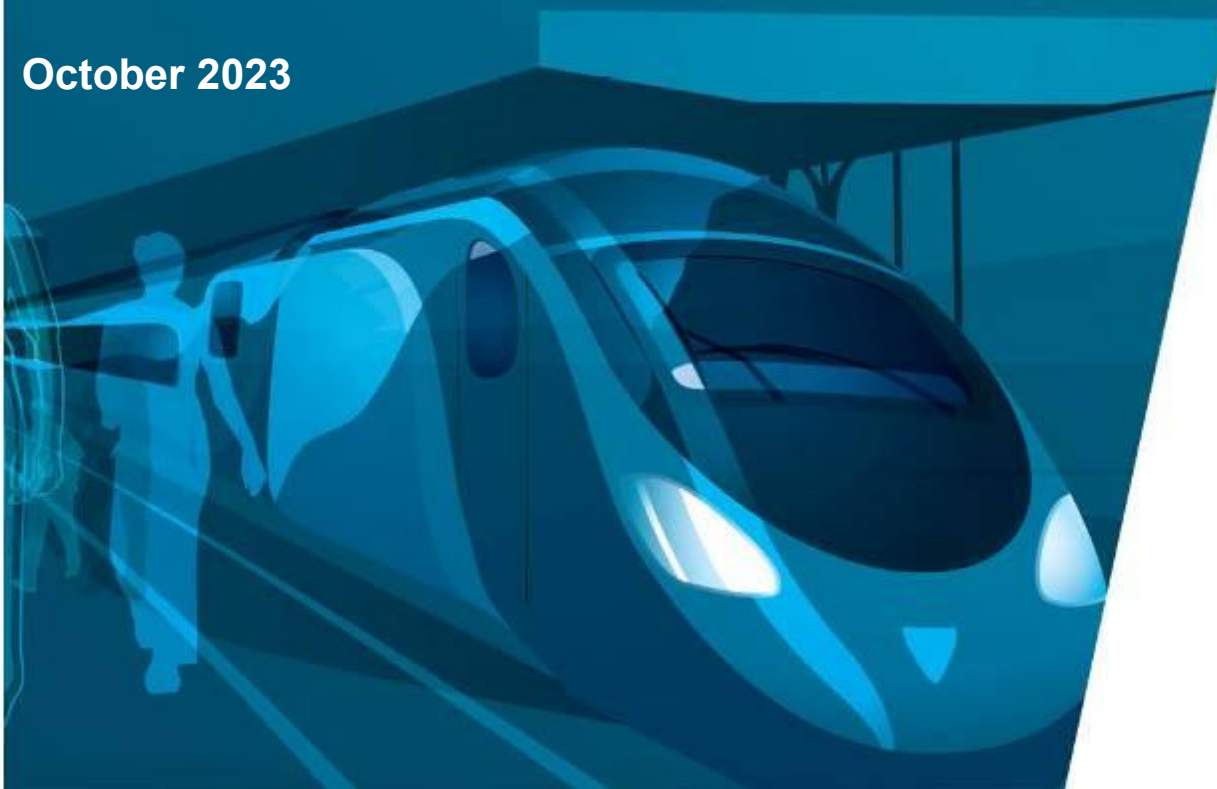


Network Rail (Huddersfield to Westtown (Dewsbury) Improvements) Order

Huddersfield Station Listed Building Consent Condition 2: Schedule of Materials

Network Rail

October 2023



Contents

1. INTRODUCTION	3
1.1 Background.....	3
2. STAGED APPROACH TO DISCHARGE.....	4
3. INFORMATION INCLUDED IN THIS SUBMISSION	5
4. HUDDERSFIELD STATION - SCHEDULE OF MATERIALS	6
5. CONCLUSION	10
5.1 Summary.....	10
5.2 Next Steps.....	10
APPENDIX A – INDICATIVE IMAGES OF MATERIALS	11
APPENDIX B – DETAILED SPECIFICATION OF MATERIALS	13

1. INTRODUCTION

1.1 Background

- 1.1.1 The Scheme is part of a wider programme of works under the Trans-Pennine Route Upgrade (TRU) which will improve the Trans-Pennine railway between Manchester, Huddersfield, Leeds and York and improve connections between key towns and cities across the north of England.
- 1.1.2 Planning Direction for the Huddersfield to Westtown (Dewsbury) section of the TRU was received from the Department for Transport referenced TWA/21/APP/03, dated 3 November 2022.
- 1.1.3 Listed Building Consent for the works to Huddersfield Station as part of the Huddersfield to Westtown (Dewsbury) section of the TRU was granted as directed by the Secretary of State for the Department of Levelling Up, Housing and Communities on 27 June 2022 (LBC Ref: 2021/91328). This was granted subject to a number of conditions.
- 1.1.4 This document sets out details in relation to Condition 2 of the granted Listed Building Consent.

2. STAGED APPROACH TO DISCHARGE

- 2.1.1 The consent for the Order Scheme requires the discharge of various Planning and Listed Building Consent conditions. The materials specification and samples are just one of the elements which provide the foundation for the construction of the Order Scheme as they help inform how construction works should be undertaken in respect of the significance of the heritage asset.
- 2.1.2 Due to the nature of the construction programme and complexities of delivering the scale of the Order Scheme at Huddersfield Station, there are specifications and samples of materials that either will not be understood fully until after certain construction activities have commenced or may significantly delay the fulfilling of the Order Scheme in order for the required information to be gathered before works commence. As such, a phased approach to the materials condition utilising a partial discharge of the materials samples and specifications submission for different elements of the station is deemed necessary. This will afford a complete understanding, with approved materials, that informs high quality works considered appropriate for the sensitivities of the Grade I Listed Huddersfield Station, thereby complying with Condition 2 outlined and the phased approach agreed in principle by Kirklees Council.
- 2.1.3 This Schedule of Materials is intended to be read in conjunction with the associated Conservation Implementation Management Plan (CIMP) which comprehensively outlines the conservation framework and methodology in the context of works proposed to be undertaken within the Order Scheme. This Schedule of Materials is considered to align with the relevant Phase 2 of the CIMP, as this document details the material alterations proposed within the works covered by that phase of the CIMP.
- 2.1.4 Those elements of the Station covered by this Materials Schedule comprise:
- The retained section of Roof A, including lantern and maintenance access; and
 - The Penistone Line platform canopy
- 2.1.5 Overall, this phased approach to submission utilises partial discharge of the condition to ensure that no works, including demolition, will take place until an approved specification and samples of materials for that element of the Station has been submitted and discharged. This requires that some approved works commence to inform later stages of the programme and allow for a fully complete and approved construction materials that entirely complies with the requirements of the condition. No works on any element would commence without formal approval based on an up to date and approved relevant materials sample and specifications with fully informed and precise details for the specific element for discharge.

3. INFORMATION INCLUDED IN THIS SUBMISSION

- 3.1.1 The wording of Condition 2 of the granted Listed Building Consent (LBC Ref: 2021/91328) is reproduced below:

2. (Huddersfield Station Materials) *Before the works hereby approved commence, or within a timescale to be otherwise agreed in writing by the local planning authority, samples and specifications of all materials to be used on all external elevations, roofs and subways of the works shall be submitted to and approved in writing by the local planning authority. The works shall be constructed only using the approved materials unless otherwise agreed in writing by the local planning authority.*

- 3.1.2 This document details the information required in relation to Condition 2, for details of methodology covered, see the corresponding Phase 2 Conservation Implementation Management Plan (CIMP) (see above, Section 2). This Materials Schedule document comprises a schedule of the materials to be used on all external elevations of these parts of the station.
- 3.1.3 Once procurement of the materials has been undertaken via the project supply chain, photographs and detailed specifications of materials and finishes will be obtained by Network Rail. These will be shared with Kirklees Council via the established TRU Heritage Working Group, and subsequently will be included, as appropriate, in future submissions to partially discharge the condition further.
- 3.1.4 Where necessary, samples of the material(s) to be used will be made available by Network Rail for inspection by the Kirklees Council Conservation Officer (and Historic England where appropriate). Where samples of materials are to be shared, these are identified in the schedule of materials below. Sharing of the sample(s) and any further agreement on the approach will be arranged and confirmed via the established TRU Heritage Working Group.
- 3.1.5 We do not anticipate any need to depart from the information provided, however, there may be unforeseen circumstances which require us to revise proposals. In such circumstances Kirklees Council will be notified as soon as possible, and their agreement sought on the required change in materials through the established TRU Heritage Working Group.

4. HUDDERSFIELD STATION - SCHEDULE OF MATERIALS

4.1.1 Table 4-1 below outlines the Schedule of Materials to be used at Huddersfield Station.

Table 4-1 Huddersfield Station – Schedule of Materials for Roof A and Penistone Line Canopy

Item	Location	Proposal	Colour	Additional Requirements
Roof A, including Lantern				
Replacement Metalwork	Roof A	S355 Steel	To match the proposed RAL9007 / RAL9006	All steelwork that aligns with the Euston truss is to have a colour RAL 9007. All of the traverse elements are to have RAL 9006.
Strengthening measures to the metalwork	Roof A	S355 Steel	To match the proposed RAL9007 / RAL9006	The trusses of the retained section of Roof A will be strengthened and, where required, repaired. The protective coating systems to the proposed, in addition to the existing steel and iron elements, are to follow Network Rail standards NR/L3/CIV/039 and NR/L3/CIV/140/172, 173. All steelwork that aligns with the Euston truss is to have a finish coat colour RAL9007, whilst all of the traverse elements are to have a RAL 9006 finish coat colour.
Soffit	Roof A	150X25mm square edge tongue and groove (T&G) timber boarding	Off white - RAL9010	Protective coating systems to the proposed and the existing timber elements to follow Network Rail standard NR/L3/CIV/140/174. The soffit of Roof A will be timber boarding running in parallel to the tracks in reference to the original cladding.

Item	Location	Proposal	Colour	Additional Requirements
				Indicative image of material included in Insert 1 in Appendix A. Sample to be arranged to be shared with the Conservation Officer, if required.
Exterior covering: cladding - slate	Roof A	Natural slates Lead flashing to cover seam	Natural slate grey	Natural grey slate to match existing roof slates. Lead flashing will be installed below the louvre to cover the seam of the overlapping roof slates to be laid.
Exterior covering: cladding - standing seam	Roof A – underneath maintenance access walkway and stairs	Metal (aluminium) standing seam roofing	Anthracite grey to match proposed RAL 7016	Metal standing seam roofing to be 50mm deep. Standing seam used to minimise intrusions into the Euston truss roof. See Appendix B for Datasheet providing detailed specification.
Soffit	Lantern	Aluminium insulating sandwich panels	Off White RAL 9010	The soffit for the lantern will be slatted with closed joints which will be a modern interpretation of the original boarding. The underside of the panel will be coloured the same as the Roof A soffit with the grooves of the cladding panel running in the same line as the Roof A soffit. Indicative image of material included in Insert 2 in Appendix A. Sample to be arranged to be shared with the Conservation Officer, if required.

Item	Location	Proposal	Colour	Additional Requirements
Louvres	Lantern	Powder coated aluminium cladding	Anthracite grey to match proposed RAL 7016	
Exterior covering: cladding	Lantern	Aluminium insulating sandwich panels with standing seam finish	Anthracite grey RAL 7016	Steel lantern structure to be clad using a standing seam roof on the top of the lantern. Kingspan quadcore roof liner at 100mm core thickness.
Gable ends: cladding	Roof A / Lantern	Roofing edges and junction systems to be powder coated aluminium verge flashing	Blue RAL 5026	Powder coated aluminium verge flashing to be 3mm thick.
Glazing	Roof A	6mm solid Georgian wired effect polycarbonate glazing system	Glazing Frame / bars to be anthracite grey RAL 7016	Sloping patent glazing systems comprising 6mm solid Georgian wired effect polycarbonate glazing sheet with integral, extruded aluminium glazing bars. Indicative image of material included in Insert 3 in Appendix A.
Maintenance Access: working platform and walkway systems	Roof A Exterior	Kee Walk aluminium walkway, steps, ladders and guardrails. Nylon grip treads on steps.	Anthracite grey RAL 7016, where possible	A stepover walkway will be installed on a strip of standing seam (see above, Exterior covering: cladding - standing seam). Access to be formed of walkway, steps and ladders, with guardrails in specific locations.

Item	Location	Proposal	Colour	Additional Requirements
Penistone Line Canopy				
Columns: cladding	Penistone Line Canopy	Polyester Powder Coating (PPC) aluminium metal casing	Blue RAL 5026	Columns installed using bolts into conical voids into installed foundations. The new canopy structure will be fixed to the existing structural canopy edge with a combination of welding and steel and fixed with steel cover plates.
Soffit	Penistone Line Canopy	150X25mm square edge T&G timber boarding	Off white RAL 9010	Protective coating systems to proposed to follow Network Rail Standard NR/L3/CIV/140/174.
Exterior covering: cladding	Penistone Line Canopy	Bauder bitumen waterproofing system for flat roof.	Dark charcoal grey	Exterior covering of canopy roof to be coloured to match existing.
Dagger boarding	Penistone Line Canopy	Timber trim boards	Blue RAL 5026	Existing to be updated to current standards and to be repainted to blue RAL 5026.
Rainwater goods	Penistone Line Canopy	PPC aluminium guttering and pipes	Blue RAL 5026	As the Penistone line historically had its own individual identity within the station, the colour scheme will reflect this distinction using darker tones of grey and blue.

5. CONCLUSION

5.1 Summary

- 5.1.1 As stated, this document is submitted in order to discharge Condition 2 of the granted Listed Building Consent for works to Huddersfield Station (LBC Ref: 2021/91328).
- 5.1.2 The works will be implemented with the materials used as agreed via this documentation. As detailed above in paragraph 3.1.5, any unforeseen circumstances leading to changes in the materials used will be communicated to Kirklees Council and changes in materials agreed accordingly.
- 5.1.3 Sample(s) of two of the materials will be made available by Network Rail to be shared with Kirklees Council, if required. These comprise:
- Soffit of Roof A; and
 - Soffit of the lantern to Roof A.
- 5.1.4 Sharing of the samples, photographs and detailed specifications, as well as any further agreement on the approach will be arranged and confirmed via the regular TRU Heritage Working Group.

5.2 Next Steps

- 5.2.1 It is anticipated that the information contained within this document will be sufficient to at least partially discharge Condition 2 of the granted Listed Building Consent for works to Huddersfield Station (LBC Ref: 2021/91328), in relation to those elements of the Station covered, namely Roof A and the Penistone Line canopy.
- 5.2.2 Network Rail will submit further Material Schedule documents to accompany future phases of the Huddersfield Station Conservation Implementation Management Plan (CIMP) (as outlined in Section 2).

APPENDIX A – INDICATIVE IMAGES OF MATERIALS

Insert 1 - Roof A Soffit: Example of 150x25mm timber square edge tongue and groove boarding, paint colour RAL 9010 off-white.



Insert 2 - Lantern soffit: Example of aluminium insulating sandwich panels, paint colour RAL 9010 off-white.



Insert 3 - Roof A Glazing: Example of Georgian Wired Polycarbonate Rooflight Glazing (Twinfix, Lewes Station roof).

APPENDIX B – DETAILED SPECIFICATION OF MATERIALS

Specification – Exterior covering: cladding, Roof A standing seam

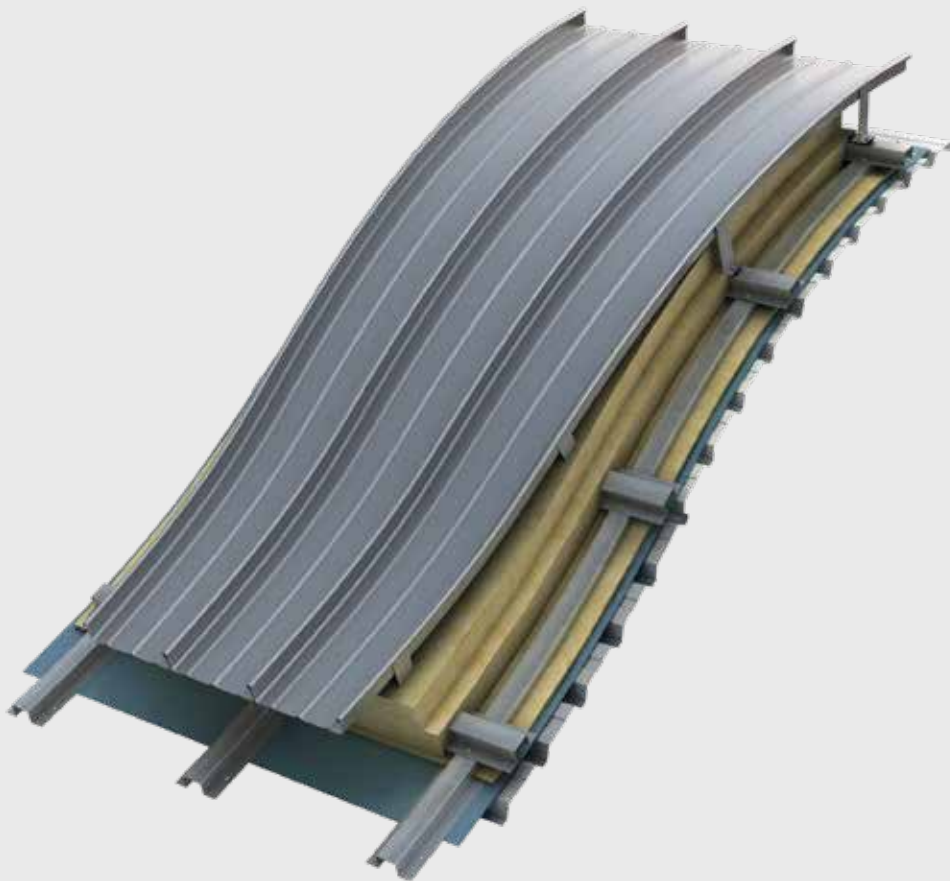
Datasheet provided below for standing seam to be used on Roof A, underneath maintenance access walkway.

Insulated Panels
Standing Seam Systems

Protected by



KingZip Linea Standing Seam System Product Data Sheet

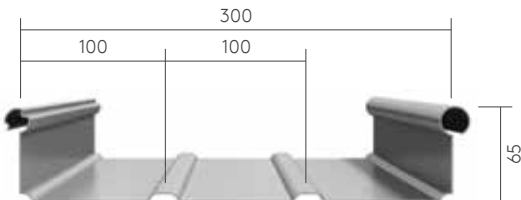


Technical Data

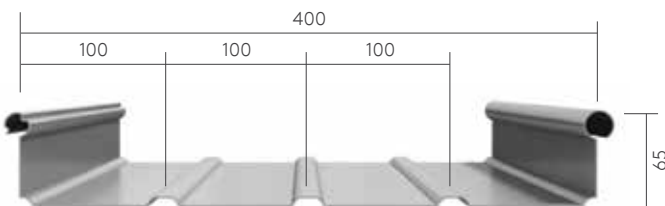
KingZip Linea Standing Seam System

KingZip Linea enables you to realise building envelope designs with total flexibility, creating technically perfect angular, convex, concave and tapered architectural forms.

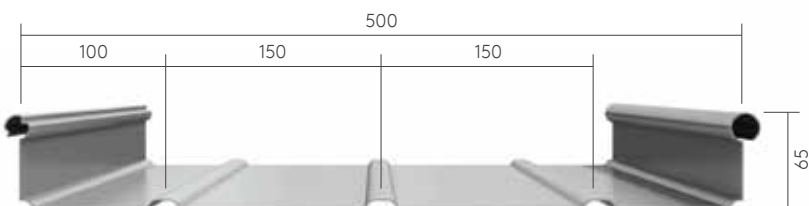
KingZip Linea 300



KingZip Linea 400



KingZip Linea 500



All dimensions are in mm.



Materials: Steel and Aluminium

Product Dimensions

Nominal thickness (mm):	0.80, 0.90, 1.00, 1.20 (aluminium) / 0.70, 0.90 (steel)
Profile depth (mm):	65
Sheet length (m):	1.5 to 15 (factory rolled – due to transport limitation) 1.5 to 150 (site rolled)
Sheet width (mm):	300, 400 & 500

KingZip Linea Typical Weights

Cover Width	Steel Thickness (mm)				Aluminium Thickness (mm)							
	0.7		0.9		0.8		0.9		1.0		1.2	
	kg/m ²	kg/lm	kg/m ²	kg/lm	kg/m ²	kg/lm	kg/m ²	kg/lm	kg/m ²	kg/lm	kg/m ²	kg/lm
300	8.71	2.61	11.20	3.36	3.47	1.04	3.90	1.17	4.34	1.30	5.20	1.56
400	10.54	4.21	13.55	5.42	3.15	1.26	3.54	1.42	3.94	1.57	4.72	1.89
500	12.37	6.18	15.90	7.95	2.96	1.48	3.33	1.66	3.70	1.85	4.43	2.22

Tolerances

Cover width: +/- 2 mm

Edge squareness: 1 % of sheet cover width

Up to 10 m long: +10 mm / -5 mm

Over 10 m long: +10 mm +(1 mm per metre length over 10 m) / -5 mm

Application

KingZip Linea is designed for use in all roofing applications where the installed roof pitch is 1.5° or greater.

KingZip Linea can also be used as a vertically laid wall cladding solution.

Finishes

The external weather sheets are available in a variety of finishes including; plain stucco embossed finish, stainless steel, Kingspan PVDF, Kingspan Spectrum, Kingspan Polyester, Kingspan Anodised and Kingspan ARS.

The internal liner sheet will generally be a smooth or stucco embossed finish with a polyester coating.

More information on finishes and coatings is available on our website.

Technical Data

KingZip Linea Standing Seam System

Materials: Steel and Aluminium

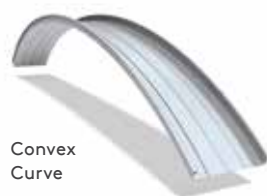
Curving KingZip Linea

KingZip profiles are available in various curved options to suit the required application. The profile can be concave, convex or wave shaped incorporating both curves in one sheet. The sheets will self curve to a certain degree, otherwise they can be mechanically smooth or crimp curved as detailed below. When straight sheets are sprung down to match the curve, the halter brackets need to be set out by approximately an extra 5 mm of the cover width of the sheet, dependant on the radius. This relieves the stress from the pan by allowing the upstands to open out.

Convex Curve	Gauge (mm)	Recommended Support Spacing (m)	Radius (m)
Site sprung curved sheets	0.9 aluminium	1.5	40.0 / 45.0
	1.2 aluminium	1.6	55.0 / 60.0
	0.7 steel	1.6	55.0 / 60.0
Smooth rolled curved sheets	0.9 aluminium	1.5	5.0
	1.2 aluminium	2.0	5.0
	0.7 steel	1.6	12.0
Factory crimp curved sheets	0.9 aluminium	1.5	750 mm
	1.2 aluminium	1.6	750 mm
	0.7 steel	1.6	750 mm

Concave Curve	Gauge (mm)	Recommended Support Spacing (m)	Radius (m)
Site sprung curved sheets	0.9 aluminium	1.6	50.0
	1.2 aluminium	1.6	60.0
	0.7 steel	1.8	90.0
Smooth rolled curved sheets	0.9 aluminium	1.5	8.0
	1.2 aluminium	1.6	8.0
	0.7 steel	1.6	10.0

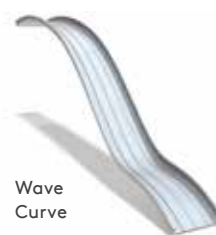
For other metals and radii outside the above parameters consult our Technical Department.



Convex Curve



Concave Curve



Wave Curve

KingZip Sheet Length and Corresponding Radius to Meet Transportation Criteria

Radius (m)	Maximum Sheet Length for Transport (m)	Radius (m)	Maximum Sheet Length for Transport (m)	Radius (m)	Maximum Sheet Length for Transport (m)	Radius (m)	Maximum Sheet Length for Transport (m)
6.0	10.0	16.0	16.0	26.0	20.5	36.0	24.0
6.5	10.5	16.5	16.5	26.5	20.5	36.5	24.0
7.0	10.7	17.0	16.7	27.0	20.5	37.0	24.5
7.5	11.0	17.5	17.0	27.5	21.0	37.5	24.5
8.0	11.5	18.0	17.2	28.0	21.0	38.0	24.5
8.5	11.7	18.5	17.5	28.5	21.5	39.0	25.0
9.0	12.0	19.0	17.5	29.0	21.5	39.5	25.0
9.5	12.5	19.5	17.7	29.5	21.5	40.0	25.0
10.0	12.7	20.0	18.0	30.0	22.0	40.5	25.5
10.5	13.0	20.5	18.2	30.5	22.0	41.0	25.5
11.0	13.5	21.0	18.5	31.0	22.0	41.5	25.5
11.5	13.7	21.5	18.7	31.5	22.5	42.0	26.0
12.0	14.0	22.0	19.0	32.0	22.0	42.5	26.0
12.5	14.2	22.5	19.2	32.5	22.5	43.0	26.0
13.0	14.5	23.0	19.2	33.0	23.0	43.5	26.5
13.5	14.7	23.5	19.5	33.5	23.0	44.0	26.5
14.0	15.2	24.0	19.7	34.0	23.5	44.5	26.5
14.5	15.5	24.5	20.0	34.5	23.5	45.0	26.5
15.0	15.7	25.0	20.0	35.0	23.5	45.5 to 51.5	27.0
15.5	16.0	25.5	20.2	35.5	24.0		

Above table is indicative only. Contact your local Kingspan Customer Service for advice on transportation conditions and limitations

Materials: Steel and Aluminium

Tapering

KingZip tapered sheets provide the flexibility to design more complex geometries e.g. curved on plan or dome structures.

Tapered sheets have the same curve radii as Kingzip Linea sheets and can be fully integrated to Kingzip Linea applications.

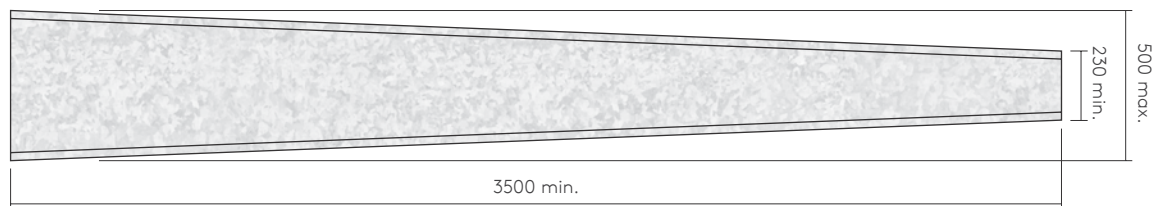
Minimum length: 3.5 m

Maximum sheet length: 15 m (limited by transport vehicle dimensions)

On-site manufacture up to 150 m

Minimum taper width: 230 mm

Maximum taper width: 500 mm



The standard KingZip sheet can be fabricated to achieve a taper to form a radial roof on plan. The sheet is rolled as normal to the required length and the pan is then marked out with two inclined lines.

The surplus triangular material is cut out and the remaining upstand and pan pieces of the sheet are tacked together and eventually fully welded to create the tapered KingZip ready for installation.

When matching painted surfaces, aluminium tapered sheets are powder-coated after fabrication and the customer must be made aware that a shade variation may occur as the post-applied colour may not match the pre-coated coil used to roll the KingZip.



Technical Data

KingZip Linea Standing Seam System

Materials: Steel and Aluminium

Applicable Roof Pitch

Due to the true standing seam concept of the KingZip system the following pitches may be maintained:

Continuous sheet ridge to eaves	1.5°
Welded end lap joint	1.5°
Welded roof penetrations	1.5°
Laid in rooflights ridge to eaves	1.5°
Rooflights lapped onto KingZip	>4.0°
End lap joints with sealants and fixings	3.0°

Note: Roof pitches must be achieved after consideration of loadings and deflection. Ensure gutter straps and edge flashing details at the eaves do not reduce the above roof pitches to avoid ponding of water at the sheet edge.

End Laps

Where sheets are required to be end lapped then the sheets will need to be notched as shown below. For a pitch greater than 3° the overlap joint must be fixed with end lap rivets (6604/6/3W) and sealed with end lap sealant (TAPE/BM/06).

For a more secure overlap and any pitch below 3°, site welding will ensure that there are no penetrations of the external weathering skin. Please refer to page 202 for detail drawing.



Drumming

The impact of rain or hail on a roof will always produce a noise. This sound energy (vibration) is then transmitted through the roof construction to the inside of the building.

BS5427:2016+A1:2017 states that this noise can be reduced by the introduction of a flexible insulation layer directly under the outer sheets. The insulated KingZip system deadens such sounds with absorption by virtue of the soft insulation being compressed to the underside of the roof sheet.

Lightning Protection

A close liaison should be ensured between the architect, the builder, the lightning protection system engineer and the appropriate authorities throughout the design stages to meet or exceed the requirements of BS EN/IEC 62305.

Modern buildings use metal extensively in their structure and there is considerable benefit in utilising such metal parts to maximise the number of parallel conducting paths. The KingZip roof systems combined with the steel frame of the building can be used to provide a principal lightning protection system.

Standards

KingZip Linea is produced to the highest quality manufacturing standard including BS EN ISO 9001: 2008. The product is designed to meet detailed project expectations and has therefore been manufactured to precise standards and tolerances.

Materials: Steel and Aluminium

Load Span Tables

KingZip 300

	Span (m)	1.00	1.20	1.40	1.60	1.80	2.00	2.20	2.40	2.60	2.80	3.00
0.9 mm Aluminium	Upward (kN/m ²)	6.56	5.51	4.98	4.05	3.29	2.81	2.22	1.99	1.63	1.46	1.31
	Downward (kN/m ²)	6.89	5.63	4.87	4.38	3.77	3.13	2.55	1.86	1.59	1.26	1.11
1.0 mm Aluminium	Upward (kN/m ²)	8.48	7.04	6.1	5.28	4.21	3.51	2.81	2.49	2.03	1.89	1.75
	Downward (kN/m ²)	6.79	5.59	4.9	4.3	3.6	3	2.89	2.22	1.75	1.35	1.22
1.2 mm Aluminium	Upward (kN/m ²)	10.5	8.51	7.21	6.31	5.49	4.56	3.98	3.3	2.79	2.38	2.19
	Downward (kN/m ²)	6.81	5.59	4.95	4.3	3.71	3.12	2.99	2.65	2.02	1.65	1.45

KingZip 400

	Span (m)	1.00	1.20	1.40	1.60	1.80	2.00	2.20	2.40	2.60	2.80	3.00
0.9 mm Aluminium	Upward (kN/m ²)	5.22	4.3	3.52	3.39	2.69	2.16	1.88	1.71	1.38	1.22	1.15
	Downward (kN/m ²)	5.31	4.35	3.78	3.21	2.89	2.58	2.22	1.65	1.29	1.01	0.89
1.0 mm Aluminium	Upward (kN/m ²)	6.89	5.78	4.83	5.78	5.02	4.33	3.89	3.21	2.77	2.48	2.31
	Downward (kN/m ²)	5.31	4.35	3.78	3.22	2.87	2.61	2.39	1.79	1.32	1.21	1.01
1.2 mm Aluminium	Upward (kN/m ²)	8.02	6.71	5.77	5.09	4.39	3.89	3.19	2.75	2.42	1.99	1.82
	Downward (kN/m ²)	5.31	4.35	3.78	3.22	2.87	2.62	2.39	1.91	1.76	1.45	1.28

KingZip 500

	Span (m)	1.00	1.20	1.40	1.60	1.80	2.00	2.20	2.40	2.60	2.80	3.00
0.9 mm Aluminium	Upward (kN/m ²)	3.99	3.21	2.75	2.45	2.11	1.76	1.55	1.21	1.18	1.04	0.85
	Downward (kN/m ²)	4.12	3.42	2.99	2.52	2.29	2.01	1.71	1.32	1.01	0.85	0.65
1.0 mm Aluminium	Upward (kN/m ²)	5.01	4.11	3.65	3.09	2.75	2.38	1.99	1.62	1.51	1.31	1.19
	Downward (kN/m ²)	4.12	3.43	2.98	2.53	2.31	2.01	1.95	1.45	1.32	1.02	0.85
1.2 mm Aluminium	Upward (kN/m ²)	5.99	5.01	4.21	3.66	3.39	2.98	2.65	2.19	1.81	1.62	1.49
	Downward (kN/m ²)	4.14	3.44	2.99	2.55	2.32	2.15	1.75	1.66	1.45	1.2	0.99

All loads are characteristic working loads in kN/m² based on 4 or more spans.

Download figures based on a deflection limit of span / 200.

Wind uplift figures based on a deflection limit of span / 90.

Loadings take account of KingZip sheet pulling out of the halter bracket under wind uplift using the formula:

$P \text{ (max)} = 1.15 \times C \times L \times W$

C = cover width of sheet (m)

L = spacing of the brackets along the sheet (m)

W = wind uplift loading (kN/m²)

Safe load on bracket (P) = 2.80 kN (0.7 mm steel / 0.9 mm aluminium sheet)

Safe load on bracket (P) = 3.10 kN (1.2 mm aluminium sheet)

Contact Details

Middle East, Africa, Turkey & Central Asia

Kingspan Insulated Panels
Manufacturing LLC | PO Box 60493
Dubai Investment Park Gate 1
Dubai | UAE

T: +971 4 8854232
E: info@kingspanpanels.ae
www.kingspanpanels.ae

UK & Europe

Kingspan Limited
Greenfield Business Park 2
Bagillt Road | Holywell
CH8 7GJ | UK

T: +44 (0) 1352 716 100
E: kingzip@kingspan.com
www.kingspanpanels.co.uk

Americas

Morin Corporation
685 Middle Street | Bristol
CT 06010 | U.S.A.

T: +1 (860) 584-0900
E: kingzip@kingspan.com
www.kingspanpanels.com

South East Asia

Kingspan Insulated Panels Pty Limited
1 Commonwealth Lane #07-26
Singapore 149544

T: +65 6264 5942
E: infosea@kingspan.com
www.kingspanpanels.sg

India

Kingspan Jindal Pvt. Ltd.
Old Manesar Road | Narsinghpur
Gurgaon - 122001 | Haryana | India

T: +91 124 4393 200
E: sales@kingspanjindal.com
www.kingspanjindal.com

Australia

Kingspan Insulated Panels Australia
38-52 Dunheved Circuit
St Marys | NSW 2760 | Australia

T: +61 (02) 8889 3000
E: info@kingspanpanels.com.au
www.kingspanpanels.com.au

For the product offering in other markets please contact your local sales representative or visit www.kingspanpanels.com

Care has been taken to ensure that the contents of this publication are accurate, but Kingspan Limited and its subsidiary companies do not accept responsibility for errors or for information that is found to be misleading. Suggestions for, or description of, the end use or application of products or methods of working are for information only and Kingspan Limited and its subsidiaries accept no liability in respect thereof.



Network Rail
Waterloo General Office
London
SE1 8SW

www.networkrail.co.uk