

Kalzip AluPlusZinc®

Zinc patinated aluminium profiled sheets



The new look for Kalzip® Perfectly matched for a perfect finish

front page: New plant Stile Bertone
Caprie (I)
Architect: Flavio Pacchioni



Aesthetics and performance in perfect harmony

Kalzip AluPlusZinc® is a technically advanced product based on the Kalzip® aluminium standing seam roofing system – a market leader right around the world. Now, Kalzip AluPlusZinc® offers a matt zinc-patinated finish with all the recognised performance benefits of traditional Kalzip® – and then, a little extra! Unbeatable resistance in the face of the most aggressive

environments together with a capacity to develop new depths and shades of patina as time goes by. The aesthetic appeal of zinc patina opens the way for a whole new area of applications for Kalzip® – being especially suited for subtle integration with existing buildings of more traditional construction. In addition, the smooth surface with typical zinc color variations of the profile makes it ideal for wall cladding and for use on smaller, residential projects.

Whatever the application, Kalzip AluPlusZinc® offers a highly durable and highly attractive long term cladding solution:

- Buildings for transport
- Public buildings
- Commercial buildings
- Stadia, exhibition halls, sports and leisure centres
- Utilities
- Residential establishments
- Retail outlets
- Refurbishment

top: ARCAM **Amsterdam (NL)**
Architect: Rene Van Zuuk
right: Sport athletics hall
Bayer Leverkusen **Leverkusen (D)**
Architect: D. Moors





Aesthetics and performance uniquely combined

Aluminium and zinc are each in wide spread use as cladding materials all around the world. Recognising this, and also the intrinsic benefits each could bring to a cladding material, Corus Bausysteme developed a special and fully patented process (PEGAL) to fuse the metals together – the result – Kalzip AluPlusZinc®.

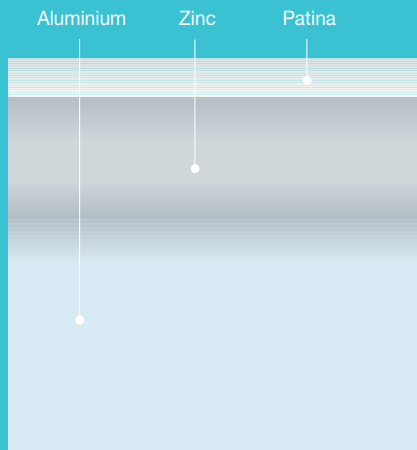
Manufactured to the highest standards, Kalzip AluPlusZinc® is a totally new finish which, with its unique performance characteristics and exceptional looks, is now set bring the world renowned Kalzip® aluminium standing seam roofing system even greater acclaim. And, like all the other Kalzip® profiles and finishes, AluPlusZinc can be curved and tapered to achieve the most extreme geometries of modern architectural design.

Kalzip AluPlusZinc® offers many benefits including:

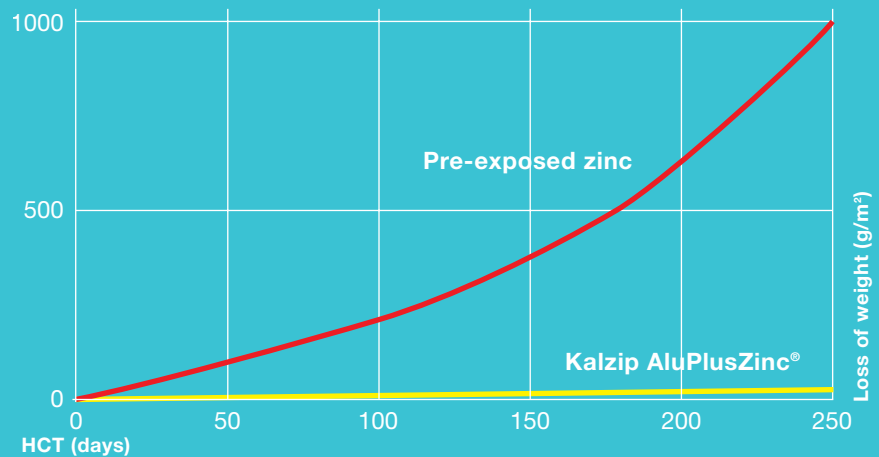
- PEGAL applied zinc patina offers exceptional resistance to the effects of weather and pollution
- High durability provided by the aluminium core
- Totally maintenance free finish which will look good for the lifetime of the structure
- Lightweight yet strong. At just 3.5 kg per square metre, savings on supporting steelwork and materials can be achieved
- Available in sheet lengths of up to 80 metres and beyond
- Typical zinc color variations

Kalzip AluPlusZinc®

A fully tested and proven product



A diagrammatic representation of Kalzip AluPlusZinc® (PEGAL)



HCT-test showing loss of material weight due to corrosion. A comparison between pre-exposed zinc and AluPlusZinc®

Kalzip AluPlusZinc® – highly resistant against corrosion

The patented PEGAL-process produces a durable fusion between aluminium and zinc.

An additional surface treatment creates a stable patina with exceptionally high resistance to the effects of weathering. Indeed, tests in accordance with DIN 5017 KFW (cyclic condensate tests) in

addition to HCT-tests have proven that Kalzip AluPlusZinc® outperforms conventional zinc surfaces in terms of resistance to corrosion (see graph).

Furthermore, the performance characteristics of the base aluminium material – its resistance to the effects of sea water, for instance – are fully retained in AluPlusZinc.

HCT-tests are based on the measurement of a microclimate with a high ionic concentration, with underlying relative humidity and temperature that is comparable to the prevailing conditions simulated in the field of structural engineering. The weathering characteristics of AluPlusZinc have been confirmed by prolonged and controlled exposure of samples in urban, heavy industrial and maritime conditions.



facing page: New plant Stile Bertone
Caprie (I)
Architect: Flavio Pacchioni
left: **Zinc, pre-exposed to weathering**
(macro-shot HCT-test 250 days)
right: **Kalzip AluPlusZinc®, produced by the PEGAL-process**
(macro-shot HCT-test 250 days)

A well-proven system

Ease of assembly and efficient installation

During the past 35 years, the Kalzip® system has not only been continuously developed as a product but methods of fabrication, delivery and installation have also been refined to optimise quality and performance whilst at the same time minimising on-site work.

Corus Bausysteme has also worked closely and consistently with project partners to establish best working practices which will contribute to a dramatic reduction of the overall construction time without compromising either safety or performance.

For instance, early installation of structural steel liners can make the building weathertight at an early stage thereby allowing following trades to make progress with interior works.



left: **Kalzip® profiled sheets**
– lightweight and quick to install
right: **Kalzip® zipping machine**

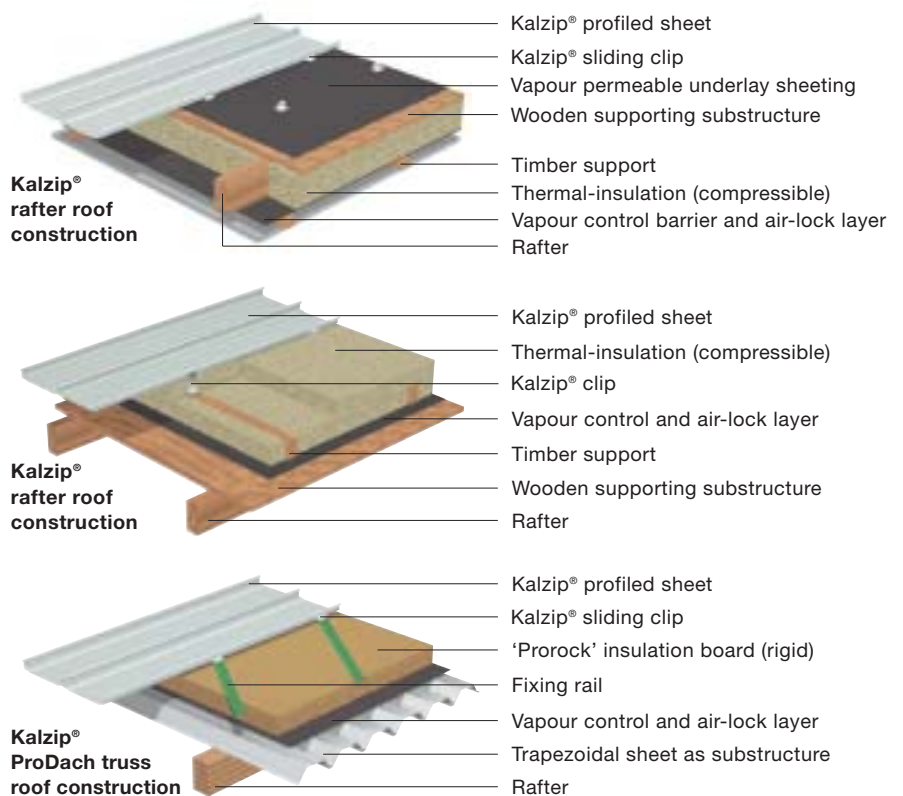
Factory prefabrication includes pre-curling and tapering of sheets to the exact dimensions required. And, where particularly complex geometries are involved, scale models or even full-size prototypes of design details will be constructed to test the buildability of the design and then to provide project specific training for installers ahead of going to site.

Fabrication of long sheet lengths on-site by roll-forming at either ground, eaves or roof level now dramatically speeds installation and overcomes problems of delivery and access. This on-site capability also means that spans of 120 metres or more can be achieved with no end laps.

Lightweight and yet strong, Kalzip® allows for the creation of wide span roofs without the need for obstructive internal supporting pillars, saving both space and substantial cost.

Technical support and training

- Corus Bausysteme provides advanced technical support for specifiers and contractors alike – design details, advanced performance requirements – wind loading, spanability, thermal, acoustic, etc.
- Purpose-built schools provide training for installers and also offer courses for architects, engineers, consultants and clients.



Kalzip® – high performance cladding solutions for the total building envelope

The ultimate in design flexibility

- Suitable for ventilated or non-ventilated roofs and can be specified to suit any kind of supporting structure. Minimum pitch requirement: 1.5 degrees.
- All-embracing architectural design capability – from industrial, commercial, public sector through to private residential developments.
- Patinated surface has ‘a life of its own’ – acquiring new shades and effects with exposure to atmospheric conditions.
- Sheets are light but intrinsically strong – eminently suitable for longer spans and for the refurbishment of old roof structures.
- Long sheet lengths – up to 80 metres and more when roll-formed on-site – giving longer spans with no end laps thereby enhancing both looks and performance.
- Flexible and easy to curve – facilitating the creation of exciting design features.

Specification alternatives to meet all requirements

- Where enhanced thermal performance is required, the standard specification and system build-up can be easily modified to achieve the desired U values.
- Similarly, the introduction of special perforated steel liners and slab insulation will combine to achieve outstanding acoustic absorption/ insulation.

Durable and cost-effective

- The alloy used for the manufacture of the base profile is corrosion resistant and, even without the zinc patina, it has a proven outstanding serviceable life – even in the most aggressive environments.
- This corrosion resistance further enhanced by the PEGAL process allows Kalzip AluPlusZinc® to offer an unrivalled performance life.

- Unaffected by UV rays and does not foster the growth of micro-organisms.
- High proportion of pre-fabricated components gives rapid installation leading to reduce in project lead times and costs.

Long term structural integrity

- Fixing is by means of patented clips fastened to the substructure and onto which the standing seams are secured. The clips allow for safe linear movement of the sheets as thermal expansion occurs.
- The ‘zip’ technology which crimps the seams is totally non-penetrative – no holes/no leaks. And, whilst being weather-tight, the zipped seam still ‘breathes’ – allowing any interstitial condensation that does occur to evaporate safely away.
- Positive and negative loads are safely absorbed.
- Advanced design details exist for roof openings, joints and interfaces with other building systems and components.
- Inflammable
- Performs an effective function as a lightning conductor.

Sustainable and environmentally friendly

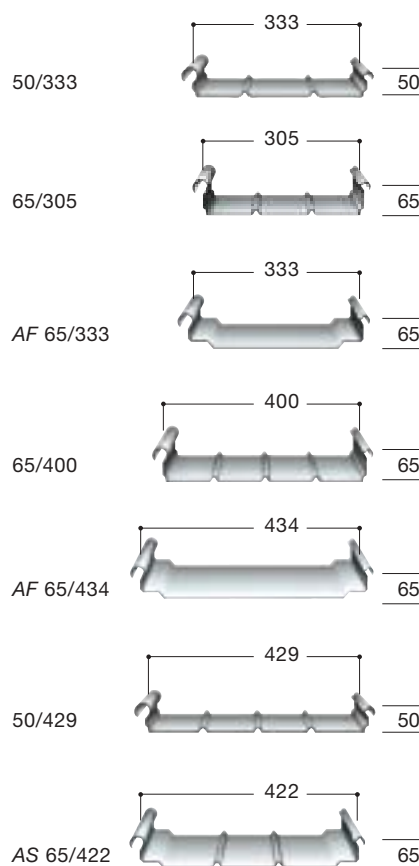
- Aluminium is world’s third most common element.
- Most of the primary processing of aluminium uses energy from renewable sources.
- Up to 95% of the energy used in primary production is offset by the volume of metal now recycled (and, the recycling process only uses 5% of the energy required for primary processing).
- Aluminium can be recycled again and again without any loss of its original properties.
- Kalzip® profiled sheets can be easily unzipped and used again at the end of a building’s life.

- An insulated Kalzip® roof offers high thermal performance and makes a substantial contribution to the balancing of a building’s carbon dioxide budget (less heating/less air conditioning).

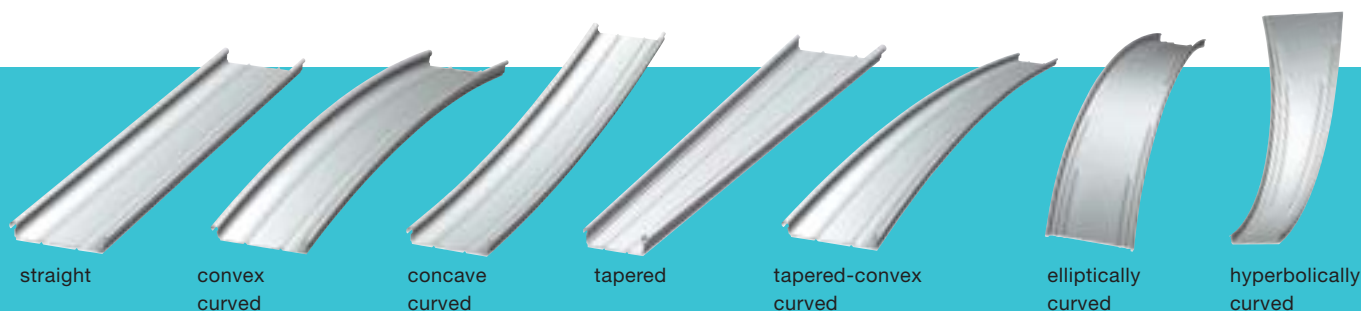
Kalzip AluPlusZinc® sheets are supplied with a protective polythene foil on the patinated surface. They are available as standard in the following dimension:

Dimensions:

(in 0.8mm and 1.0 mm available)



Available shapes



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www.roofway.com

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