JamesHardie™

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Axon™ Panel EasyLap™ Panel Fixed to Hardie™ CLD™ Structural Cavity Batten

Axon™ Panel/EasyLap™ Panel 固定于Hardie™ CLD™ 空腔结构板条

Technical Specification **技术规范**

June 2023 New Zealand

2023年6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

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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**。

THIS TECHNICAL SPECIFICATION IS FOR AXON™ PANEL/ EASYLAP™ PANEL FIXED TO HARDIE™ CLD™ STRUCTURAL CAVITY BATTEN.

本技术规范适用于 **AXON™ PANEL/ EASYLAP™ PANEL 固定于 HARDIE™ CLD™** 空腔结构板条

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1.1 Application 应用

Axon™ Panel/EasyLap™ Panel are classified as lightweight wall claddings suitable for residential and light commercial buildings using timber framing.
Axon™ Panel/EasyLap™ Panel 被归类为轻质外墙材料，适用于采用木框架结构的住宅和轻型商业建筑。

- Axon™ Panel/EasyLap™ Panel are primed on the face to take a suitable paint finish in any colour.
  Axon™ Panel/EasyLap™ Panel 表面预涂底漆，可刷上任何颜色的可兼容的油漆。
- Axon™ Panel 133 Smooth - the grooves on the face panel are nominal 10mm wide x 2.25mm deep and spaced at 133mm centres.
  Axon™ Panel 133 光滑型 – 板材表面的凹槽的标准宽度为10mm，深度为2.25mm，间距133mm。
- Axon™ Panel 133 Grained - the grooves on the face panel are nominal 10mm wide x 2.25mm deep and spaced at 133mm centres. Between the grooves is a look of traditional wood-grain texture.
  Axon™ Panel 133 木纹型 – 板材表面的凹槽的标准宽度为10mm，深度为2.25mm，间距133mm，板材呈现传统的木质纹理。
- Axon™ Panel 400 Smooth - the grooves on the face panel are nominal 10mm wide x 2.25mm deep and spaced at 400mm centres.
  Axon™ Panel 400 光滑型 – 板材表面的凹槽的标准宽度为10mm，深度为2.25mm，间距400mm。
- EasyLap™ Panel provides a durable, shiplap vertical joint panel appearance for residential/commercial building façades. The panel is finished with a site applied roll on textured acrylic paint to create a rendered look with subtle vertical joint.
  EasyLap™ Panel 为住宅和商业建筑提供耐久坚固纵向搭接的墙面。板材表面现场滚涂带有肌理的亚克力漆，呈现出具有渲染效果的外观和细腻的纵向接缝。

Specifier 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。

Installer 项目施工方

If you are an installer ensure that you follow the design, moisture management principles, associated details and material selection provided by the designer. All of the details provided in this document must be read in conjunction with this 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、相关详图和材料选择。本文件中提供的所有详图都必须结合设计规范阅读。

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 you have the current manual. If you're not sure you do, or you need more information, visit www.jameshardie.co.nz or Ask James Hardie™ on 0800 808 868.
当指定或安装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0800 808 868 垂询Ask James Hardie™。

1.2 Scope 应用范围

The scope of this specification for the use of Axon™ Panel/EasyLap™ Panel is limited to buildings which fall within the scope limitations of 'Acceptable Solution E2/AS1 paragraph 1.1' of the New Zealand Building Code (NZBC).
本规范仅涵盖Axon™ Panel/EasyLap™ Panel 用于新西兰建筑法规(NZBC)"可接受解决方案 E2/AS1第1.1条"范围内的建筑。

This document is intended for use by architects, designers and specifiers who may be involved with the specification of Axon™ Panel/EasyLap™ Panel.
本手册旨在供规划设计工作中涉及Axon™ Panel/EasyLap™ Panel 的建筑师、设计师和规范方使用。

This manual covers the use of Axon™ Panel/EasyLap™ Panel cavity construction, used in external walls of timber framed buildings up to 2.5kPa(ULS).
本手册包含了Axon™ Panel/EasyLap™ Panel 空腔结构的应用，用于风压不超过2.5kPa (ULS)的木框架建筑的外墙。

Please refer to E2/AS1 for further information regarding the selection of construction methods to be used for fixing claddings.
关于外墙板固定结构的选择，请参考E2/AS1获取更多信息。

Note: Refer to Axon™ Panel/EasyLap™ Panel Timber Cavity Batten technical specification when fixing to timber cavity battens or Axon™ Panel/EasyLap™ Panel Direct Fix technical specification for direct fix.
注：当固定于木制空腔板条时，请参见《Axon™ Panel/EasyLap™ Panel 固定于木制空腔板条技术规范》。当直接固定时，请参见《Axon™ Panel/EasyLap™ Panel 直接固定技术规范》。

1.3 Details 详图

Various Axon™ Panel/EasyLap™ Panel figures are provided in the Details section of this document. This specification and details in dwg, dxf, jpg and pdf file format are also available for download at www.jameshardie.co.nz.
这本技术规范的"详图"部分提供了各种Axon™ Panel/EasyLap™ Panel 的详图。请访问我们的网站www.jameshardie.co.nz下载 dwg、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。

1.4 Specific Design 特殊设计

For the use of Axon™ Panel/EasyLap™ Panel and Hardie™ CLD™ Structural Cavity Battens outside the scope of this specification, the designer, architect or engineer must ensure that the relevant clauses of the New Zealand Building Code (NZBC) have been considered and the intent of their design meets the requirements of the NZBC. Project specific details are required to be developed if they are not covered in this literature.
如超出本文件范围使用Axon™ Panel/EasyLap™ Panel 和Hardie™ CLD™ 空腔结构板条，设计师、建筑师或工程师必须确保考虑到NZBC中的适用条款，且设计意图符合NZBC的要求。如本文件中未涵盖项目所需的详图，则需要进行特殊设计。

2 Design 设计

2.1 Compliance 合规

Axon™ Panel/EasyLap™ Panel complies with E2 of the NZBC as an alternate solution.
Axon™ Panel/EasyLap™ Panel 作为可替代方案符合NZBC的E2条款的要求。

Axon™ Panel/EasyLap™ Panel claddings have been independently tested/assessed and meet the performance requirements of the NZBC. Axon™ Panel/EasyLap™ Panel installed as per the details and information published in this technical specification are BRANZ Appraised. Refer to BRANZ Appraisal 1211(2022).
Axon™ Panel/EasyLap™ Panel 经过独立测试/评估，符合NZBC的性能要求。按照本技术手册中的详图和信息安装的Axon™ Panel/EasyLap™ Panel，经过BRANZ的评估，详情请参见BRANZ Appraisal 1211(2022)。

2.2 Responsibility 责任

The specifier or other party responsible for the project must run through a risk matrix analysis to determine which construction method is to be used. The designer must also ensure that the figures published 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 specification. The designers should ensure 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项目经过风险矩阵分析，以确定使用哪种结构。设计师也须确保本规范中的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。设计师应确保设计意图符合NZBC的要求。

All New Zealand Standards referenced in this manual are current edition 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。

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。

2.3 Site and Foundation 场地及地基

The site on which the building is situated must comply with the NZBC Acceptable Solution E1/AS1 'Surface Water'.
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。

Foundations design must comply with the requirements of the NZS 3604 'Timber-framed buildings' or be as per specific engineering design.
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。

The grade of adjacent finished ground must slope away from the building to avoid any possibility of water accumulation in accordance with the NZBC requirements.
根据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。

2.4 Surface Clearances 离地间隙

The clearance between the bottom edge of 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。

Axon™ Panel/EasyLap™ Panel must overhang the bottom plate on a concrete slab by a minimum of 50mm as required by NZS 3604.
按照NZS 3604的要求，Axon™ Panel/EasyLap™ Panel 须悬出混凝土楼板上的底板至少50mm。

Axon™ Panel/EasyLap™ Panel must have a minimum clearance of 100mm from paved ground, and 175mm from unpaved ground.
Axon™ Panel/EasyLap™ Panel 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.
在屋顶和露台，最小间隙须为50mm。

Do not install external cladding such that it may remain in contact with water or ground.
不要将外墙板安装在可能持续接触到水或地面的地方。

2.5 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 the interior and exterior environments of the building, particularly in buildings that have a higher risk of wind driven rain penetration or that are artificially heated or cooled.
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更容易灌入雨水的建筑，或是那些使用人工制冷或制热的建筑。

Walls must include those provisions as required by the NZBC Acceptable Solution E2/AS1 ‘External Moisture’. 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.
墙体须要符合NZBC可接受方案E2/AS1 “外部水” 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NZBC的要求。

For further guidance on designing for weathertightness 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
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。

2.6 Structure 结构

2.6.1 Timber Framing 木框架

Timber framed buildings must be designed in accordance with the NZS 3604 (Timber-framed buildings). When the framing is provided as per the (SED) specific engineering design, the framing stiffness must be either equivalent to or more than the stiffness requirements of the NZS 3604.
木框架建筑必须符合新西兰标准NZS 3604（木框架建筑）。如按照特殊工程设计(SED)提供框架，其刚度必须等于或超过NZS 3604的刚度要求。

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。

2.6.2 Wind Loading 风荷载

Axon™ Panel/EasyLap™ Panel is suitable for use in all wind zones in New Zealand up to and including EH for buildings as defined in NZS 3604.
Axon™ Panel/EasyLap™ Panel 适用于NZS 3604定义的EH级别及以下风区内的建筑物。

The system is is also suitable for use on buildings out side the scope of NZS 3604 for design wind pressures up to 2.5kPa (ULS).
本外墙系统还适用于超出NZS 3604范围的设计风压不超过2.5kPa (ULS)的建筑物。

2.7 Bracing 支撑

Axon™ Panel/EasyLap™ Panel installed to Hardie™ CLD™ Structural Cavity Battens as per this specification cannot be used to achieve structural bracing. However, bracing can be achieved by using 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.
按照本规范将Axon™ Panel/EasyLap™ Panel 固定于Hardie™ CLD™ 空腔结构板条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，可达到支撑效果。

2.8 Fire Rated Walls 墙面耐火等级

Axon™ Panel/EasyLap™ Panel when fixed to Hardie™ CLD™ Structural Cavity Battens, a fire resistance rating of up to 60 minutes can be achieved using RAB™ Board in conjunction with the fire rated system requirements as specified in the 'Fire and Acoustic Design Manual' by James Hardie. Ask James Hardie on 0800 808 868 for further information.
结合《James Hardie 消防与隔音设计手册》规定的的耐火评级系统的要求，Axon™ Panel/EasyLap™ Panel 固定于Hardie™ CLD™ 空腔结构板条，并使用RAB™ 板，可实现耐火评级达60分钟。更多信息，请致电0800 808 868垂询Ask James Hardie。

Axon™ Panel/EasyLap™ Panel are suitable for use where non-combustible materials are required on walls close to boundary.
Axon™ Panel/EasyLap™ Panel 适用于要求使用不可燃材料的临近边界的墙体。

2.9 Energy Efficiency 隔热能效

External walls constructed as per this technical specification, using Axon™ Panel/EasyLap™ Panel cladding must use suitable bulk insulation to meet the minimum thermal insulation requirements as per Clause H1/AS1 'Energy Efficiency' of the NZBC.
按照本技术规范采用Axon™ Panel/EasyLap™ Panel 建造的外墙必须使用适当的保温材料来满足NZBC中H1/ AS1 "隔热能效" 条款的最低保温要求。

3 Framing 框架

3.1 General 概述

This Axon™ Panel/EasyLap™ Panel Hardie™ CLD™ Structural Cavity Batten technical specification is suitable for timber-framed buildings that fall within the risk matrix score 7-20 as per Table 2 of E2/AS1 of the NZBC.
《Axon™ Panel/EasyLap™ Panel 固定于Hardie™ CLD™ 空腔结构板条技术规范》适用于按照NZBC的E2/AS1表2的划分风险矩阵分数在7-20之间的木框架建筑。

3.2 Timber Framing 木框架

3.2.1 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。

3.2.2 Structural Grade 结构等级

Timber grade used must be in accordance with timber grades specified in NZS 3604.
建筑所使用的木材等级必须符合NZS 3604中的规定。

3.2.3 Durability 耐久性

The external framing 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 the 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 site in accordance with the recommendation of the framing manufacturers.
另请参见木框架生产商所提供的说明材料，获得木材选择的进一步指导。在施工现场，必须按照框架生产商的建议对木框架进行防潮保护。

3.2.4 Frame Construction 框架施工

The framing must fully support all panel edges. The framing must be rigid and not rely on the cladding panel for stability.
框架须完全支撑所有板材边缘。框架必须是坚固的，且不能倚靠外墙板的支撑。

Timber framing sizes and its set-out must comply with NZS 3604 or specific engineering design requirements and as specified in this specification.
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。

In case of gable end trusses sitting on top plates of the external wall frame, the frame size must comply with the minimum timber sizes stipulated for wall frames in Section 8 of the NZS 3604.
如果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NZS 3604第8章规定的墙架最小木材尺寸。

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 generated by loadings 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。

3.3 Steel Framing 钢框架

Refer to Steel Frame Technical Supplement by James Hardie about the installation of Axon™ Panel/EasyLap™ Panel to steel frame.
请参阅《James Hardie 的钢框架技术补充手册》了解Axon™ Panel/EasyLap™ Panel 在钢框架上的安装方法。

3.4 Hardie™ CLD™ Structural Cavity Batten Hardie™ CLD™ 空腔结构板条

Buildings with a risk score of 7-20 calculated in accordance with the NZBC Solution 'E2/AS1' Table 2, Axon™ Panel/EasyLap™ Panel to be installed on a cavity. For cavity construction method the following framing is required:
按照NZBC解决方案'E2/AS1'表2 的划分风险分数在7-20之间的建筑物，Axon™ Panel/EasyLap™ Panel 应安装在空腔上，而空腔结构法对框架的要求如下：

- When studs are spaced at 600mm centres maximum, the nogs/dwangs must be provided at 800mm centres maximum
  立筋间距不超过600mm时，横梁间距不得超过800mm。
- When studs are spaced at 400mm centres then the nogs/dwangs may be provided at 1200mm centres
  立筋间距为400mm时，横梁间距可以为1200mm。
- An extra stud is required in internal corners. Refer to Figure 9.
  阴角需要额外的立筋。参见图9。

3.5 Tolerances 误差

In order to achieve the required performance and an acceptable wall finish, it is imperative that framing is straight and true.
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。

Framing tolerances must comply with the requirements of NZS 3604. All framing shall be made flush.
框架的误差必须符合NZS 3604的要求。所有的框架都必须齐平。

4 Preparation 准备工作

4.1 Flexible Underlay or HomeRAB™ Pre-Cladding 弹性垫层或HomeRAB™ 预置垫层

Flexible underlay or HomeRAB™ Pre-Cladding must be provided as per the requirements of the NZBC Acceptable Solution E2/AS1 'External Moisture' and NZS 3604. The flexible underlay must comply with Table 23 of E2/AS1 and AS/NZS 4200.1. The flexible underlay must be fixed in accordance with E2/AS1, NZS 3604 and AS/NZS 4200.2 and the underlay manufacturer's recommendations.
根据NZBC可接受方案E2/AS1 "外部湿度(External Moisture)" 条款的要求，房屋必须铺设弹性垫层或HomeRAB™ 预置垫层。弹性垫层必须符合E2/AS1表23和AS/NZS 4200.1的要求。弹性垫层必须根据E2/AS1、NZS 3604和AS/NZS 4200.2的要求和垫层生产商的建议来固定安装。

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 the requirements of the NZBC Acceptable Solution E2/AS1 Table 23. 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 is suitable for use in these applications. It must be installed in accordance with the HomeRAB™ Pre-Cladding/RAB™ Board installation manual.
对于无内衬的墙体（如车库墙或山墙），必须在外墙板的后方安装一层符合NZBC可接受方案E2/AS1表23要求的刚性隔板或密封板。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条的要求选择弹性垫层。HomeRAB™ 预置垫层适用于以上情况。请务必按照《HomeRAB™ 预置垫层和RAB™ 板安装手册》的指导进行安装。

4.2 RAB™ Board or a Rigid Air Barrier | RAB™ 板或刚性密封板

In EH wind zone or for specific design wind zone, a rigid air barrier ie RAB™ Board, must be used instead of flexible underlay. To achieve the temporary weathertightness using pre-cladding products from James Hardie, windows/doors must 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 requirements to achieve temporary weathertightness. For other rigid air barriers please refer to that manufacturers technical specification.
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。使用James Hardie的预置垫层产品实现临时的防风雨性，安装窗户/门时须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》，了解安装和实现临时防风雨性能的相关要求。如使用其他刚性密封板，请参见相关厂商的技术规范。

4.3 Vent Strip 通风条

The Hardie™ uPVC cavity vent strip must be installed at the bottom of all walls constructed using the drained and ventilated cavity construction method. It is important that the openings in the vent strip are kept clear and unobstructed to allow free drainage and ventilation of cavities. Hardie™ uPVC vent strip has an opening area of 1000mm^2/m length.
所有墙体的底部必须安装Hardie™ 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™ uPVC通风条的开口面积为1000mm^2/m。

4.4 Flashing 防水板

All wall openings, penetrations, intersections, connections, window sills, heads and jambs must be flashed prior to panel installation. Please refer to moisture management requirements in Clause 2.5. The flexible underlay, HomeRAB™ Pre-Cladding or RAB™ Board must be appropriately taped around the penetrations and lapped/taped to flashings. Materials must be lapped in such a way that water tracks down to the exterior of a building. James Hardie will assume no responsibility for water infiltration within the wall due to poor installation of flashings or flexible underlays. The selected flashing materials must comply with the durability requirements of the NZBC. For information refer to Table 20 of clause E2 of the NZBC.

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，都必须在安装板材之前做好防水。请参见本技术手册第2.5条有关湿度管理的要求。弹性垫层、HomeRAB™ 预置垫层或RAB™ 板在穿透处必须用胶带妥善密封，并与防水板相搭接/贴合。材料必须搭接良好，确保水流流向建筑物的外部。James Hardie 将不对因防水板或弹性垫层安装不当而导致的墙体渗水承担责任。选定的防水材料必须符合NZBC的耐久性要求。详情请参见NZBC的E2条款表20 。

When using a HomeRAB™ Pre-Cladding/RAB™ Board the entire framing around window opening must be sealed with a flashing tape. The tape must be finished over the face of the HomeRAB™ Pre-Cladding or RAB™ Board. The flashing tapes like Thermaflash® Self Adhesive Window Flashing Tape by Thermakraft™, Super-Stick Building Tape® by Marshall Innovations or 3M™ All Weather Flashing Tape 8067 by 3M™ are recommended for use with HomeRAB™ Pre-Cladding/RAB™ Board. Refer to the tape manufacturer's literature for further information regarding their installation.

当使用HomeRAB™ 预置垫层/RAB™ 板时，窗户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HomeRAB™ 预置垫层/RAB™ 板的外表面。推荐使用Thermakraft™ 生产的Thermaflash® Self Adhesive Window Flashing Tape、Marshall Innovations 生产的Super-Stick Building Tape® 、3M™ 生产的3M™ All Weather Flashing Tape 8067 等防水胶带产品密封HomeRAB™ 预置垫层/RAB™ 板。更多安装信息，请参见胶带生产厂商的规范。

4.5 Junctions and Penetrations 交汇与穿透

Refer to Clause 2.5 of this specification for moisture management requirements. All windows and doors must be detailed as per the requirements of this specification. James Hardie has developed the window details for Axon™ Panel/EasyLap™ Panel which meet the requirements of E2 'External Moisture', an approved document of the NZBC. Refer to Figures 19 to 25.

参见本技术规范第2.5条有关湿度管理的要求。所有门窗必须根据本规范的要求来设计详图。James Hardie 提供的Axon™ Panel/EasyLap™ Panel 的窗户安装详图符合NZBC核准文件中E2 "外部湿度" 条款的要求。请参见图19至25。

5 Batten installation 板条安装

Note: This specification is not for timber cavity battens. Refer to separate technical specification from James Hardie.
注：本规范不适用于木制空腔板条。如需固定在木制空腔板条，请参见James Hardie 提供的另一份技术规范。

5.1 Hardie™ CLD™ Structural Cavity Battens Hardie™ CLD™ 空腔结构板条

Buildings with a risk score of 7-20 calculated in accordance with Table 2 of Acceptable Solution E2/AS1 of the NZBC or buildings that are in 'EH or SED' wind zone, require Axon™ Panel/EasyLap™ Panel to be installed on a cavity. Hardie™ CLD™ Structural Cavity Battens provide a cavity and the panels get fixed into it.
对于按照NZBC可接受方案E2/AS1表2风险分数在7-20之间的建筑物，或在EH风区或特殊设计风区的建筑物，Axon™ Panel/EasyLap™ Panel需固定于空腔之上。Hardie™ CLD™ 空腔结构板条可形成空腔，板材可以固定在其之上。

Hardie™ CLD™ Structural Cavity Battens are made of a low density fibre cement formulation which enables them to have extra strength and durability. Hardie™ CLD™ Structural Cavity Battens are sealed on all sides and are suitable to fix Axon™ Panel/EasyLap™ Panel installed as per this technical specification, and can withstand the design wind pressures exerted on a cladding within the scope of the NZS 3604.
Hardie™ CLD™ 空腔结构板条采用低密度纤维水泥配方制造，这一配方令其韧性和耐久性更强。Hardie™ CLD™ 空腔结构板条各边都经过密封处理，适用于固定按照本技术规范安装的Axon™ Panel/EasyLap™ Panel，且可承受NZS 3604范围内的施加于外墙板的设计风压。

The Hardie™ CLD™ Structural Cavity Battens are made 3000mm long and 19mm thick. The battens are fully sealed on all sides.
Hardie™ CLD™ 空腔结构板条长度3000mm，厚度19mm。板条各边都经过全密封处理。

5.2 Batten Layout 板条布局

Hardie™ CLD™ Structural Cavity Battens must be fixed to the wall framing over flexible underlay or an E2/AS1 compliant rigid air barrier. The smoother face of batten should face towards the cladding.

Hardie™ CLD™ 空腔结构板条必须固定于铺设有弹性垫层或符合E2/AS1要求的刚性密封板的墙体框架。板条较为光滑的一面应面向外墙板。

Hardie™ CLD™ Structural Cavity Battens are suitable to withstand wind pressures up to 2.5kPa (ULS). For batten fixing, refer to section 5.4. Ensure the battens are straight and provide a flat surface to fix Axon™ Panel/EasyLap™ Panel to. Site cut ends of battens must be sealed on site with Dulux® Acraprime® 501/1 sealer or Resene® Quick Dry.
Hardie™ CLD™ 空腔结构板条可承受风压达2.5kPa(ULS)。有关板条固定，请参见第5.4部分。请确保板条笔直，可以为Axon™ Panel/EasyLap™ Panel的固定提供平整的表面。现场切割的板条末端必须使用Dulux® Acraprime® 501/1密封剂或Resene® Quick Dry进行现场密封。

The battens are run continuously over the studs but they must not be run continuously over the floor joists. There must be a 15mm gap between the battens at floor joist level to allow for structural shrinkages and deflections. Refer to Figure 26.
板条可沿立筋连续安装，但不得沿地板龙骨连续安装。地板龙骨高度的板条之间必须留有15mm间隙，为结构收缩变形留出余地。参见图26 。

Hardie™ CLD™ Structural Cavity Battens can be butt jointed over the studs within the floor height. The batten ends must be cut between 20º to 45º and be installed in a way that the butt joint deflects the moisture to the exterior. The ends must be sealed and jointed with the adhesive sealant before butting them together. Refer to Figure 17.
Hardie™ CLD™ 空腔结构板条可在楼层高度内沿立筋安装并相互对接在一起。板条末端须切割成20° 到45°，在安装时确保对接缝将水分排向建筑物的外部。板条末端必须进行密封处理，在对接起来之前先涂抹黏性密封胶。参见图17。

The smallest section of Hardie™ CLD™ Structural Cavity Battens must be at least 300mm long.
Hardie™ CLD™ 空腔结构板条不可切割成小于300mm的长度使用。

5.3 Intermediate Support 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 a:
当立筋间距为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：

- 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 a rigid air barrier instead of flexible underlays are used.
  使用刚性密封板代替弹性垫层。

5.4 Batten Fasteners 板条紧固件

The Hardie™ CLD™ Structural Cavity Batten must be fixed to the framing as specified in Table 1. The fasteners must be driven at a minimum distance of 50mm from the batten ends.
Hardie™ CLD™ 空腔结构板条须根据表1 的要求固定在框架上。紧固件的固定位置离板条末端距离不得小于50mm 。

Table 1 | 表1

Batten fixing 板条固定				
Fixing Type 板条类型	**Framing** 框架	**Basic Wind Pressure kPa (ULS) 基础风压 kPa (ULS)**	**Batten centres max. (mm) 板条最大间距(mm)**	**Fixings centres max. (mm) 固定最大间距(mm)**
65mm x 2.8mm RounDrive ring shank nail hot dip galv./ s.steel 65mm x 2.8mm RounDrive 环纹螺丝钉（热浸镀锌 / 不锈钢）	Timber 木制	Up to 1.5 (Up to and including VH wind zone) 可达1.5 （包括 VH 级别及以下风区）	600	250
		Up to 2.5 (>VH wind zone) 可达 2.5 （VH 级别以上风区）	400	200

50mm x 9-10g Countersunk head steel screw class 3/4 50mm x 9-10g 沉头钢制螺丝钉（3/4级）	*Steel 0.55 to 1.6mm BMT *钢制 0.55到 1.6mm BMT	Up to 1.5 (Up to and including VH wind zone) 可达 1.5 （包括 VH 级别及以下风区）	600	250
		Up to 2.5 (>VH wind zone) 可达 2.5 （VH 级别以上风区）	400	200

For fastener durability information, refer to Clause 6.2 of this document.
有关紧固件耐久性的信息，请参见本规范的第6.2条。

Hardie™ CLD™ Structural Cavity Battens less than 400mm in height must have fixings at maximum 150mm centres. Battens must be fixed over studs.
Hardie™ CLD™ 空腔结构板条高度小于400mm时，固定间距不得超过150mm。板条必须固定在立筋上。

6 Panel fixing 板材固定

6.1 General 概述

Axon™ Panel/EasyLap™ Panel must be kept dry and under cover whilst in storage or during the installation. Every endeavour must be made to keep framing dry once panel fixing commences. All site-cut panel edges must be sealed prior to installation.The shiplap jointing of panels is only suitable for vertical fixing of panels.
Axon™ Panel/EasyLap™ Panel 在储存和安装的过程中必须保持干燥，并受到遮蔽。一旦开始固定板材，必须要尽全力让框架保持干燥。在安装之前，所有现场切割的板材边缘都必须进行密封。

- The shiplap jointing of panels is only suitable for vertical fixing of panels.
  板材的搭接缝仅适用于纵向固定。
- Ensure the sheets are from the same batch.
  确保所安装的板材为同一批次。
- It is recommended to fix from the centre of the panel and work outwards.
  建议从板材的中心开始固定，再向两边延伸。
- Do not overdrive fasteners.
  不要将紧固件拧的过紧。
- Fixings must be finished flush with the panel surface.
  紧固件必须与板材表面齐平。
- Do not fix in the groove of Axon™ Panel.
  不要在 Axon™ Panel 的凹槽内入钉固定。
- Minimum sheet width around window/door openings or corners etc. to be 200mm.
  门窗开口处、墙角等位置的板材宽度不得小于200mm。

6.2 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 material to be used in relation to exposure conditions and are summarised in Table 2.
紧固件必须符合NZBC的最低耐久性要求。NZS 3604规定了用于室外环境下的金属固件的材质， 汇总于表2。

Table 2 | 表2

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	
	Bracing 支撑	
C and B* C 区和 B 区 *	General 通用	Hot dip galvanised ** 热浸镀锌 **
	Fire 耐火 7	
	Bracing 支撑	

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

6.3 Adhesive Sealant 黏性密封胶

A polyurethane adhesive sealant Seal N' Flex™-1 manufactured by Bostik® or SikaFlex® 11FC by Sika® are recommended for use in the installation of these products. Apply a 6mm continuous bead of this adhesive sealant over the face of the Hardie™ CLD™ Structural Cavity Batten before fixing the Axon™ Panel/EasyLap™ Panel. Refer to Figures 6 to 8.
建议安装产品时使用Bostik®生产的聚氨酯黏性密封胶Seal N' Flex™-1，或 Sika® 生产的 SikaFlex® 11FC。固定Axon™ Panel/EasyLap™ Panel 之前，在Hardie™ CLD™ 空腔结构板条的表面涂抹一条连续的6mm粗的黏性密封胶。请参见图6至图8 。

When using external box corner flashing, use a 10mm thick bead of adhesive over the aluminium box corner flanges. Refer to Figure 10.
使用阳角箱角防水板时，在铝制箱角的翼板上涂抹10mm粗的黏性密封胶。参考图10。

Note: Do not use excessive adhesive.
注：不要使用过量的密封胶。

6.4 Panel Layout 板材布局

All panel edges must be supported by the framing. The shiplap joint must be formed vertically. The framing centres must be checked before the panel installation.
所有板材的边缘都须要框架支撑。搭接缝必须纵向成型。在安装板材之前须检查框架的间距。

Fix Axon™ Panel/EasyLap™ Panel to Hardie™ CLD™ Structural Cavity Battens using one of the following fixings specified in Table 4. The edge distance at panel corner must be minimum 75mm vertically from panel corners. Refer to Figure 3.
按照表4的规定，使用紧固件将Axon™ Panel/EasyLap™ Panel 固定于Hardie™ CLD™ 空腔结构板条。纵向相接的板材边角距离应不小于75mm 。详见图3 。

Table 4 | 表4

Axon™ Panel/EasyLap™ Panel Fixing | Axon™ Panel/EasyLap™ Panel 的固定		
Types of fixings to be used with adhesive sealants 配合黏性密封胶使用的紧固件类型	**Suitable up to Basic Wind Pressure kPa (ULS) 适用的基础风压 kPa (ULS) 上限**	**Fixing to Hardie™ CLD™ Structural Cavity Batten centres (mm) 固定至 Hardie™ CLD™ 空腔结构板条的间距**
C-25 straight 'T'- Head stainless steel brad nail | C-25直"T"头不锈钢细钉	1.5 (Up to and including VH wind zone) （包括 VH 级别及以下风区）	150
25 x 2.5mm annular threaded fibre cement nail | 25 x 2.5mm 环纹纤维水泥钉	2.5 (> VH wind zone) （VH 级别以上风区）	200
25mm x 10g counter sunk screw class 3/4 or stainless steel | 25mm x 10g沉头螺丝钉 3/4级或不锈钢钉	2.5 (> VH wind zone) （VH 级别以上风区）	200

Note: 注：

1. Brad nail fixing method is only suitable up to 1.5kPa.
   细钉固定仅适用于风压不超过1.5kPa 的地区。
2. Nails must be finished flush with panel surface.
   钉子必须与板材表面齐平。

6.4.1 T-Head Brad Nails T头细钉

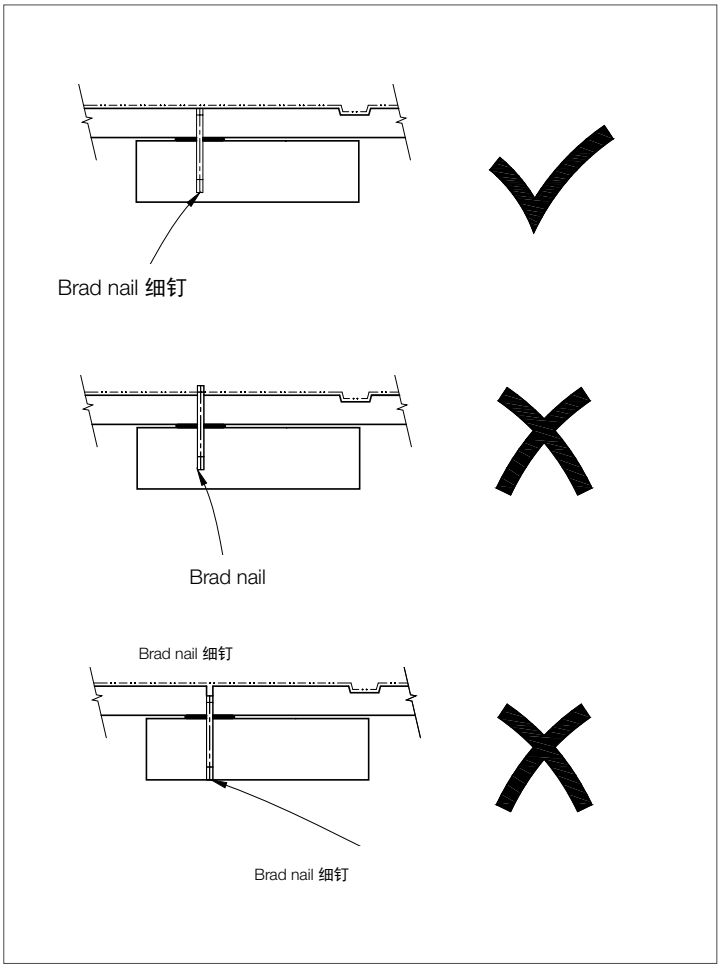
A combination of stainless steel straight T-head brad nail and Bostik® 'Seal N Flex™-1' or Sika® 'Sikaflex®-11FC' adhesive sealant provides a fast and efficient method of panel installation. It also minimises the preparation required before painting the panels. T-head brad nails are fixed using a brad nail gun.
使用不锈钢直T头细钉固定，并使用Bostik® 'Seal N Flex™-1'或Sika® 'Sikaflex®-11FC'黏性密封胶密封，是一种高效快捷的板材安装方法。这种方法也能简化喷涂板材之前需要做的准备工作。T头细钉可以使用钉枪进行固定。

This fixing method is only suitable for projects within the scope of NZS 3604.
这一固定方法仅适用于NZS 3604范围内的项目。

Apply a 6mm thick continuous bead of Bostik® 'Seal N Flex™-1' or Sika® 'Sikaflex®-11FC' adhesive sealant to the face of the Hardie™ CLD™ Structural Cavity Batten first, then fix the panel with T-head brad nails, securing the panel in place while the adhesive cures. A good practice is to set the brad nail gun to fire nails 2-3mm proud of the panel surface, keeping a consistent pressure on the panel while fixing. Let the adhesive cure for approximately 1-2 hours, whilst continuing work on the next section. Come back later and hammer the nails flush with the panel surface. Use Paslode® C-25 304 stainless steel brad nails.
先在Hardie™ CLD™ 空腔结构板条表面涂抹一条连续的6mm粗的Bostik® 'Seal N Flex™-1'或Sika® 'Sikaflex®-11FC'黏性密封胶，然后使用T头细钉固定板材，在黏性密封胶成型的过程中确保板材不移位。较好的做法是把气钉枪设置成射钉突出板材表面2-3mm，在固定的过程中向板材平稳施加压力。黏性密封胶晾干要大约1-2小时，在此期间可以接着做下面的部分，之后再回来把钉子锤到和板材表面齐平。使用Paslode® C-25 304不锈钢细钉。

The edge distance required for fixing T-head brad nails is 18mm from the underlap edge and 16mm from the overlap edge. Refer to Figure 6.
固定T头细钉的边缘距离要求是离下部搭接边缘18mm，离上部搭接边缘16mm。请参考图6。

Note: Do not use this fixing method in specific engineering design (SED) wind zones.
注：不要在特殊工程设计 (SED) 风区使用这一固定方法。



6.4.2 Fibre Cement Nails 纤维水泥钉

Axon™ Panel/EasyLap™ Panel can be installed using 25 x 2.5mm annular threaded fibre cement nails. These nails must be driven flush with the panel surface. Apply a 6mm thick continuous bead of Bostik® 'Seal N Flex™-1' or Sika® 'Sikaflex®-11FC' adhesive sealant over the Hardie™ CLD™ Structural Cavity Batten before fixing the Axon™ Panel/EasyLap™ Panel. Refer to section 6.2 for the durability requirements.
Axon™ Panel/EasyLap™ 可以用25 x 2.5mm环纹纤维水泥钉安装。钉子必须与板材表面齐平。固定Axon™ Panel/EasyLap™ Panel 之前，先在Hardie™ CLD™ 空腔结构板条表面涂抹一条连续的6mm粗的Bostik® 'Seal N Flex™-1' 或 Sika® 'Sikaflex®-11FC' 黏性密封胶。请参见第6.2条的耐久性要求。

Always ensure that the fibre cement nails are finished flush prior to finishing. Refer to section 8.
在进行表面处理之前，始终确保纤维水泥钉与板材表面齐平。请参加第8章。

The edge distance required for fixing fibre cement nails is 18mm from the underlap edge and 16mm from the overlap edge.
固定纤维水泥钉的边缘距离要求是离下部搭接边缘18mm，离上部搭接边缘16mm。

6.4.3 Countersunk Screws 沉头螺丝钉

Axon™ Panel/EasyLap™ Panel must be pre-drilled on the ground before installation, using a James Hardie countersunk drill bit. A 25mm x 8-10g countersunk screw is suitable for this installation method. The screw head must be countersunk to a depth of 2mm maximum below the Axon™ Panel/EasyLap™ Panel surface. Apply a 6mm thick continuous bead of Bostik® 'Seal N Flex™-1' or Sika® 'Sikaflex®-11FC' adhesive sealant over the Hardie™ CLD™ Structural Cavity Batten before fixing the Axon™ Panel/EasyLap™ Panel.
在安装之前，Axon™ Panel/EasyLap™ Panel 须先在地上使用James Hardie的沉头钻头预钻孔。25mm x 8-10g的沉头螺丝钉适用于此安装法。螺丝钉头必须沉入Axon™ Panel/EasyLap™ Panel 表面以下不超过2mm。固定Axon™ Panel/EasyLap™ Panel 之前，先在Hardie™ CLD™ 空腔结构板条表面涂抹一条连续的6mm粗的Bostik® 'Seal N Flex™-1' 或Sika® 'Sikaflex®-11FC' 黏性密封胶。

The typical edge distance required for screw fixing is 18mm from the underlap edge and 16mm from the overlap edge.
通常边缘距离要求是离下部搭接边缘 18mm，离上部搭接边缘 16mm。

Use a low torque setting on the drill to ensure that the screws are not over-driven into the Hardie™ CLD™ Structural Cavity Battens. The screws must be manually tightened prior to epoxy filling.
把钻头设置成低扭矩模式，确保螺丝钉不会被过度拧入Hardie™ CLD™ 空腔结构板条。在填充环氧填料之前，必须对螺丝钉进行手动加固。

The countersunk screw holes must be flush finished with two part epoxy filler. Allow the epoxy to cure, sand the epoxy to a smooth finish with 60-80 grit sandpaper then prime over. Ensure the epoxy manufacturer's recommendations are followed.
沉头螺丝钉钉孔须使用双剂型环氧填料填充至与板材表面齐平。待环氧填料固化，用60-80号砂纸打磨至光滑，然后再上底漆。请确保遵照环氧填料生产厂商的建议。

7 Jointing 接缝

7.1 General 概述

Axon™ Panels/EasyLap™ Panels are fixed to form a shiplap joint at vertical edges. The panels have factory-made edges to suit this jointing.
Axon™ Panels/EasyLap™ Panel 经固定纵向边缘可形成搭接缝。板材的边缘经过工厂处理，适用作此类接缝。

7.2 Vertical Joint 纵向接缝

Fix the Hardie™ CLD™ Structural Cavity Batten over the studs. Refer to Figures 2 and 3. The vertical shiplap joint is formed along the centre line of the batten. A bead of continous sealant is applied to the vertical edge of the Axon™ Panel/EasyLap™ Panel to seal the shiplap joint before fixing the panels. Refer to Figures 6 and 7. The edge distance for a brad nail must be 16mm and 18mm. Refer to Figures 6 and 7.
将Hardie™ CLD™ 空腔结构板条固定在立筋上。参见图2和图3。沿板条中心线形成纵向搭接缝。固定板材之前，在Axon™ Panel/EasyLap™ Panel 的纵向边缘涂抹一条连续的密封胶将搭接缝密封好。参见图6和图7。细钉与边缘的距离须为16mm和18mm。参见图6 和图7。

7.3 Horizontal Joint 横向接缝

At floor joist levels a horizontal joint must be provided to accommodate the movement resulting from timber joist shrinkage and settlement. A Hardie™ 9mm panel aluminium horizontal ‘h’ mould is used to form a horizontal joint. Use the aluminium ‘h’ mould jointer to cover over the butt joint of ‘h’ mould. A purpose made metal ‘Z’ flashing could also be used to flash the horizontal joint. Refer to Figures 27 - 30.
在地板龙骨的高度，必须有横向接缝，以适应由木地板龙骨收缩和沉降引起的移位。可以使用Hardie™ 9mm铝制横向‘h’型模具形成横向接缝，并使用铝制‘h’型模具接缝件覆盖‘h’型模具的对接缝，也可以使用专门制作的金属‘Z’型防水板为横向接缝做防水处理。参考图27至图30。

7.4 Horizontal Drainage Joint 横向排水接缝

The wall cavities must be drained every two floors to facilitate moisture drainage and ventilation. Refer to Figure 33.
为促进排水和通风，墙体空腔每隔两层必须有排水接缝。参见图33。

7.5 External Corner 阳角

A Hardie™ 9mm panel aluminium box corner mould is used to form the external box corner. The site-cut sheet edges must be sealed before butting them into the box corner. Refer to Figures 10 and 29.
使用Hardie™ 9mm 铝制箱角模具形成阳角箱角。与箱角对接之前，现场切割的板材边缘须进行密封。参考图10 和图29。

On a two storey construction the aluminium box corner is finished under the aluminium ‘h’ mould. A Hardie™ 9mm aluminium ‘h’ mould external corner must be used over the corner when in this situation. Refer to Figure 29.
在双层建筑中，铝制箱角应该在铝制‘h’型模具的下方结束。这种情况必须在墙角使用Hardie™ 9mm 铝制‘h’型阳角。参见图29。

The bead of adhesive must be 10mm thick to accommodate for the thickness of the aluminium.
为适应铝材的厚度，须涂抹一条10mm 粗的黏性密封胶。

7.6 Internal Corner 阴角

For Hardie™ CLD™ Structural Cavity Batten internal corner joint the Hardie™ CLD™ Structural Cavity Batten must go to bottom of the panel for sealant to be formed against. The joint is filled with the flexible sealant. Refer to Figure 9.
对于Hardie™ CLD™ 空腔结构板条阴角接缝，Hardie™ CLD™ 空腔结构板条必须接在板材底部，让密封胶能够固化成型。接缝内使用弹性密封胶填充密封。参见图9。

7.7 Flashing Material Durability 防水材料耐久性

Please refer to Table 20 of E2/AS1 of the NZBC regarding the durability requirements of various flashing materials.
请参见NZBC的E2/AS1表20，了解有关各类防水材料的耐久性要求。

8 Finishing 表面处理

8.1 Preparation 准备工作

Painting of Axon™ Panel/EasyLap™ Panel is mandatory to meet the durability requirements of the NZBC and 15 year James Hardie product warranties. Axon™ Panel/EasyLap™ Panel must be dry and free of any dust or grime before painting. The panels must be painted within 90 days of their installation. There is no restriction on the LRV of paint to be applied on the Axon™ Panel/EasyLap™ Panel.
Axon™ Panel/EasyLap™ Panel必须刷漆，以满足NZBC的耐久性要求和James Hardie的15年质保条件。在刷漆之前，Axon™ Panel/EasyLap™ Panel必须保持干燥，且没有任何灰尘或污垢。刷漆必须在安装后的90天内完成。Axon™ Panel/EasyLap™ Panel对于所刷漆料的LRV值没有限制。

Dark paints can be used when using the aluminium flashings.
使用铝制防水板时，可以使用深色漆料。

Panels are pre-primed and are suitable for site applied acrylic paints. Pre-finished panels can also be installed using exposed head fasteners.
板材已经预涂底漆，适合现场涂刷亚克力漆。经过预处理的板材还可以使用暴露钉头的紧固件进行安装。

In order to seal cut edges or sanded patches, Dulux® 1 Step, Resene® quick dry, Taubmans® Underproof Acrylic Primer Undercoat or a similar product should be applied. The primer should be compatible with the paint to be used.
为了密封板材的切割面和砂纸抛光面，应使用Dulux® 1 Step, Resene® quick dry, Taubmans® Underproof Acrylic Primer Undercoat 或其它类似产品。底漆应与所刷漆料相兼容。

Where panels are fixed with brad nails, the nail heads must be finished flush with panel surface. The nail gun should be set to nail “proud” of the panel surface and nail heads to be manually finished flush with surface. The nail heads can be skimmed over with an exterior grade 2 part builders fill if required. The skimmed area must be primed prior to site-applied finishing.
如采用细钉固定板材，钉头必须与板材表面齐平。钉枪应设定为入钉后“突出”板材表面，然后再人工进行固定，让钉子与板材表面齐平。如需要，钉头可以用外用级别双剂式建筑用填充剂进行密封。经过薄涂的区域必须先上底漆再进行现场涂装。

For site-applied finishes where brad nails are used. James Hardie recommends an undercoat and a minimum of two coats of acrylic paint. Follow the paint manufacturer’s recommendations to prepare the surface and to adequately cover and conceal the panel fixings.
对于现场涂装的墙面，如使用细钉，James Hardie建议使用底漆和至少两层亚克力漆。请遵循油漆制造商的建议，准备板材表面，并充分覆盖和隐藏板材上的紧固件。

For best aesthetic results a low sheen paint is recommended.
为了墙面的美观，推荐使用低光泽度的油漆。

8.2 Coating 刷漆

8.2.1 Paint 粉刷

Axon™ Panel/EasyLap™ Panel are supplied pre-primed.
Axon™ Panel/EasyLap™ Panel已经预涂底漆。

Panels must be painted within 90 days of installation. Use only quality exterior paints complying with AS 3730.
板材必须在安装后的90天内刷漆。请仅使用符合AS 3730标准的高质量外墙漆。

Manufacturer's specification for the selected paint must be followed.
必须遵照所选漆料的制造商提供的规范。

8.2.2 Staining - Only for Axon™ Panel Grained 染料 – 仅供 Axon™ Panel木纹型

Stains containing linseed oil are specifically designed for wood and may not be suitable for fibre cement cladding products, primed or unprimed. Semi-transparent stains can vary in uniformity of appearance depending on method of application and conditions, requiring a high level of skill and craftsmanship to achieve a uniform appearance. Clear coats have not proven durable in exterior exposure and James Hardie considers them a maintenance item that may require application of a refurbishing sealer at regular intervals. James Hardie does not warrant the appearance and durability of the use of semi-transparent stains and clear coats.
含亚麻籽油的染料专为木材设计，可能不适用于纤维水泥外墙产品，无论是否预先经过底漆处理。半透明染料的均匀程度可能因施工方法和环境条件而有所不同，想要外观看上去均匀需要纯熟的技巧和工艺。透明涂层在户外环境下的耐久性未经证实，James Hardie认为其需要定期维护，可能需要定期使用翻新密封剂。James Hardie不保证使用半透明染料和透明涂层的美观性和耐久性。

For further information contact the stain manufacturers. Refer to Section 12 for stain manufacturer details.
如需更多信息，请联系染料制造商。有关染料制造商的详细信息，请参考第12章。

8.2.3 Roll on Texture 滚涂纹理漆

EasyLap™ Panel can be finished with rolled on texture acrylic texture coatings. Panels are supplied pre-primed and are ready for acrylic textures to be applied directly to it. Acrylic texture products are available in a range of textures that vary from fine finish to rough texture for a fast application on site. Refer to Dulux® or other similar texture coating suppliers for further information.
EasyLap™ Panel可以滚涂亚克力纹理漆。板材已预涂底漆，可以直接上亚克力纹理涂料。亚克力纹理产品有多种不同选择，从细腻的表面到粗糙的纹理，适用于快速现场涂装。更多信息请参考Dulux®或其他类似的纹理涂料供应商。

8.3 Flexible Sealant 弹性密封胶

All sealants used must comply with the relevant requirements of the NZBC. Their application and usage must be in accordance with manufacturer's instructions. Check with sealant manufacturer prior to coating over sealants. Some sealant manufacturers do not recommend coating over their products.
所用的密封胶都必须满足NZBC的相关要求。用法和用量必须符合制造商的说明。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。

8.4 Epoxy Fillers 环氧填料

All countersunk screw holes must be filled with a two part epoxy e.g. Allnex™ Fairing Cream or a similar epoxy filler. The screw and screw holes must be clean and dry before they are filled with epoxy. The epoxy filler must be sanded flush with the panel surface. Always refer to the epoxy manufacturer's recommendations before use.
所有沉头螺丝钉的钉孔都必须使用双剂型环氧填料，例如Allnex™ Fairing Cream或类似的环氧填料。填充之前，螺钉和钉孔都必须保持干净和干燥。环氧填料必须打磨至与板材表面齐平。使用前，请始终参考环氧填料制造商的建议。

9 Care and Maintenance
保养与养护

The extent and nature of maintenance will depend on the geographical location and exposure of the building. As a guide, it is recommended that basic normal maintenance tasks shall include but not be limited to:
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。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. Refer to your paint manufacturer for wash down requirements and do not use a water blaster to wash down the cladding.
  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-applying of exterior protective finishes if necessary. Always refer to your paint manufacturer for re-coating requirements.
  如有必要，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。
- Maintaining the exterior envelope and connections including joints, penetrations, flashings and sealants that may provide a means of moisture entry beyond the exterior cladding.
  维护外部围护结构和连接处，包括接缝、穿透处、防水板和密封胶，以防止水分进入外墙后方。
- Cleaning out gutters, blocked pipes and overflows as required
  根据需要清理排水沟、下水管和溢流排水管。
- Pruning back vegetation that is close to or touching the building
  经常修剪靠近建筑物或有接触的植物。
- The clearance between the bottom edge of Axon™ Panel/EasyLap™ Panel and the finished ground must always be maintained.
  确保Axon™ Panel/EasyLap™ Panel 的底边与已铺地面始终保持适当的间隙。

10 Product information 产品信息

10.1 Manufacturing and Classification 制造工艺及分类

Axon™ Panel/EasyLap™ Panel is an advanced lightweight cement composite building product. The basic composition is Portland cement, ground sand, cellulose fibre, water and proprietary additives. The panels are easily identified by the name 'Axon™ Panel' 'EasyLap™ Panel' printed at regular intervals on the back face of panel. Axon™ Panel/EasyLap™ Panel is sealed and primed on the face and back is clear sealed.
Axon™ Panel/EasyLap™ Panel 是先进的轻质水泥复合建筑材料，基本组成包括波特兰水泥、细砂、纤维、水和专利添加剂，可以通过板材背面规则印刷的"Axon™ Panel"和"EasyLap™ Panel"字样轻松辨认出来。Axon™ Panel/EasyLap™ Panel 的正面经过密封和底漆处理，背面经过透明密封。

Hardie™ CLD™ Structural Cavity Battens are manufactured using a low density fibre cement formulation. The basic composition is Portland cement, ground sand, cellulose fibre, water and proprietary additives. The battens are sealed on all sides.
Hardie™ CLD™ 空腔结构板条制造采用低密度纤维水泥配方，基本组成包括波特兰水泥、细砂、纤维、水和专利添加剂。板条四周都经过密封处理。

Axon™ Panel/EasyLap™ Panel and Hardie™ CLD™ Structural Cavity Battens are manufactured in Australia to the to AS/NZS 2908.2 'Cellulose-Cement Products Part 2: Flat Sheets' (ISO 8336 'Fibre Cement Flat Panels') standards in New Zealand. James Hardie is an ISO 9001 'Telarc' certified manufacturer.
Axon™ Panel/EasyLap™ Panel 和Hardie™ CLD™ 空腔结构板条产自澳大利亚，满足澳大利亚/新西兰标准AS/NZS 2908.2 "纤维水泥产品第二部分：平板"（ISO 8336 "纤维水泥平板"）的要求。James Hardie是ISO 9001 'Telarc' 认证的制造商。

Axon™ Panel/EasyLap™ Panel is classified Type A, Category 3 in accordance with AS/NZS 2908.2 "Cellulose-Cement Products".
根据AS/NZS 2908.2 "纤维水泥产品"标准，Axon™ Panel/EasyLap™ Panel 被归类为Type A, Category 3。

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(SDS) 。

10.2 Product Mass 产品质量

Axon™ Panel is manufactured in 9.0mm thickness and has a mass of 12.1kg/m^2 at EMC.
Axon™ Panel 的厚度为9.0mm，在湿热平衡状态下的质量为12.1kg/m^2。

EasyLap™ Panel is manufactured 9.0mm thickness and has a mass of 13kg/m^2 at EMC.
EasyLap™ Panel 的厚度为9.0mm，在湿热平衡状态下的质量为13kg/m^2。

Axon™ Panel/EasyLap™ Panel cladding is defined as a Light Weight Wall Cladding (not exceeding 30kg/m^2) as per the NZS 3604.
Axon™ Panel/EasyLap™ Panel 按照NZS 3604的定义属于轻质外墙板（不超过30kg/m^2）。

10.3 Durability 耐久性

10.3.1 General 概述

Axon™ Panel/EasyLap™ Panel installed as per this technical specification will meet the durability requirements for claddings as required under clause 'B2-Durability' of the NZBC.
按照本技术手册安装的Axon™ Panel/EasyLap™ Panel 符合NZBC的“B2-耐久性”条款对外墙耐久性的要求。

10.3.2 Resistance to Moisture/Rotting 耐潮/耐腐蚀

Axon™ Panel/EasyLap™ Panel has demonstrated resistance to permanent moisture induced deterioration (rotting) and has passed the following tests in accordance with AS/NZS 2908.2:
Axon™ Panel/EasyLap™ Panel 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）

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

Axon™ Panel/EasyLap™ Panel and Hardie™ CLD™ Structural Cavity Batten has been assessed as per Appendix C C7.1.1 and is suitable for use where 'Non-Combustible Material' are specified for use in external wall cladding applications and complies with requirements of Paragraph 5.4 of the NZBC Acceptable Solutions C/AS1 and Paragraph 5.8.1 of Acceptable Solutions C/AS2 of the NZBC.
根据附录C C7.1.1 的要求进行测试时，Axon™ Panel/EasyLap™ Panel 以及Hardie™ CLD™ 空腔结构板条适合用于外墙规定使用“不可燃材料”的情况，符合NZBC可接受方案C/AS1第5.4条和可接受方案C/AS2第5.8.1条的要求。

10.3.4 Alpine Regions 高寒地区

In regions subject to freeze/thaw conditions, Axon™ Panel/EasyLap™ Panel 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 snow drifts over winter are expected.
对于经常出现冰冻/融化状况的地区，Axon™ Panel/EasyLap™ Panel 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。

The Axon™ Panel/EasyLap™ Panel has been tested in accordance with AS/NZS 2908.2 Clause 8.2.3.
Axon™ Panel/EasyLap™ Panel 经测试符合AS/NZS 2908.2的第8.2.3条的要求。

11 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.
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。

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

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

Crystalline Silica is
结晶二氧化硅是

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

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

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

- Exposure to silica dust without taking the appropriate safety measures to minimise the amount being breathed in, can lead to a potentially fatal lung disease – silicosis – and has also been linked with other diseases including cancer. Some studies suggest that smoking may increase these risks
  接触二氧化硅粉尘而未采取适当的安全措施以最大程度地减少吸入量，可能会导致致命的肺部疾病-矽肺病，并且还与包括癌症在内的其他疾病有关。一些研究表明，吸烟可能会增加这些风险。

- The most hazardous dust is the dust you cannot see!
  危害最大的粉尘是你看不见的粉尘！

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

- It's dangerous to health if safety protocols to control dust are not followed when cutting, drilling or rebating a product containing crystalline silica and when cleaning up
  在切割，钻孔，打磨或清理含有结晶二氧化硅的产品时，如不遵守控制粉尘的安全守则，会危害健康。

- Products containing silica are harmless if intact (e.g. an un-cut sheet of wall board)
  含硅的产品在完整的情况下是无害的（比如，未切割的墙板）。

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

Safe working practices
安全施工守则

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

✕ NEVER dry sweep
切勿干扫。

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

✕ NEVER use grinders
切勿使用研磨机。

✓ ALWAYS use a dust reducing circular saw equipped with a sawblade specifically designed to minimise dust creation when cutting fibre cement – preferably a sawblade that carries the 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，警示他人躲避扬尘。

- ✓ 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 Axon™ Panel or EasyLap™ Panel:
在 Axon™ Panel 或 EasyLap™ Panel 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。

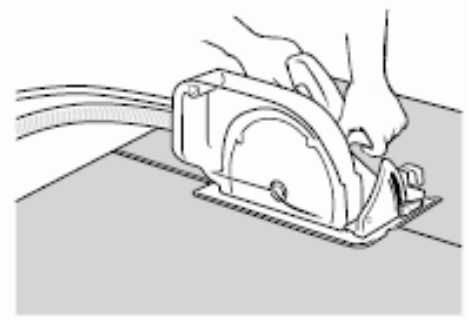
  - If you are not clean shaven, then use a powered air respirator with a loose fitting head top
    如果您留有胡子，请佩戴带有宽松头戴式面罩的电动送风呼吸器。

  - 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。

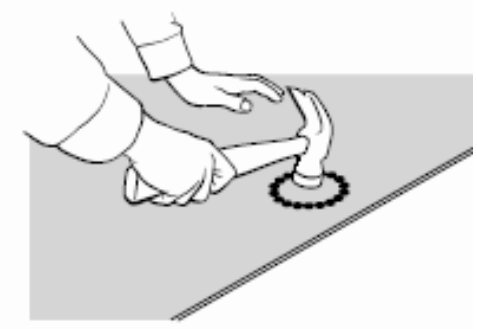
Working Instructions 作业说明



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。

11.1 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。

11.2 Tips for safe and easy handling of Axon™ Panel and EasyLap™ Panel
轻松安全搬运Axon™ Panel 和EasyLap™ Panel的小技巧

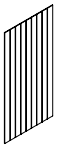
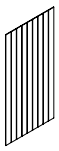
✓ Carry with two people
两个人搬运。

✓ Hold near each end and on edge
抬起靠近板材两端和边缘。

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

12 Product Sizes and Accessories
安全施工守则

Table 5 | 表5

Axon™ Panel information | Axon™ Panel 产品信息					
Product 产品	**Description 产品描述**	**Thickness 厚度(mm)**	**Size 尺寸**		**Product Code 产品编码**
			Length 长 (mm)	**Width 宽 (mm)**	
	**Axon™ Panel 133 Smooth** **Axon™ Panel 133 光滑型** Is a shiplap jointed panel to hide the panel joints. The panel is face primed. The panel has grooves at 133mm centres. The panel must be installed vertically. Nom. Panel Mass: 12.1kg/m² 可隐藏接缝的搭接式板材。板材表面预涂底漆。板材之间的凹槽间距为133mm。板材必须纵向安装。标称板材质量：12.1kg/m²	9	2450	1200	**403780**
			2750	1200	**403781**
			3000	1200	**403782**
	**Axon™ Panel 133 Grained** **Axon™ Panel 133 木纹型** Is a shiplap jointed panel to hide the panel joints. The panel is face primed. The panel has grooves at 133mm centres. The panel must be installed vertically. Nom. Panel Mass: 12.1kg/m² 可隐藏接缝的搭接式板材。板材表面预涂底漆。板材之间的凹槽间距为133mm。板材必须纵向安装。标称板材质量：12.1kg/m²	9	3000	1200	**404512**
	**Axon™ Panel 400 Smooth** **Axon™ Panel 400 光滑型** Is a shiplap jointed panel to hide the panel joints. The panel is face primed. The panel has grooves at 400mm centres. The panel must be installed vertically. Nom. Panel Mass: 12.1kg/m² 可隐藏接缝的搭接式板材。板材表面预涂底漆。板材之间的凹槽间距为400mm。板材必须纵向安装。标称板材质量：12.1kg/m²	9	2450	1200	**404414**
			2750	1200	**404415**
			3000	1200	**404416**

Note: The actual width of the panel is 1203mm. All dimensions and masses provided are approximate only and are subject to manufacturing tolerances.
注：板材的实际宽度为1203mm。所有尺寸和质量仅为近似值，受制造公差影响。

EasyLap™ Panel information | EasyLap™ Panel 产品信息					
Product 产品	**Description 产品描述**	**Thickness 厚度(mm)**	**Size 尺寸**		**Product Code 产品编码**
			Length 长 (mm)	**Width 宽(mm)**	
	EasyLap™ Panel A shiplap edge panel for subtle vertical joints 拥有细微纵向接缝的搭接式板材。 To be finished with site applied acrylic texture finishes. 须现场涂刷亚克力纹理漆。	9	2450	1200	**404764**
			3000	1200	**404763**

Note: The actual width of the panel is 1203mm. All dimensions and masses provided are approximate only and are subject to manufacturing tolerances.
注：板材的实际宽度为 1203mm。所有尺寸和质量仅为近似值，受制造公差影响。

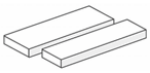
Hardie™ Axent™ Trim information | Hardie™ Axent™ 饰板产品信息					
Product 产品	**Description 产品描述**	**Thickness 厚度(mm)**	**Size 尺寸**		**Product Code 产品编码**
			Length 长 (mm)	**Width 宽(mm)**	
	For box corners and facings 用于箱角和饰面	19	3000	45	**405260**
			3000	70	**405257**
			3000	89	**405258**

Table 6 | 表6

Accessories/tools supplied by James Hardie | 由James Hardie提供的配件/工具			
Accessories 配件	**Description 产品描述**	**Quantity/Size (approx) 数量/尺寸（约计）**	**Code 产品编码**
	**Hardie™ CLD™ Structural Cavity Batten Hardie™ CLD™ 空腔结构板条** 19mm thick fibre cement cavity batten installed over RAB™ Board or a flexible underlay. Axon™ Panel/EasyLap™ Panel are fixed to the battens. 19mm 厚的纤维水泥空腔板条安装在 RAB™ 板或弹性垫层之上。Axon™ Panel/EasyLap™ Panel 被固定在板条上。	19 x 70mm, 3000mm long长	**405308**
	**Hardie™ 9mm Panel Aluminium External Box Corner Hardie™ 9mm 板材铝制阳角箱角** A box corner mould to form the external joints. 9mm etch primed. 阳角箱角模具用于形成阳角接缝，9mm经酸蚀处理。	2450mm long长 2750mm long长 3000mm long长 4000mm long长	**304509 304510 305150 305808**
	**Hardie™ 9mm Panel Aluminium Horizontal ‘h’ Mould Hardie™ 9mm 板材铝制横向“h ”型模具** A horizontal flashing to flash the horizontal joints. 9mm etch primed. 横向防水板用于横向接缝。9mm 经酸蚀处理。	3000mm long长	**304508**
	**Aluminium ‘h’ Mould Jointer 铝制“h”型模具接缝件** A jointer to cover the butt joint of ‘h’ mould. 用于覆盖 “h” 型模具对接缝的接缝件。	100mm long长	**304512**
	**Hardie™ 9mm Panel Aluminium Hardie™ 9mm 板材铝制** ‘h’ Mould External Corner “h” 型阳角		**305940**
	**uPVC Vent Strip uPVC 通风条** Used to provide protection from vermin entering cavity space. 用于防治虫害进入空腔。	3000mm long长	**302490**
	**Annular Threaded Nail 环纹钉** 25 x 2.5mm nail. 25 x 2.5mm 钉子	500gm	**300390**
	**CLD™ Batten Corner Flashing Aluminium CLD™ 板条铝制墙角防水板** Used at internal corner sealant joints at floor joist level. 用于地板龙骨高度的阴角密封接缝。		**304652**
Tools 工具			
	**Hardie™ Blade Saw Blade Hardie™ Blade 锯片** Diamond tip 184mm diameter fibre cement circular saw blade. Spacers not included. 184mm直径的金刚石刀头纤维水泥切割圆锯片。不含垫片。	Each	**300660**

Table 7 | 表7

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 Axon™ Panel/EasyLap™ Panel. 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Axon™ Panel/EasyLap™ Panel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。

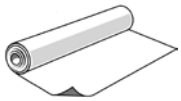
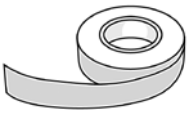
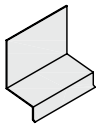
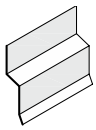
Accessories 配件	Description 产品描述
	**Flexible Underlay 弹性垫层** To comply with Table 23 of E2/AS1. 必须符合E2/AS1表23的要求。
	**Flexible Tape 弹性胶带** A flexible self-adhesive tape used in preparation of a window. Refer to the Window installation section in this manual for more information. 一种有弹力的粘性胶带，用于做安装窗户前的准备工作。请参见本手册关于窗户安装的部分获取更多信息。 e.g. Super-Stick Building Tape® by Marshall Innovations or 3M™ All Weather Flashing Tape 8067 by 3M™ 例如Marshall Innovations生产的Super-Stick Building Tape® 和 3M™ 生产的3M™ All Weather Flashing Tape Marshall Innovations: 0800 776 9727 3M™: 0800 474 787
	**Joint Sealant 接缝密封胶** Paintable flexible sealants are recommended for filling the joints. Refer to Section 7.2 for information. e.g. Sika® Sikaflex® MS, Sika® AT Facade, Bostik® Seal N Flex™-1 or similar 建议使用可刷漆的弹性密封胶填充接缝。参考第 7.2 条，了解更多信息。例如 Sika® Sikaflex® MS, Sika® AT Facade, Bostik® Seal N Flex™-1 或类似的密封胶。
	**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表 20和21的要求。
	**Flashing 防水板** Material as per Table 20, 'E2/AS1' 按照E2/AS1表20的要求选择材料。
	C-25 Stainless Steel Brad Nails | C-25 不锈钢细钉 304SS brad nails used to install Axon™ Panel/EasyLap™ Panel to the Hardie™ CLD™ Structural Cavity Battens used in a straight bradder. 304SS 细钉用于将Axon™ Panel/EasyLap™ Panel 固定至Hardie™ CLD™ 空腔结构板条，使用直钉枪固定。 Paslode®: (09) 477 3000
	**ND 50 Stainless Steel Brad Nails | ND 50 不锈钢细钉** Used to install Axon™ Panel/EasyLap™ Panel direct fix to timber framing. Used in a straight bradder. 用于将 Axon™ Panel/EasyLap™ Panel 直接固定在木框架上。使用直钉枪固定。
	**65 x 2.87mm RounDrive Ring Shank Nail** **65 x 2.87mm RounDrive 环纹螺丝钉** For fixing Hardie™ CLD™ Structural Cavity Battens to the framing. 用于将Hardie™ CLD™ 空腔结构板条固定于框架。 Paslode®: (09) 477 3000

Table 7 | 表7-续

Accessories 配件	Description 产品描述
	**Bostik® Seal N Flex™-1** 'Seal N Flex™-1' Polyurethane adhesive sealant manufactured by Bostik® for applying between the panels and battens, Refer to section 5 for more information. Bostik® 制造的'Seal N Flex™-1'聚氨酯黏性密封胶，用于板材和板条之间。更多信息请参考第5章。 Bostik®: ALK: (09) 579 6253, WGTN: (04) 567 5119, CHCH: (03) 366 2583.
	**Sika® Sikaflex® 11FC** Sika®: 0800 SIKA NZ (0800 745 269)
	**200mm wide Polypropylene DPC | 200mm宽的聚丙烯DPC** Product used over flexible underlay at external and internal corners. ie. Super Course 500 用于阳角和阴角的弹性垫层上。例如 Super Course 500。
	**Epoxy Flush Sealing (2 Part) | 环氧密封填料（双剂型）** Countersunk head screws are flush sealed using Allnex™ Fairing cream or similar epoxy. 沉头螺丝钉使用 Allnex™ Fairing cream 或类似环氧填料填平密封。
	**Dulux® Acrasand or Dulux® Sedona acrylic texture** **Dulux® Acrasand 或 Dulux® Sedona 亚克力纹理漆** 0800 800 424
	**Countersunk Screw 沉头螺丝钉** 25mm x 8-10g countersunk screws (Class 3/4 or stainless steel) for fixing of Axon™ Panel/EasyLap™ Panel to Hardie™ CLD™ Structural Cavity Battens. 25mm x 8-10g沉头螺丝钉（Class 3/4或不锈钢），用于将Axon™ Panel/EasyLap™ Panel 固定至Hardie™ CLD™空腔结构板条。 EDL stainless steel 304 screw square drive CODE: 03S101T17US. EDL 不锈钢 304 螺丝，方头螺丝刀，代码：03S101T17US。 Black Fasteners stainless steel 304 Code: WSSFSSQ08M. 黑色不锈钢 304 紧固件：WSSFSSQ08M。
	**Countersunk Screw 沉头螺丝钉** 40mm x 9-10g Class 3/4 for fixing Hardie™ CLD™ Structural Cavity Batten to steel framing. 40mm x 9-10g Class 3/4，用于将 Hardie™ CLD™ 空腔结构板条固定在钢架。
	**Stain 染料** Timbakote®, suitable for Axon™ Panel Grained Timbakote®，适用于Axon™ Panel 木纹型 Tel: 0800 846 225

13 Details 详图

The following generic details have been provided in this document for both direct fixed and cavity construction methods. 本文档中的通用详图是为空腔结构提供的。

Table 8 | 表8

Figure 1: Framing setout | 图1: 框架布局

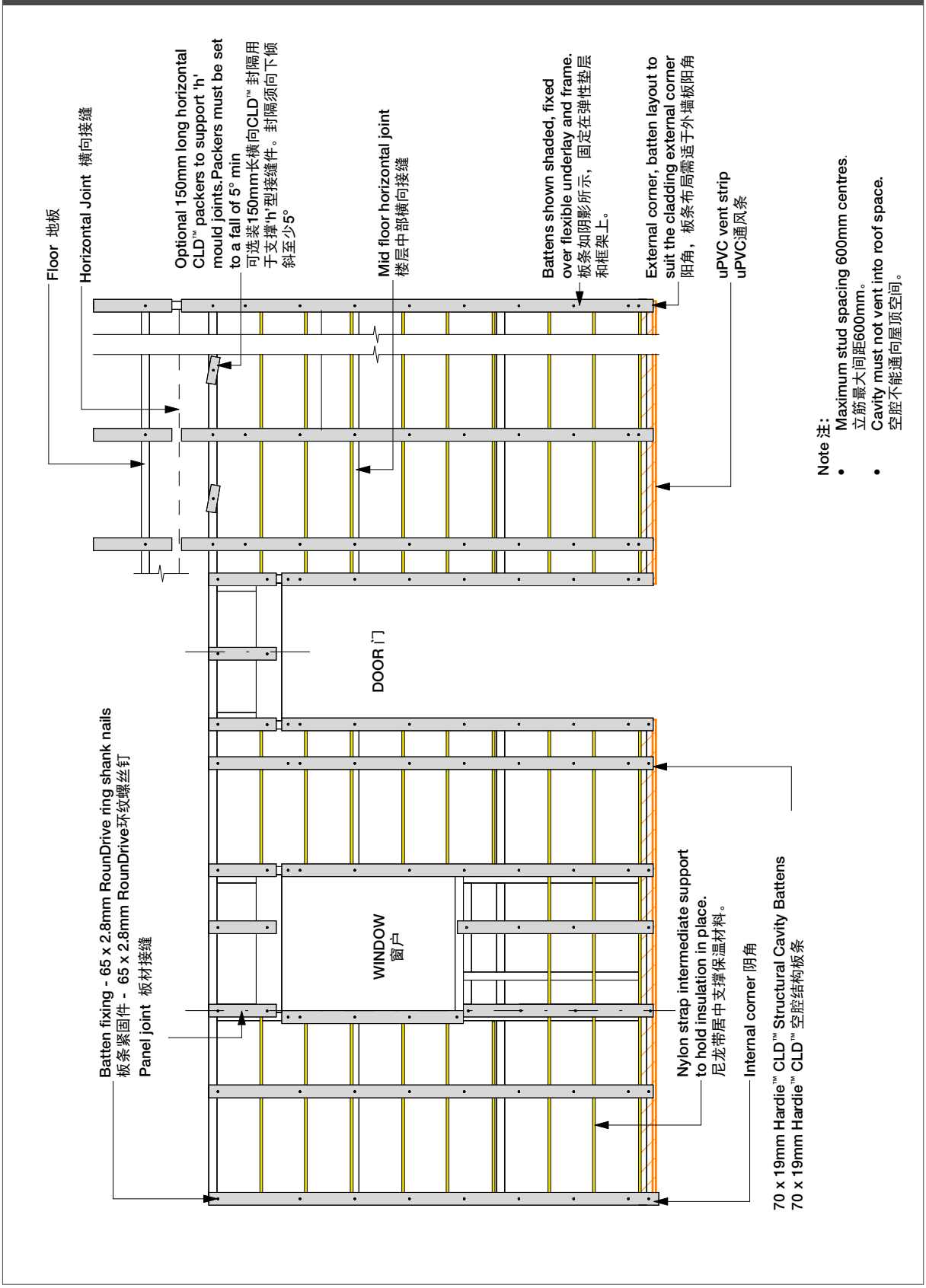


Figure 2: Batten fixing setout | 图2: 板条固定布局

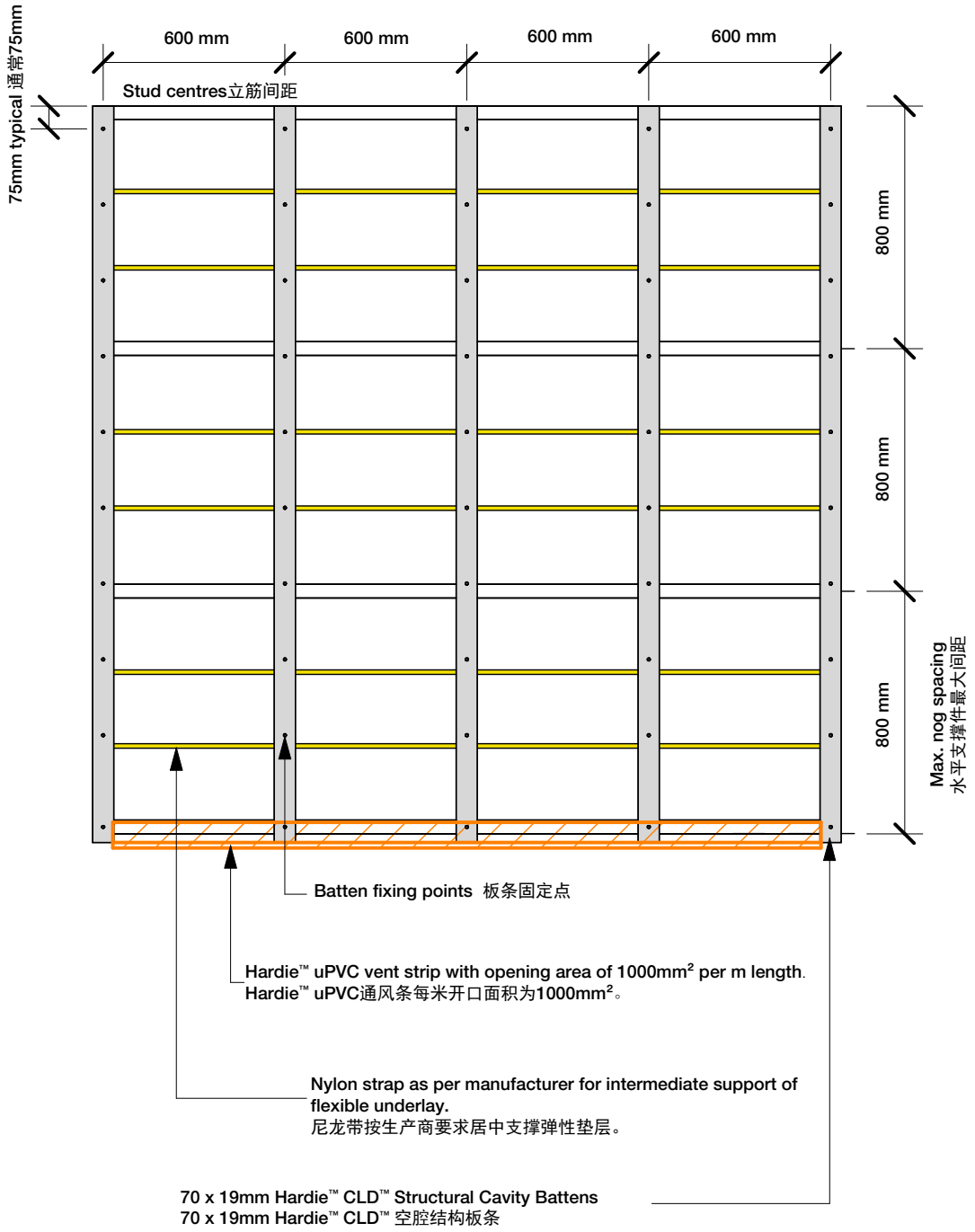
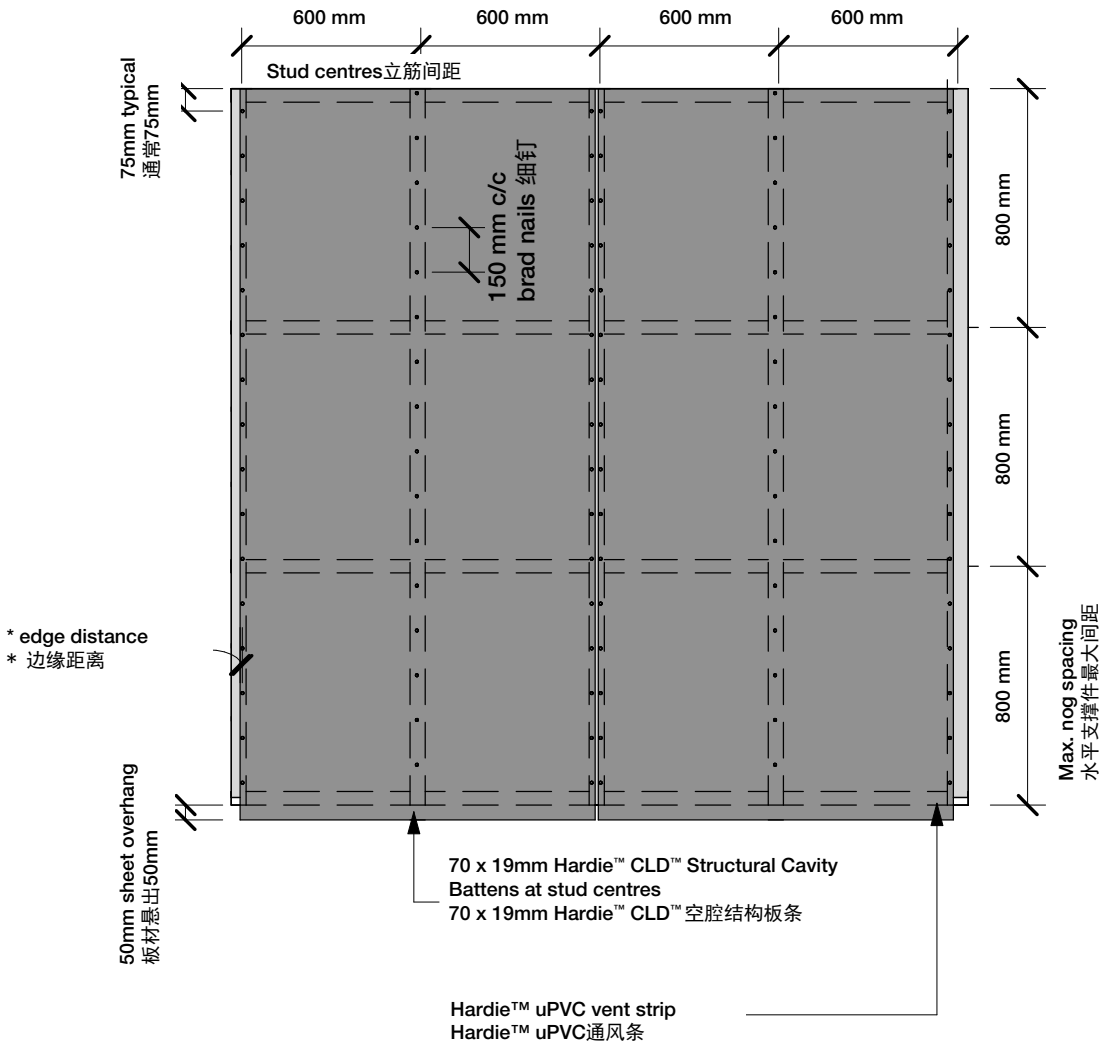


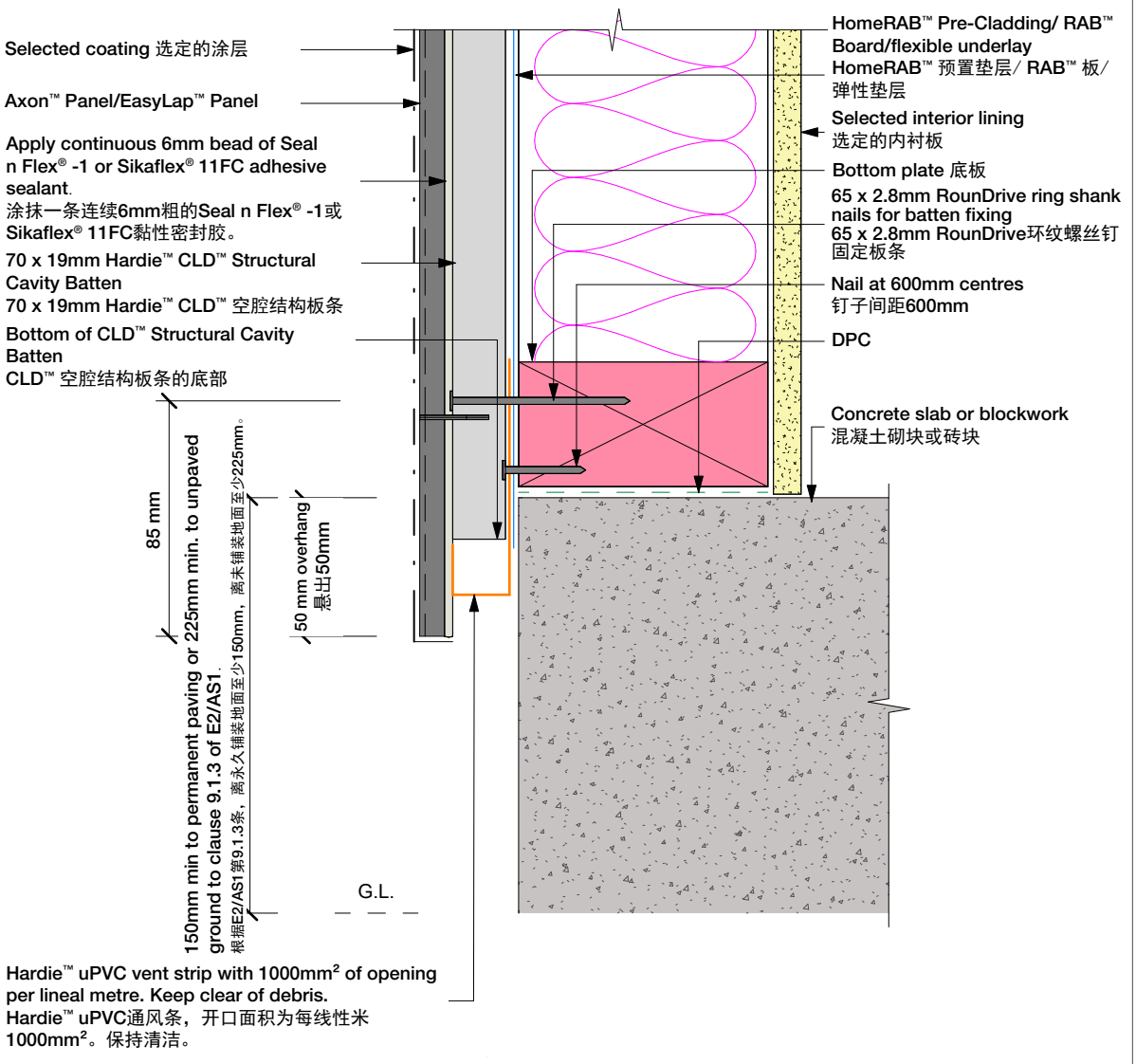
Figure 3: Sheet fixing setout | 图3: 板材固定布局



*** Follow edge distance as per figure 19.**
***遵照图19的边缘距离。**

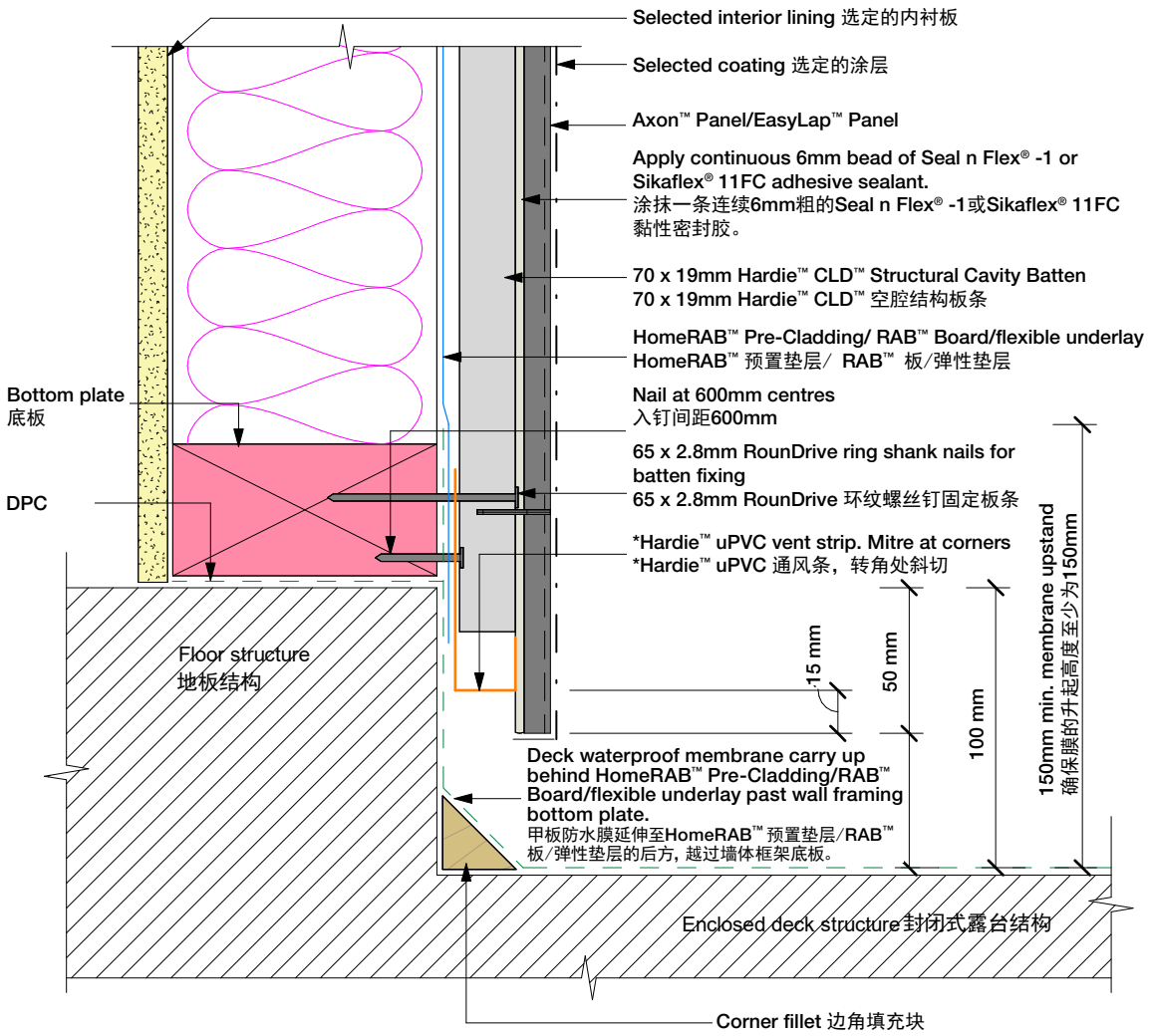
Note: When studs spaced at 400mm centres using Axon™ Panel 400, the nail fixings to intermediate studs to be offset 5mm from the groove in Panel.
注：使用Axon™ Panel 400且立筋间距为400mm时，将板材固定在居中立筋上的入钉应避开板材上的凹槽5mm。

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



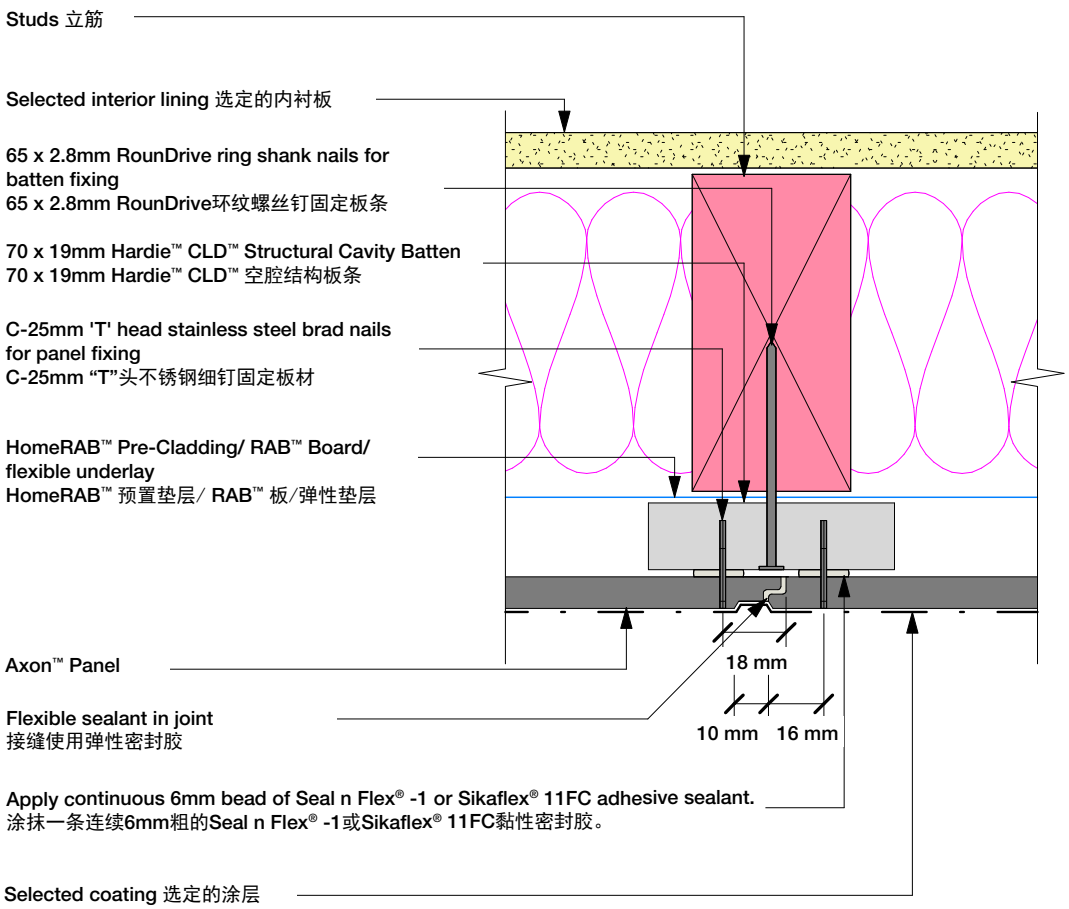
Note: Site cut edges to be primed.
注：现场切割边缘须涂底漆。

Figure 5: Enclosed deck | 图5: 封闭式露台



*Drain holes in Hardie™ uPVC vent strip to achieve the required ventilation openings of 1000mm² per lineal metre.
*Hardie™ uPVC通风条的排水孔，用于达到通风开口面积每线性米1000mm²的要求。

Figure 6: Axon™ Panel vertical shiplap joint | 图6: Axon™ Panel纵向搭接缝



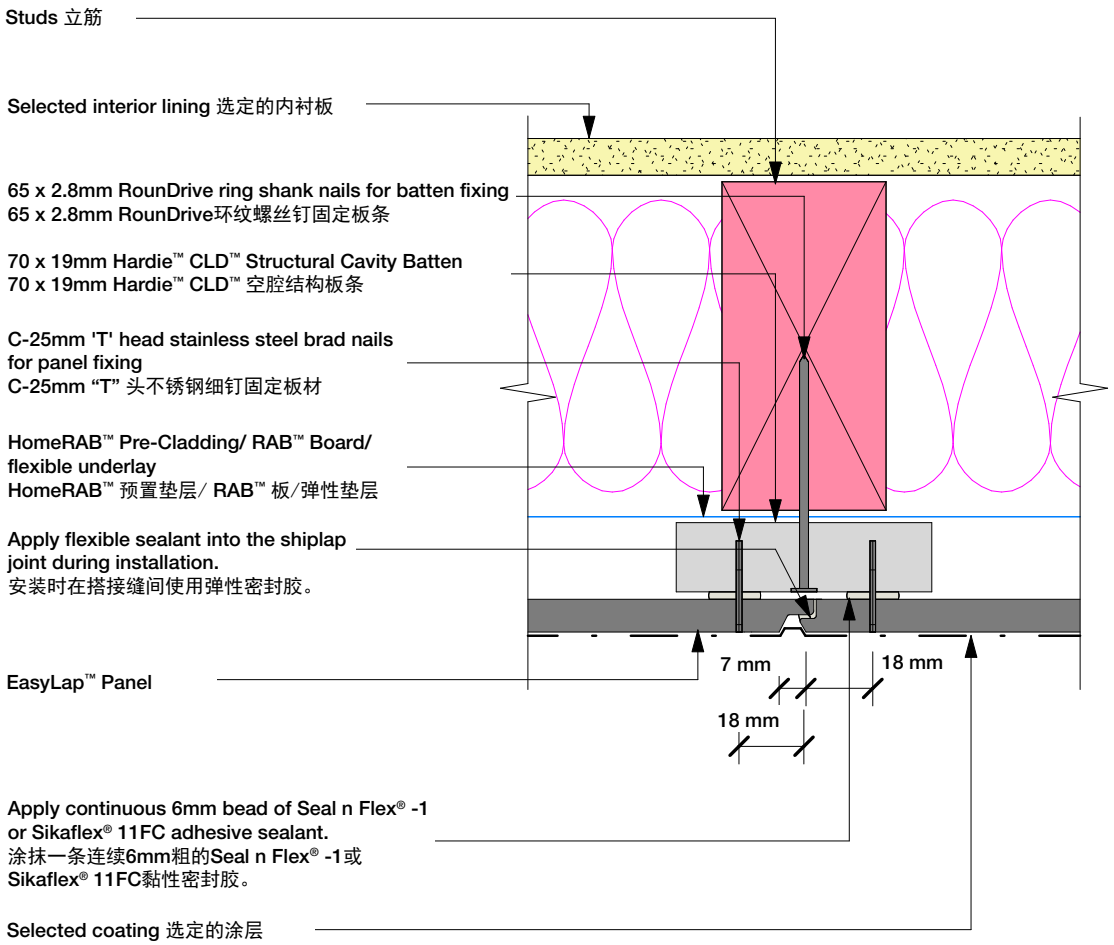
Note 注:

* Ensure that a continuous 6mm bead of adhesive sealant is applied between CLD™ Structural Cavity Batten and Axon™ Panel.
确保在CLD™ 空腔结构板条和Axon™ Panel 之间涂抹一条连续6mm粗的黏性密封胶。

* Ensure that the required edge distance is maintained when fixing.
确保固定时留出符合要求的边缘距离。

* Seal cut edges with a primer compatible with final coatings.
现场切割边缘须使用与最终涂层相兼容的底漆。

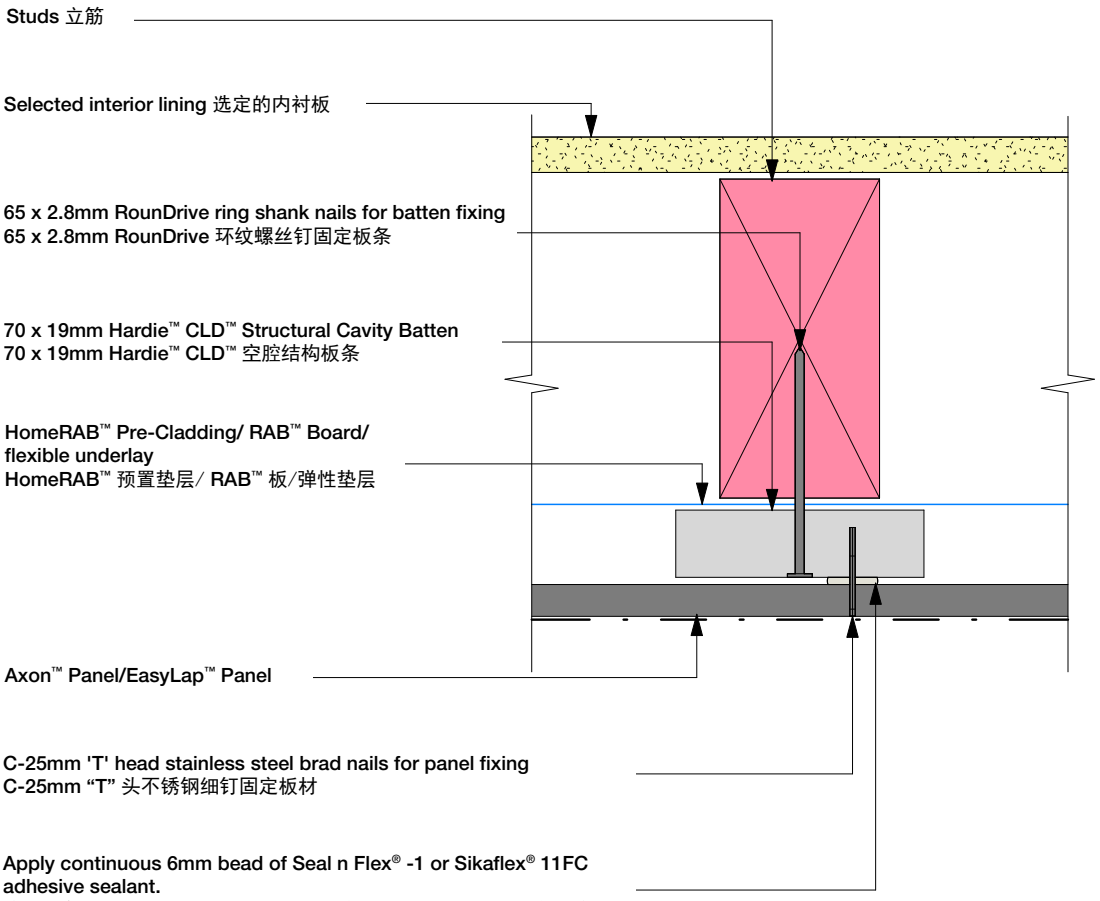
Figure 7: EasyLap™ Panel vertical shiplap joint | 图7: EasyLap™ Panel纵向搭接缝



Note 注:

* Ensure that a continuous 6mm bead of adhesive sealant is applied between CLD™ Structural Cavity Batten and EasyLap™ Panel.
  确保在CLD™ 空腔结构板条和EasyLap™ Panel之间涂抹一条连续6mm粗的黏性密封胶。
* Ensure that the required edge distance is maintained when fixing.
  确保固定时留出符合要求的边缘距离。
* Seal cut edges with a primer compatible with final coatings.
  现场切割边缘须使用与最终涂层相兼容的底漆。

Figure 8: Intermediate stud fixing | 图8: 居中立筋的固定



Note 注:

* Fix panel from the middle of the panel outwards.
从板材的中央向外固定。

Figure 9: Internal corner | 图9: 阴角

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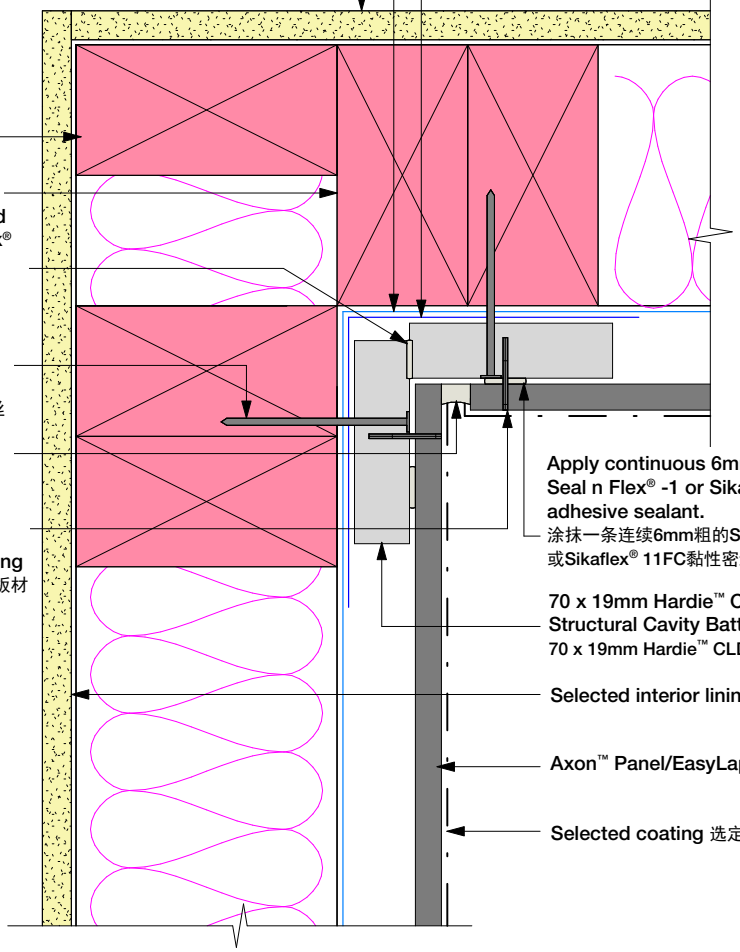

Selected interior lining 选定的内衬板

HomeRAB™ Pre-Cladding/ RAB™ Board/flexible underlay
HomeRAB™ 预置垫层/ RAB™ 板/弹性垫层

Polypropylene/Polyethylene DPC or a flashing tape applied to protect flexible underlay 100mm wide each side.
聚丙烯/聚乙烯DPC或防水胶带，每侧宽度100mm，用于保护弹性垫层。

Studs 立筋

Double stud required
需要双立筋

Apply continuous 6mm bead of Seal n Flex® -1 or Sikaflex® 11FC adhesive sealant.
涂抹一条连续6mm粗的Seal n Flex® -1或Sikaflex® 11FC黏性密封胶。

65 x 2.8mm RounDrive ring shank nails for batten fixing
65 x 2.8mm RounDrive 环纹螺丝钉固定板条

Flexible sealant in joint
接缝内使用弹性密封胶

C-25mm 'T' head stainless steel brad nails for panel fixing
C-25mm “T” 头不锈钢细钉固定板材

Apply continuous 6mm bead of Seal n Flex® -1 or Sikaflex® 11FC adhesive sealant.
涂抹一条连续6mm粗的Seal n Flex® -1或Sikaflex® 11FC黏性密封胶。

70 x 19mm Hardie™ CLD™ Structural Cavity Batten
70 x 19mm Hardie™ CLD™ 空腔结构板条

Selected interior lining 选定的内衬板

Axon™ Panel/EasyLap™ Panel

Selected coating 选定的涂层

Figure 10: External aluminium corner | 图10: 铝制阳角

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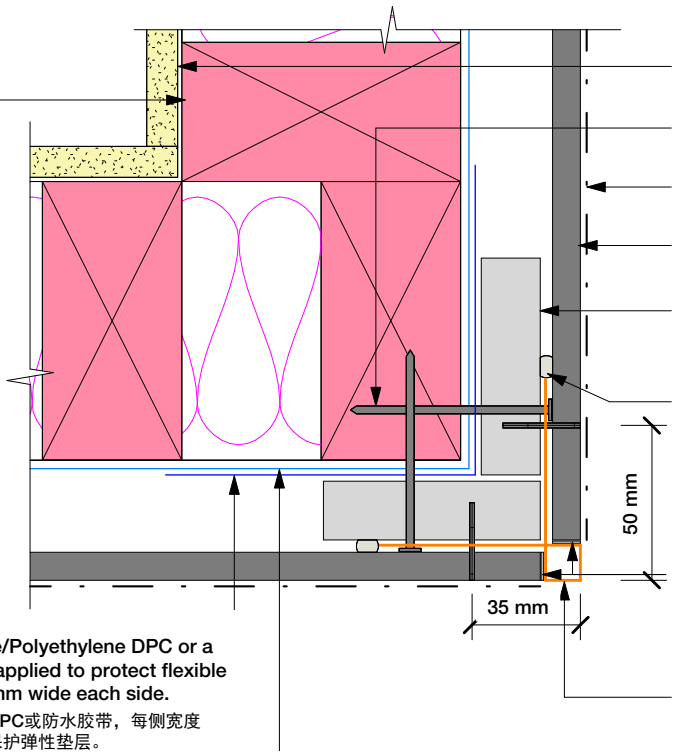


Selected interior lining 选定的内衬板

65 x 2.8mm RounDrive ring shank nails for batten fixing

65 x 2.8mm RounDrive环纹螺丝钉固定板条

Selected coating 选定的涂层

Axon™ Panel/EasyLap™ Panel

70 x 19mm Hardie™ CLD™ Structural Cavity Batten

70 x 19mm Hardie™ CLD™ 空腔结构板条

Apply continuous 6mm bead of Seal n Flex® -1 or Sikaflex® 11FC adhesive sealant.

涂抹一条连续6mm粗的Seal n Flex® -1或Sikaflex® 11FC黏性密封胶。

Edge to be sealed before fixing

固定前边缘须密封

Hardie™ 9mm panel aluminium external box corner fixed at 400mm vertical centres. Fix to both flanges.

Hardie™ 9mm板材铝制阳角箱角固定纵向间距400mm。固定两翼。

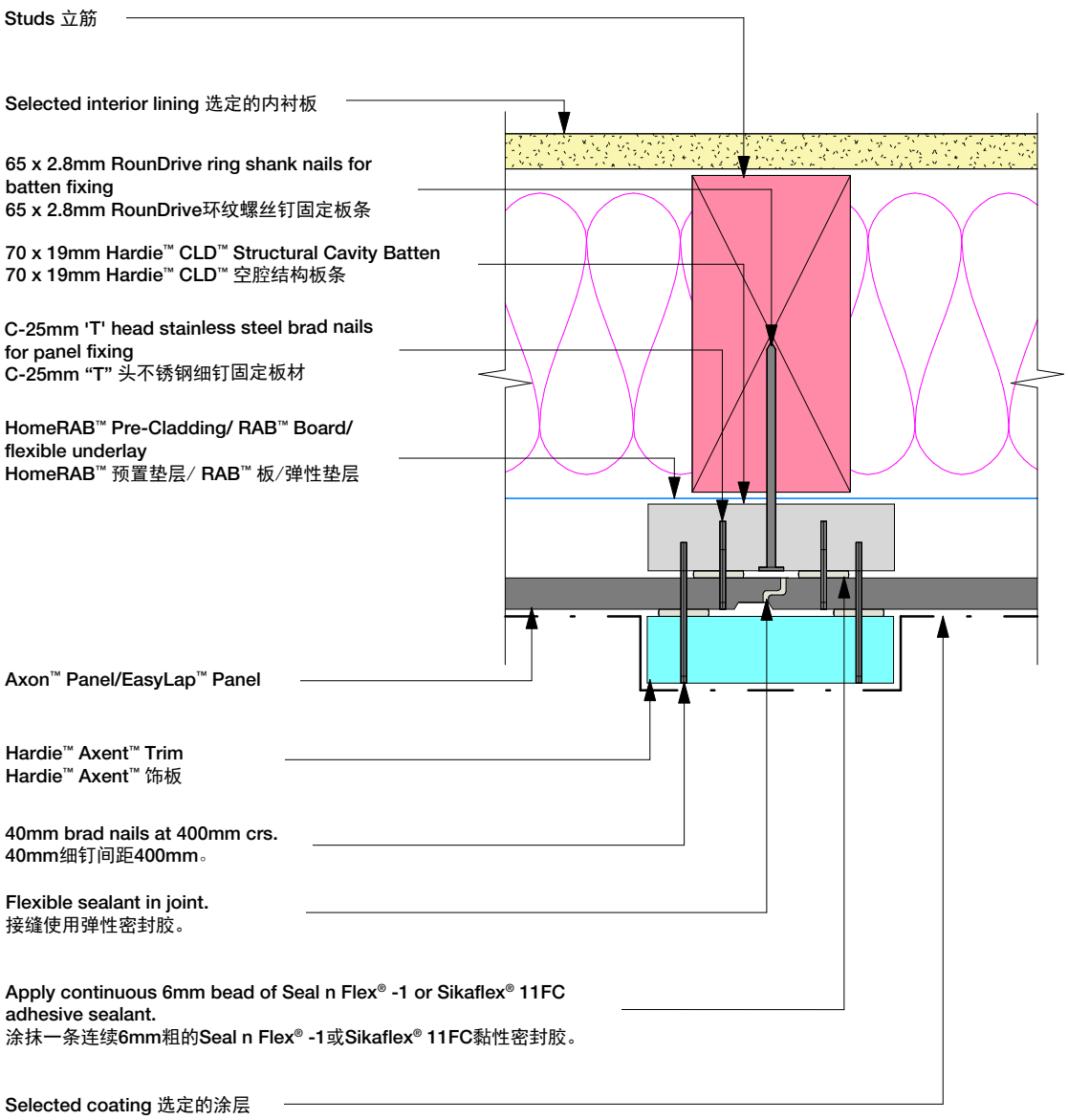
Polypropylene/Polyethylene DPC or a flashing tape applied to protect flexible underlay 100mm wide each side.

聚丙烯/聚乙烯DPC或防水胶带，每侧宽度100mm，用于保护弹性垫层。

HomeRAB™ Pre-Cladding/ RAB™ Board/flexible underlay

HomeRAB™ 预置垫层/ RAB™ 板/弹性垫层

Figure 11: Hardie™ Axent™ Trim at joint | 图11: 接缝处 Hardie™ Axent™ 饰板的安装

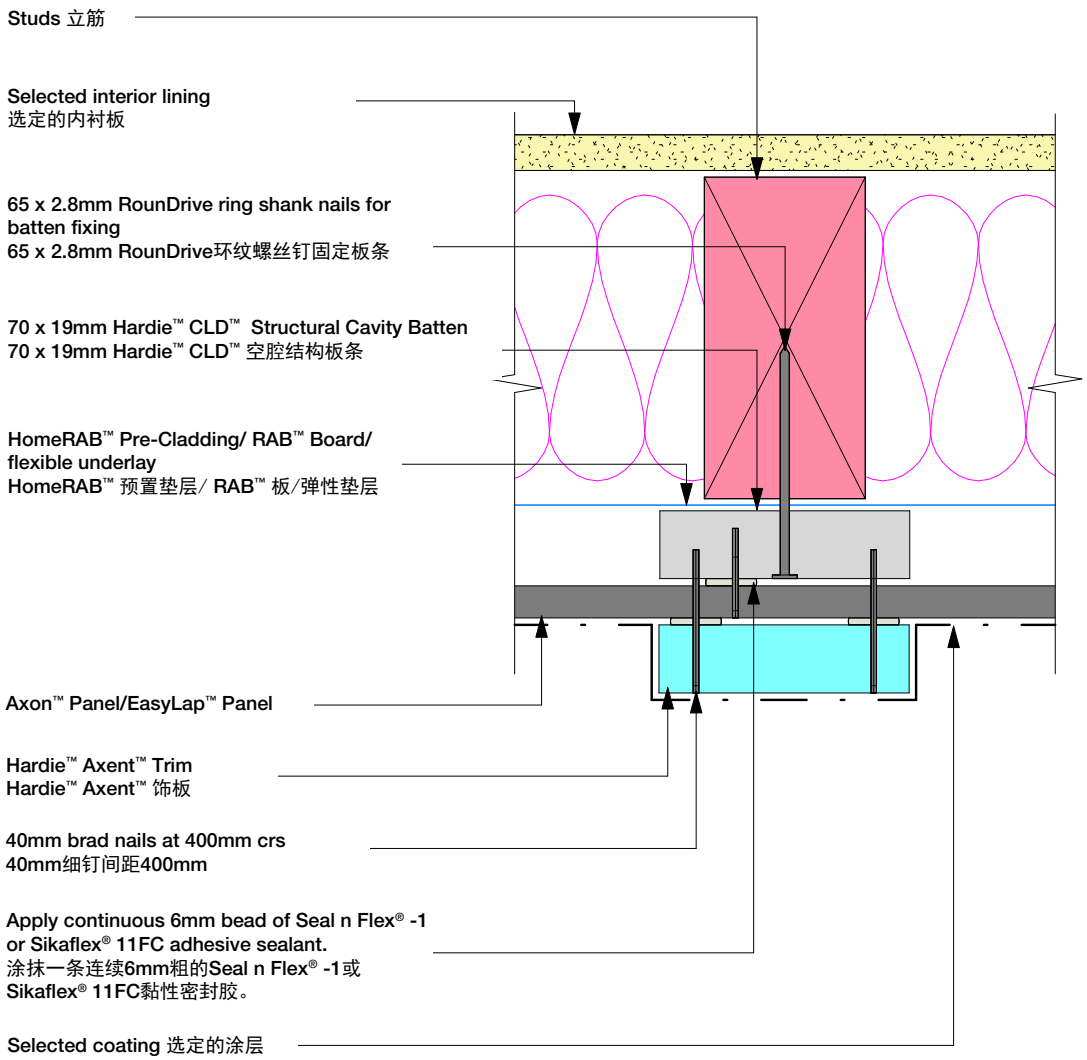


Note 注：

* Ensure that a continuous 6mm bead of adhesive sealant is applied between CLD™ Structural Cavity Batten and Axon™ Panel/EasyLap™ Panel.
  确保在CLD™ 空腔结构板条和Axon™ Panel 之间涂抹一条连续6mm粗的黏性密封胶。
* Ensure that the required edge distance is maintained when fixing.
  确保固定时留出符合要求的边缘距离。
* Seal cut edges with a primer compatible with final coatings.
  现场切割边缘须使用与最终涂层相兼容的底漆。

Figure 12: Hardie™ Axent™ Trim 70 and 89mm at non joint

图12: 非接缝处70mm和89mm宽的Hardie™ Axent™ 饰板的安装

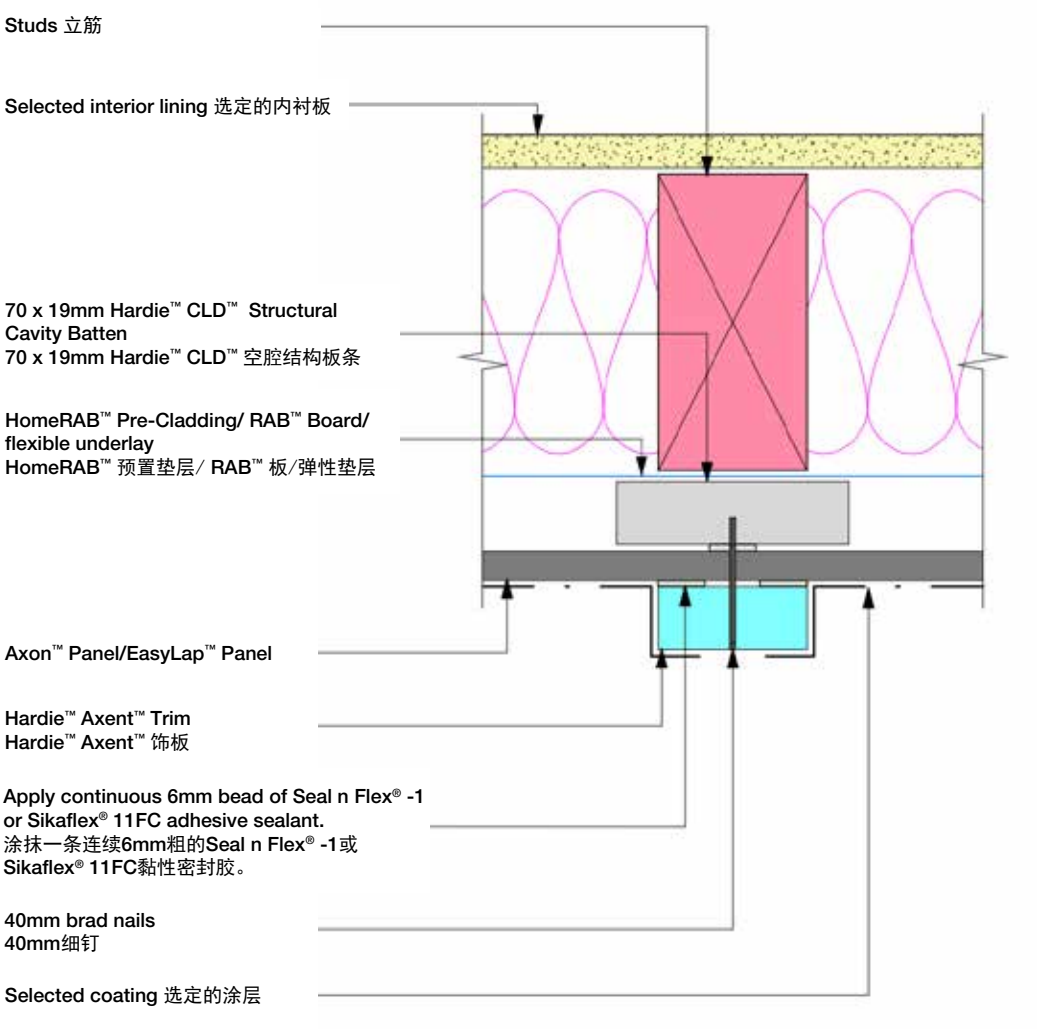


Note 注:

* Ensure that a continuous 6mm bead of adhesive sealant is applied between CLD™ Structural Cavity Batten and Axon™ Panel/EasyLap™ Panel.
确保在CLD™ 空腔结构板条和Axon™ Panel 之间涂抹一条连续6mm粗的黏性密封胶。
* Ensure that the required edge distance is maintained when fixing.
确保固定时留出符合要求的边缘距离。
* Seal cut edges with a primer compatible with final coatings.
现场切割边缘须使用与最终涂层相兼容的底漆。

Figure 13: Hardie™ Axent™ Trim 45mm at non joint

图13: 非接缝处45mm宽的Hardie™ Axent™ 饰板的安装



Note 注：

* Ensure that the required edge distance is maintained when fixing.
确保固定时留出符合要求的边缘距离。

* Seal cut edges with a primer compatible with final coatings.
现场切割边缘须使用与最终涂层相兼容的底漆。

Figure 14: Hardie™ Axent™ Trim fixing | 图14: Hardie™ Axent™ 饰板的固定

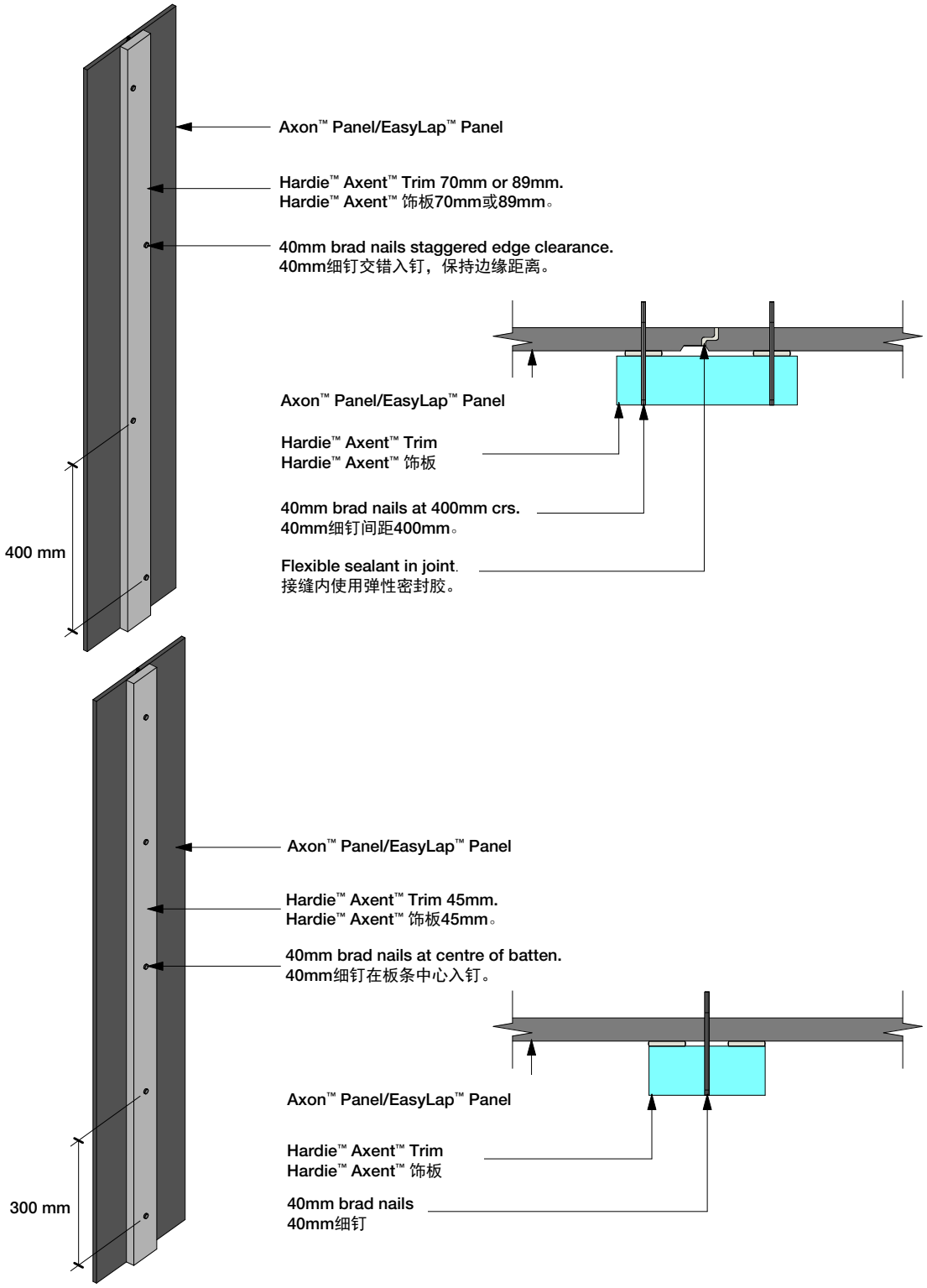


Figure 15: Internal Corner with facing | 图15: 带饰面的阴角

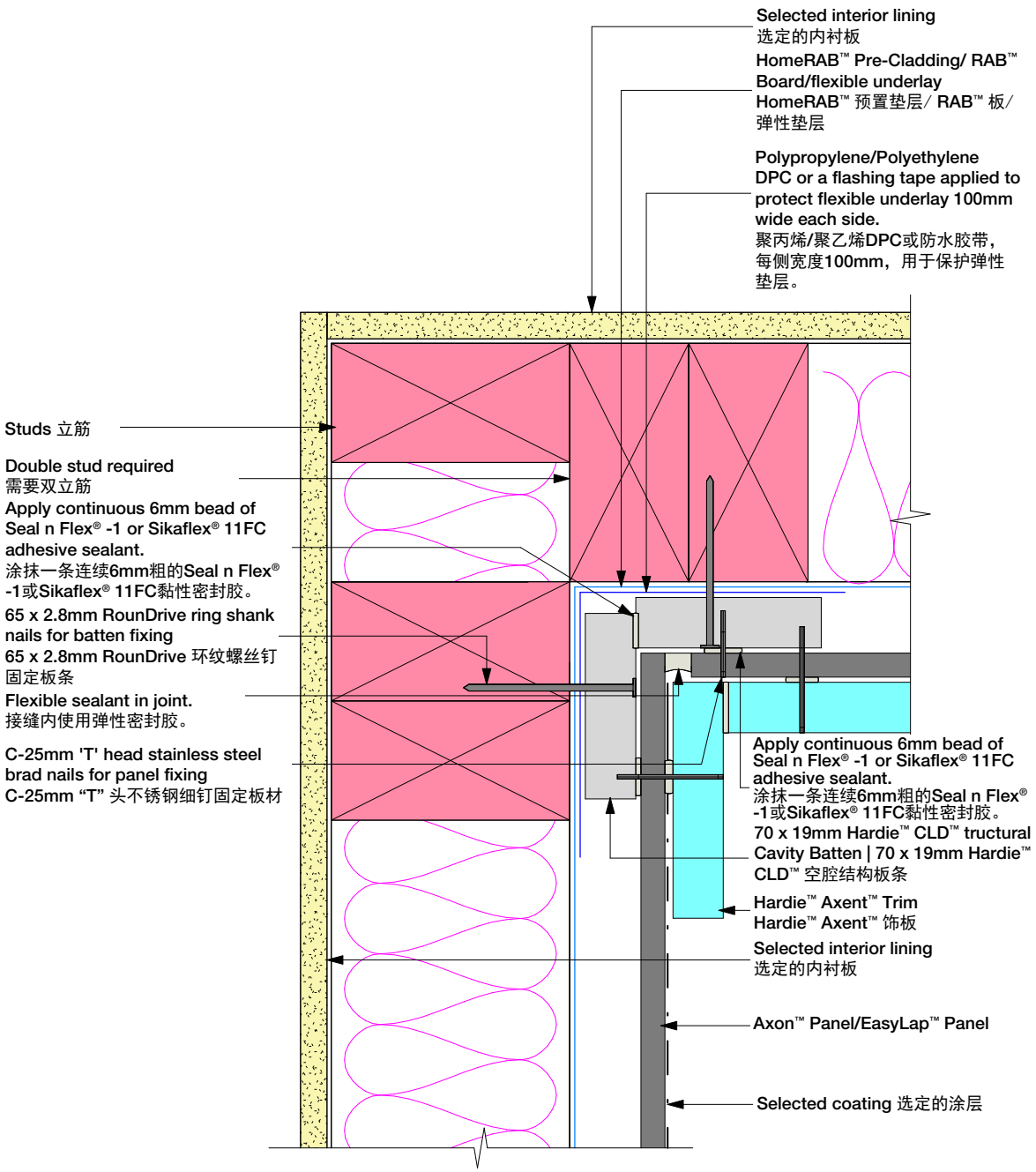


Figure 16: External corner with facing | 图16: 带饰面的阳角

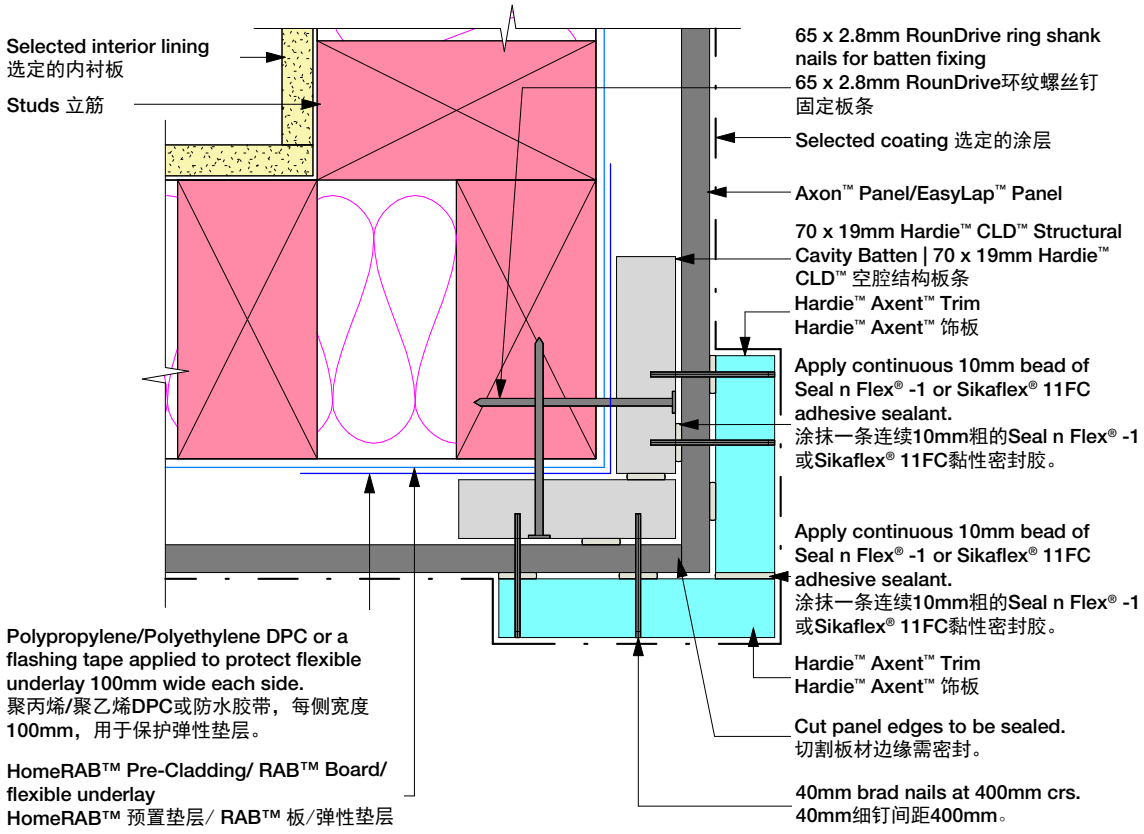


Figure 17: Jointing of Hardie™ CLD™ Structural Cavity Batten

图17: Hardie™ CLD™ 空腔结构板条的接缝

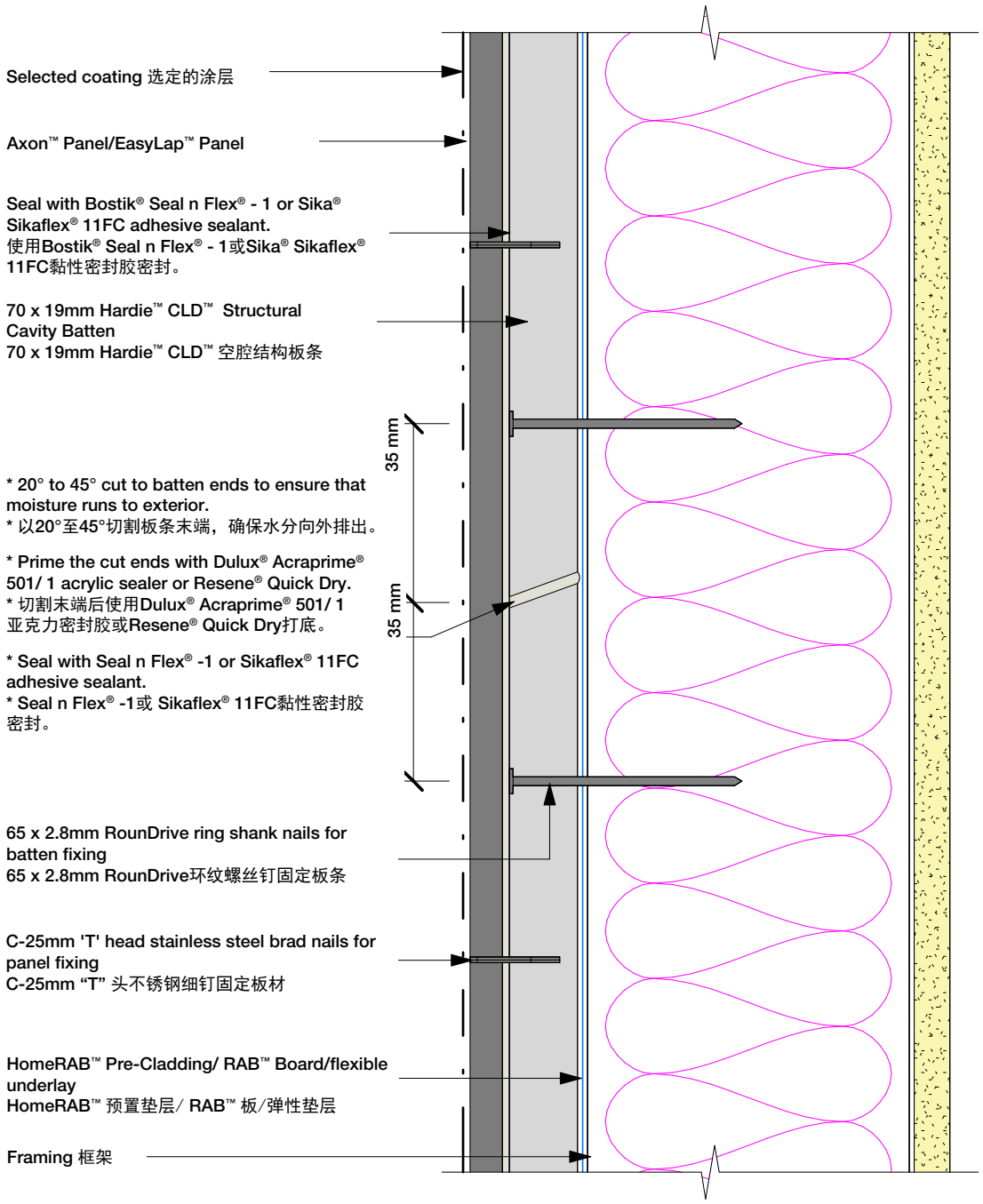
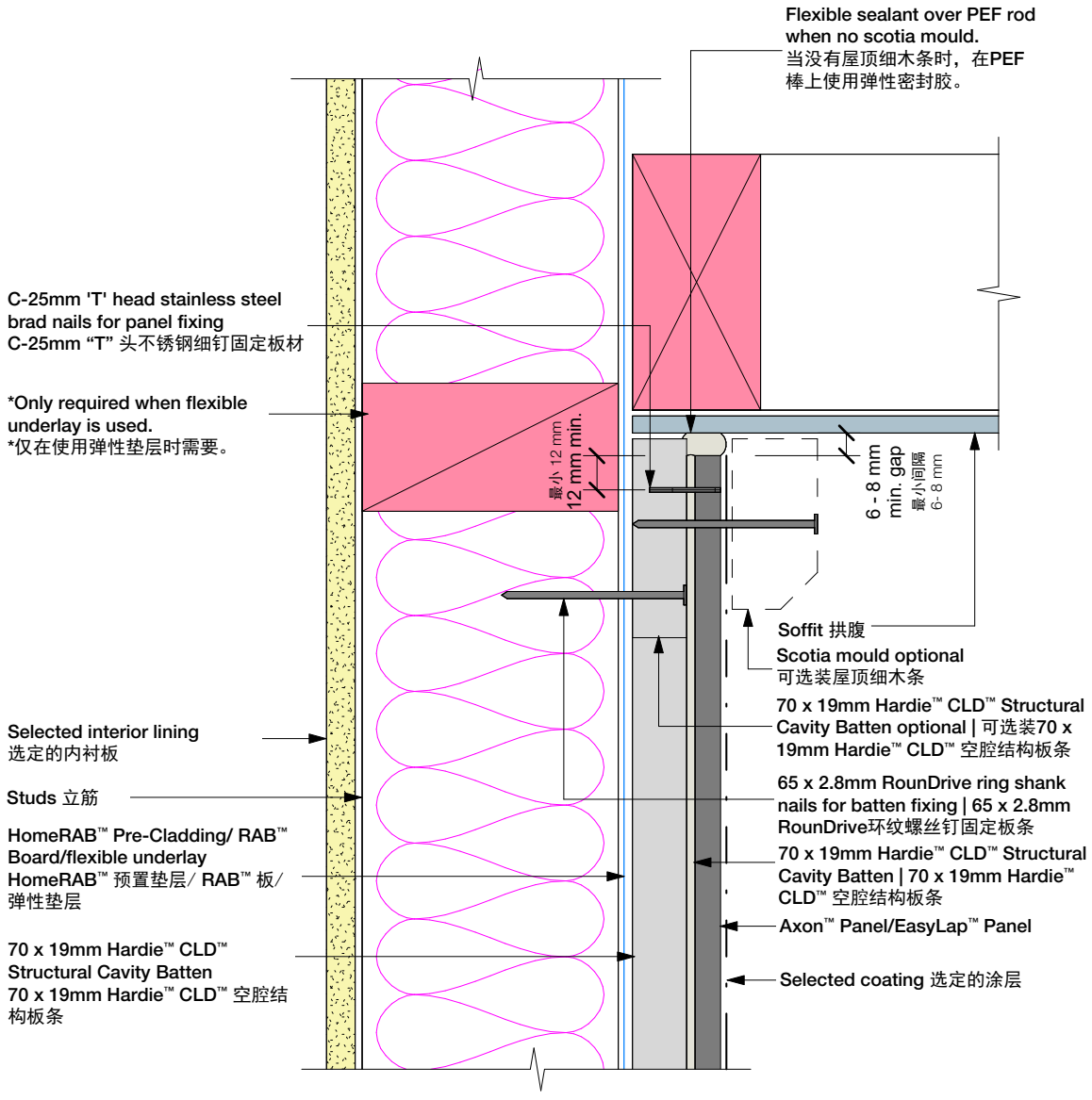


Figure 18: Soffit detail | 图18: 拱腹详图



Note: Site cut edges to be primed. Ensure cavity does not vent into roof space. Refer to E2/AS1 clause 9.1.8.2.
注：现场切割边缘须涂底漆。确保空腔不通向屋顶。参见E2/AS1第9.1.8.2条。

Figure 19: Window head | 图19: 窗楣

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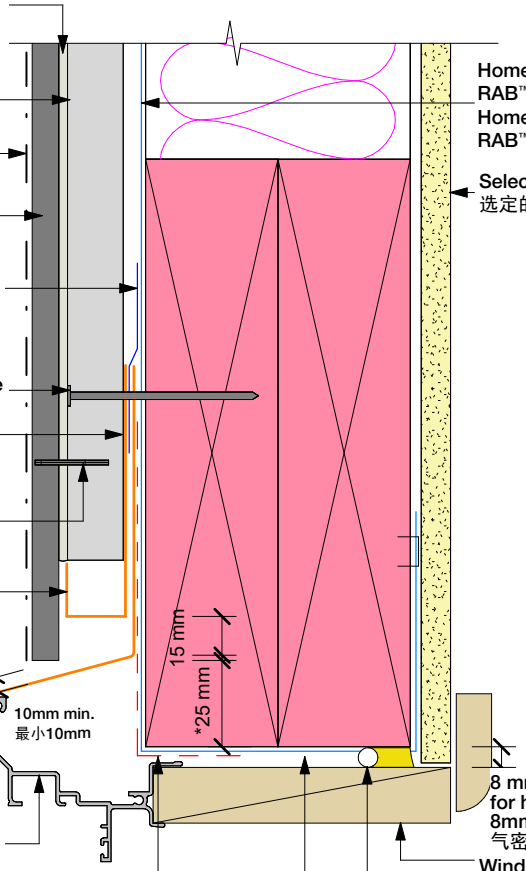

Apply continuous 6mm bead of Seal n Flex® -1 or Sikaflex® 11FC adhesive sealant.
涂抹一条连续6mm粗的Seal n Flex® -1或Sikaflex® 11FC黏性密封胶。

70 x 19mm Hardie™ CLD™ Structural Cavity Batten | 70 x 19mm Hardie™ CLD™ 空腔结构板条

Selected coating 选定的涂层

Axon™ Panel/EasyLap™ Panel

Proprietary tape or alternatively additional layer of flexible underlay over head flashing.
在窗楣防水板上使用专利胶带或者再增加一层弹性垫层。

65 x 2.8mm RounDrive ring shank nails for batten fixing | 65 x 2.8mm RounDrive 环纹螺丝钉固定板条

One piece head flashing
一块窗楣防水板

C-25mm 'T' head stainless steel brad nails for panel fixing
C-25mm “T” 头不锈钢细钉固定板材

Hardie™ uPVC vent strip
Hardie™ uPVC 通风条

Stop end to head flashing behind the cladding or butt the ends against CLD™ Structural Cavity Batten and seal the joint.
窗楣防水板的尾端在外墙板的后方或者将尾端对接到CLD™ 空腔结构板条，并密封接缝。

Window frame (refer to window manufacturer for method of support and fixing)
窗框（窗户的支撑固定方法请详询制造商）

Flashing tape over flexible underlay required in corners only.
仅在转角处的弹性垫层上需要使用防水胶带。

HomeRAB™ Pre-Cladding/ RAB™ Board/flexible underlay
HomeRAB™ 预置垫层/ RAB™ 板/弹性垫层

Selected interior lining
选定的内衬板

8 mm gap nominal to allow for head deflection and airseal.
8mm标准间隙，为顶部变形和气密性留出空间。

Window liner 窗衬

Watertight airseal as per E2/AS1 section 9.1.6.
按E2/AS1第9.1.6条要求，防水气密封处理。

Temporary packers if required are to be removed after fixing.
如需临时封隔，需在固定后移除。

Note 注：

* When HomeRAB™ Pre-Cladding/RAB™ Board is used flashing tape to be applied to the entire window opening.
当使用HomeRAB™ 预置垫层/RAB™ 板时，需要在整个窗户开口上使用防水胶带。
* Also refer to Figure 116 NZBC clause E2/AS1 for head and jamb details.
同时参考NZBC E2/AS1条款图116以获取窗楣和窗框详图。
* Sealant must be applied between head flashing and window flange VH and EH wind zones and SED wind pressures.
在VH和EH风区以及SED风压环境下，必须在窗楣防水板和窗户翼板之间涂抹密封胶。

Figure 20: Window sill | 图20: 窗沿

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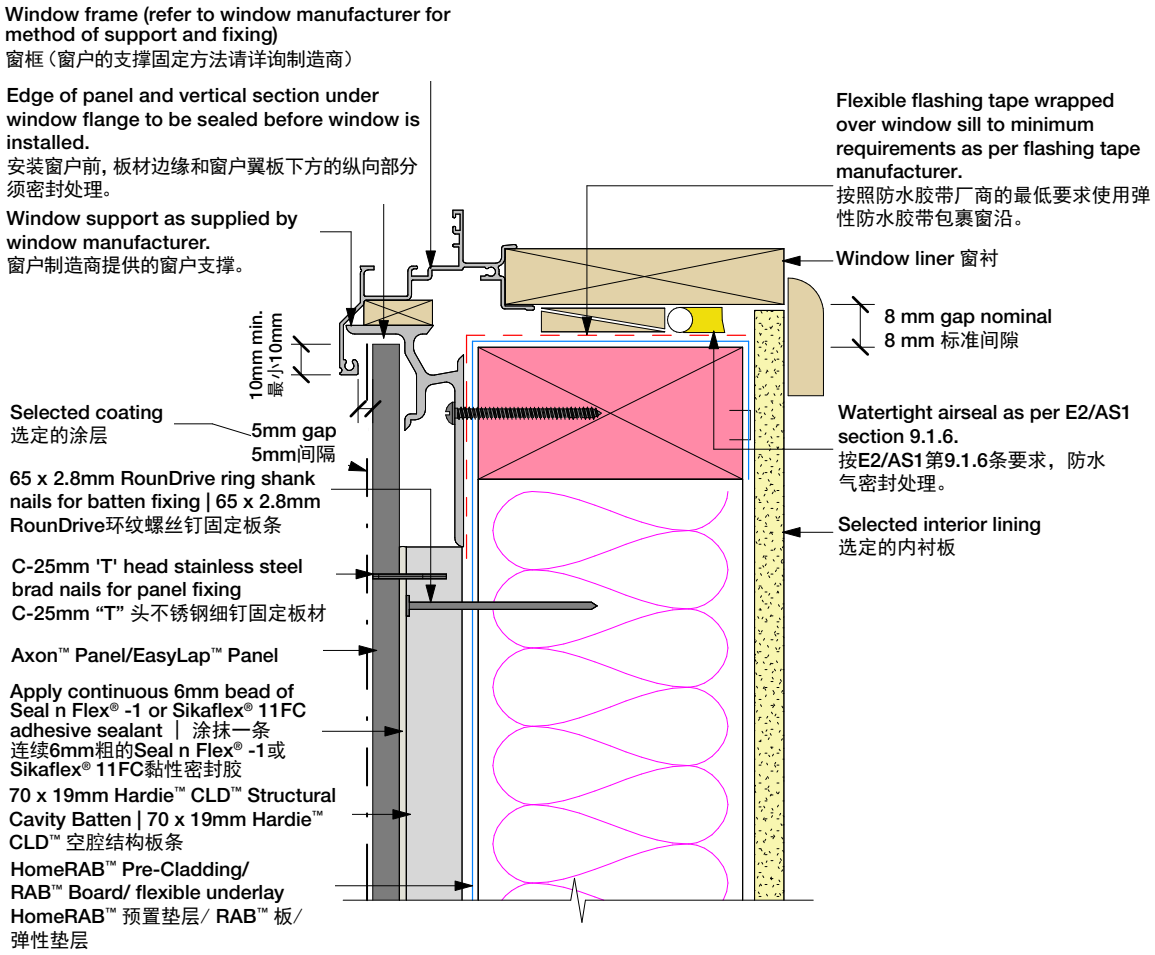

General notes for materials selection
材料选择的一般注意事项

* 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。
* 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 21: Window jamb | 图21: 窗框

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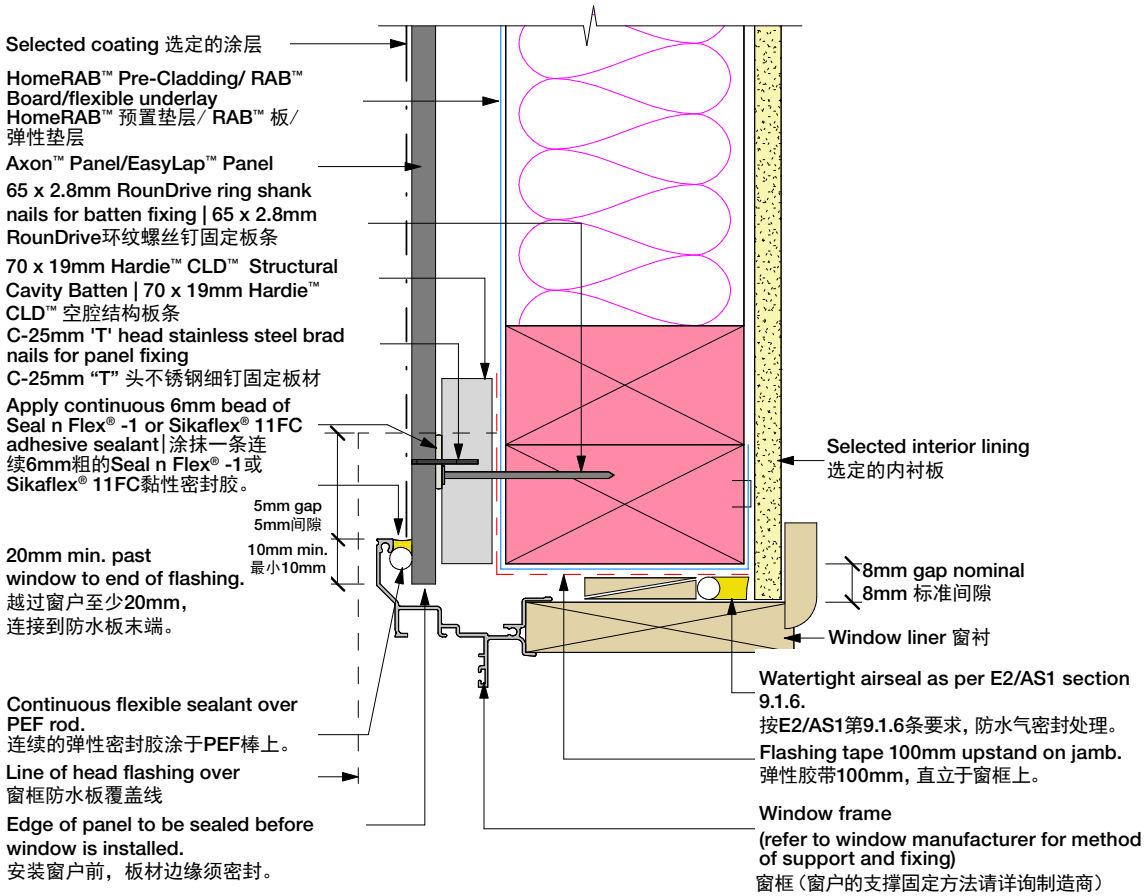
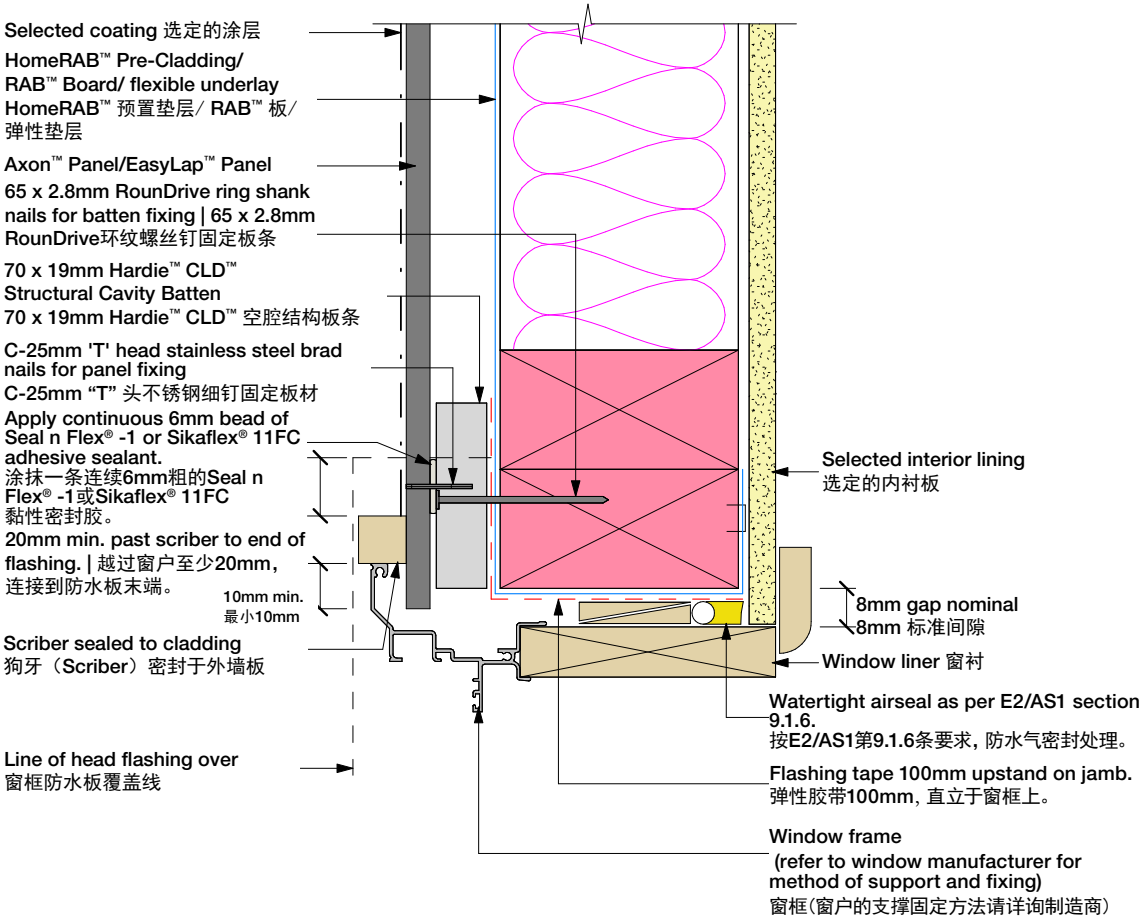


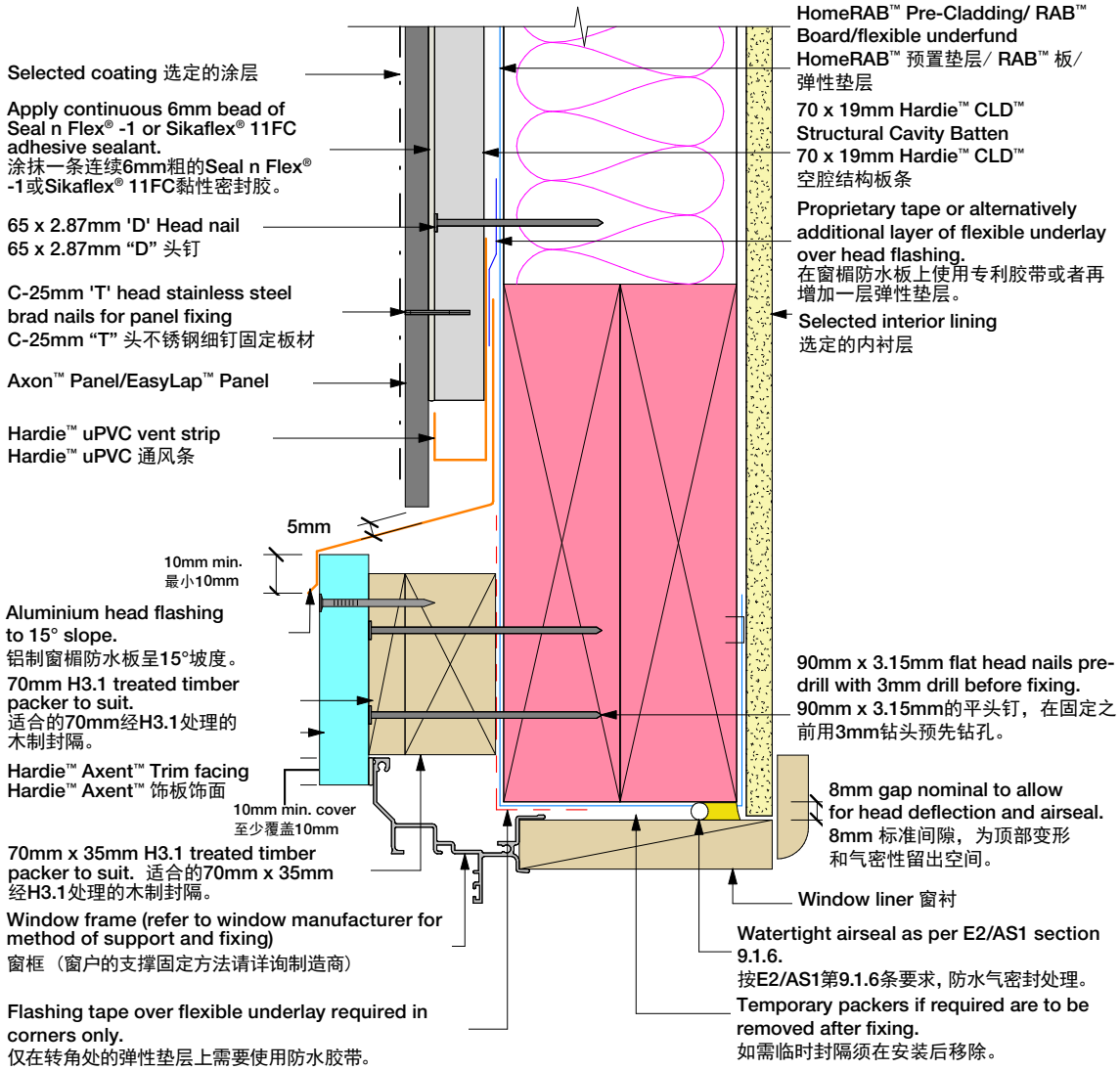
Note: When HomeRAB™ Pre-Cladding/RAB™ Board is used flashing tape to be applied to the entire window opening.
注：当使用HomeRAB™ 预置垫层/RAB™ 板时，需要在整个窗户开口上使用防水胶带。

Figure 22: Window jamb with scriber | 图22: 窗框及狗牙（scriber）



Note: When HomeRAB™ Pre-Cladding/RAB™ Board is used flashing tape to be applied to the entire window opening.
注：当使用HomeRAB™ 预置垫层/RAB™ 板时，需要在整个窗户开口上使用防水胶带。

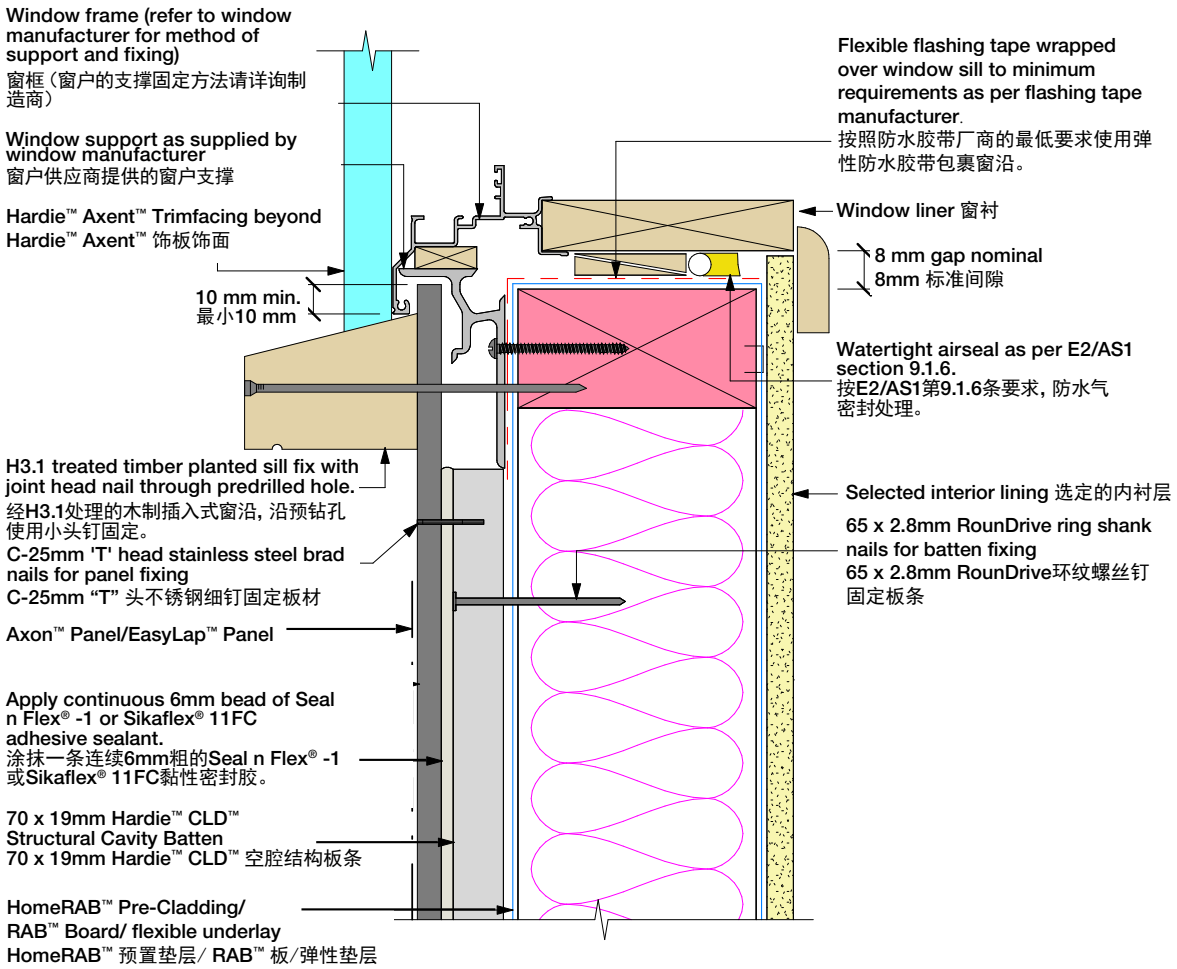
Figure 23: Window head with facing | 图23: 带饰面的窗楣



Note 注:

Sealant must be installed between Axent™ Trim and window flange in VH wind zones.
在VH风区，必须在Axent™ 饰板与窗户翼板之间使用密封胶。

Figure 24: Window sill with planted sill | 图24: 插入式窗沿



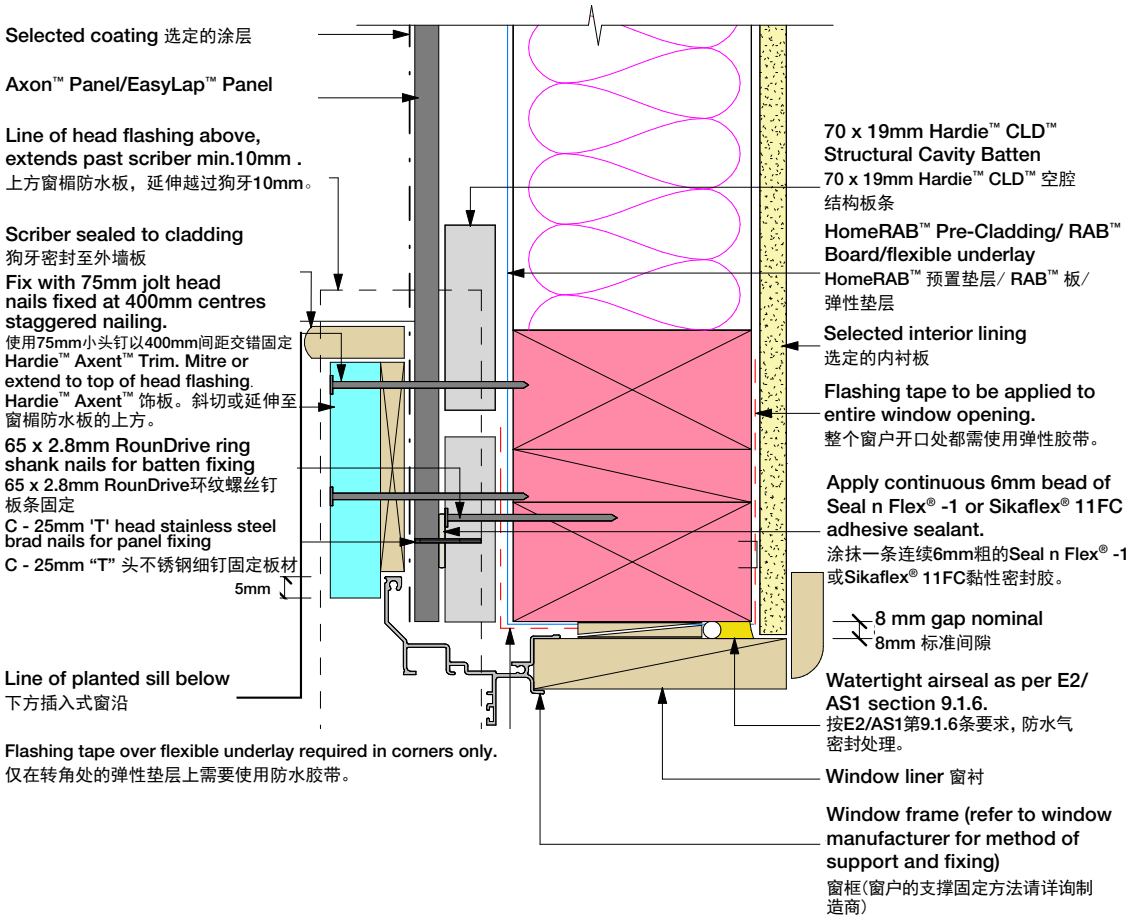
General notes for materials selection
材料选择的一般注意事项

* 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。
* 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。
* When HomeRAB™ Pre-Cladding/RAB™ Board are used flashing tape to be applied to the entire opening.
  当使用HomeRAB™ 预置垫层/ RAB™ 板时，需要在整个窗户开口上使用防水胶带。

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 25: Window and door jamb with facing

图25: 带有饰面的窗框和门框

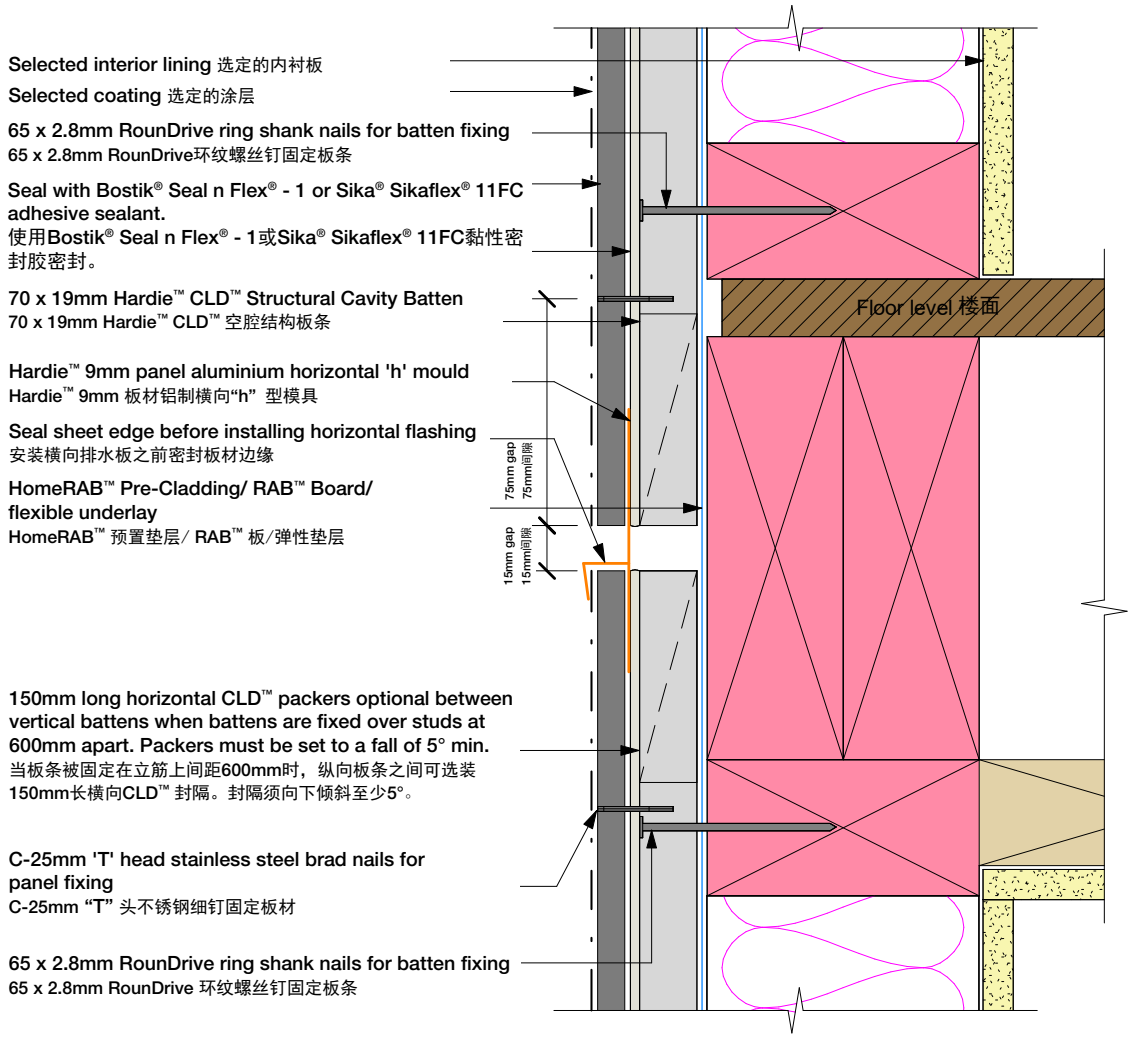


Note: When HomeRAB™ Pre-Cladding/RAB™ Board is used flashing tape to be applied to the entire window opening.

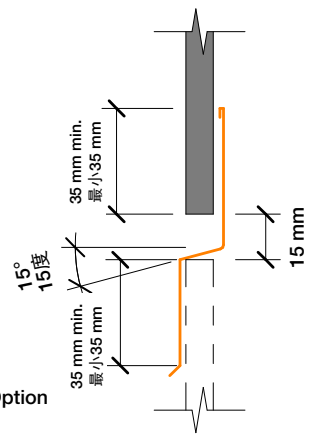
注：当使用HomeRAB™ 预置垫层/RAB™ 板时，需要在整个窗户开口上使用防水胶带。

Figure 26: Horizontal joint at floor joist

图26: 地板龙骨高度的横向接缝



Note: When 50 year durability is required refer Table 20 of NZBC E2/AS1 document.
注：须要实现50年耐久性时，参见NZBC E2/AS1表20。



Alternative Flashing Option
其他防水板选项

Figure 27: Horizontal joint in tall wall | 图27: 高墙的横向接缝

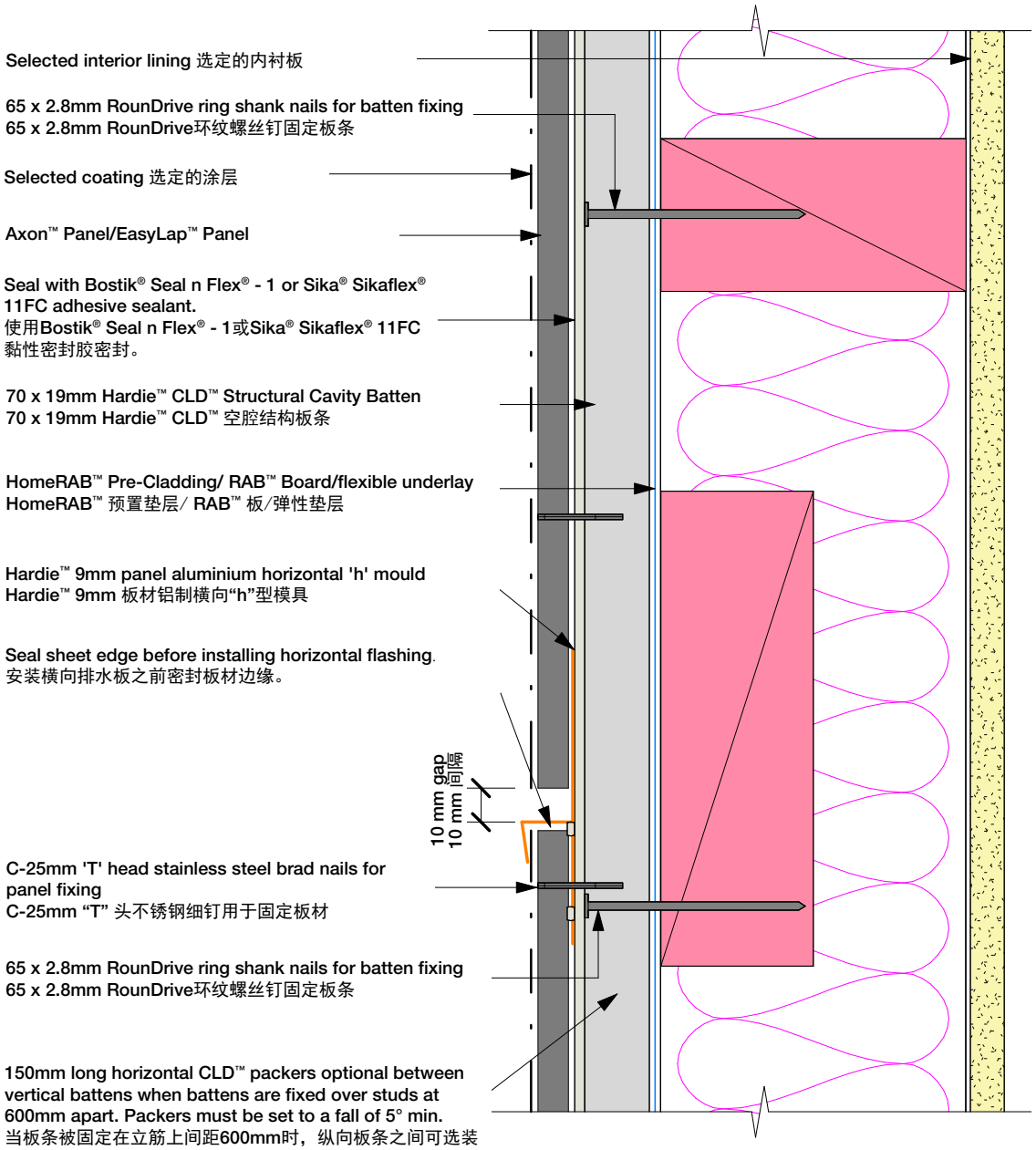
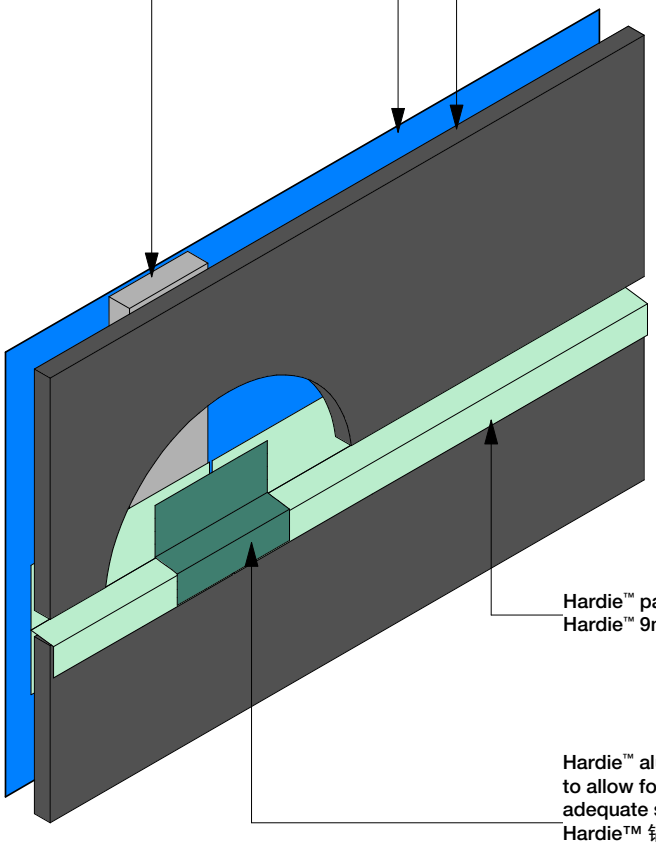


Figure 28: Aluminium ‘h’ mould joiner | 图28: 铝制“h”型模具接缝件



70 x 19mm Hardie™ CLD™ Structural Cavity Batten
70 x 19mm Hardie™ CLD™ 空腔结构板条

HomeRAB™ Pre-Cladding/ RAB™ Board/ flexible underlay
HomeRAB™ 预置垫层/ RAB™ 板/弹性垫层

Axon™ Panel/EasyLap™ Panel

Hardie™ panel aluminium 'h' mould ends butted together.
Hardie™ 9mm板材铝制横向“h”型模具末端对接在一起。

Hardie™ aluminium 'h' mould joiner, flexible sealant to allow for expansion to both sides of joiner. Ensure adequate seal between both components.
Hardie™ 铝制“h”型模具接缝件，使用弹性密封胶允许向接缝件的两侧扩张。确保组件之间妥善密封。

Figure 29: External corner at ‘h’ mould joint detail

图29: 阳角处“h”型模具接缝详图

interactive assembly instructions available

http://wksp.nz/jh-axn-mfl

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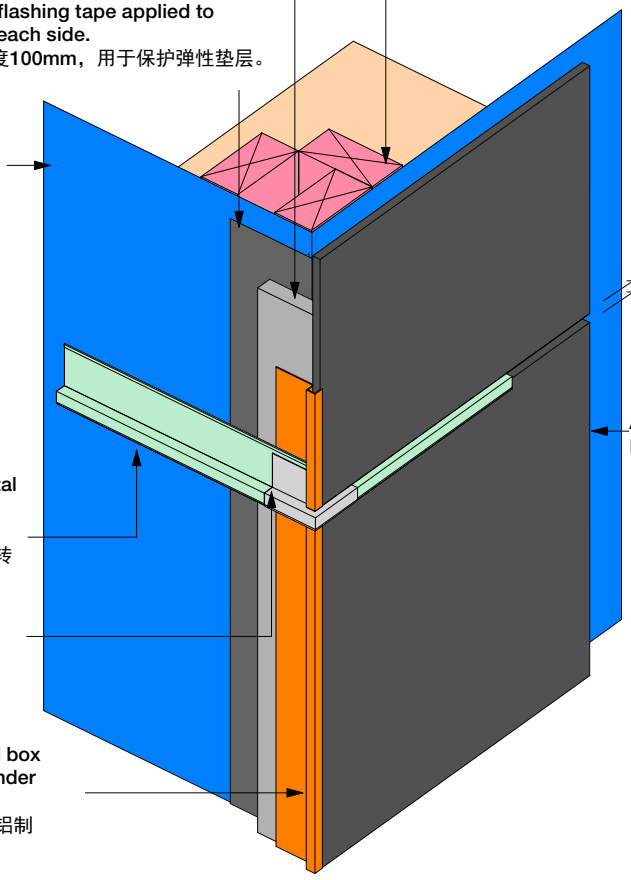
70 x 19mm Hardie™ CLD™ Structural Cavity Batten
70 x 19mm Hardie™ CLD™ 空腔结构板条

Framing 框架

Polypropylene/Polyethylene DPC or a flashing tape applied to protect flexible underlay 100mm wide each side.
聚丙烯/聚乙烯DPC或防水胶带，每侧宽度100mm，用于保护弹性垫层。

HomeRAB™ Pre-Cladding/ RAB™ Board/flexible underlay
HomeRAB™ 预置垫层/ RAB™ 板/弹性垫层



15 mm gap
15mm 间隙

Axon™ Panel/
EasyLap™ Panel

Hardie™ 9mm panel aluminium horizontal 'h' mould mitre at corner and seal with flexible sealant.
Hardie™ 9mm板材铝制横向“h”型模具在转角斜切并用弹性密封胶密封。

External corner jointer 阳角接缝件

Hardie™ 9mm panel aluminium external box corner flanges to be removed locally under aluminium 'h' mould.
铝制“h”型模具下方的Hardie™ 9mm板材铝制阳角箱角翼板需移除。

Note: Site cut edges to be primed.
注：现场切割边缘须涂底漆。

Figure 30: Internal corner at ‘h’ mould joint detail

图30: 阴角处“h”型模具接缝详图

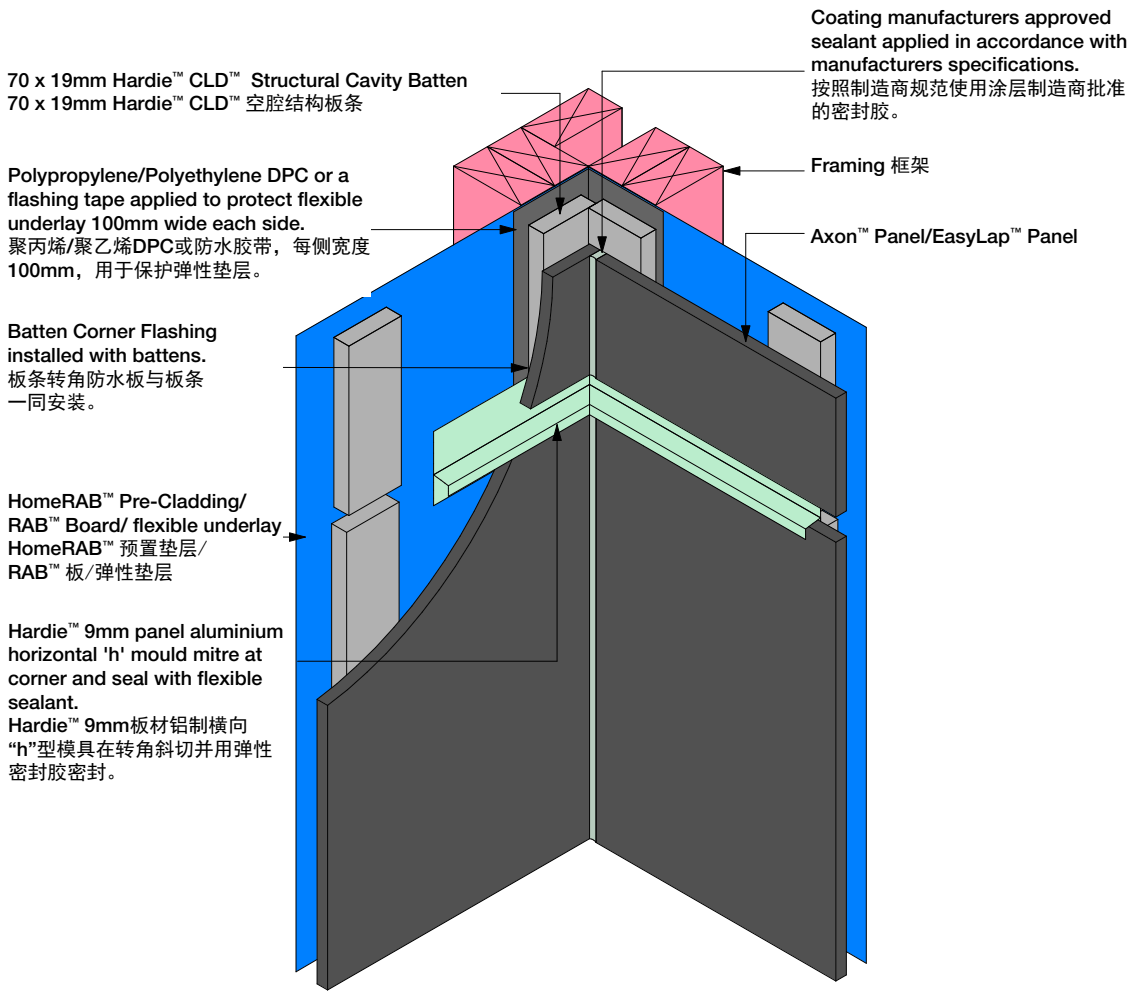
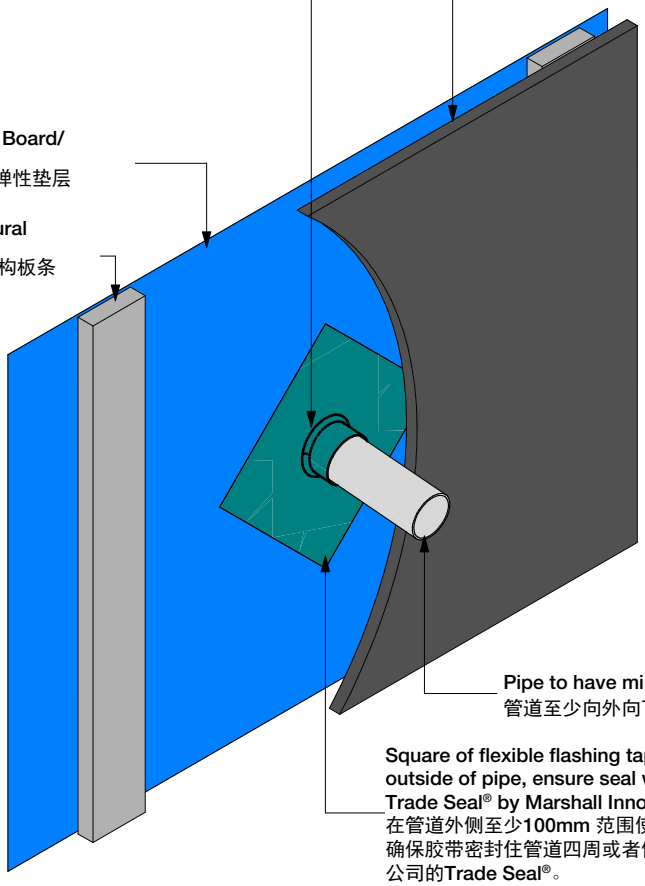


Figure 31: Cavity pipe penetration | 图31: 空腔管道穿透



Note: Site cut edges to be primed.
注：现场切割边缘须涂底漆。

Figure 32: 'h' mould joint at window head

图32: 窗楣处"h"型模具接缝详图

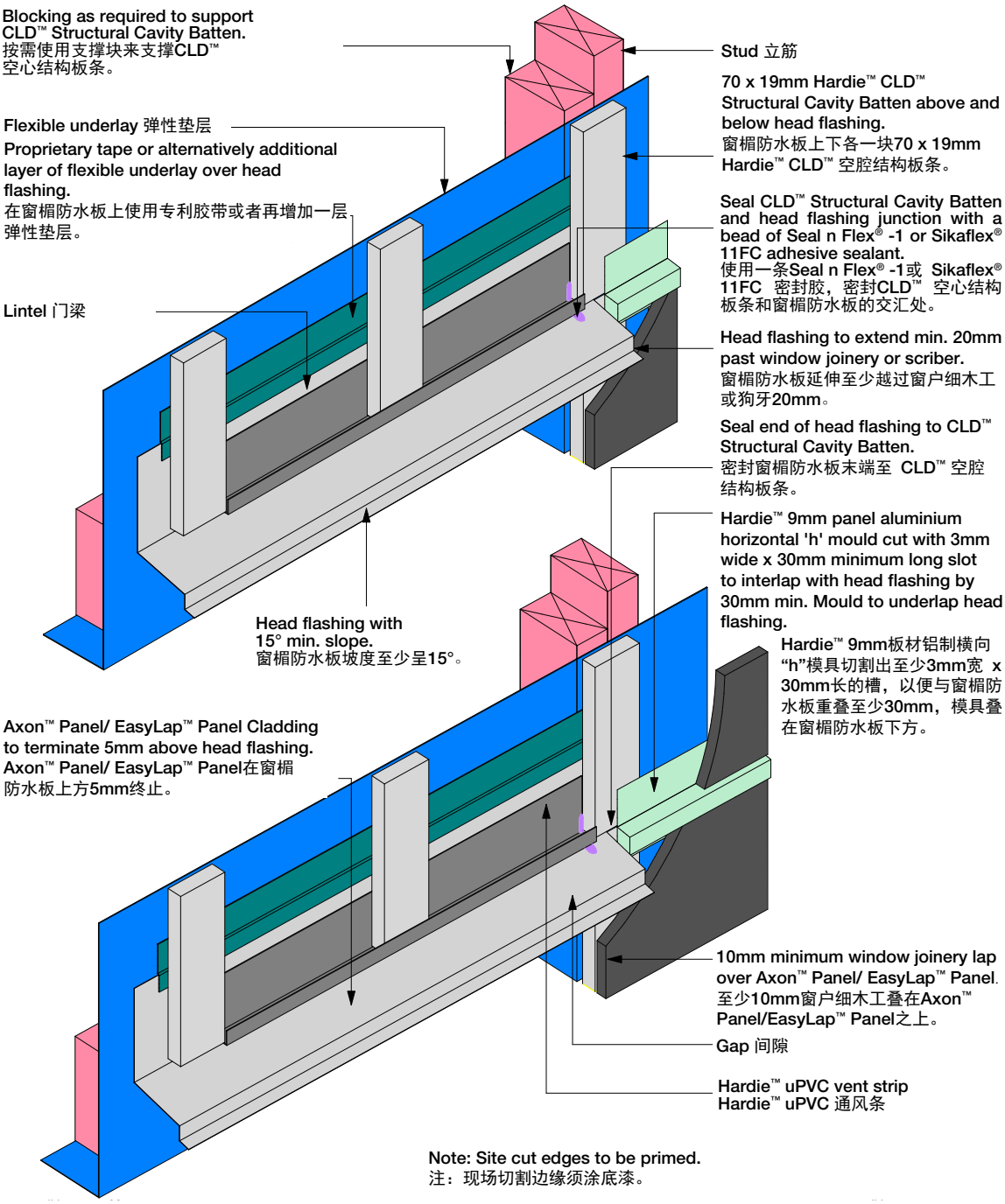
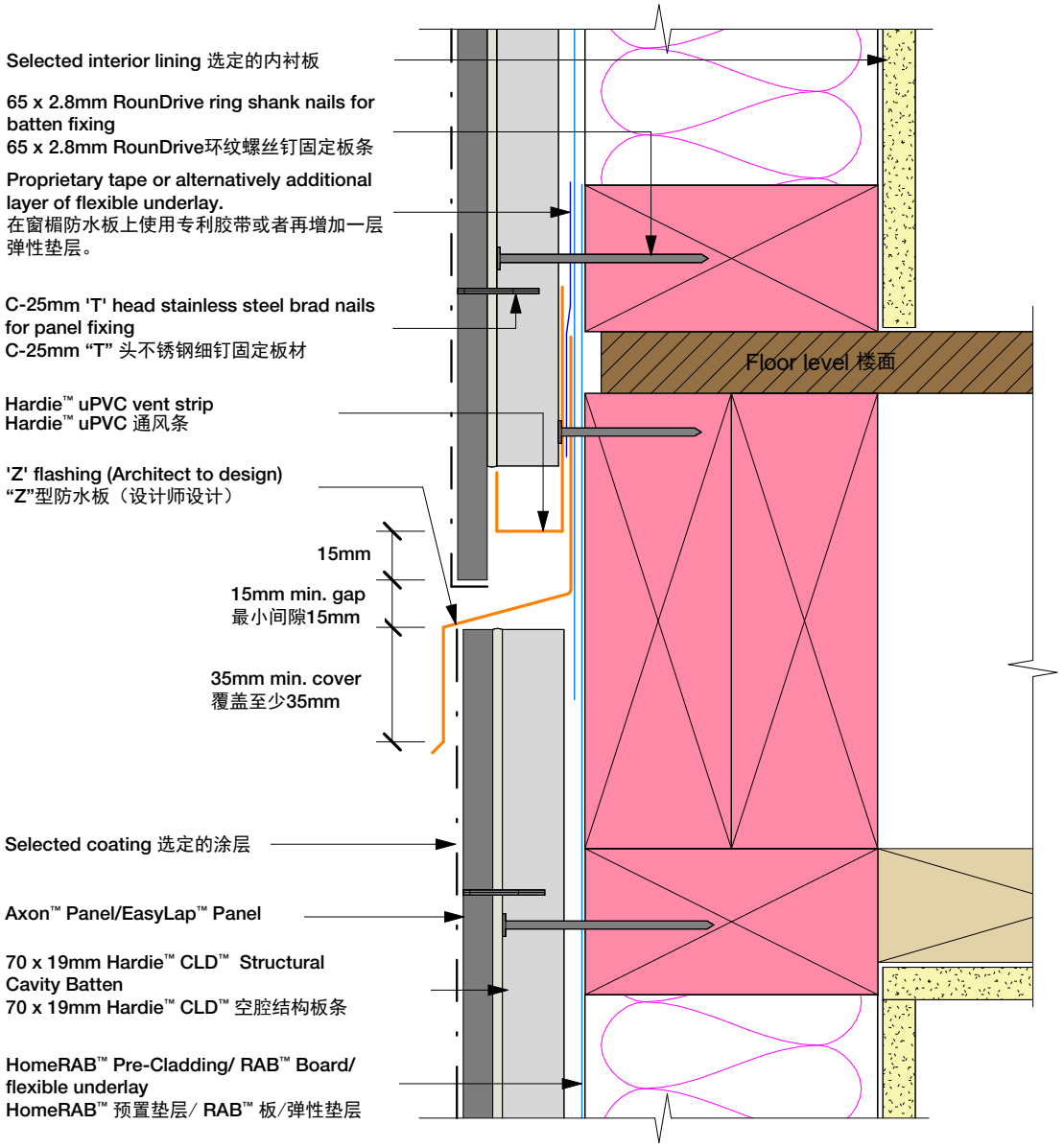


Figure 33: Drained flashing joint at floor joist

图33: 地板龙骨高度排水防水接缝

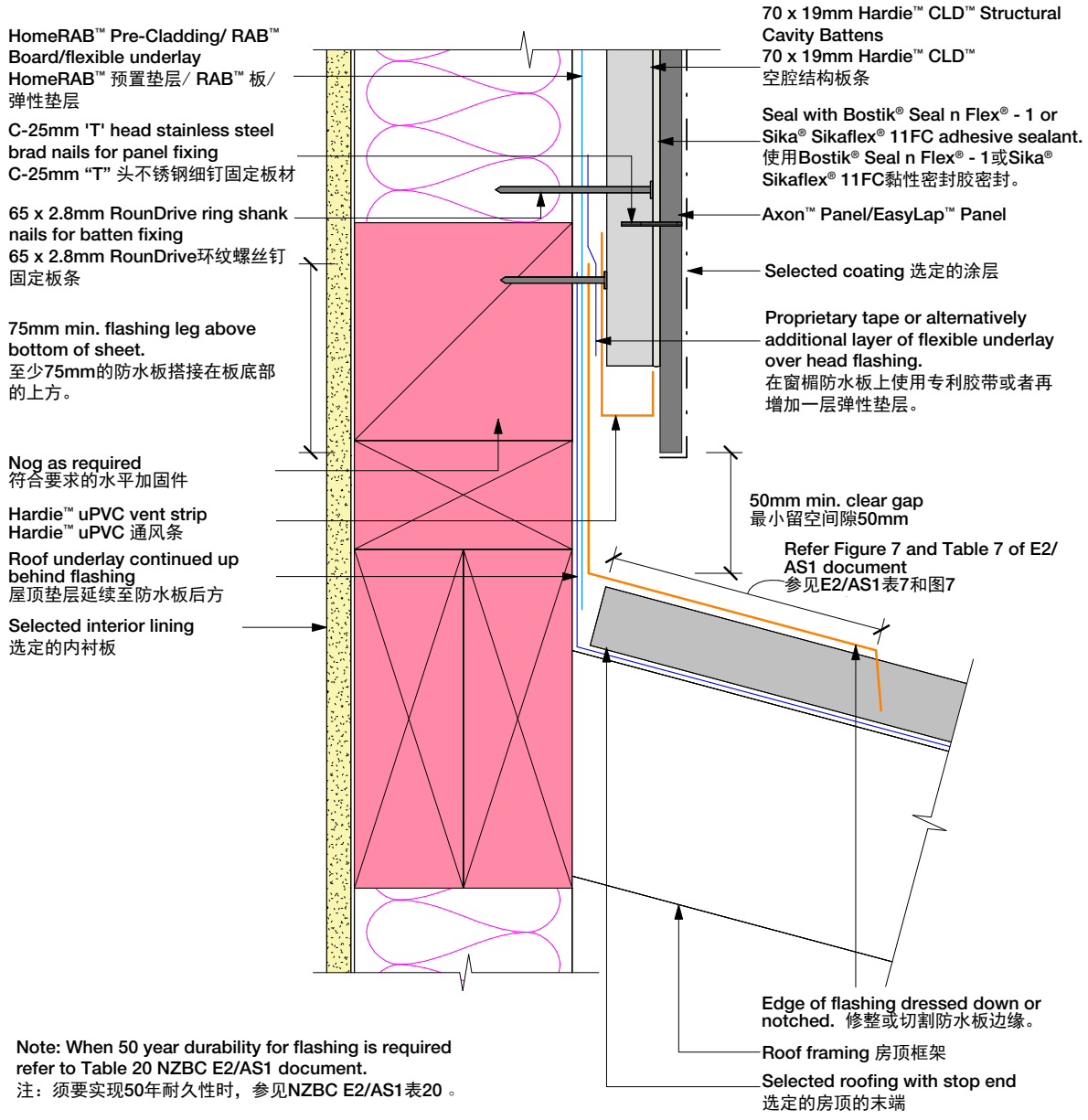


Note 注:

* Check architect's plans for the type of flashing to be used.
  查看设计师规划确定需要使用的防水板种类。
* Cut edges need to be primed with sealer.
  切割边缘须使用密封胶预处理。
* When 50 year durability is required refer Table 20 E2/AS1.
  须要实现50年耐久性时，参见NZBC E2/AS1表20。
* The flashing to be placed in the centre of the floor joists. Do not fix CLD™ Structural Cavity Battens or panels into floor joists.
  防水板须置于地板龙骨中央。不要将CLD™ 空腔结构板条或板材固定至地板龙骨。

Figure 34: One piece apron flashing joint

图34: 屋顶斜坡与墙面之间的一体式防水板接缝



Note: When 50 year durability for flashing is required refer to Table 20 NZBC E2/AS1 document.
注：须要实现50年耐久性时，参见NZBC E2/AS1表20 。

Figure 35: Enclosed deck ballustrade to wall junction

图35: 封闭式阳台栏杆与墙体交汇处

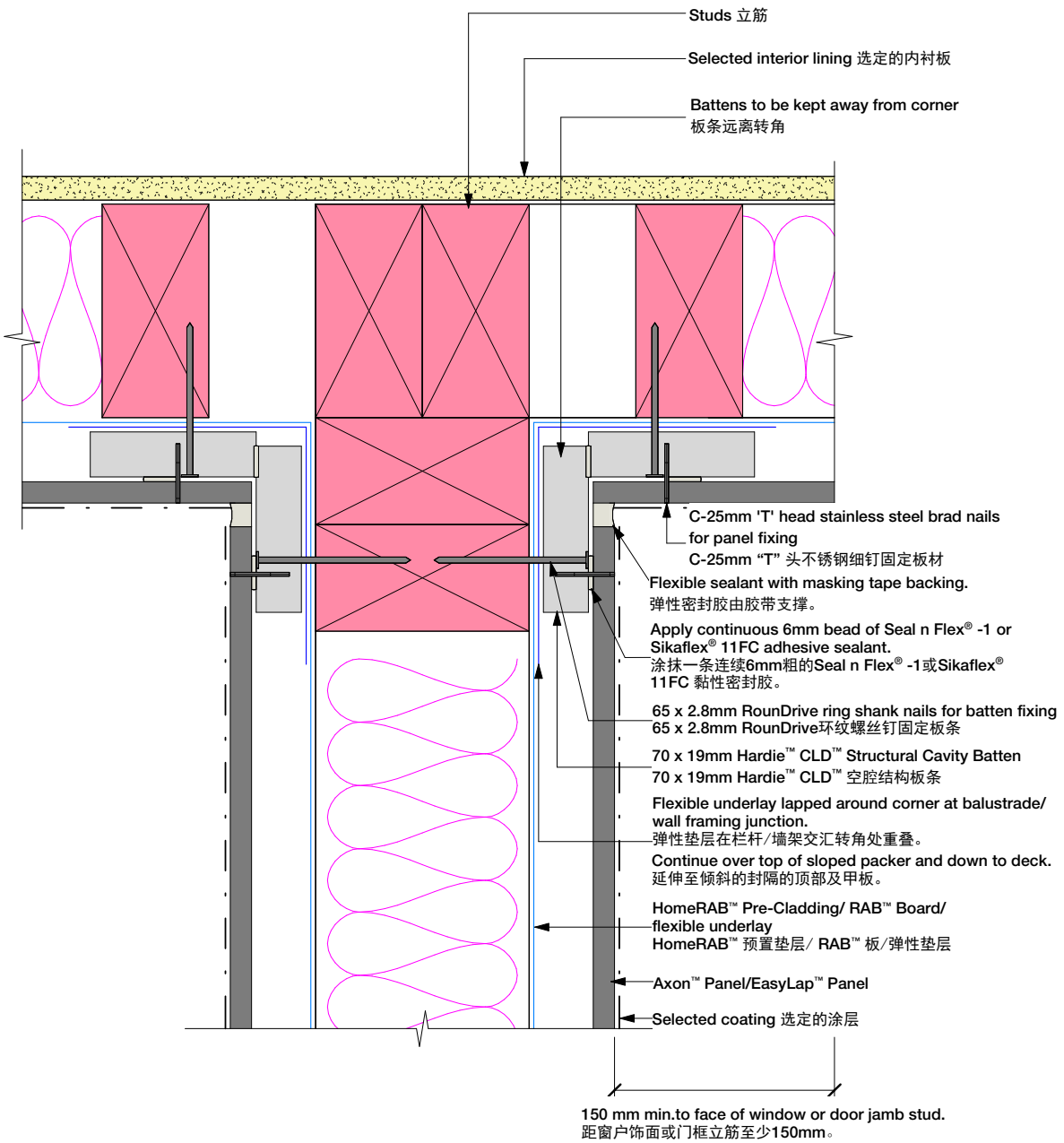
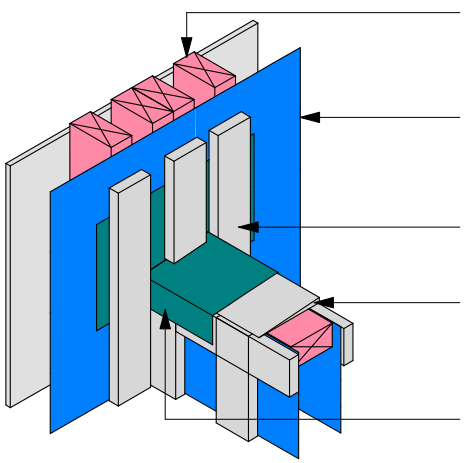
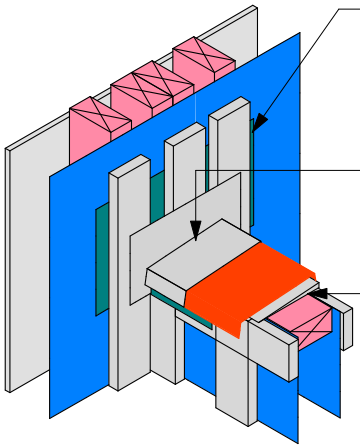


Figure 36: Enclosed deck ballustrade to wall junction

图36: 封闭式阳台栏杆与墙体交汇处



Batten and Flashing Tape Application Prior to Metal Flashing Fixing.
在金属防水板固定前安装板条并使用防水胶带。



Saddle Flashing Application Prior to Cladding and Cap Flashing Fixing.
在外墙板和顶帽防水板固定前安装马鞍式防水板。

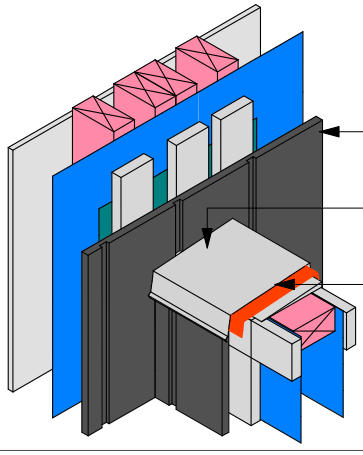


Figure 37: Parapet flashing | 图37: 矮墙防水板

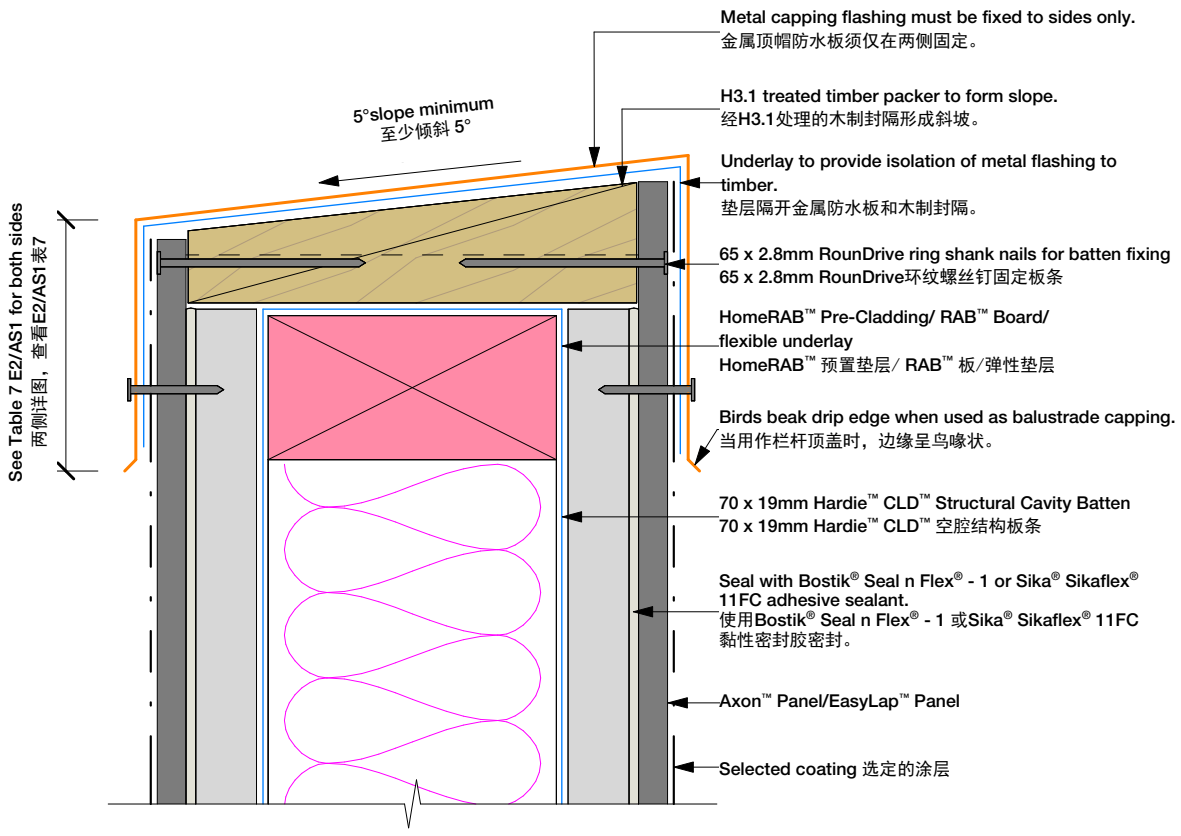


Figure 38: Garage door jamb | 图38: 车库门框

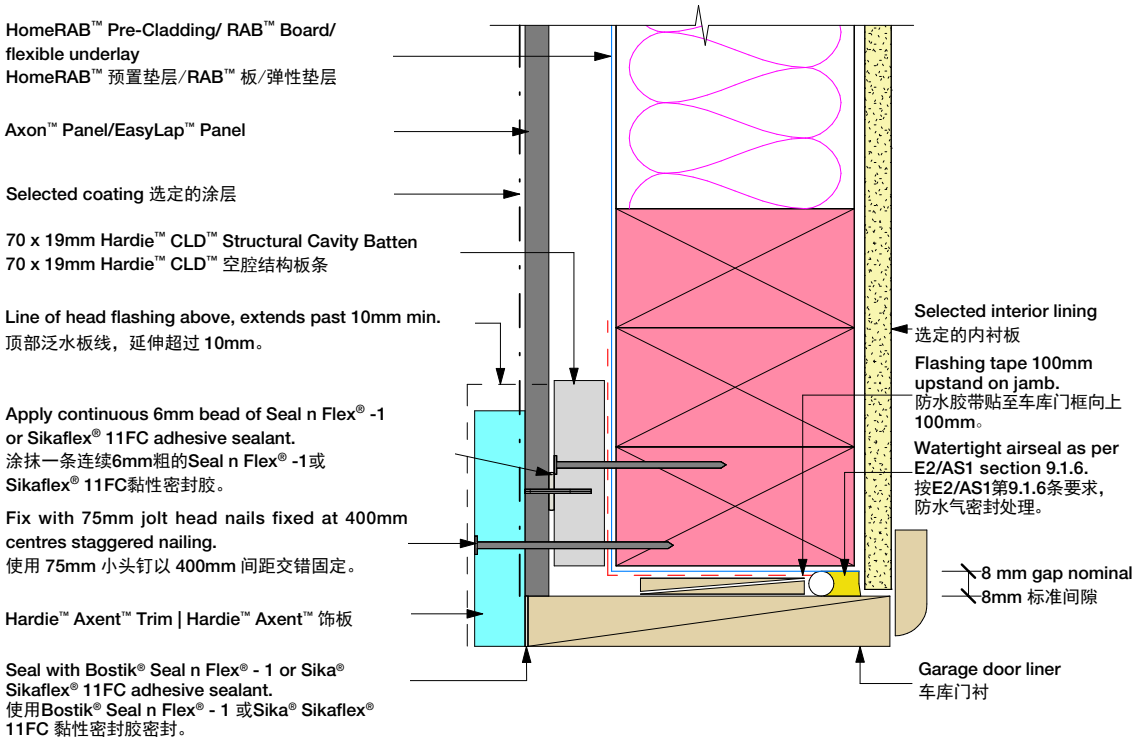
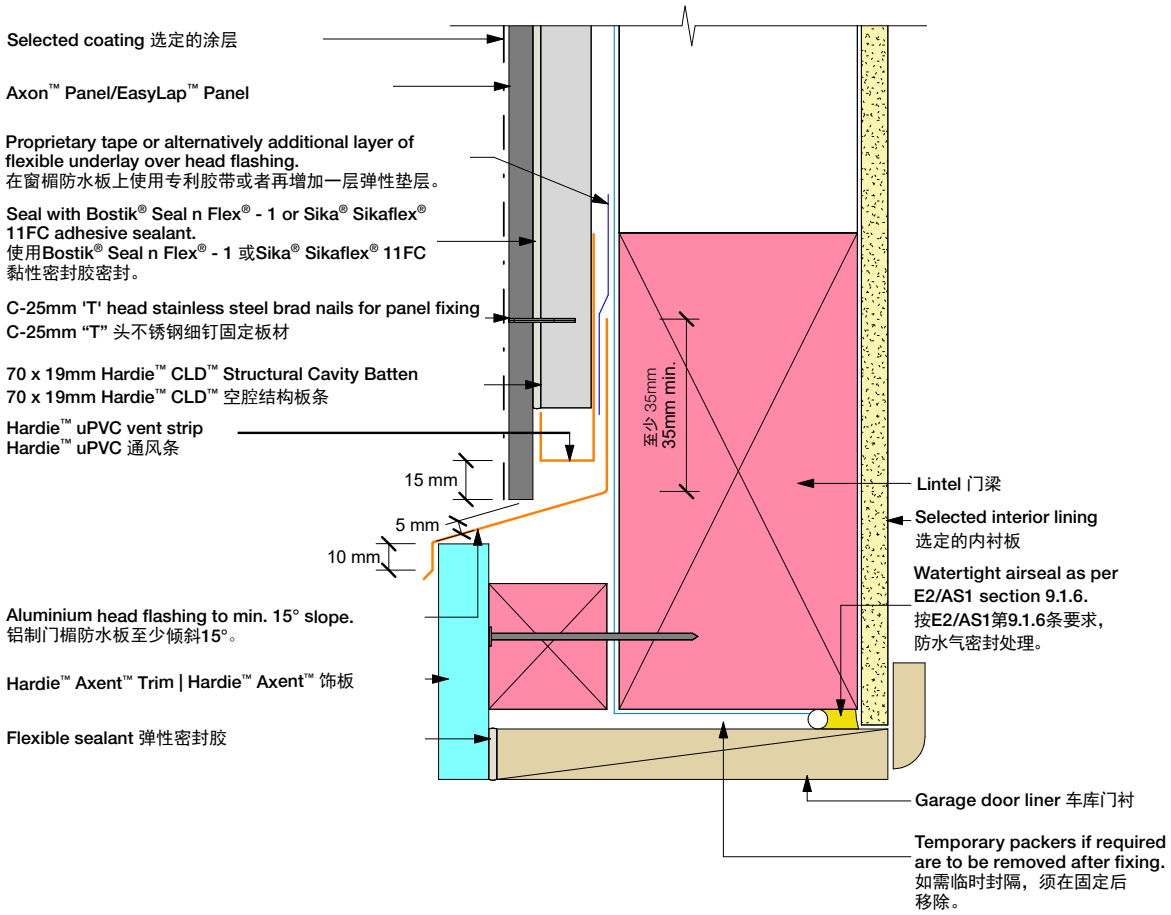


Figure 39: Garage door head | 图39: 车库门楣

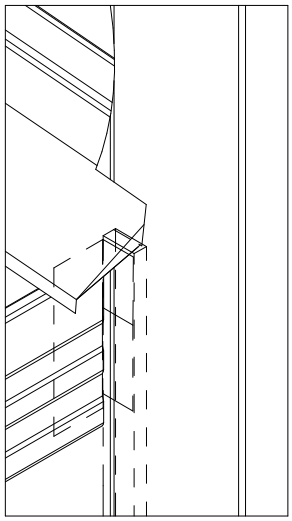


Note 注：

- Sealant must be applied between head flashing and Axent™ Trim in VH and EH wind zones.
  在VH和EH风区，门楣防水板和Axent™ 饰板之间须使用密封胶。
- Site cut edges to be primed.
  现场切割的边缘须预涂底漆。

Figure 40: Junction between panel and fascia board

图40: 板材和屋顶顶角线板的交汇处



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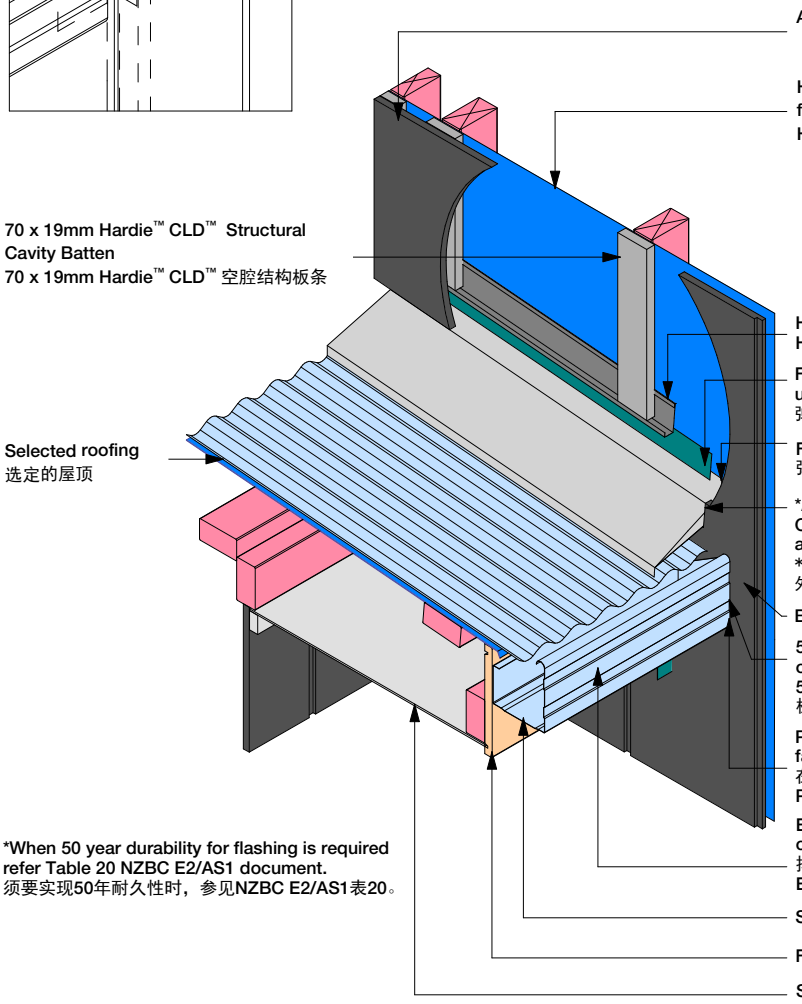
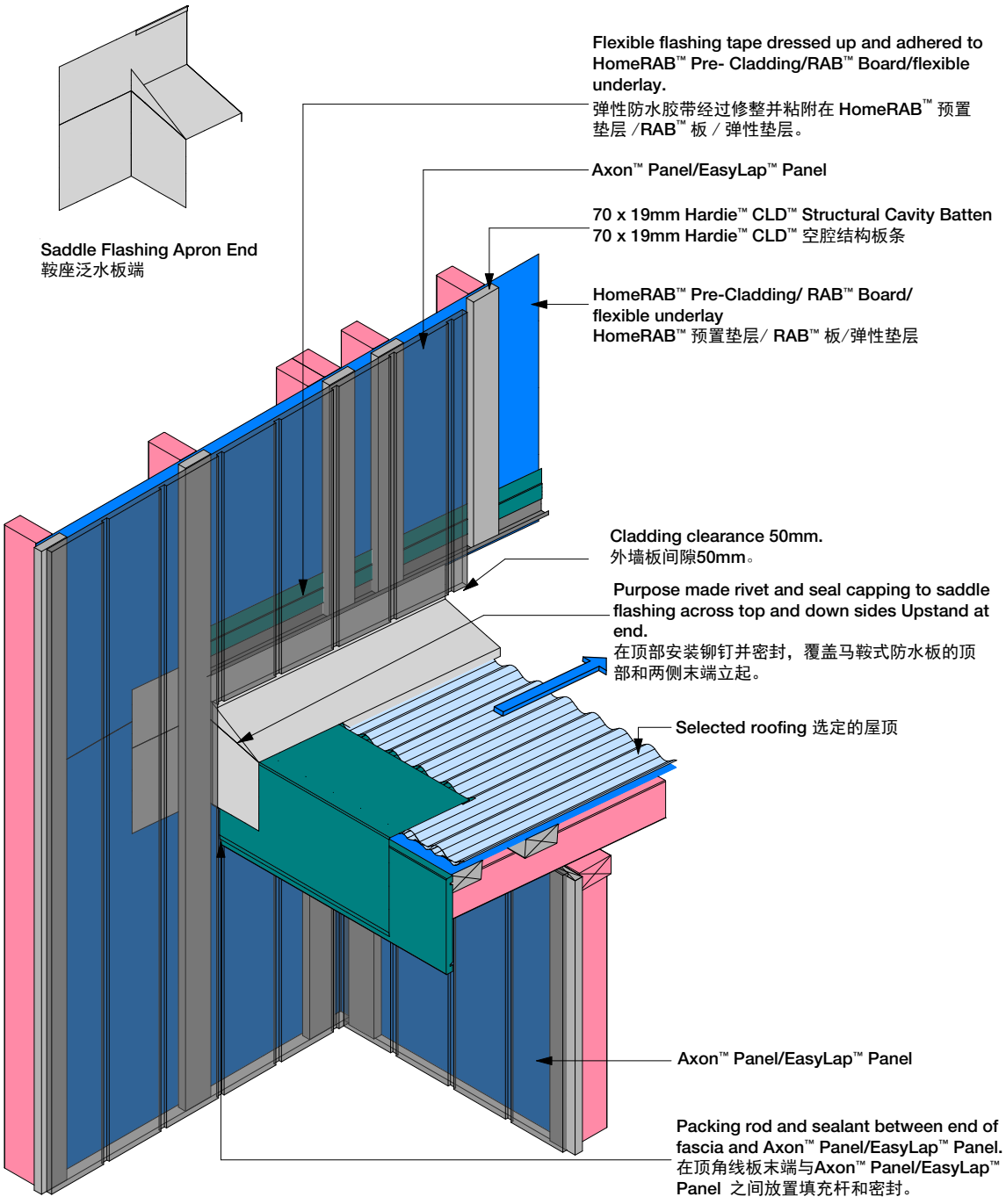


*When 50 year durability for flashing is required refer Table 20 NZBC E2/AS1 document.
须要实现50年耐久性时，参见NZBC E2/AS1表20。

Note: Site cut edges to be primed.
注：现场切割边缘须涂底漆。

Figure 41: Enclosed roof to wall intersection

图41: 封闭屋顶与墙体的交汇处



Notes 笔记

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Product Warranty 产品质保

James Hardie New Zealand Limited ("James Hardie") warrants for a period of 15 years from the date of purchase that the EasyLap™ Panel (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EasyLap™ Panel（简称"产品"） 在售出之日起的15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.

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

CONDITIONS OF WARRANTY:

质保条件:

The warranty is strictly subject to the following conditions:

本质量保证严格受到以下担保条件的限制：

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

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. James Hardie has tested/assessed the performance of the EasyLap™ Panel when installed in accordance with the relevant EasyLap™ Panel technical specification, in accordance with the standards and verification methods required by the NZBC and those test results demonstrate the product complies with the performance criteria established by the NZBC. However, as the successful performance of the relevant system depends on numerous factors outside the control of James Hardie (e.g. quality of workmanship and design) James Hardie shall not be liable for the recommendations made in its literature and the performance of the relevant system, including its suitability for any purpose or ability to satisfy the relevant provisions of the NZBC, regulations and standards, as it is the responsibility of the building designer to ensure that the details and recommendations provided in the relevant James Hardie installation manual are suitable for the intended project and that specific design is conducted where appropriate.

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Product Warranty 产品质保

James Hardie New Zealand Limited ("James Hardie") warrants for a period of 15 years from the date of purchase that the Axon™ Panel (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Axon™ Panel（简称"产品"） 在售出之日起的15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.

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

CONDITIONS OF WARRANTY:

质保条件:

The warranty is strictly subject to the following conditions:

本质量保证严格受到以下担保条件的限制：

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

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.

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