



ROOFING

System Solutions for Roofs

SYSTEM OVERVIEW

Foreword

If the best material curtails creativity, what good is it? If the best idea cannot be realized, what good is it? Materials that foster creativity and lend form to ideas are required for individual solutions, as are consulting services that take technical perfection, structural physics and aesthetics into consideration.

RHEINZINK offers all of the above. Not only does the name stand for unique creative material to clad roofs and façades, but also for exemplary service to implement your ideas – regardless of the size of your project – big or small. We offer solutions that are as unique as your project. A comprehensive range of RHEINZINK roofing, façade, and solar system products, along with diverse installation techniques, make it easy to find a perfect solution for every design.

RHEINZINK is extremely malleable; it is compatible with every architectural environment and its aesthetic is timeless. Furthermore, requirements for sustainable building using natural material are met without difficulty. RHEINZINK is absolutely maintenance and service free. Its lifetime comprises several generations and that, in and of itself, sets standards; its ecological balance is exemplary.

The examples in this brochure illustrate the design potential of RHEINZINK, along with various options available to you by using this ecological material.

Datteln, March 2010





Schwielowsee Resort, Werder, Germany



„Il sogno di Ivana“, Turin, Italy



Česká pojišťovna Pankrác – Administrative Building, Prague, Czech Republic

RHEINZINK-Double Standing Seam

The double standing seam is a further development of the original hollow folded joint or single standing seam. This reliable system has been referenced in technical literature since 1899 and is the top choice for roof pitches from 3° to 25°. Here, the name “double standing seam” characterises one of the conventional types of longitudinal joints above the water level. A fine-lined seam height of 25 mm is rainproof without any additional measures. The double standing seam, manufactured with pre-profiled panels, has gained international recognition. Seams are folded and closed manually or with a seaming machine. Custom shapes such as convex and concave curves and conical panels are produced without difficulty. Thanks to a multitude of detail variations, the double standing seam emphasizes both traditional and modern architectural design.

- Individual shapes are possible
- High degree of design freedom
- Roof-integrated solar solutions
- Environmentally declared product

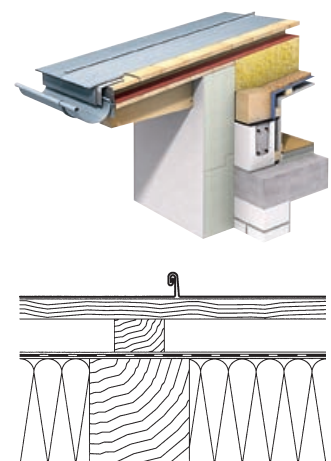


Fig. Cover page: Dorothy House Hospice, Bradford on Avon, United Kingdom
Fig. Left: Schwielowsee Resort, Werder, Germany



Private Residence, Stavoren, Netherlands



*Private Residence Montaña del Socorro,
Tafira Baja, Spain*

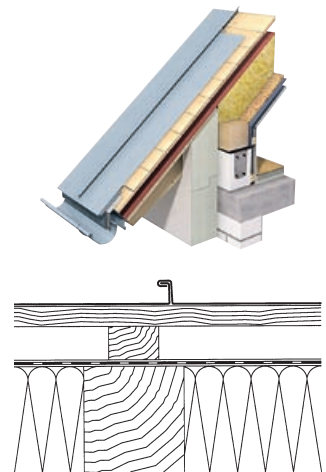


*Private Residence Möllmann, Bielefeld,
Germany*

RHEINZINK-Angled Standing Seam

Within conventional sheet metal techniques, the angled standing seam is a relatively new development; it has only been referenced in technical literature since the beginning of the 20th Century. Closing the seam of a pre-profiled panel is very easy compared with the double standing seam. The angled standing seam is completed simply by folding in one leg. It is particularly suitable for visible design areas on metal roofs where the pitch is greater than 25°, as well as for rounded parapets, attics or mansard roofs – in a conventional vertical, diagonal or horizontal application. As the angled standing seam looks wider than the double standing seam, it lends a vibrant, distinctive structure to large surface projects.

- Design through distinct lines
- Roof-integrated solar solutions
- Cost-efficient for virtually every building style
- Little or no service or maintenance





Hôtel du Louvre, Paris, France



Hala Sazka, Prague, Czech Republic

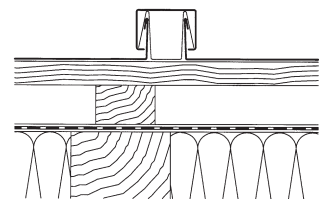
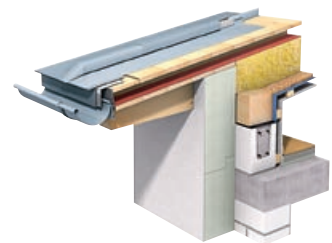


University of Fine Arts, Dresden, Germany

RHEINZINK-Click Roll Cap

The roll cap system with battens is one of the more traditional of today's prevailing sheet metal work techniques. The name "Click Roll Cap System" stands for a type of longitudinal joint, whereby the RHEINZINK-Click Roll Cap Fastener, made of galvanized steel, is used as a fastener between the panels. Both fastening alternatives are covered with a roll cap. Efficient system installation is telling. Pre-fabricated adjustable profiles support the design quality and sophisticated look. The dominant longitudinal joints typical of the click roll cap system create a strong structural effect; the interplay of light and shadow is striking and charming. This lends itself to interesting design possibilities for both roofs and large curtain walls. An even greater wealth of variations exists when the roll cap system is combined with double standing seam techniques.

- **Simple planning and installation**
- **Few tools are required as a result of pre-fabrication**
- **Panel lengths of up to 20 m are possible**
- **Roof-integrated solar solutions**





Private Residence, Heilbronn, Germany



Administrative Building, GEWOBAU, Essen, Germany

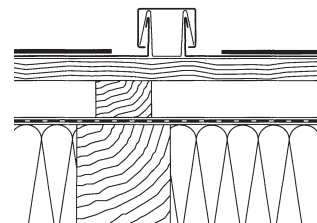
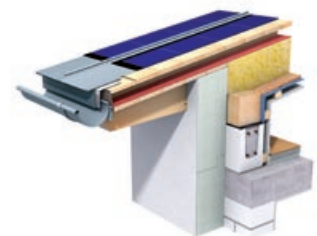


"Solar PV Click Roll Cap System" model

RHEINZINK - "Solar PV Standing Seam" and "Click Roll Cap System"

As a result of public solar incentive programs, roof-integrated photovoltaic technology provides an option to finance a permanent and maintenance-free RHEINZINK standing seam roof. This architecturally interesting solution of generating solar energy enables building owners to install a roofing and solar system in one step. The standing seam system constitutes a light-weight system for roofing renovations as well – not only with respect to the roof, but also because of the thin-film photovoltaic solution it utilizes. This thin-film technology has the additional benefit of producing very efficient solar energy when the sun is shining brightly or when the light is more diffused. This product is the culmination of decades of experience in manufacturing maintenance-free roofs, combined with the option of producing renewable energy.

- **Roof-integrated energy production**
- **Multi-functional roof**
- **Durable and maintenance-free**
- **Adapted for proven roofing technology**





Private Residence, Bievres, France



Private Residence, Wetzlar, Germany

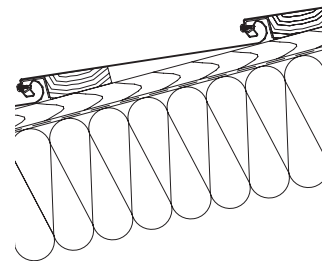
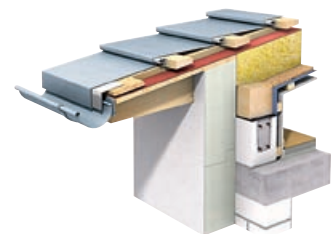


Mortuary, Stainz, Austria

QUICK STEP – The RHEINZINK-Stepped Roof

Architecture is always on the look-out for design variations. With this in mind, RHEINZINK offers a prefabricated installation system, which offers extensive design options that are easy to handle or manage: QUICK STEP – The RHEINZINK-Stepped Roof. A patented technology, this system is completely new and offers a multitude of cladding alternatives to conventional roofing. QUICK STEP is suitable for many roof shapes with inclines from 10° to 75°. Prefabricated plug-in components made of RHEINZINK- "preweathered^{pro}", guarantee smooth and quick installation. The step-shaped structure of the system provides a striking, elegant format for the roof surface; it can be integrated harmoniously into every environment. From an architectural perspective, innovative accessories, such as surface-integrated photovoltaic technology or non-visible solar thermal solutions allow for multi-functional utilization of roof surfaces.

- Simple installation using a modular principle
- Roof-integrated Solar PV- and SolarThermal Solutions
- Two naturally patinating surfaces
- Horizontal roofing segmentation





Energieakademie, Samsø, Denmark



Private Residence – Passivhaus, Coschen, Germany

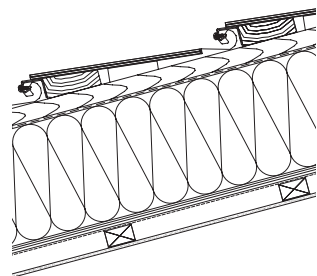
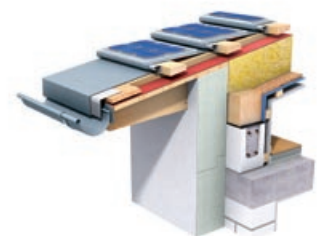


Private Residence – Passivhaus, Coschen, Germany

QUICK STEP - Solar PV

The modular technology and stepped structure of the QUICK STEP-roofing system opens up many design options. With the photovoltaic version of the light-weight and easy to install metal roofing system, solar energy is made usable, as the solar modules required to extract energy ecologically, are integrated into the QUICK STEP roofing panels. Simple installation is another benefit of the solar system. Roofs with pitches between 10° and 75° can be installed in one operation, without any additional fixing. QUICK STEP-Solar PV is a sustainable, roof-integrated photovoltaic solution – aesthetically pleasing roof architecture and ecological energy extraction in one.

- **System engineering for roofs and energy extraction**
- **Roof-integrated solar technology without penetrations**
- **Multi-functional roof utilization**
- **Simple installation using modular technology**





Energieakademie, Samsø, Denmark



Private Residence, Wetzlar, Germany

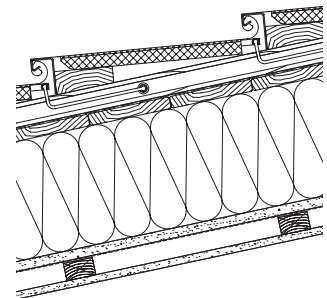
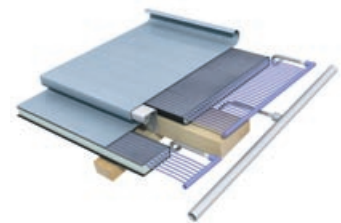


Private Residence, Wels, Austria

QUICK STEP-SolarThermie

With sustainability in mind, roofs today must provide so much more than strictly protection from the weather. RHEINZINK-Metal Roofing Systems offer the option of absorbing energy from the environment and sunlight and furthermore, to make these useable for heating systems. Using RHEINZINK-2Q, an intelligent control system, heat absorbed by the roof is conducted to its end-use via a roof-integrated piping system. The energy produced can be used to heat swimming pools or to pre-heat service water. Efficiency is increased when used in conjunction with geothermal systems. This combined, roof-integrated technology is the perfect system, architecturally speaking. It opens up many design possibilities and meets the requirements of sustainable building.

- Multi-functional roof utilization
- Architecturally interesting solar technology
- Simple installation
- Optimum energy balance of a sustainable roof





Hotel Kempinski, Hohe Tatra, Slovak Republic



Elisabeth Heilbad, Miskolc, Hungary



Kaplan Residence, Illinois, USA

RHEINZINK-Tiles

Tiles are becoming more and more popular for roofing as well. Small RHEINZINK-Tiles (square and diamond-shaped) provide secure and aesthetically pleasing solutions, even for geometrically complicated building designs. Dormer, chimney head and roof edge cladding counts as part of conventional tile utilization. RHEINZINK-Flat-Lock Tiles are most effective for large roof areas and curtain walls. These represent a further development of the diamond-shaped and square tiles; they are impressive, not only because of their aesthetic appeal, but because of the design benefits. Using different sizes of tiles opens up a multitude of façade design possibilities. The bright rolled version provides more design options, because the natural weathering of the shiny material will vary from tile to tile, which can be quite striking.

- Individual tile sizes
- High degree of design freedom
- Three natural, patinating surfaces
- Little or no maintenance or service

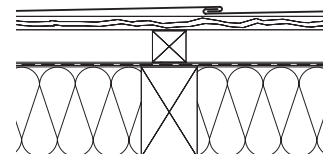
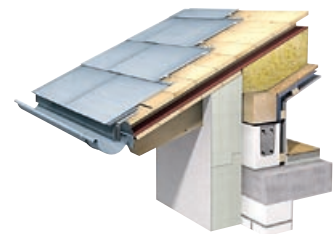
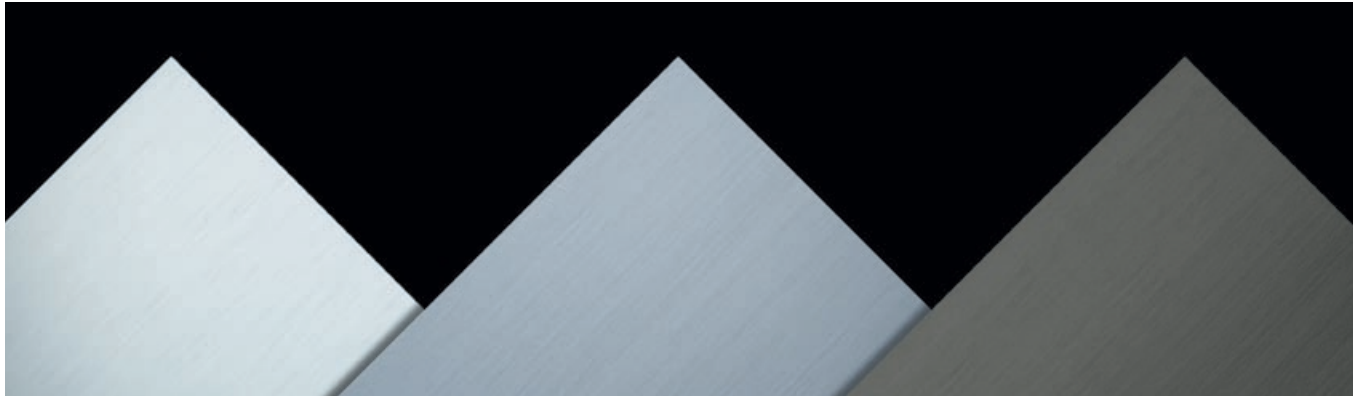


Fig. Right: Domkuppel San Pietro, Gattinara, Italy





RHEINZINK-bright rolled

RHEINZINK-“preweathered^{pro} blue-grey”

RHEINZINK-“preweathered^{pro} graphite-grey”

Three natural surfaces

The ecological Material

Within the realm of sustainable building, the environmental compatibility of building products is becoming increasingly important. This, in turn, influences the decision-making of building owners and planners when selecting materials. Apart from durability, the focus is on the amount of energy used during production, the rate of recycling and the energy savings attained as a result of the high rate of recycling.

Durable and sustainable

Traditionally, environmental compatibility has been extremely important to RHEINZINK. Ecological standards are set during raw material extraction and processing: energy consumption is extremely low.

Modern production equipment reduces emissions to a minimum. RHEINZINK is 100% recyclable; a lifespan of several decades, also sets very high standards. Apart from exemplary ecological properties, the “self-healing” material surface is telling: the protective, aesthetic patina which develops through weathering, naturally evens out any scratches or other smaller damage, thereby guaranteeing maintenance-free lifespan lasting decades. This applies equally to the bright rolled and “preweathered^{pro}” RHEINZINK surfaces. Once the roof, façade cladding or roof drainage system has run its course, RHEINZINK is still very valuable: as the energy expended for recycling is only about 5% of the primary energy content and, because the goal is to get up to 60% of the raw material price for high-purity zinc scrap metal, to

decide for RHEINZINK is to decide in favour of future generations. Thanks to the high rate of recycling – over 95% – a further reduction of energy requirements for primarily material is achieved. In the RHEINZINK manufacturing process, any production scrap is fed back into the smelting process without any additional pre-treatment.

Lasting Values

With a service life lasting several generations, RHEINZINK sets very high standards. The 30-year quality guarantee underscores the longevity of the 100% recyclable material. Now that adds to the security and dependability of the material.



QUALITY ZINC
Certificate



TÜV Certificate DIN EN
ISO 9001:2008 and
ISO 14001:2004



IGEF Certificate



ECO Environmental
Declaration

Please see www.rheinznk.com and www.follow-your-inspiration.com for many other exemplary solutions for working creatively with RHEINZINK. We would also be pleased to send you detailed information on the diverse RHEINZINK-Program!



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