

Protected by



KingZip SF Standing Seam Product Data Sheet

KingZip SF
Standing Seam


Kingspan®

Product Data

Description

KingZip SF is an exterior metal sheet within Kingspan's Standing Seam Systems, designed for applications in insulated and non-insulated roofs, walls, and ceilings. This innovative component provides a seamless, integrated architectural solution for building envelopes, particularly suited to intricate designs and three-dimensional geometries.

There are two types of KingZip SF application formats:

KingZip SF Linea: This is used to create building envelope designs with complete flexibility and functionality in 2D shaped sheets. The sheets can be straight, tapered, concave, convex, or a combination of both curves to suit the architectural building shapes.

KingZip SF Infiniti: This is used to create extraordinary 3D geometric building designs with complex shapes and forms to develop sophisticated angular envelopes that are artistic and creative.

Applications

The sheets are versatile and can be utilised in various building applications as an external façade element. They are specifically designed for roof and wall applications.

For roof applications: the sheets are installed with a slope from the apex to the eave, ensuring a weather-tight solution that effectively protects the building.

For wall applications: the sheets can be arranged in a free-form layout. This flexible approach not only guarantees functional advantages but also yields aesthetically captivating façade solutions.

For guidance on weather-tightness based on project specific requirements and environmental conditions, please contact Kingspan Tech-eXchange.

Profiles

The KingZip SF profile has a depth of 65mm.

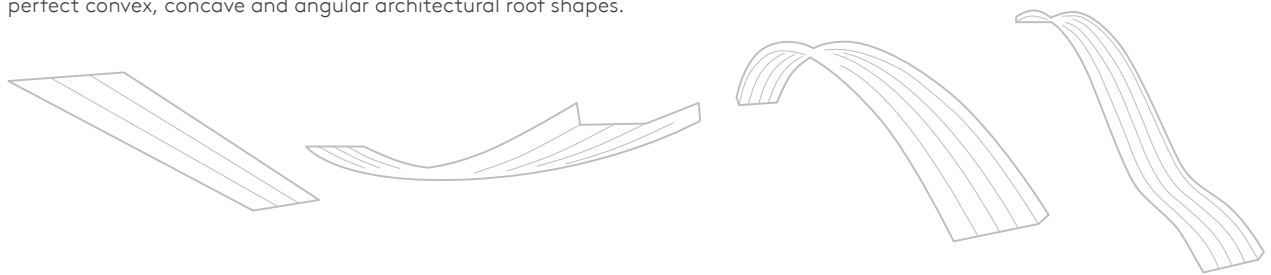
KingZip SF Linea sheet is available in a 2D design as a standard geometry and variety of widths to meet the needs of the specific applications.

KingZip SF Infiniti sheet is a unique freeform 3D design, representing complex geometry, and is used to create exceptional buildings with different shapes and forms.

These sheets are designed using advanced 3D software and manufactured using Kingspan's state-of-the-art 3D roll-forming machine.

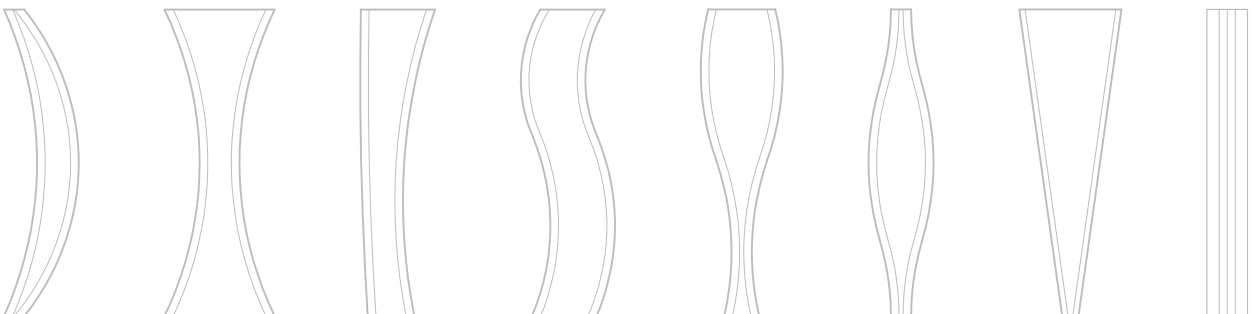
KingZip SF Linea

KingZip SF Linea gives you full flexibility to create functional and technically perfect convex, concave and angular architectural roof shapes.



KingZip SF Infiniti

KingZip SF Infiniti offers virtually unlimited design capability to develop sophisticated envelopes that are artistic and creative.



Applicable Roof Pitch

The KingZip SF sheets are suitable for installation on roofs with various pitches. The following pitch requirements should be considered:

Continuous Sheet - Ridge to Eave	≥ 1.5°
Welded End Lap Joint	≥ 1.5°
Welded Roof Penetrations	≥ 1.5°
Laid in Rooflights - Ridge to Eave	≥ 1.5°
Rooflights Lapped onto KingZip SF	> 4.0°
End Lap Joints with Sealants and Fixings	> 4.0°

Notes:

Roof pitches should be determined after consideration of loadings and deflection.

Correct installation of gutters is essential to achieve the required roof slope and prevent water ponding at the eave side of the sheets.

Please contact Kingspan Tech-eXchange for lower pitch applications.

Available Lengths

KingZip SF Linea Sheet

- Factory rolled length range: 1.5 m to 15.0 m.
- On-site rolled length range: 1.5 m to 150.0 m.

KingZip SF Infiniti Sheet

- Factory rolled length range: 3 m to 15.0 m.
- On-site rolled length range: 3 m to liftable lengths.

Notes:

The infinity and liftable length are determined by the on-site roll requirement.

The minimum length can be adjusted depending on the project conditions.

Factory roll-forming is subject to the project requirements and transportation limitations.

Please contact Kingspan Tech-eXchange for non-standard sheet lengths for your project.

Cover Widths

KingZip SF Linea

- Standard width: 300 mm, 400 mm and 500 mm.
- Taper width: 230 mm to 500 mm.

KingZip SF Infiniti

- For non-curved sheets: 130 mm to 1000 mm.
- For curved sheets: 195 mm to 1000 mm.

Please contact Kingspan Tech-eXchange for compatible liner sheets.

Fixing Detail

Secret-fixed.

The fixing method is concealed and the sheets are mechanically seamed on site using a zipping machine that is compatible with the KingZip SF.

Joint Details

KingZip SF is designed as a continuous sheet without any joints. However, in cases where panel joints cannot be avoided, the sheets can be welded or sealed with overlap depending on the slope.

Please contact Kingspan Tech-eXchange for specific joint details.

End Laps

It is recommended that sheets requiring an end lap should be notched to ensure a strong and secure connection.

For a pitch greater than 4°, an overlap can be fixed with closed-end rivets and sealed with sealant.

For a more secure overlap and any pitch below 4°, site welding will ensure that the sheets are compositely lapped together to act the same as one full sheet.

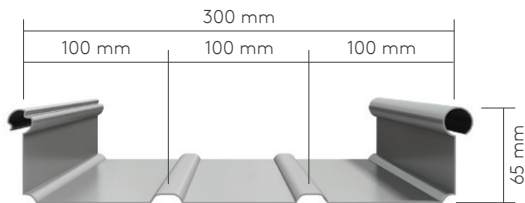
Dimensions & Weight

Cover Width (mm)	KingZip SF Linea				KingZip SF Infiniti
	Aluminium Thickness (mm)				
	0.80	0.90	1.00	1.20	
	kg/m ²	kg/m ²	kg/m ²	kg/m ²	
300	3.47	3.90	4.34	5.20	Varies to cover widths
400	3.15	3.54	3.94	4.72	
500	2.96	3.33	3.70	4.43	

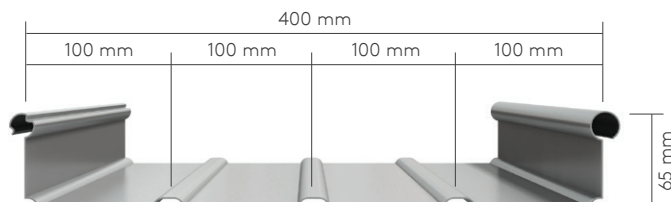
Please contact Kingspan Tech-eXchange for dimensions and weight for other material types.

Product Data

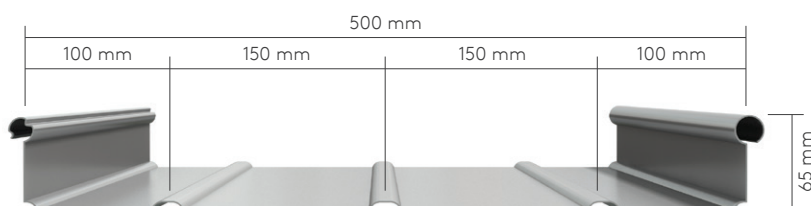
KingZip SF Linea 300



KingZip SF Linea 400



KingZip SF Linea 500



Materials

Metal Type

The KingZip SF Linea and KingZip SF Infiniti sheets have a diverse range of metal types to choose from. The available options include:

- Aluminium.
- Steel or Stainless Steel.
- Copper.
- Zinc.
- Titanium Zinc.
- Brass.

Metal Thickness Range

- Steel: 0.50 mm to 0.80 mm thickness.
- Aluminium: 0.80 mm to 1.20 mm thickness.

Tolerances for Steel Thickness

- In accordance with EN 10143 or ASTM A924 / A924M-13.

Tolerances for Aluminium Thickness

- In accordance with BS EN 485 / BS EN 508 or ASTM B209M.

Please contact Kingspan Tech-eXchange for other metal thicknesses.

Substrate

The KingZip SF Linea and KingZip SF Infiniti sheets are available in different options:

- Plain Mill Finish.
- Painted / Coated Finish.
- Stucco Embossed Finish.
- Anodized.

Coatings & Finishes

KingZip SF Linea and Infiniti boast an array of finishes, encompassing:

- Polyester.
- ARS (Abrasion Resistant System).
- PVDF (Polyvinylidene Difluoride).
- PVDF Multi-Layered Systems.
- Others.

Our extensive palette of external color choices complements these finishes, offering a diverse range that caters to a wide variety of aesthetic preferences.

Coating Durability

The durability of a metal coating can be impacted by various factors such as geographic location, local environment, color selection, and coating type. These factors can affect the lifespan of the coating.

Please contact Kingspan Tech-eXchange to provide guidance on the best finish options and most suitable coating based on project specific requirements and the environmental conditions.

Colours

A diverse array of external color choices is at your disposal, featuring a broad spectrum of finishes such as metallic, matte, and solid.

Please contact Kingspan Tech-eXchange for guidance on selecting colors for your project.

Certification, Testing & Approvals

Fire Resitance

KingZip SF Linea and Infiniti systems achieve a Class 0 rating as defined in various national building regulation.

These systems are classed as 'non-combustible'. This is applicable for all KingZip SF standing seam systems with the below exceptions:

- 1 Aluminium liner or deck.
- 2 Perforated liners or deck (any metal type).

Please contact Kingspan Tech-eXchange for further details of the required build-up to achieve the above statement.

Reaction to Fire

KingZip SF as an integrated part of Kingspan Standing Seam System has achieved 'Class A' Classification when tested as per ASTM E108, 'Standard Test Methods for Fire Tests of Roof Coverings' at a roof slope of not greater than 5:12.

Please contact Kingspan Tech-eXchange for further details of the required build-up to achieve the above statement.

Insurer Approvals

Please contact Kingspan Tech-eXchange for the FM approvals.

EU Declaration of Conformity

The substantial fleet of mobile roll-forming machines and smooth curvers used for manufacturing KingZip SF sheets are equipped with a CE marking that complies with the following harmonized standards.

These standards fulfill the essential safety requirements established by the EU as required:

- ISO 12100: 2012.
- BS EN 60204-1: 2018.
- BS EN 15094: 2008.
- ISO 18569: 2004.
- ISO 3864-2: 2016.

Please contact Kingspan Tech-eXchange to receive the latest certificate.

Underwriters Laboratories Certificate (UL)

The KingZip SF Linea 400 sheet has been confirmed to comply with the following UL (Underwriters Laboratories) standards after investigations on its wind uplift resistance in metal roof deck panels and its fire resistance in metal roofing systems:

- UL 580 - Tests for Uplift Resistance of Roof Assemblies.
- UL 790 - Test Methods for Fire Tests of Roof Coverings.
- UL 1897 - Uplift Tests for Roof Covering Systems.

Please contact Kingspan Tech-eXchange to receive the latest certificate.

Material Test Certificates (MTC)

A quality assurance document can be issued for coils, extrusions, paints and accessories suppliers to confirm that the chemical and mechanical composition of them meet the specific requirements of a particular project.

Please contact Kingspan Tech-eXchange for more details.

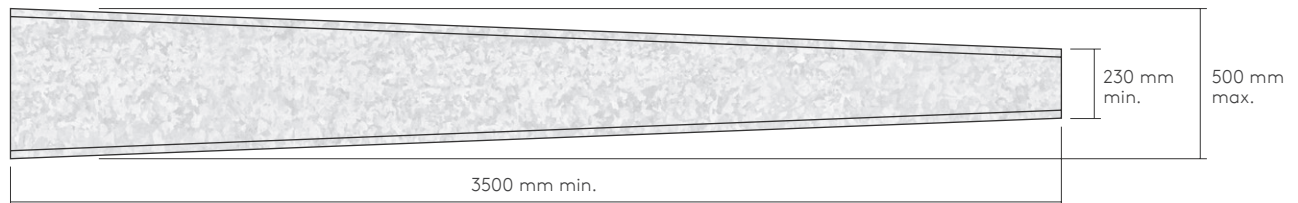
Environmental & Sustainability Credentials

Life Cycle Assessment study (LCA) and Environmental Product Declaration Certificate (EPD) for KingZip SF are currently undergoing development.

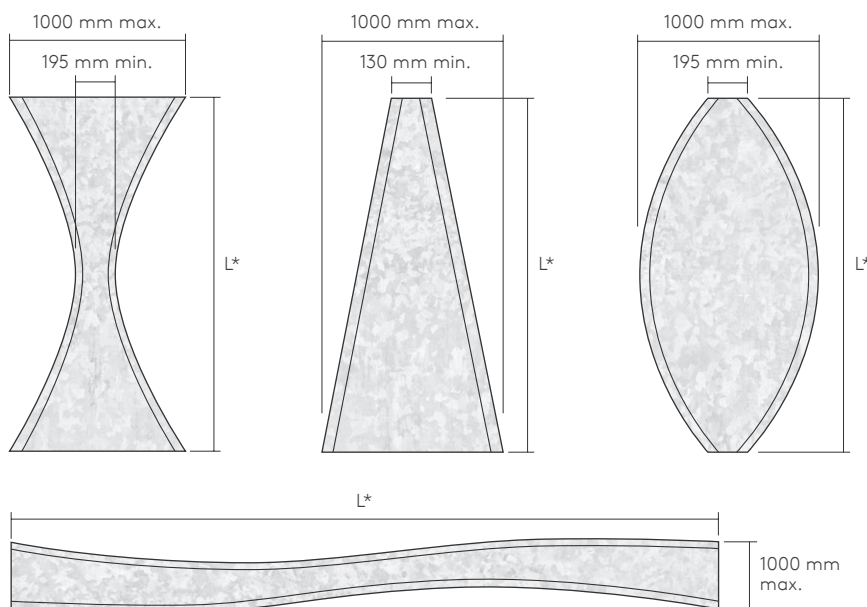
Kingspan maintains its dedication to environmental sustainability, with a commitment to being free from CFC, HCFC, HFC, and Halogenated Fire Retardants. The company is certified for the Environmental Management System ISO 14001.

Product Data

KingZip SF Tapered Dimensions



KingZip SF Infiniti Tapering and Curving Dimensions



Notes:

KingZip SF Infiniti non-curved sheet widths are min. 130 mm to max. 1000 mm.

Curved sheet widths are min. 195 mm to max. 1000 mm.

*For the length dimension (L), and non-curved sheet dimensions, please contact Kingspan Tech-eXchange.

Production Method

The KingZip SF Linea and Infiniti sheets can be manufactured either in Kingspan's factory or utilising mobile roll-formers that can be deployed and operated globally, subject to site restrictions.

With a substantial fleet of mobile roll-formers, we are able to offer cost-effective and advanced complete standing seam solutions while keeping logistical expenses to a minimum. This approach also enables creative architectural designs with full creative freedom.

On-site Roll-forming

The benefits of on-site production are particularly advantageous when incorporating continuous sheet lengths, extending up to infinity, as required for projects.

Curving

KingZip SF Linea and Infiniti sheets provide a range of options for curving operations, including:

- Natural-curving to certain radii.
- Smoothing or crimping curving.
- Concave, convex, or a combination of both curves, to accommodate various architectural building shapes.

The sheets are capable of self-curving to a certain degree, or they can be mechanically smoothed or crimped, as required.

The **KingZip SF** sheets are suitable for curved applications, with a minimum convex curve of 2 m and a minimum concave curve of 6 m.

Please contact Kingspan Tech-eXchange for guidance on curving machines.

Tapering Method

The KingZip SF Linea and Infiniti sheets can be tapered to create a radial roof on a plan. To achieve this, the sheet is first rolled to the required length, then inclined lines are marked on the pan.

The excess triangular material is then cut out, and the remaining upstand and pan pieces of the sheet are welded together to form a tapered KingZip SF ready for installation.

Tapered sheets offer the design flexibility to create planar round shapes. For domed shape structures, they must be combined with Linea and Infiniti sheets with the same curvature radii.

KingZip SF Linea sheets require a minimum tapering of 230 mm to 500 mm.

KingZip SF Infiniti sheets require a minimum tapering of 195 mm to 1000 mm.

Structural Performance

Please contact Kingspan Tech-eXchange for project specific structural requirements.

Load / Span Tables

Detailed static calculations are prepared based on the specific loadings of each project.

Please contact Kingspan Tech-eXchange for more details.

Wind Uplift

The interlocking methodology of the KingZip SF sheets are designed to provide resistance to wind uplift. This can be strengthened by “Zipping” the side laps together to create a secret fixed system.

The halters are used to firmly secure the sheets to the substrate, ensuring maximum stability and strength.

Product Tolerances

Cover Width	+0 mm / -3 mm
Edge Squareness	0.5% of nominal cover width
Length (≤ 3 m)	+10 mm / -5 mm
Length (> 3 m)	+20 mm / -5 mm

All product tolerances are in compliance with BS EN 508-1 and BS EN 508-2.

Warranty

Kingspan offers product coating warranties tailored to each specific project, taking into account the environmental conditions of the project’s geographical location and the build-up system.

These warranties are contingent upon adherence to a maintenance regimen.

Please contact Kingspan Tech-eXchange for further information.

Halters

Kingspan Halters have been engineered to permit unrestricted movement of the KingZip SF sheets during thermal cycling, effectively accommodating the utilisation of KingZip SF Infiniti sheet lengths.

KingZip SF Linea and Infiniti sheets are affixed to the supporting sub-structure through a range of halter heights. Thermal pads are preinstalled on to KingZip aluminium halters.

Please contact Kingspan Tech-eXchange for other types of halters.

Product Data

System Build-Up

Kingspan Standing Seam Systems have a wide range of build-up options to help shape buildings of the future and bring design visions to life.

The systems include:

- **KingZip SF Linea Standing Seam for 2D designs (standard geometry).**
- **KingZip SF Infiniti Standing Seam for 3D designs (complex geometry).**

It consists of various layers, including profiled liners, structural decks, spacers, insulation, vapour control layers, and related accessories.

Integrated Solutions

Kingspan provides a wide variety of optional integrated solutions that can be installed along with KingZip SF Standing Seam Systems.

These solutions include secondary facades, energy-efficient systems, smoke vents and natural ventilation, daylighting solutions, louvre and access hatches.

Please contact Kingspan Tech-eXchange for more information on KingZip SF integrated solutions.

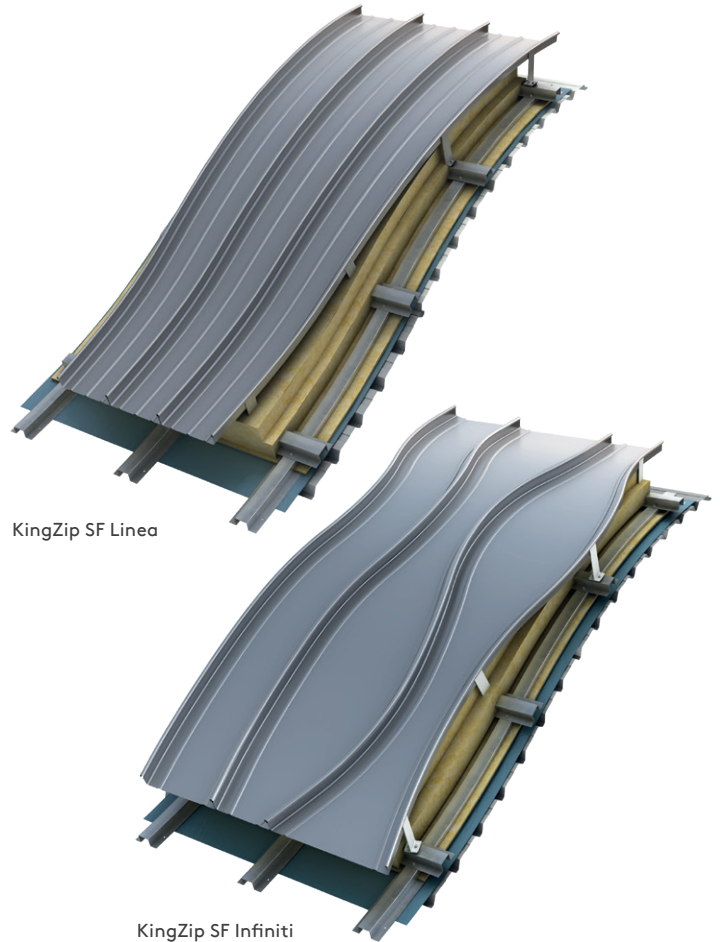
Safety Solutions

Kingspan provides a range of safety solutions that can be installed directly on the KingZip SF profile without the need for any penetrations. These include:

- **KingZip SF Serrated Walkways:** Made of galvanized steel or aluminium, these walkways have a serrated surface that provides excellent slip resistance.
- **KingZip SF Expand Mesh Walkways:** Made of galvanized steel or aluminium, these walkways feature an expanded mesh design that offers superior slip resistance while allowing for light transmission and ventilation.
- **Fall Arrest System:** This system is designed to prevent falls from height and includes a range of components such as anchor points, lanyards and harnesses that connect to a worker's safety harness.

These products provide a safe and convenient solution for accessing roofs and other high areas while ensuring worker safety.

Please contact Kingspan Tech-eXchange for more information on KingZip SF safety solutions.



Health & Safety

Kingspan adheres to the requirements of the Occupational Health and Safety Certification ISO 45001: 2018.

For comprehensive safety instructions and full details regarding the safe use of our products prior to application, please contact Kingspan Tech-eXchange.

Packing

Factory Rolled

Upon delivery from the factory, KingZip SF sheets are packaged in bundles that can weigh approximately 3 tonnes. Packs up to 10 metres in length can be conveniently unloaded with a forklift, while cranes are necessary for longer packs.

Crucially, when using cranes to lift the packs, it is imperative to employ nylon slings instead of chains. In addition, it is important to ensure that the pack does not extend more than 4 metres beyond the last sling. Maintaining a maximum distance of 6 metres between slings is essential, and for extended packs, the use of spreader beams becomes vital.

On-site Packing

For on-site packing, please contact Kingspan Tech-eXchange for more information on containerised roll-former machines.

Note: Customers must promptly remove the protective film and other delivery packaging right after installation, making sure it's done within a maximum of two months from the production date.

Transport

Delivery

All deliveries are conducted via road transport and directed to the project site, unless explicitly specified otherwise.

For KingZip SF Infiniti Sheet:

These sheets can be produced either within Kingspan's advanced factory or by utilising mobile roll-formers, which can be deployed and operated globally, subject to site restrictions.

This flexibility facilitates the realisation of your design aspirations, encompassing aesthetics, specifications, performance, and construction needs.

Note: Exported products are subject to additional costs.

Sea Freight

Depending on the type of container used, two methods are available to secure KingZip SF sheets during transit:

- **For Open Top Container shipments**, wooden battens are utilised.
- **For Closed Container shipments**, the sheets are loaded manually.

Please contact Kingspan Tech-eXchange for more information, if required.

Unloading at Site

The goods can be delivered in two forms:

- Factory roll-formed sheets.
- Coil forms.

The recipient on site bears the responsibility for unloading the goods. It is critical that the goods are not dropped or roughly handled during their removal from the vehicle. In addition, they should not be stacked on uneven surfaces.

When unloading, it is imperative to exercise care and attention to protect the goods from damage and to ensure the safety of on-site personnel.

Manual unloading of goods is not recommended. Equipment such as a forklift or crane with a spreader beam should be employed to prevent exerting pressure on the goods, which can result in delamination, damage to joints, and ripples on the surfaces. Prioritising safety during unloading is crucial.

Site Storage

Proper storage of sheets or coils is essential. They should be placed on a clean and level surface within a covered area, with a maximum of two bundles stacked on top of each other. Prolonged storage in non-covered areas is not recommended. In cases where storage in a non-covered area is unavoidable, it's imperative to position the sheets on a gently inclined surface to avoid water buildup.

When storing sheets in a non-covered area, it's mandatory to protect them with a waterproof covering that allows for adequate air circulation underneath. Maintaining distance from potential fire hazards and falling objects is crucial to prevent any potential damage.

Handling

To ensure safety and prevent damages to KingZip SF sheets during unloading and movement, it is highly recommended to use mechanical handling equipment instead of manual handling.

Upon receipt of the goods on site, the recipient is requested to carefully inspect the sheet stacks prior to unloading. If there are visible damages on the panels caused before handling and unloading, it is important to immediately report them to the Kingspan QA/QC team for investigation. At this stage, the panels should not be moved or unloaded from their location until Kingspan completes its investigation of the reported damages.

Taking these precautions can help ensure that the KingZip SF sheets are handled and unloaded safely and with minimal damage. It is important to prioritize safety and proper handling procedures to ensure the best possible outcome for your project.

Site Installation Procedure

Please contact Kingspan Tech-eXchange for site assembly instructions and construction details.

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

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