of the NZBC when installed in accordance with the relevant Oblique™ Weatherboard technical specification. However, as the successful performance of the relevant system depends on numerous factors outside the control of James Hardie (e.g. quality of workmanship and design) James Hardie shall not be liable for the recommendations made in its literature and the performance of the relevant system, including its suitability for any purpose or ability to satisfy the relevant provisions of the NZBC, regulations and standards, as it is the responsibility of the building designer to ensure that the details and recommendations provided in the relevant James Hardie installation manual are suitable for the intended project and that specific design is conducted where appropriate.

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