



MODERN METAL ROOFS IN COMPARISON

zambelli
SIMPLY COVERING FUNCTIONS



WITH HEAD AND HEART

No building can be our home if we do not feel comfortable and safe in it. Not only the walls protect us, but above all the roof. It must be tight, but we must be able to breathe. It must be stable, but it must harmoniously adapt to the structure. It must be affordable to reliably protect priceless things.

IMPRINT

Zambelli RIB-ROOF GmbH & Co. KG: Modern metal roofs in comparison
Stephansposching, January 2017

First edition

All rights reserved by Zambelli RIB-ROOF GmbH & Co. KG, Hans-Sachs-Strasse 3 + 5, 94569 Stephansposching
Design & Text: ORLAMÜNDER KOMMUNIKATION, Reisbach
Print production: Ostler Druck und Lettershop GmbH, Passau

Photo credits:

"Day care center Gablingen", Cover photo Rieger Roland
"Shingle roof" P. 8 picture alliance / PhotoAlto / Audras, Eric
"Copper roof Potsdam", p. 9 picture alliance / ZB / Settnik, Bernd
"Roof covering", P. 10 picture alliance / dpa Themendienst / Bachmann, Nestor
"Sealing of roofs", P. 25 picture alliance / dpa Themendienst / Bachmann, Nestor
"Roofer Switzerland", P. 25 picture alliance / KEYSTONE / GAETAN BALLY
"Snow removal", P. 25 picture alliance / dpa / Tschauner, Franz-Peter
"Blue roof", P. 53 Rainer Burkert, G+H ISOLIERUNG GmbH
"Furniture store Kohler", P. 40 www.mehrvomfoto.de / Geiger, Herbert
"Nursery SpielRaum", P. 48 Sturm, Rolf

MODERN METAL ROOFS IN COMPARISON

MARKET OVERVIEW ►



INVESTMENT & COSTS ►



FUNCTIONALITY ►



DESIGN ►

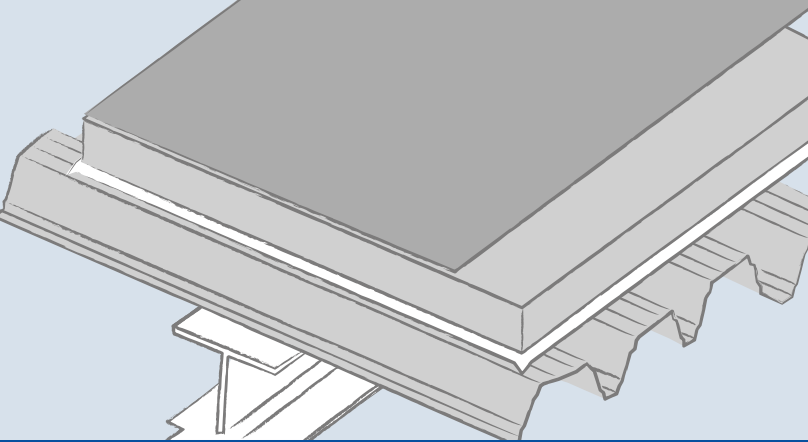






FOCUS ON WHAT IS MOST IMPORTANT

The market for roofing materials is big, so not only builders, but also architects and planners can keep an overview only with difficulty. For this reason, we would like to show you the advantages of a RIB-ROOF metal roofing in comparison with other standard roofing systems. Because the look at details is worthwhile.



SUITABLE FOR FLAT ROOFS



INSULATION POSSIBLE

Foil roofs

The flat roof sealing of the foil roofs is performed with bitumen or plastic tracks, and is available in different qualities on the market. The DIN 18531 roof seals - waterproofing for unused roofs - regulates the design of the flat roof waterproofing since special measures are required for roofs with little or no inclination. Often, the foil roofs are graveled, covered with boards or grassed.

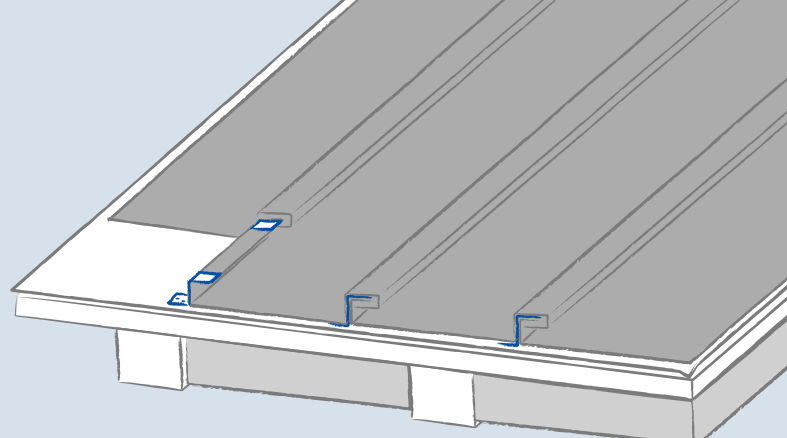




RECYCLABLE MATERIAL



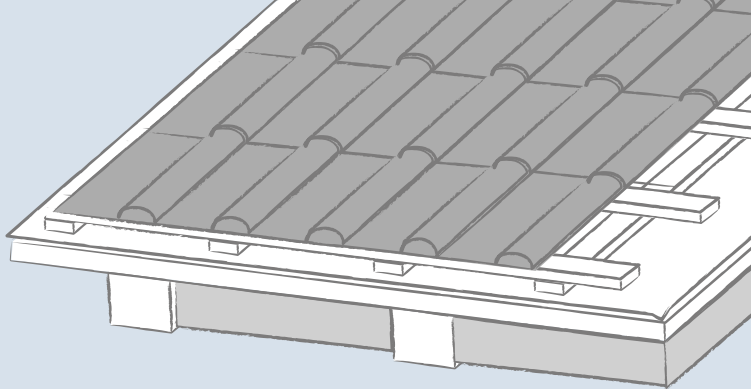
INSULATION POSSIBLE



Angular standing seam roofs



For the implementation of simple roof surfaces, manual produced metal roofs often get carried out with an angular standing seam. The non-self-supporting sheets are usually applied to full-surface substructures and fastened indirectly with adhesives. For larger lengths, transversal joints must be formed. The angular standing seam roofs are made of the materials copper, titanium zinc, aluminum and (stainless) steel.



NATURAL MATERIAL



DIFFUSION-OPEN



INSULATION POSSIBLE

Tiled roofs

For pitched roofs and mostly in residential buildings, roof tiles made of clay or concrete roof tiles are a frequent covering solution to ensure a functioning roofing membrane. For roof tiles, clay is used as a natural material normally without additives (as opposed to concrete roof tiles). Modern production processes ensure uniform colouring, which can be charged.





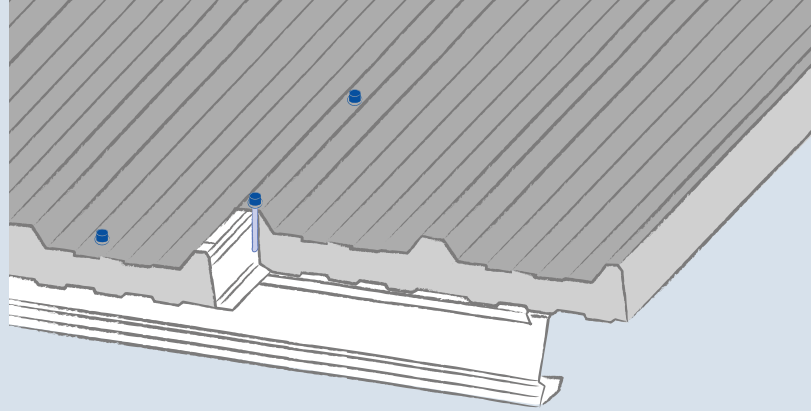
CHEAP ACQUISITION COSTS



LOW WEIGHT



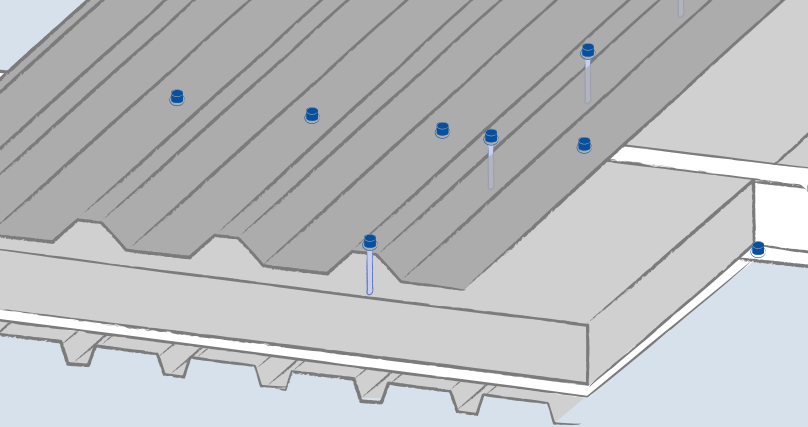
WITH INSULATION



Sandwich elements



The name derives from the multi-layer structure of the elements. As a rule, the elements consist of two layers of galvanized steel or aluminum (often plastic-coated) and an intermediate core made of a heat-insulating material such as polyurethane hard foam or mineral wool. For this reason, sandwich roofs are often also marketed as thermo- or isoroofs. The sandwich elements are also screwed to the substructure with sealing screws penetrating the elements. For longer lengths, transversal joints are necessary.



LIMITED SUITABLE FOR FLAT ROOFS



CHEAP ACQUISITION COSTS



LOW WEIGHT



INSULATION POSSIBLE

Trapezoidal sheet

In industrial and commercial construction, trapezoidal steel profiles are used for a wide variety of roof, ceiling and wall constructions. Compared to tiled roofs the roof pitch can be less, as the profile dissipates the precipitation quickly. In addition, a trapezoidal sheet metal weighs less, which is why the substructure can be constructed in lightweight construction. The industrially prefabricated trapezoidal sheets are bolted to the substructure with sealing screws penetrating the profiles. For larger lengths, transversal joints must be carried out.





SUITABLE FOR FLAT ROOFS



CHEAP ACQUISITION COSTS



DIFFUSION-OPEN



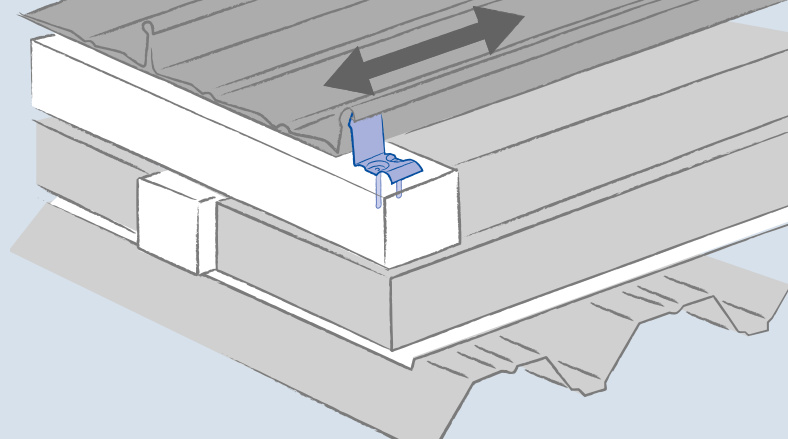
LOW WEIGHT



RECYCLABLE MATERIAL



INSULATION POSSIBLE



RIB-ROOF Metal Roofing Systems



As custom-made pre-formed sliding standing seam, the RIB-ROOF profile strips run from ridge to eave. The concealed support systems of the RIB-ROOF metal roof systems are screwed to the substructure, the slidable profiled sheets are simply swiveled in and clicked into place. Because there are no screws penetrating the roof skin and no transversal joints, there are no weak points, and inclined roofs with minimum inclinations from 1.5 ° can be carried out according to building authority approvals. The accessories are also installed without penetration.





RIB-ROOF IS PAYING OFF

Real estate are investment and commercial property in one. For this reason, builders, regardless of whether the building is intended for own use or renting, always have a critical look at the investment expenditure and the maintenance costs.

RIB-ROOF BRINGS RETURN

Five cash-value benefits

Architecture enhances the quality of your building and, therefore, has a positive effect on the value of your property. Architects like to use metal roofs to create something special. With RIB-ROOF metal roof systems, your roof is variable and permanently functional.

1. *Perfect building optics by precisely adapting the roofing envelope to your building floor plan.*

2. *Passable and technically usable roofs from 1.5 degrees roof pitch.*



3. *High-quality roofing of curved, conical and steep roof surfaces in all building metals.*



4. *Optimal combination possibilities with photovoltaic and solar thermal.*



5. *Long durability, because of no weak points such as transversal joints and screw holes.*





With a metal roof, representative properties can be realized. The exhibition building of "Alber Treppensysteme" is a visitor magnet due to its extraordinary architecture and increases the company's reputation.



Photovoltaics on RIB-ROOF

A RIB-ROOF roof is predestined for the installation of a photovoltaic system. Both the installation of roof-parallel as well as mounted photovoltaic plants is possible with the aid of the system-specific, non-penetrating mountings.





CHEAPLY ACQUIRED, DEARLY PAID?

A punctual valuation based on new building costs does not correspond to the long-term use of a property. More invaluable is an investment calculation over the entire term. Always consider future **maintenance, repair and disposal costs**. Foiled roofs must regularly be maintained and the disposal is problematic. Storm damages on tiled roofs can quickly cost several thousand euros. Leaks are often a complicated problem with trapezoidal roofs.

TOTAL COSTS AT A GLANCE



Simple Roof Drainage:

Metal roofs get along with a suspended roof gutter system. This saves construction costs and simplifies maintenance and repair considerably.



Renovation on an old truss:

Because an aluminum roof is the lightest of all possible roofing sleeves, an existing wooden roofing truss can usually be reused. Visually, the roof paint can be leaned against the old roofing, so that there are usually no problems with regional building regulations.



Low weight of the roof structure:

A metal roof requires only a soft mineral insulation, whereas the foil roof is a heat insulation that is resistant to impact. This means that the cost advantage in the acquisition of the foil roof can quickly fall to zero.



Maintenance-free:

Regular maintenance of the RIB-ROOF metal roof system is not necessary.



Very long lasting:

The "Institut für Bauen und Umwelt e.V." ("German Institute for Construction and Environment") assumes that an aluminum seam roof such as RIB-ROOF can be used for at least 50 years. Premium film manufacturers give a maximum durability guarantee of 20 years.



Bus Terminal in the desert of Ashgabat. Turkmenistan is considered to be the hottest country in Central Asia. The RIB-ROOF roof is exposed to temperatures of more than 40 degrees Celsius in summer.

OPTIMALLY PROTECTED FOR YEARS

No building area has to withstand such high temperature fluctuations as the roof skin. In the summer, the roof temperature can even climb up to 80 °C in our latitudes, while in winter the icy wind cools the roof down to about -20 °C. UV radiation and great temperature changes do not damage a RIB-ROOF roof. You do not need to worry about high repair and follow-up costs. Your investment will give you untroubled pleasure for decades.







**SUN, WIND AND SNOW:
YOU HAVE TO RECKON ON IT!**

UV-radiation and high temperature changes affect a foil roof. The plastic can become brittle, cracks can develop. Water can enter the substructure through barely visible weak points in the seal. The extreme failure “Shattering” is hotly discussed in specialist circles. Therefore regular maintenance of the foil roofs by experts is indispensable.

The RIB-ROOF profiled sheets with a length of up to 33 meters can be delivered to construction site just in time.





Mobile profiling at site:

The production of longer profiled sheets is possible on site by means of our mobile rollforming machines. In the case of large-scale projects, the logistics effort is thus reduced.





Free lightning protection!

A metal roof is a suitable lightning protection in accordance with the applicable lightning protection standard DIN EN 62305-3 as a "natural catching device". Compared to brick or foiled roofs, the building usually does not need any additional lightning conductor.

Excerpt from the environmental product declaration for profiled sheets of aluminum for roof, wall and ceiling constructions IFBS of the German Institute for Construction and Environment, date of issue 14.1.2013

"The useful life depends on the location of the building, the weather influences and the quality of the existing coating. Aluminum profiled sheets have a service life of > 50 years according to life cycle analyzes and depending on the application."







A smiling baby with light brown hair, wearing a pink long-sleeved sweater, stands in front of a large, multi-paned window. The baby is looking towards the camera with a happy expression. The window behind them shows a blurred view of greenery outside. In the top right corner, there is a grey banner with the word 'FUNCTIONALITY' in blue capital letters, and next to it is a circular icon with a thumbs-up gesture.

FUNCTIONALITY



SCHEDULED FOR UNPLANNED

With RIB-ROOF metal roofing systems, you are equipped for today, tomorrow and the day after tomorrow. Assembly technology, product quality and system accessories are perfectly coordinated.

THE TRICK WITH THE CLIP



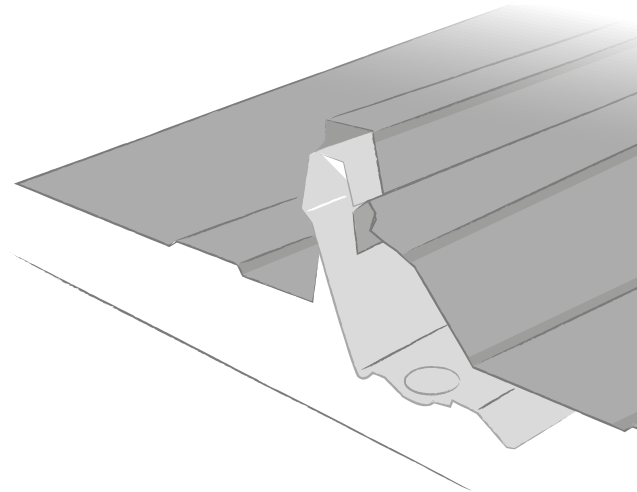


ICH MACH'S EINFACH.

Our corporate philosophy, "Ich mach's einfach," has always been our attitude. We develop superior solutions that make it easy for our customers. Our RIB-ROOF metal roof systems are consistently developed according to this motto. All the disciplines of the roof construction are no problem with our assembly technology.

SIMPLY PERFECT

All RIB-ROOF components are precisely produced industrially and therefore perfectly coordinated. Fixing clips correspond in their geometry to the profiled sheet seam. The clamping mechanism by means of force connection ensures a permanent connection without penetration. In this way, the roof skin can withstand effects of wind suction and temperature-induced material stretching in the long term. Fixing devices for functional accessories such as snow guard elements or solar modules can be attached to the profile rail without piercing the roof cover.



REALLY PRACTICAL

Few steps, few sources of error. Fixing clips and profiled sheets are installed in one work process. The profiled sheets click on the ribs tightly into place, a mechanical profiled sheet connection is not necessary. There are far less tolerances than with other metal roofs, a very precise installation is possible without complex measuring preparations. An economic end result is achieved with a much shorter project time.

In particular projects with large roof areas of more than 1 000 m² place increased demands on the roof skin. Thus, trapezoidal and sandwich elements are often available in limited lengths and therefore have to be stacked together by transverse joints. The larger a roof area, the

greater the temperature-induced expansion movements of the metal. These forces act permanently on the transverse impacts. For this reason, builders must assume that damage to these transversals and repair costs may occur.





STRETCHING INSTEAD OF FORCING

The RIB-ROOF sliding seam connection has many advantages. The profiled sheets are tightly connected, but can expand in a controlled manner at high temperature fluctuations along the profiled sheet seam. The sheets are made in desired lengths, large roof surfaces can be covered without a transversal joint.



The high sliding ability of a RIB-ROOF roof guarantees longevity and functionality. You do not have to worry about the costs of repairing the roof.



ENERGY-EFFICIENT BUILDING

Energy saving has become an important issue not only due to legal regulations. Rather, it is a central need for the majority to ensure that today's lifestyle is not at the expense of future generations.



THE ENERGY SAVING ORDINANCE (ENEV)

Anyone who wants to build a new building in Germany must abide by the Energy Saving Ordinance. With a RIB-ROOF roof you can easily and economically fulfill the EnEV. Since the fixing clips are

thermally separated from the substrate, there are no heat bridges.

Award-winning combination of metal and biomaterials.

The furniture store Kohler only has high-quality natural furniture in the range. Environmental awareness is part of the company's philosophy. When building the new exhibition building, the owner decided to build a RIB-ROOF roof made of AluZinc. As one of the first furniture houses built in passive-house standard in Europe, the Swabian family company received the Energy Management Award 2008 from the trade organization EHI.





SUSTAINABILITY CERTIFICATION OF BUILDINGS

A sound and neutral database is formed by product environmental declarations (so-called EPDs). For RIB-ROOF metal roofing systems, environmental product declarations according to ISO 14025 and EN 15804 have been produced for aluminum and steel profiled sheets by the German Institute for Construction and Environment, as part of the IFBS membership.





**WARM IN WINTER,
COOL IN SUMMER.**

Choose a roof construction with a wooden lathing distance construction, this saves you valuable energy because of the optimized roof insulation.

Optimized sound insulation

In contrast to trapezoidal or angled standing seam roofs, a RIB-ROOF roof has a very good sliding ability of the roofing membranes in the fixing elements, which prevents expansion noises. Increased insulation requirements of up to 55 dB can also be achieved simply and economically thanks to the correct roof construction with RIB-ROOF metal roof systems.





Wide range of accessories

A RIB-ROOF roof can optimally be expanded. In our wide range of accessories, you will generally find approved building components for fall arrest systems, the installation of snow guard and solar systems, tread supports and much more.





INDIVIDUALITY COUNTS

You have your mind of your own? With Zambelli RIB-ROOF metal roofing systems, you can get your way. Our different materials, surfaces and colours open up a thousand possibilities for you to find the right look. Bold or discreet, extravagant or classic: Find your style!!

The feel-good childhouse

The new childcare facility SpielRaum in Landau a.d. Isar stands for a modern education concept. The innovative building architecture reflects the philosophy of allowing creativity and freedom. Inside there are individual movement landscapes which have received the quality seal "especially development-promoting".









Without dazzle effect

The thermal spa in Kaprun is easily visible from the ski slopes and hiking trails of the surrounding mountains. So that the sun's rays are not reflected by the metal roof, the choice of the architect fell on a correspondingly treated aluminum surface.





With RIB-ROOF metal roof systems, you can choose all of the usual building metals. Aluminum and steel can be coated in all colour shades, which allows a variety of design and increases the corrosion resistance even further.



YOUR INSURANCE FOR TROUBLE-FREE BUILDING

Zambelli offers you an extensive range of consulting and services. Through international large-scale projects, our in-house engineers, specialist craftsmen and project managers know exactly what is important. Our specialist departments support builders and planners at every stage of the project, from tendering to the preparation of detailed proposals.





Turning architectural visions into practice, requires not only expertise, but also practical experience. Our RIB-ROOF specialist publishers know exactly what they are doing. They are trained by us and help you to lead your construction projects to success. We are pleased to provide you with a list of RIB-ROOF partners in your area. Contact us!

YOUR BENEFITS SUMMARIZED



VERSATILE ROOF SHAPES
SUITABLE FOR FLAT ROOFS FROM 1,5°
INSTALLATION WITHOUT TRANSVERSAL JOINT
LOW WEIGHT
RAINPROOF, DUE TO PENETRATION-FREE INSTALLATION



DIFFUSION-OPEN
OPTIMAL ROOM CLIMATE
NO STRETCH AND FRICTION
NOISES
INCREASED SOUND
INSULATION POSSIBLE



NATURAL MATERIAL
WITH ENVIRONMENTAL PRODUCT DECLARATION
GOOD RECYCLABLE



LONG LIFE \geq 50 YEARS

PASSABLE AND RELIABLE

HIGHLY WEATHER- AND CORROSION-RESISTANT

SUITABLE LIGHTNING PROTECTION ACCORDING TO DIN EN 62305-3

STORM-SAFE



LOW RUNNING COSTS, BECAUSE MAINTENANCE-FREE

PREDESTINED FOR PV-SYSTEMS AND SOLAR THERMAL ENERGY

LONG SERVICE LIFE AND LOW AMORTISATION PERIOD



SIMPLY COVERING FUNCTIONS

Zambelli
RIB-ROOF GmbH & Co. KG
Hans-Sachs-Strasse 3 + 5
94569 Stephansposching
Germany

Phone +49 99 31 8 95 90 - 0
Fax +49 99 31 8 95 90 - 49
E-mail rib-roof@zambelli.com

ICH MACH'S EINFACH. 