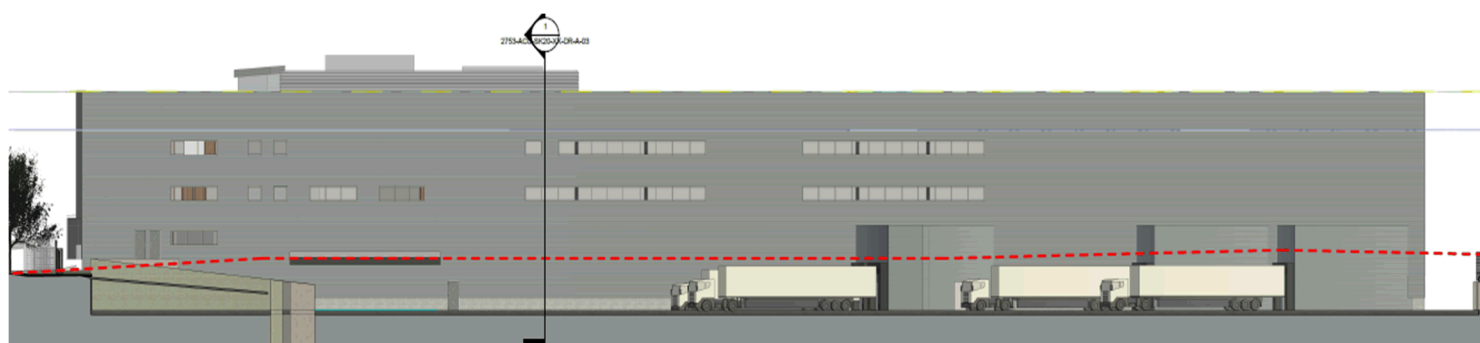


PCS - Land at Grange Moor
Proposed External Envelope Specification
February 2023 REV. 2026



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25 Year Kingspan Quadcore Assured 'Insurance Backed' Panel Warranty

For this project we have included our 25-year Kingspan Quadcore Assured Panel 'Insurance Backed' Panel Warranty which includes of Quadcore Insulated Roof & Wall Panels.

- External Coating
 - Roof
 - Kingspan XL Forte External Coating System – **40 Years**
 - Walls
 - Kingspan Spectrum External Coating System – **30 Years**
- Thermal / Structural Performance – 'Insurance Backed' – **25 Years**
 - We warrant the thermal and structural performance for a minimum period of 25 years.
- Fire Performance – **25 Years**
 - We warrant the fire performance for a period of 25 years.
- Accessories & Component Parts – **25 Years**
 - Flashings & Fabrications

External Envelope Air Leakage

- The air leakage for the external envelope should be:
 - 3m³/hrs/m² at 50pa

For lower Air Leakage rates additional Seals are required please consult with Kingspan Insulated Panels Technical Team

Roof Cladding– QuadCore KS1000RW Roof Panel System



The roof will be the Kingspan QuadCore KS1000RW Panel Roof System incorporating the Kingspan XL Forté (embossed leathergrain) external coating. Where possible the KS1000RW panel will be installed ridge to eaves in single lengths which negates the requirement for end laps. Should end laps be required then the 75mm Class A detail should be employed. The inner face of the panel shall be coated with CleanSafe 15 standard white colour.

XL Forte Coating Colour:

- Goosewing Grey



Goosewing Grey
RAL 080 70 05 BS 10A05

The structural and thermal performance of the panel are to be included in the Kingspan Quadcore Assured 'Panel' Warranty for a period of 25 years. The external coating will have a warranty of up to 40 years maintenance free protection. Minimum Grade 304 Austenitic Stainless-Steel Fasteners and Butyl Strip Sealants and Foam Tapes are required.

The insulation to be Kingspan QuadCore and to achieve a minimum designed thermal U-Value of:
0.15W/m²K (120mm thick)

The QuadCore KS1000RW Roof panels are classified **B-s1, d0**, when tested on the internal face of the product, according to the European Reaction to Fire classification (Euroclasses) BS EN 13501-1: 2018 and the external face is to be rated **Broof(t4)** to BS EN 13501-5: 2016.

The minimum designed roof pitch will be 6.0° (4.0° after deflection).

The system will be installed by a contractor trained by the Kingspan Field Services (KFS) team.

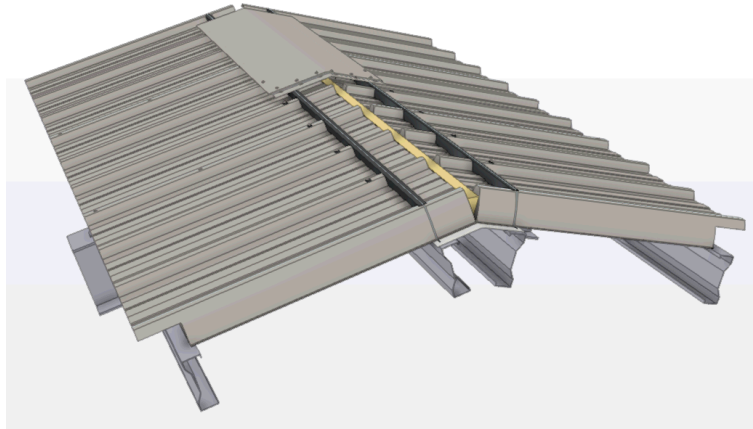
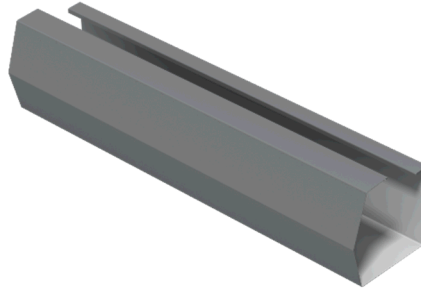


Figure 1 Ridge

Rainwater Goods – Kingspan Highline Gutter



The rainwater from the main roof will be collected in Kingspan Highline Gutter manufactured and installed in accordance with the Kingspan recommendations.

To be manufactured from 0.63mm Galv Steel in standard size, with and external coating

XL Forte Coating Colour: TBC

[Kingspan Highline Gutter System](#)

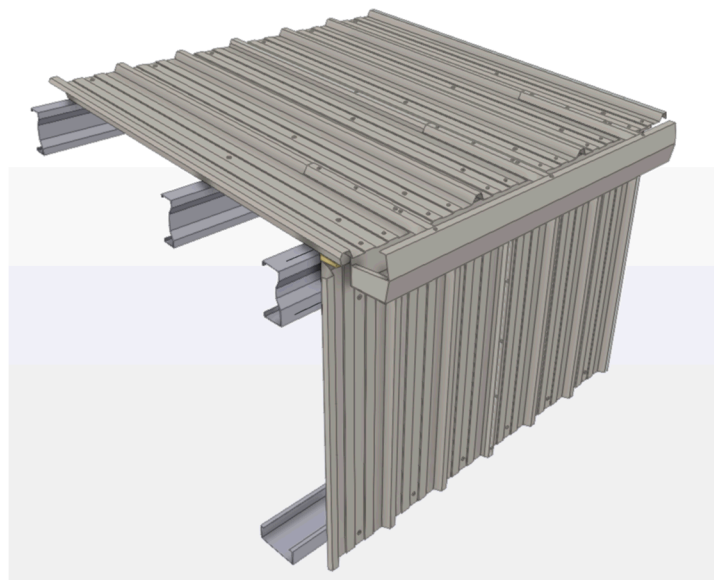
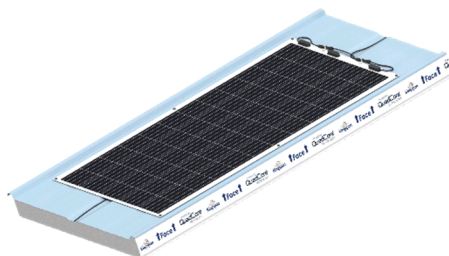


Figure 2 Highline Gutter (Indicative)

~~Integrated Photovoltaic roof - Kingspan Quadcore PowerPanel Pitched Roof Panel~~



The integrated photovoltaic roof panels will be the Kingspan Quadcore PowerPanel Pitched Roof Panel incorporating the Kingspan XL Forté external coating. The inner face of the panel shall be a coated with CleanSafe 15 standard white colour.

External Roof Colour:

- ~~XL Forte - Goosewing Grey~~



Goosewing Grey
RAL 080 70 05 BS 10A05

The structural and thermal performance of the panel are to be included in the Kingspan Quadcore Assured Panel Warranty for a period of 25 years. The external coating will have a warranty of up to 40 years maintenance free protection. Minimum Grade 304 Austenitic Stainless Steel Fasteners and Butyl Foam Tapes are required.

The 325w PV Module will have a 12 year product and 25 years for performance warranty.

The insulation to be Kingspan Quadcore and to achieve a minimum designed thermal U Value of

- ~~0.15W/m²K (118mm Thick)~~

The Quadcore PowerPanel Pitched Roof Panels are classified ~~B-s1, d0~~, when tested on the internal face of the product, according to the European Reaction to Fire classification (Euroclasses) BS-EN 13501-1: 2007+A1: 2009 and the external face is to be rated ~~Broof(t4)~~ to BS EN 13501-5: 2016.

The minimum designed roof pitch will be 6.0° (4.0° after deflection).

The panel will be installed by a contractor trained by the Kingspan Field Services (KFS) team. Before commencement of any works KFS will provide commentary to the working drawings and arrange site visits to check that the installation is in accordance with Kingspan's recommendations.

~~[Quadcore PowerPanel Pitched Roof Panel](#)~~

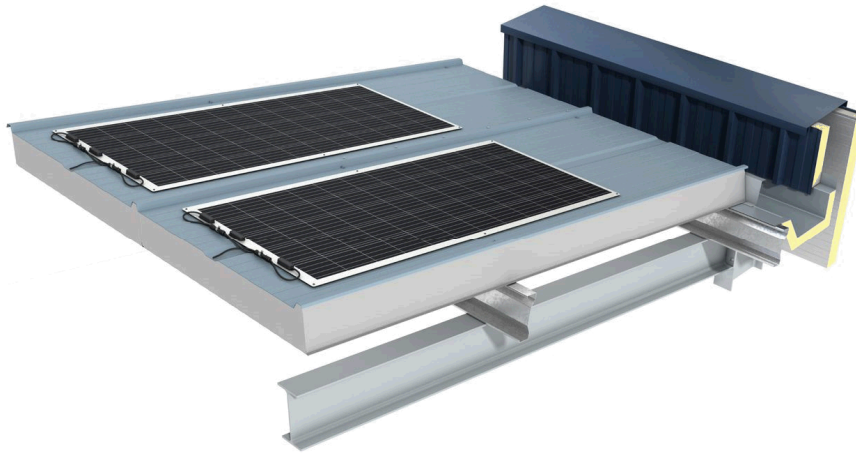


Figure 3 PowerPanel

- Amended and removed as per 2026

Horizontal Cladding - Kingspan QuadCore[®] AWP Wall Panel Micro Rib



The cladding will be the Quadcore AWP Wall Panel MicroRib (MR) utilising the Spectrum External Coating. This is supported by the Kingspan 25 Year Quadcore Assured 'System' Warranty and installed as per the manufacturer's requirements. The inner face of the panel shall be a coated with CleanSafe 15 standard white colour.

Spectrum Coating Colours:

- Goosewing Grey



Goosewing Grey
RAL 080 70 05 BS 10A05

Panel module (1000mm), colour arrangement, orientation, and layout of panels to suit the approved elevational treatment. The insulation to be Kingspan Quadcore to achieve a minimum designed thermal U-value of **0.15W/m²K (120mm thick)**.

The external coating, structural and thermal performance of the panel and fabrications are to be included in the Kingspan Quadcore Assured 'System' Warranty for a period of 25 years. The external coating will have a warranty of up to 30 years maintenance free protection and 25 years for structural and thermal performance. Minimum Grade 304 Austenitic Stainless-Steel Fasteners and Butyl Foam Tapes are required.

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Corners will be formed with a factory manufactured cranked / folded panel.

The system will be installed by a contractor trained by the Kingspan Field Services (KFS) team. Before commencement of any works KFS will provide commentary to the working drawings and arrange site visits to check that the installation is in accordance with Kingspan's recommendations.

QuadCore® AWP Wall Panel is classified **B-s1,d0**, when tested on the internal face of the product, according to the European Reaction to Fire classification system (Euroclasses) EN 13501-1:2018 under the certified name AWP Product Family.

[Kingspan Quadcore 'Architectural' Insulated Wall System](#)

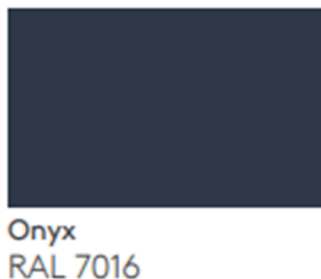
East Feature Wall Cladding– Kingspan QuadCore® AWP Flat-Stucco embossed Wall Panel



The cladding will be the Quadcore AWP Wall Panel MicroRib (MR) utilising the Spectrum External Coating. This is supported by the Kingspan 25 Year Quadcore Assured 'System' Warranty and installed as per the manufacturer's requirements. The inner face of the panel shall be a coated with CleanSafe 15 standard white colour.

Spectrum Coating Colours:

- Onyx



Panel module (1000mm), colour arrangement, orientation, and layout of panels to suit the approved elevational treatment. The insulation to be Kingspan Quadcore to achieve a minimum designed thermal U-value of **0.15W/m²K (120mm thick)**.

The external coating, structural and thermal performance of the panel and fabrications are to be included in the Kingspan Quadcore Assured 'System' Warranty for a period of 25 years. The external coating will have a warranty of up to 30 years maintenance free protection and 25 years for structural and thermal performance. Minimum Grade 304 Austenitic Stainless-Steel Fasteners and Butyl Foam Tapes are required.

Corners will be formed with a factory manufactured cranked / folded panel.

The system will be installed by a contractor trained by the Kingspan Field Services (KFS) team. Before commencement of any works KFS will provide commentary to the working drawings and

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arrange site visits to check that the installation is in accordance with Kingspan's recommendations.

QuadCore® AWP Wall Panel is classified **B-s1,d0**, when tested on the internal face of the product, according to the European Reaction to Fire classification system (Euroclasses) EN 13501-1:2018 under the certified name AWP Product Family.

[Kingspan Quadcore 'Architectural' Insulated Wall System](#)

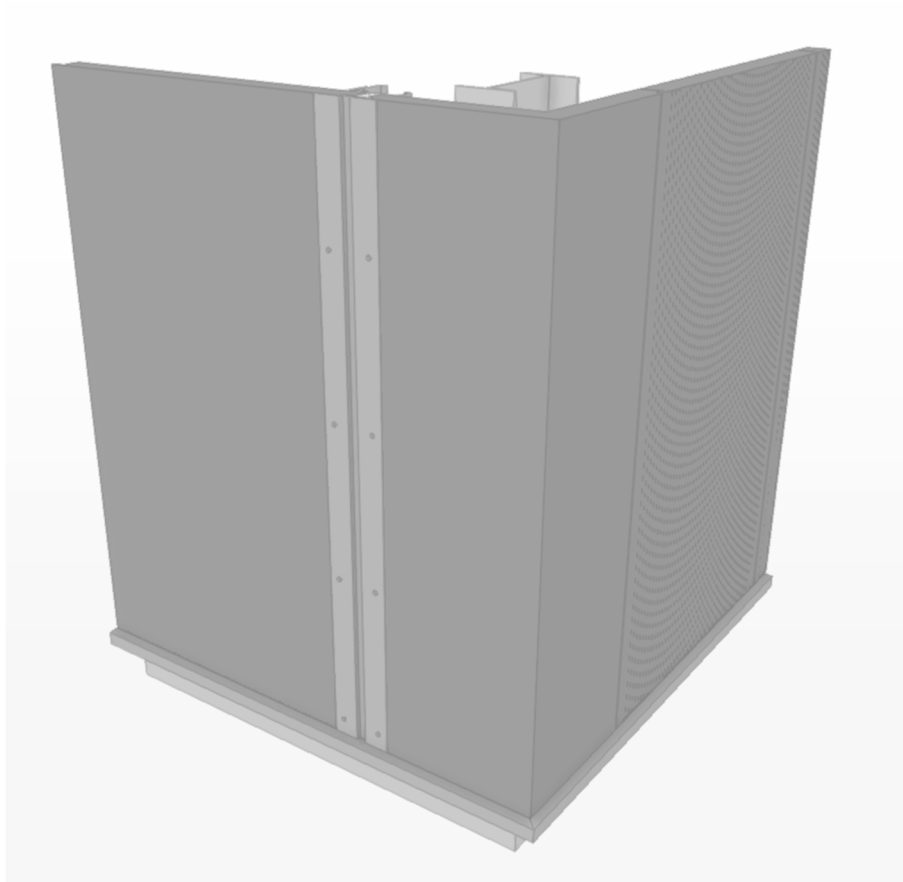


Figure 4 Ext Cranked Corner Detail

Internal Compartment Walls



The Internal Compartment Wall will be the Kingspan Quadcore KS1100CS Quadcore 'EI60' Fire Resistant Internal Wall incorporating the Kingspan CleanSafe 15 coating. The KS1100CS panel will be installed Vertically' in a single length. Both faces of the panel shall 0.50mm Thick with an 'Equibead' profile and a coated with CleanSafe 15 in a standard white colour. This is supported by the Kingspan 25 Year Quadcore Assured Panel Warranty and fixed as per Kingspan's recommendations.

The structural and thermal performance of the panel are to be included in the Kingspan Quadcore Assured 'Panel' Warranty for a period of 25 years. Minimum Grade 304 Austenitic Stainless-Steel Fasteners and Butyl Foam Tapes are required.

The insulation to be Kingspan Quadcore and to achieve a minimum designed thermal U-Value of **0.10W/m²K (175mm thick)**. The maximum span of the panel is 7500mm.

A 5mm diameter bead of Dow Corning 700 Firestop FR Silicone Sealant, or similar is applied to the internal / external face prior to panel installation. Stitch the male/female joints on internal face using low profile self-drilling, self-tapping screws 4.8 x (5mm less the panel thickness) at 500mm centres.

All primary flashings to be a minimum 0.63mm CleanSafe 15 flashing to be fixed at 300mm centres fixed through to panel facings. Each panel fixed to each support using no fewer than two fasteners located through the panel and equally spaced across the face of the panel.

The head support must be structurally adequate to carry the full weight of each panel under fire conditions.

At junctions between the roof panel and walls / penetrations insulated with PIR board insulation, any gaps filled with Premseal Firefoam (class B1 rated) or similar, fire rated gun applied canister urethane insulation.

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Test results: EN 13501-2:2007+A1:2009 Fire Resistance test: Warrington Fire Classification Report o. 352932 providing EI60 classification (60 minutes integrity and 60 minutes insulation).

EN 15254-5 & EN 14509 Extended Application Report: Warrington Fire Report No. 352931
Reaction to fire classification according to BS EN 13501-1:2007+A1:2009: B-s1, d0.

The panel will be installed by a contractor trained by the Kingspan Field Services (KFS) team.
Before commencement of any works Kingspan Pre Construction Design Manager / Technical will provide commentary to the working drawings and the KFS Team will arrange site visits to check that the installation is in accordance with Kingspan's recommendations

[KS1100CS Quadcore Coldstore Panel](#)

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