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EINFACH FUNKTIONELL BEDACHT

Zambelli RIB-ROOF GmbH & Co. KG

Technical Specifications

Master Specifications_2021-03 – RIB-ROOF-Assembly

Specifications 00 of 16 July 2024

SPECIFICATIONS STANDARD TEXTS

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SPECIFICATIONS STANDARD TEXTS

- Metal roof covering
- Sheet metal works

ADDITIONAL TECHNICAL COMMENTS

The following guidelines must be observed.
Without requiring any further special mention in the service items, they are part of the complete performance. Any possible additional expenses, that are incurred as a result, shall be included in the unit prices as an ancillary service.

Height indications
The Contractor shall undertake responsibility for setting-out points of the Main Building Contractor

Description
The services described below encompass the roof cladding services with sliding standing seam profiled sheets, roof drainage works and flashing works.

Roof drainage during construction period
For the removal of surface water during construction, emergency pipe bends and drain pipes are to be kept on hand and utilized if necessary by mounting in such a way that they extend over the facade scaffolding.

Fastening elements
The profiled sheets are fastened without penetration using sliding clips, directional clips/profiles or clip border.
Cover sheets, etc. are indirectly fastened with cleats, sliding cleats, continuous cleats, closures, suspended profiles or stopping plates while ensuring an unobstructed linear expansion due to thermal influences.
Quantity and spacing of sliding clips, cleats shall be determined while considering wind suction forces.
According to General System Authorisation approved by building authorities no. Z-14.1-4, connecting elements for joining components in lightweight metal construction, chapter 3.1.1 General, the following applies: "Connecting elements, which are subject either completely or in part to outdoor exposure or similar exposure to moisture, must consist of rust-resistant material."
The guidelines for the implementation of metal roofs, exterior wall cladding and sheet metal works must be observed.

Safeguarding of contractor's services up to acceptance procedure is part of scope of services.

Proof of delivery
The profiled sheets put out to tender are manufactured by
Zambelli RIB-ROOF GmbH & Co. KG
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Tel. +49 9931 89590-0
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(equivalent product based on bidder's details .....)

Equivalence
Equivalent products may be proposed for the invitation to tender. Proof of equivalence must be documented by the contractor in all points required by the Customer and/or the architect. Apart from the technical characteristics of the products, other factors could also be relevant for determining equivalence, especially the desired visual appearance, reliable procurement of spare parts, unified warehousing for building maintenance etc.

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Compliance with the processing guidelines of the manufacturer and/or the General System Authorisation approved by building authorities is part of the services. Reduction in the scope of services or disadvantages, which may arise for the Customer in case of selection of a product without conformity to the processing guidelines, are not accepted. Should the Contractor choose the products different from those specified, the products intended for the implementation must be indicated as individual items in the tender. Should no other product be specified by the Contractor or should the product proposed by the Contactor not be approved as equivalent, the products indicated in the specifications shall be used.

In case of alternative offers, particular attention must be paid to spacer constructions in terms of the thermal insulation height, influence on the U-values of the roof structures, among other things, due to Energy Conservation Regulation (EnEV). Unfavourable thermal conductivity values of fastening and support structures consistently made of metall must be taken into account, the U-value must be proved accordingly and the thickness of the insulation materials must be adjusted, if necessary (see also Test Report "Investigation of the Thermal Bridge Effect of Different Fastenings for Light Metal Roofs via 2D and 3D Numerical Calculations with Evaluation of Possible Differences in Heat Energy Consumption for the Construction Variants under Consideration" of FIW Forschungsinstitut für Wärmeschutz e.V. Munich (Research Institute for Thermal Insulation) as of 17 January 2020.

According to the test report of FIW Forschungsinstitut für Wärmeschutz e.V. Munich of 17th January 2020, involving the following U-values for the use of e.g.

- Wooden lathing, double-layer, at a distance of 1.20 m, following U value:

Insulation thickness (WLG 035)	U-value including thermal bridge effect
180 mm	0.204 W / (m^2 K)

- Clip border/directional profile 750, at a distance of 1.80 m, on rigid thermal insulation, following U-value:

Insulation thickness (WLG 037)	U-value including thermal bridge effect
180 mm	0.206 W / (m^2 K)

- Thermo-Z spacer profile, single-layer, at a distance of 1.80m, following U value:

Insulation thickness (WLG 035)	U-value including thermal bridge effect
180 mm	0.208 W / (m^2 K)

Scaffolding
Suitable scaffolding for roofing and sheet metal works in accordance with the accident prevention regulations will be provided to the contractor on site for use, unless specified otherwise in the scope of services.

Scope of services
Fabrication, delivery and installation including all necessary ancillary services are part of the scope of services without requiring any special mention in the item descriptions.

Site facilities
Set-up of the building site including delivery and removal of all necessary equipment and machinery for the entire duration of contract is part of scope of services. A separate compensation is not granted; the expenses for site facilities are to be included in the unit prices, unless expressly specified in the performance section.

Regulations
For the performance of the described service, the following points are to be observed

- Manufacturer's installation guidelines,
- The generally accepted codes of good practice,
- European Technical Assessments (ETAs) and General System Authorisations

The following standards and guidelines have to be observed as well:

DIN EN 1991-1: Euro Code 1: Actions on Structures
DIN 1960-100: Roof Drainage System for Buildings and Land Plots

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DIN 4102 (DIN EN 13501): Fire Behaviour of Construction Products and Building Elements
DIN 4108: Thermal Insulation in Building Construction
DIN 4113: Aluminium Constructions under Predominantly Static Loading
DIN 18338: German Construction Contract Procedures (VOB) - Part C, Roof Covering and Sealing Work
DIN 18339: German Construction Contract Procedures (VOB) - Part C, Sheet Metal Work
DIN 18807: Trapezoidal Sheeting in Buildings
DIN EN 612: Eaves Gutters…..and Rainwater Pipes Made of Metal Sheet
DIN EN 13162: Thermal Insulation Products for Buildings

Guidelines for the design of metal roofs made of industrially preassembled clamp fold profiles and technical rules for metal roofers (published by Central Association for Sanitary, Heating and Air Conditioning, St. Augustin), and directives and technical rules of IFBS Industrieverband für Bausysteme im Metallleichtbau.

CE marking for metal roofing systems according to European Technical Assessments (ETAs) approved by DIBt (Deutsches Institut für Bautechnik) and DIN EN 14782 respectively:
RIB-ROOF Evolution: ETA-17/1068 (steel), ETA-17/1069 (aluminium)
RIB-ROOF Speed 500: ETA-18/0034 (steel), ETA-18/0035 (aluminium)
RIB-ROOF 465 according to EN 14782 (steel, aluminium).

General System Authorisations approved by DIBt (Deutsches Institut für Bautechnik, Berlin):
Fixing elements (solar/snow guard brackets/ tread support): No. Z-14.4-774
Fall arrest system for sliding standing seam roof systems RIB-ROOF: No. Z-14.9-802

Profiled sheets with pre-fabricated sliding standing seam joints are self-supporting, accessible, without transversal joint and usable with roof pitches of 1.5 degrees or more. Profiled sheets are connected in a force-fitting and form-fitting manner, exclusively by clamping and without any additional mechanical folding or crimping of individual elements even with low outdoor temperatures. Linear expansion of the profiled sheets occurring in response to temperature changes is enabled by perforation-free installation on sliding clips, directional clips/profiles or clip borders.

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00.01 Building site facilities

00.01.10 Setup and provision of building site facilities

Set-up of building site including delivery and removal of all necessary equipment and machinery and provision for the duration of the services described below

0.000 flatrate UP _____ TP _____

00.01 Building site facilities TP _____

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00.02 Safety-related equipment

00.02.01 Scaffolding

00.02.01.10 Tubular steel frame scaffolding

Tubular steel frame scaffolding, Group III,
Surface width 0.60 m, loading capacity up to 2.00 kN/ m^2, as per DIN 4420,
To be delivered, set up and kept for duration of the services described below and then dismantled again.
Basic retention time: 4 weeks
The use of scaffolding anchors shall be taken into account.

0.000 sqm UP _____ TP _____

00.02.01.20 Permits required under public law

Expenses for
- obtaining necessary permits quired under public law, e.g. building law, road traffic law
- utilization of third party real estate (even road space)

and the service charges incurred thereby for the base duration of use of scaffolding
Comment:
These expenses may only be taken into account if actual expenses have been incurred and these are demonstrated based on fee assessments or similar

1.000 flatrate UP _____ TP _____

00.02.01.30 Extension of scaffolding holding time

Allowance for the above-described item for additional expenses due to extension of scaffolding's period of provision beyond the base duration of use.

0.000 sqm/wks UP _____ TP _____

00.02.01.40 Lighting of scaffolding

Lighting of scaffolding to safeguard the public traffic
for the base duration of use of scaffolding.

1.000 flatrate UP _____ TP _____

00.02.01.50 Provision of scaffold lighting

Provision of scaffold lighting due to extension of scaffolding's period of provision beyond the base duration of use.
Accounting based on period of provision of scaffolding in weeks (wks)

0.000 W UP _____ TP _____

00.02.01.60 Roofer safety scaffolding

Roofer safety scaffolding as allowance,
consisting of a protective screen of nets, set up on the existing scaffolding, in accordance with the applicable accident prevention regulations (UVV).

0.000 m UP _____ TP _____

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00.02.01.70 Safety scaffolding for roof work
Safety scaffolding for roof work along eaves and verge
Implementation based on contractor's selection, with appropriate safety nets and roof-mounted brackets, on the existing trapezoidal sheet shell in accordance with the regulations of employers' mutual indemnity association for the construction industry (Bau-BG) and Rules for Safety and Health Protection at Work, to be delivered, installed and maintained for the duration of roofing work and to be disassembled and removed upon completion of work.

0.000 m UP _____ TP _____

00.02.01.80 Mobile freestanding scaffold
Mobile freestanding scaffold to be set up, maintained and disassembled
Tubular steel/light-weight metal tube scaffolding as work and safety scaffold suitable for any and all demolition debris occurring and
interior finishing work,
scaffold height up to ..... m

0.000 pc UP _____ TP _____

00.02.01.90 Provision of facade scaffolding
Provision of facade scaffolding for transfer of use beyond the base duration of use
Accounting based on scaffold area in m2 x period of provision in weeks (wks)

0.000 sqm/wks UP _____ TP _____

00.02.01.100 Provision of mobile free-standing scaffold
Provision of mobile free-standing scaffold for transfer of use beyond the base duration of use
Accounting based on period of provision in work days (d)

0.000 d UP _____ TP _____

00.02.01 Scaffolding TP _____

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00.02.02 Nets

00.02.02.10 Safety nets

Personnel safety nets according to DIN EN 1263,
made of polypropylene, high-strength, 4 - 5mm thick, mesh size 100 mm,
with tie rope, including stay rope,
for installation to existing
- Steel girder- reinforced concrete truss- wooden truss- steel purlins- timber purlins
Spacing approx. ..... m,
to be mounted and dismantled after finishing of roof work.

0.000 sqm UP _____ TP _____

00.02.02.20 Provision of safety nets for continuous roof lights

Provision of safety nets for continuous roof lights
until completion.

0.000 sqm UP _____ TP _____

00.02.02.30 Provision of safety nets for light dome openings

Provision of safety nets for light dome openings
until completion.

0.000 sqm UP _____ TP _____

Sum 00.02.02 Nets TP _____

00.02 Safety-related equipment TP _____

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00.03 Supporting structure for trapezoidal sheets made of steel

00.03.01 Installation plan, statics

00.03.01.10 Installation Plan

Installation plan according to the requirements of DIN 18807, part 3
for performance of liners made out of steel sections, digitally,
to be presented prior to start of work for Customer approval.

1.000 flatrate UP _____ TP _____

00.03.01.20 Structural analysis

Verifiable structural analysis for implementation of trapezoidal steel sections as per DIN 18807,
including the static calculations for framing in the area of roof openings and connections of profiled sheets with the substructure,
digitally, to be presented prior to start of work for Customer approval.

1.000 flatrate UP _____ TP _____

00.03.01 Installation plan, statics TP _____

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EINFACH FUNKTIONELL BEDACHT

00.03.02 Supporting structure

00.03.02.10 Liners made out of steel

Liners made out of steel according to DIN 18 807
Material steel sheet, galvanized and colour-coated in coil-coating process
rear side 15µm in RAL colour 9002, top side with protective coating
System: .....
Construction: .....
Material thickness: ..... mm
as one-two-three-span girder.
Effective span(s): ..... m
Max. deflection: l/300
Snow load: ..... kN/sqm
Traffic/suspended load: ..... kN/sqm
Net weight of total roof structure: ..... kN/sqm
Roof pitch: ..... degrees
Substructure at site consisting of
- Reinforced concrete with fastening on flat bars
- HTU cast-in channels
- Steel
- Wood,

Fastening according to DIN 18 807

0.000 sqm UP _____ TP _____

00.03.02.20 *** Alternative itema

Liners made out of steel, installation from ridge to eaves

Liners as per DIN 18807, installation from ridge to eaves,
Material steel sheet, galvanized and colour-coated in coil-coating process
Rear side 15µm in RAL color 9002, top side with protective coating
System: .....
Construction: ...../250mm, suitable for RIB-ROOF Speed 500 flat clip border
Material thickness: ..... mm
as one-two-three-span girder.
Effective span(s): ..... m
Max. deflection: l/300
Snow load: ..... kN/sqm
Traffic/suspended load: ..... kN/sqm
Net weight of total roof structure: ..... kN/sqm
Roof pitch: ..... degrees
Substructure at site consisting of
- Reinforced concrete with fastening on flat bars
- HTU cast-in channels
- Steel
- Wood,

Fastening according to DIN 18 807

Note: If the liners are installed on purlins from ridge to eaves, the RIB-ROOF Speed 500 flat clip border can be used for certain liner dimensions (sealing band is repeated every 125, 250 or 500mm) on rigid thermal insulation.

0.000 sqm UP _____ TP _____

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00.03.02.30 Extra for material thickness
Service as described above, however
Material thickness ..... mm
extra for liners with installation as single span girder

0.000 sqm UP _____ TP _____

00.03.02.40 Extra for rear side coating
Rear side coating thickness 25µm in RAL colour 9002
extra for liners

0.000 sqm UP _____ TP _____

00.03.02.50 Deflection-resistant joint
Deflection-resistant joint, extra for liners
Formation of a structurally effective covering of liners in support area to achieve the function of multi-span girder.
Implementation according to DIN 18 807, Part 3

0.000 m UP _____ TP _____

00.03.02.60 Shear panel design
Shear panel design of roof areas, extra for liners
The liners are joined together in a shear-resistant manner and with the edge girders provided by others.
Design to be implemented according to DIN 18 807 Part 3 and the test certificates for liners

0.000 sqm UP _____ TP _____

00.03.02.70 Diagonal cut
Diagonal cut of liners including cutting scrap,
Implemented exclusively with plate shears

0.000 m UP _____ TP _____

00.03.02.80 Extra for acoustic design
Acoustic design, extra for liners
with linear perforation in liner bars, perforated part approx. 16 %

0.000 sqm UP _____ TP _____

00.03.02.90 Sound insulating material
Sound insulating material as layer in acoustic liner corrugation
of mineral fiber insulating mats KI 40 according to DIN EN 13162,
one-side with black glass fiber laminated as drip protection,
Application type w-w, non-flammable as per DIN 4102,
Thermal conductivity group 040,
Material thickness ..... mm,
Type Isover, type P3/V or equivalent .....

0.000 sqm UP _____ TP _____

00.03.02 Supporting structure TP _____

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00.03.03 Reinforcing panels

00.03.03.10 Reinforcing panels

Edge stiffening bracket (structurally effective),
made of steel sheet galvanized and colour-coated,
Material thickness 1.0 mm, cutting 625mm, 2 edges,

0.000 m UP _____ TP _____

00.03.03.20 Ridge sheet

Ridge sheet for bottom shell
- rear side - top-side - to be mounted on liners out of steel,
Corrosion prevention and color like liners out of steel,
Cutting: ..... mm
Number of edges: .....
Material thickness: ..... mm

0.000 m UP _____ TP _____

00.03.03.30 Valley flashing

Valley flashing for bottom shell
- rear side - top-side - to be mounted on liners out of steel,
Corrosion prevention and color like liners out of steel,
Cutting: ..... mm
Number of edges: .....
Material thickness: ..... mm

0.000 m UP _____ TP _____

00.03.03.40 Arris sheet

Arris sheet for bottom shell
- rear side - top-side - to be mounted on liners out of steel,
Corrosion prevention and color like liners out of steel,
Cutting: ..... mm
Number of edges: .....
Material thickness: ..... mm

0.000 m UP _____ TP _____

00.03.03.50 Edge angle

Edge angle (not structurally effective),
to support vapour barrier membrane or as transition from liner supporting shell to liner tray wall,
Material steel sheet galvanized and colour-coated,
Material thickness 1.0 mm, cutting 416 mm, 2 edges,

0.000 m UP _____ TP _____

00.03.03 Reinforcing panels TP _____

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00.03.04 Profile fillers

00.03.04.10 Joint plate with rock wool profile filler strips

Joint plate for eaves overhang or verge overhang made of
steel sheet galvanized and colour-coated in RAL color 9002,
L-shaped cut, cutting 312mm,
including filling of large and small profile ribs with rock wool profile filler strips,
Volumetric weight 90 kg/m³, temperature-resistant to 1000°C, non-flammable according to DIN 4102,
Note:
Requirement for
eaves overhang, if direction of installation of liners is parallel to eaves or verge overhang, if direction of installation of liners from roof ridge to eaves.

0.000 m UP _____ TP _____

00.03.04.20 Profile filler strips polyethylene foam

Profile filler strips for - large - small - profile rib
suitable for liners out of steel sheet
consisting of closed-cell polyethylene foam, thickness 30 mm,
to be mounted between support profile and liner out of steel

0.000 m UP _____ TP _____

00.03.04.30 Profile filler strips, both sides, polyethylene foam

Profile filler strips for verge overhang / eaves overhang
for dimension of liners .....consisting of:
- closed-cell polyethylene foam thickness 30mm, both sides to be mounted in large profile rib and the space in between to be filled with mineral wool
- closed-cell polyethylene foam thickness 30mm, both sides, to be inserted in small profile rib from above, space in between needs to be fixed and filled with mineral wool (to be implemented prior to installation of the vapour barrier membrane)

0.000 m UP _____ TP _____

00.03.04.40 Profile filler strips mineral fiber

Profile fillers for - large - small - profile rib
suitable for liners out of steel, consisting of mineral fiber, thickness 120mm,
to be mounted between support profile and liner out of steel

0.000 m UP _____ TP _____

00.03.04.50 Profile filler verge overhang / eaves overhang rock wool

Profile filler strips for verge and eaves overhang
for dimension of liners ..... consisting of,
Rock wool profile filler, volumetric weight 90 kg/m³,
Temperature resistant up to 1000°C, to be mounted and fixed in large and small profile rib.
(to be implemented prior to installation of vapour barrier membrane)

0.000 m UP _____ TP _____

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00.03.05 Roof penetrations

00.03.05.10 Cut-out, framing and skirting for dome lights

Cut-out in liners for dome light / .....,
Implemented exclusively with plate shears, including
- structural framing made of
galvanized, hat-shaped steel sections, fitted in liners,
Material thickness based on structural requirements, at least 3mm, however, cutting up to 600mm,
- inner framing sections for liners
Material sheet steel galvanized and colour-coated in RAL color 9002,
U-shaped, cutting 416mm, 2 edges,
- Circulating wooden plank
Quality grade II, spruce/fir according to DIN 4074, all-round impregnated, 200mm wide,
Height ..... mm (according to thickness of thermal insulation),
for opening with dimensions .....

0.000 pc UP _____ TP _____

00.03.05.20 Cut-out for dome light / window strip

Cut-out in liners for dome light / window strip or .....
implemented exclusively with plate shears,
for opening with dimensions .....

0.000 pc UP _____ TP _____

00.03.05.30 Cut-out up to 300mm x 300mm

Cut-out in liners for roof drainage or vent pipes
to be created in a dimension of up to max. 300mm x 300mm,
with compliance of requirements as per DIN 18807 Part 3, including top-side reinforced panels
Sheet length: at least 600mm
Sheet width: at least 750 mm
however at least two continuous steel liner bars
on every side of cut-out, overlaying,
Sheet thickness: at least 1.13 mm, however, 1.5-times larger than liners

0.000 pc UP _____ TP _____

00.03.05.40 Structural framing

Structural framing
made of galvanized, hat-shaped steel sections, fitted in liners,
Material thickness based on structural requirements, however, at least 3mm
cutting up to 600mm,
for opening with dimensions .....

0.000 pc UP _____ TP _____

00.03.05.50 Inner framing sections

Inner framing sections for liners,
out of sheet steel, galvanized and colour-coated in RAL color 9002,
U-shaped, cutting 416mm, 2 edges,
for opening ..... mm

0.000 pc UP _____ TP _____

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00.03.05.60 Circulating wooden plank
Circulating wooden plank, quality grade II, spruce/fir as per DIN 4074, all-round impregnated,
200mm wide, height ..... mm (according to thickness of thermal insulation),
for opening ..... mm

0.000 pc UP _____ TP _____

00.03.05 Roof penetrations TP _____

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00.03 Supporting structure for liner out of steel sheet TP _____

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00.04 Separation layers
00.04.01 Vapour barrier membrane

00.04.01.10 PE film, 0.25 mm
Vapour barrier membrane consisting of a PE film, minimum thickness 0.25mm,
Thickness of air layer for water vapor diffusion equivalent according to DIN 53122 Sd = 160m
at joints at least 100mm overlapped and glued using double-sided tape.
Installation at adjoining and merging components and to be fixed by means of aluminum clamping strip or suitable tape to be taken into account.
Manufacturer Bachl
or equivalent .....

0.000 sqm UP _____ TP _____

00.04.01.20 Aluminum laminated film
Vapour barrier membrane consisting of an aluminum laminated film.
Thickness of air layer for water vapor diffusion equivalent Sd > 1500m, material thickness approx. 0.12mm,
at joints at least 100mm overlapped and glued using double-sided tape.
Installation at adjoining and merging components and to be fixed by means of aluminum clamping strip or suitable tape to be taken into account.
Manufacturer Alujet Optima BLU
or equivalent .....

0.000 sqm UP _____ TP _____

00.04.01.30 Bituminous pre-coat
Bituminous pre-coat consumption approx. 0.3kg/sqm
including sweeping even broom-clean state of substructure and connections and terminations.

0,000 sqm UP _____ TP _____

00.04.01.40 Welded bituminous sheet V 60 S 4 + Al 01
Vapour barrier membrane consisting of a welded bituminous sheet V 60 S 4 + Al 01, according to DIN 52131,
suited for continuous subsurface
practically moisture-tight, 4mm overall thickness with metal strip insert,
affixed to substructure according to the instructions of the manufacturer's factory and the regulations of the German roofing trade, joints and seams to be welded.
Installation at adjoining and merging components and fixing with aluminum clamping strip to be taken into account.
Manufacturer Bauder
or equivalent .....

0.000 sqm UP _____ TP _____

00.04.01.50 Welded bituminous sheet G 200 S 5 + Al 01

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Vapour barrier membrane consisting of a welded bituminous sheet G 200 S 5 + Al 01, according to DIN 52131, penetration-resistant, suited for non-continuous subsurface, practically vapor-tight, 5mm overall thickness with fiber glass and metal strip insert affixed to substructure according to the instructions of the manufacturer's factory and the regulations of the German roofing trade, joints and seams to be welded.
Installation at adjoining and merging components and fixing with aluminum clamping strip to be taken into account.
Manufacturer Bauder
or equivalent .....

0,000 sqm UP _____ TP _____

00.04.01.60 Elastomer bitumen, self-adhesive at least 1.2 mm
Cold self-adhesive elastomer bitumen vapour barrier membrane according to DIN EN 13970 with aluminium-polyester-combination layer at top side,
practically vapor-tight with thickness of air layer for water vapor diffusion equivalent Sd >= 1500 m [+/- 10%], suited for non-continuous subsurface (supporting shell), penetration-resistant and stiffening, material thickness at least 1.2mm,
Surface characteristics above: aluminium-polyester-combination support, glare-free coated
Top layer: cold self-adhesive elastomer bitumen
Surface characteristics below: deductible foil at underside
After removing the protective film according to the instructions of the manufacturer's factory and the regulations of the German roofing trade with sufficient overlap (at least 8 cm) to be glued under suitable processing temperature. Installation at adjoining and merging components and fixing with aluminum clamping strip to be taken into account.
Manufacturer VEDAG, type Vedagard SK-D
or equivalent .....

0,000 sqm UP _____ TP _____

00.04.01.70 *** Alternative item
Fire-resistant vapour barrier membrane according to industrial construction guidelines, self-adhesive
Fire-resistant vapour barrier membrane according to industrial construction guidelines, fire-resistant, bitumen-free, cold self-adhesive
practically vapor-tight, suited for non-continuous subsurface (supporting shell), penetration-resistant,
material thickness approx. 0.4mm, aluminum laminated film with stiffening layer of glass-fiber material,
rear side self-adhesive layer, to be affixed after removing protective film according to the instructions of the manufacturer's factory and the regulations of the German roofing trade.
Installation at adjoining and merging components and fixing with aluminum clamping strip to be taken into account.
Manufacturer Vedag, type Vedagard FR
or equivalent .....

0.000 sqm UP _____ TP _____

00.04.01.80 Special film on polyamide basis
Vapour barrier membrane consisting of special film on polyamide basis, thickness of air layer for water vapor diffusion equivalent according to DIN 53122 variable - 0.2m < Sd-value < 5m
The variable Sd-value guarantees that wooden roof structures are able to dry fast,
Building materials class B1, difficult to ignite according to DIN 4102,
Material thickness of approx. 50µm at joints at least 100mm overlapped and glued wind-proof using tape,
installation at the adjoining and merging components and fixing with aluminum clamping strip or suitable tape to be taken into account.

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Manufacturer Isover, type Vario KM
or equivalent .....

0.000 sqm UP _____ TP _____

00.04.01 Vapour barrier membrane TP _____

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EINFACH FUNKTIONELL BEDACHT

00.04.02 Diffusion-open separation layers

00.04.02.10 High diffusion-open separation layer

Separation layer as high-diffusion-open protective sheet,
which is both permeable to vapour but also wind-proof and waterproof,
Thickness of air layer for water vapour diffusion equivalent Sd ≤ 0.03 m,
to be installed according to the guidelines of ZVSHK on the thermal insulation or substructure with
glued joints and to be fixed with corrosion-resistant fasteners in non-visible areas.
Installation at adjoining and merging components to be taken into account.
Manufacturer Klöber, type Permo light SK²
or equivalent .....
Note:
Implementation with whole support also possible

0.000 sqm UP _____ TP _____

00.04.02.20 Backflow safety in eaves

Backflow safety at least 3m parallel to eaves by means of high diffusion-open protective sheets,
which is both permeable to vapor but is also wind-proof and waterproof,
Thickness of air layer for water vapor diffusion equivalent Sd ≤ 0.03 m,
to be installed according to the guidelines of ZVSHK on the thermal insulation or substructure with
glued joints and fixed with corrosion-resistant fasteners in non-visible areas. Installation at adjoining and merging components to be taken into account.
Manufacturer Klöber, type Permo light
or equivalent .....
Note:
Implementation with whole support also possible.

0.000 sqm UP _____ TP _____

00.04.02.30 Structured separation layer, e.g. for higher soundproofing in residential construction

Structured separation layer for RIB-ROOF acoustic roof
that is both vapour-permeable and wind and waterproof at the same time,
Thickness of air layer for water vapor diffusion equivalent Sd ≤ 0.03 m
Manufacturer Klöber, type Permo sec SK or equivalent .....
Installation is carried out on impregnated timber boarding (min. 24 mm) out of spruce/fir according to DIN 4074-1, dry-graded based with moisture content maximum 20%,
e.g. for higher soundproofing, e.g. in residential construction
Profiled sheets with acoustic fleece coating on the rear side fastened with standard clips.
Timber boarding and holding brackets are fixed by means of self-drilling wooden screws approved by building authorities, full thread made of stainless steel material.
According to DIN EN 1991-1-4, increased wind loads in the edge and corner roof areas are to be observed.

0.000 sqm UP _____ TP _____

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00.04.02.40 Structured separation layer - only mesh without protective sheet - for RIB-ROOF acoustic roof

Structured separation layer – only mesh without protective layer – for RIB-ROOF acoustic roof
together with a high diffusion-open protective sheet installed on site in advance
Manufacturer Klöber, Typ Grid sec or equivalent .....
Installation is carried out on impregnated timber boarding (min. 24 mm) out of spruce/fir according to DIN 4074-1, dry-graded based with moisture content maximum 20%,
e.g. for higher soundproofing, e.g. in residential construction
Profiled sheets with acoustic fleece coating on the rear side fastened with standard clips.
Timber boarding and holding brackets are fixed by means of self-drilling wooden screws approved by building authorities, full thread made of stainless steel material.
According to DIN EN 1991-1-4, increased wind loads in the edge and corner roof areas are to be observed.

0,000 m² EP _____ GP _____

00.04.02 Diffusion-open separation layers TP _____

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00.04.03 Other separation layers

00.04.03.10 Glass fiber bitumen roof sheeting V13

Separation layer on existing substructure
consisting of glass fiber bitumen roof sheets V13 as per DIN 52143, lightly sand-surfaced, including necessary overlapping of seams.
Fastened with hot-dip galvanized clout nails along the joints.
Installation at adjoining and merging components and fixing with aluminium clamping strip to be taken into account.
Manufacturer Bauder
or equivalent .....

0.000 sqm UP _____ TP _____

00.04.03.20 Polymer bitumen formwork liner

Separation layer on existing timber boarding
consisting of a polymer bitumen formwork liner, sd-value approx. 25m, properly covered parallel to eaves. Overlap at least 10cm, Arrange nails in staggered and concealed manner while nailing seams and joints.
Installation at adjoining and merging components and fixing with aluminum clamping strip to be taken into account.
Manufacturer Bauder Top TS 25 plus
or equivalent .....

0.000 sqm UP _____ TP _____

00.04.03 Other separation layers TP _____

00.04 Separation layers TP _____

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00.05 Thermal insulation

00.05.01 Mineral wool

00.05.01.10 Mineral wool DAD - dk single-layer compressed with counter lathing Querlattung

Thermal insulation of mineral wool according to DIN EN 13162,
Area of application DAD - dk no compressive strength according to DIN 4108-10,
Thickness as-delivered: ..... mm, compressed to installed thickness: ..... mm, thermal conductivity group 035, U-value including consideration of thermal bridges ..... W/sqmK
non-flammable, building materials class A2 according to DIN 4102 / Euro class A1 according to DIN EN 13501-1, unlaminated
Manufacturer Isover type Metac UF 035 Universal-felt (Filz 320) or equivalent .....
Installation is implemented in single-layer with direction of installation of liners from ridge to eaves
in height of compressed thermal insulation with impregnated counter lathing of spruce/fir according to DIN 4074-1 dry-graded based on moisture content maximum 20% without transverse bending (warping),
Cross section ..... mm, spacing approx. 1.19 m, for accommodating the holding brackets.
Timber boarding and holding brackets are fixed by means of self-drilling wooden screws approved by building authorities, full thread out of stainless steel material.
According to DIN EN 1991-1-4, increased wind loads in the edge and corner roof areas are to be observed,

Note: The complete roof structure fulfills together with the RIB-ROOF metal roofing system and a vapour barrier membrane with reduced fire load the requirements according to DIN 18234-1 / industrial construction guidelines in accordance with the test certificate on fire testing of “Forschungsstelle für Brandschutztechnik” at University of Karlsruhe, Jan. 15, 2004

0.000 sqm UP _____ TP _____

00.05.01.20 Mineral wool DAD - dk double-layer compressed with counter- /transverse lathing

Thermal insulation of mineral wool according to DIN EN 13162,
Area of application DAD - dk no compressive strength according to DIN 4108-10,
Thickness: ..... mm, compressed to installed thickness: ..... mm, thermal conductivity group 035,
U-value including consideration of thermal bridges ..... W/sqmK,
non-flammable, building materials class A2 according to DIN 4102 / Euro class A1 according to DIN EN 13501-1, unlaminated
Manufacturer Isover type Metac UF 035 Universal-felt (Filz 320) or equivalent .....
Installation is carried out in double-layer with direction of installation of liners parallel to eaves in height of compressed thermal insulation with impregnated counter- /transverse lathing of spruce/fir
according to DIN 4074-1 dry-graded based on moisture content maximum 20% without transverse bending (warping),
Cross section of counter lathing ..... mm
Cross section of transverse lathing ..... mm
Spacing approx. 1.19m, for accommodating the holding brackets.
Timber boarding and holding brackets are fixed by means of self-drilling wooden screws approved by building authorities, full thread out of stainless steel material.
According to DIN EN 1991-1-4, increased wind loads in the edge and corner roof areas are to be observed,

Note: The complete roof structure fulfills together with the RIB-ROOF metal roofing system and a vapour barrier membrane with reduced fire load the requirements according to DIN 18234-1 / industrial construction guidelines in accordance with the test certificate on fire testing of “Forschungsstelle für Brandschutztechnik” at University of Karlsruhe, Jan. 15, 2004

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0.000 sqm UP _____ TP _____

00.05.01.30 Mineral wool DAD - dk single-layer compressed with Thermo-Z spacer profile

Thermal insulation of mineral wool according to DIN EN 13162,
Area of application DAD - dk no compressive strength according to DIN 4108-10,
Thickness: ..... mm, compressed to installed thickness: ..... mm, thermal conductivity group 035,
U-value including consideration of thermal bridges ..... W/sqmK,
non-flammable, building materials class A2 according to DIN 4102 / Euro class A1 according to DIN EN 13501-1, unlaminated
Manufacturer Isover type Metac UF 035 Universal-felt (Filz 320) or equivalent .....
Installation 90°/45° from trapezoidal sheet with Thermo-Z spacer profile made out of steel, corrosion protection class III,
Cutting ..... mm, 3 edges material thickness 2,00 mm,
without thermal separation strips as distance construction for height of thermal insulation substructure comprising of .....
Spacing approx. 1.19m, for accommodating the (turned) directional clips or RIB-ROOF Evolution/
RIB-ROOF Speed 500 (turned) directional profiles.
Z profiles and holding brackets or directional profiles to be fixed by means of self-drilling screws which are approved by building authorities, full threads out of stainless steel material.
According to DIN EN 1991-1-4, increased wind loads in the edge and corner roof areas are to be observed,

0.000 sqm UP _____ TP _____

00.05.01.40 Mineral wool DAD - dk double-layer with Z-profile, two thermal separation strips

Thermal insulation of mineral wool according to DIN EN 13162,
Area of application DAD - dk (exterior insulation of roof) No compressive strength according to DIN 4108-10,
Thickness ..... mm, thermal conductivity group 035,
U-value including consideration of thermal bridges ..... W/sqmK,

non-flammable, building materials class A2 according to DIN 4102 / Euro class A1 according to DIN EN 13501-1, unlaminated
Manufacturer Isover type Metac UF 035 Universal-felt (Filz 320) or equivalent .....
Installation is carried out double-layer, with Z profiles of steel sheet, corrosion protection class III,
Cutting ..... mm, 2 edges material thickness ..... mm,
with two thermal separation strips (high compression hardness), to be stuck on top and bottom of Z-profile,
Manufacturer Iso-Zell thermal strips, material thickness 3 mm x width 60 mm or equivalent .....
to be used as distance construction in height of thermal insulation substructure comprising of .....
Spacing approx. 1.19m, for accommodating the holding brackets or RIB-ROOF Evolution/ RIB-ROOF Speed 500 directional profiles.
Z profiles and holding brackets or directional profiles to be fixed by means of self-drilling screws, which are approved by building authorities, full threads out of stainless steel material.
According to DIN EN 1991-1-4, increased wind loads in the edge and corner roof areas are to be observed,

0,000 sqm UP _____ TP _____

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00.05.01.50 Mineral wool for high soundproofing, e.g. in home construction
For higher soundproofing, e.g. in home construction:
Thermal insulation consisting of mineral wool according to DIN EN 13162
Area of application DAD – dk no compressive strength according to DIN 4108-10,
Thickness: 60 mm, compressed to installed thickness: 40 mm
Thermal conductivity group 035,
non-flammable, building materials class A2 according to DIN 4102 /
Euro class A1 according to DIN EN 13501-1, unlaminated
Manufacturer Isover type Metac UF 035 Universal-felt (Filz 320) or equivalent
.....
Installation is carried out single-layer with impregnated counter lathing of spruce/fir according to DIN 4074-1 dry-graded based on moisture content maximum 20% without transverse bending (warping), cross section 40 x 60 mm, spacing approx. 1.19 m for accommodating the holding brackets. Between timber boarding and profiled sheets (at least 24 mm with high-diffusion-open protective sheet)
Timber boarding/lathing and holding brackets are to be fixed by means of self-drilling wooden screws out of stainless steel material and approved by building authorities.
According to DIN EN 1991-1-4, increased wind loads in the edge and corner roof areas are to be observed,

0.000 sqm UP _____ TP _____

00.05.01.60 Mineral wool acoustic insulation board for increased soundproofing, e.g. in home construction
For increased sound insulation, e.g., in home construction:
Thermal insulation consisting of mineral wool acoustic insulation board according to DIN EN 13162,
Area of application DES - sh increased compressibility strength according to DIN 4108-10,
Delivery thickness : 15 mm, thermal conductivity group 032,
non-flammable, building materials class A2 according to DIN 4102 / Euro class A2-s1-d0 according to DIN EN 13501
Manufacturer Isover type Acoustic EP 1 or equivalent .....
Installation is carried out single-layer slightly compressed, between holding brackets of the profiled sheets on impregnated counter timber boarding (at least 24 mm with high-diffusion-open protective sheet) of spruce/fir according to DIN 4074-1 dry-graded based on moisture content maximum 20%.
Between timber boarding and profiled sheets (at least 24 mm with high-diffusion-open protective sheet)
Timber boarding and holding brackets are to be fixed by means of self-drilling wooden screws approved by building authorities, full thread out of stainless steel material.
According to DIN EN 1991-1-4, increased wind loads in the edge and corner roof areas are to be observed,

0.000 sqm UP _____ TP _____

00.05.01 Mineral wool TP _____

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00.05.02 Rock wool

00.05.02.10 Rock wool insulating boards DAD - dm for directional profile/ clip border/load distribution panel

Thermal insulation, compression-resistant, consisting of:
- rigid rock wool insulating boards according to DIN EN 13162,
Area of application DAD - dm average compressive strength according to DIN 4108-10, showing the following minimum requirements:
Concentrated load at 5 mm compression PL(5) >=500 N and tension at 10% compression CS(10)>= 50kPa
Material thickness ..... mm,
U-value including consideration of thermal bridges ..... W/sqmK
Thermal conductivity group 037,
non-flammable, building materials class A1 according to DIN 4102 / Euro class A1 according to DIN EN 13501-1,
Manufacturer Rockwool Durock, Knauf DDP-RT or equivalent .....
for installation of directional profiles 750 mm according to Art. RIB-ROOF metal roofing system, to be fastened in upper chord of the liner three times
or for installation of RIB-ROOF Speed 500 clip borders, distance approx. ..... m,
according to Art. RIB-ROOF metal roofing system
- flat design or
- perforated design with factory stamped, sunk holes
or with load distribution panels (approx. 1m/sqm roof area) of
- steel sheet with aluminum-zinc coating - at least 100mm wide, for installation of holding brackets according to Art. RIB-ROOF metal roofing system

Including fastening materials out of stainless steel material approved by building-authorities for existing substructure
According to DIN EN 1991-1-4, increased wind loads in the edge and corner roof areas are to be observed,

Note: together with the RIB-ROOF metal roofing system and a vapour barrier membrane with reduced fire load, the complete roof structure complies with the requirements without testing according to DIN 18234-2 / industrial construction guidelines according to DIN 18234-2

0.000 sqm UP _____ TP _____

00.05.02.20 Rock wool insulating boards DAD - dm for directional clips; mineral wool DAD – single-layer compressed

Thermal insulation, to some extent compression-resistant, consisting of:
rigid rock wool insulating boards according to DIN EN 13162, Area of application DAD – dm average compressive strength according to DIN 4108-10, showing the following minimum requirements:
concentrated load with 5 mm compression PL (5) >= 800 N and compressive stress with 10% compression CS (10) >= 70 kPa
Material thickness ..... mm, material width - 200 mm – 300 mm
Thermal conductivity group 037,
non-flammable, building materials class A1 according to DIN 4102 / Euro class A1 according to DIN EN 13501-1,
Manufacturer Rockwool Hardrock, Knauf DDP-X or equivalent .....
intermediate
Mineral wool according to DIN EN 13162,
Area of application DAD - dk no compressive strength according to DIN 4108-10,
Delivery thickness ..... mm, compressed to installation thickness: ..... mm
Thermal conductivity group 035,
non-flammable, building materials class A2 according to DIN 4102 / Euro class A1 according to DIN EN 13501-1, unlaminated

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Manufacturer Isover, type Metac UF 035 universal felt (felt 320) or equivalent .....

for installation of RIB-ROOF Speed 500/Evolution directional clips 200 according to Art. RIB-ROOF metal roofing system, to be fastened in the upper chord of the trapezoidal sheet
or
for installation of RIB-ROOF Speed 500 directional profiles 750 - 1500, spacing approx. ..... m, according to Art. RIB-ROOF metal roofing system, to be fastened twice in the upper chord of the trapezoidal sheet

U-value including consideration of thermal bridges ..... W/sqmK

Including fastening materials out of stainless steel material approved by building-authorities for existing substructure
According to DIN EN 1991-1-4, increased wind loads in the edge and corner roof areas are to be observed,

Note: together with the RIB-ROOF metal roofing system and a vapour barrier membrane with reduced fire load, the complete roof structure complies with the requirements without testing according to DIN 18234-2 / industrial construction guidelines according to DIN 18234-2

0.000 sqm UP _____ TP _____

00.05.02.30 Extra for rock wool insulating boards DAD - dm on roof edges, roof penetrations

Thermal insulation, compression-resistant, as extra detail for all edges of a roof and in the area of roof penetrations in order to avoid breakdown of RIB-ROOF profiled sheets during inspection (internal and external services), consisting of rigid rock wool insulating boards according to DIN EN 13162
Area of application DAD - dm average compressive strength according to DIN 4108-10
Concentrated load with 5 mm compression PL (5) >= 800 N
Compressive stress with 10% compression CS (10) >= 70 kPa
Material thickness ..... mm, material width - 200 mm – 300 mm
Thermal conductivity group 037,
non-flammable, building materials class A1 according to DIN 4102 / Euro class A1 according to DIN EN 13501-1,
Manufacturer Rockwool Hardrock, Knauf DDP-X or equivalent .....

0.000 sqm UP _____ TP _____

00.05.02 Rock wool TP _____

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00.05.03 PUR, EPS rigid foam

00.05.03.10 PUR insulating board DAA/ DAD - dh for clip border/load distribution panel

Thermal insulation, compression-resistant, consisting of:
rigid PUR polyurethane rigid foam insulating boards according to DIN EN 13165,
Area of application DAA/ DAD – average compressive strength according to DIN 4108-10,
Minimum requirements:
concentrated load with 5 mm compression PL (5) >= 800 N
compressive stress with 10% compression CS (10) >= 70 kPa
Material thickness ..... mm,
U-value including consideration of thermal bridges ..... W/sqmK
Thermal conductivity group 028,
normal flammability, building materials class B2 according to DIN 4102 / Euro class E according to DIN EN 13501-1,
mineral fleece on both sides, peripheral stepped seam,
insulating elements are to be arranged staggered with tight joints, compressive stress >= 100 kPa,
Manufacturer BACHL PUR/PIR insulating board 028 or equivalent .....

for installation of RIB-ROOF Speed 500/Evolution directional profiles 750, according to art. RIB-ROOF metal roofing system, to be fastened in upper chord of the liner three times
or for installation of RIB-ROOF Speed 500 clip borders, according to art. RIB-ROOF metal roofing system
- flat design
- perforated design with factory stamped, sunk holes,

or with load distribution panels (approx. 1m/m2 roof area) of
steel sheet with aluminum-zinc coating –
at least 100mm wide, for installation of holding brackets according to art. RIB-ROOF metal roofing systems

Including fastening materials out of stainless steel material approved by building-authorities for existing substructure
According to DIN EN 1991-1-4, increased wind loads in the edge and corner roof areas are to be observed,

Note: together with the RIB-ROOF metal roofing system and a vapour barrier membrane with reduced fire load, the complete roof structure complies with the requirements without testing according to DIN 18234-2 / industrial construction guidelines according to DIN 18234-2

0.000 sqm UP _____ TP _____

00.05.03.20 EPS insulating board DAA/ DAD - dh for clip border/load distribution panel

Thermal insulation, compression-resistant, consisting of:
rigid EPS expanded polystyrene rigid foam insulating boards according to DIN EN 13163,
Area of application DAA/ DAD - dh average compressive strength according to DIN 4108-10, minimum requirements:
concentrated load with 5 mm compression PL (5) >= 500 N and
compressive stress with 10% compression CS (10) >= 50 kPa
Material thickness ..... mm,
U-value including consideration of thermal bridges ..... W/sqmK
Thermal conductivity group 035,
difficult to ignite, building materials class B1 according to DIN 4102 / Euro class E according to DIN EN 13501-1,

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peripheral stepped seam, insulating elements are to be arranged staggered with tight joints, compressive stress >= 150 kPa,
Manufacturer BACHL EPS insulating board 035 or equivalent .....
for installation of RIB-ROOF Speed 500 clip borders, according to art. RIB-ROOF metal roofing system
or with load distribution panels (approx. 1m/m2 roof area) of Steel sheet with aluminum-zinc coating- at least 100mm wide,
- flat design
- profiled design with factory stamped, sunk holes - ,for installation of holding brackets according to art. RIB-ROOF metal roofing system

Including fastening materials out of stainless steel material approved by building-authorities for existing substructure
According to DIN EN 1991-1-4, increased wind loads in the edge and corner roof areas are to be observed,

Note: A roof structure with a complete insulation layer of EPS insulating boards does not fulfill the requirements described in DIN 18234-1 / industrial construction guidelines!
Only with insulation combinations together with insulating materials cited in 3.1.1, DIN 18234-2 / industrial construction guidelines, with the indicated minimum thickness, the RIB ROOF metal roofing system and
a vapour barrier membrane with reduced fire load are the requirements fulfilled if the EPS insulating boards do not directly lay on the supporting roof shell according to 3.1.1.

0.000 sqm UP _____ TP _____

00.05.03 PUR, EPS rigid foam TP _____

00.05 Thermal insulation TP _____

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00.06 Distance / supporting strucures

00.06.01 Wooden supporting structures

00.06.01.10 Wooden supporting structures

Wooden counter lathing, as distance construction
In terms of load transfer as a non-load-bearing component,
consisting of impregnated squared timber of spruce/fir according to DIN 4074-1,
dry-graded based on moisture content maximum 20% without transverse bending (warping),
acc. to DIN 68800-1, unfavorable application class 2 for roofs with wood preservative for the use against fungi and insects according to DIN 68800-3 / NP1, treated without penetration requirements,
in cross section…mm

spacing of approx. .....m in normal areas
spacing of approx. .....m in edge areas
spacing of approx. .....m in corner areas
mounted on substructure consisting of timber rafters,
including fastening material out of stainless steel material approved by building-authorities.
According to DIN EN 1991-1-4, increased wind loads in the edge and corner roof areas are to be observed,

0.000 sqm UP _____ TP _____

00.06.01.20 Tongue and groove boards (timber formwork)

Tongue and groove boards, board thickness - 24 mm - 30 mm -,
as substructure in terms of load transfer as non-load bearing building component according to EN 1955-1-1 Eurocode 5,
impregnated made of spruce/fir according to DIN 4074-1
according to DIN 68800-1, unfavorable application class 2 for roofs with wood preservative for the use against fungi and insects according to DIN 68800-3 / NP1, treated without penetration requirements,
dry-graded based on moisture content maximum 20%, on substructure consisting of .....,
for installation of holding brackets including fasteners out of stainless steel material approved by building authorities,

According to DIN EN 1991-1-4, increased wind loads in the edge and corner roof areas are to be observed,

0.000 sqm UP _____ TP _____

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EINFACH FUNKTIONELL BEDACHT

00.06.02 Lightweight-Substructure

00.06.02.10 Sloping lightweight substructure

Lightweight steel substructure on the on-site supporting structure x.....x (reinforced concrete ceiling) at a slope of x.x °, considering all positive loads such as snow accumulation in the area of rising surfaces according to DIN 1055, in accordance with manufacturer's guidelines and structural analysis.

Lightweight-Substructure consisting of
- A-base bracket (thermally isolated from the supporting structure if required) incl. cross bar in various heights and lengths as required for the project, width 100 mm, fixed to the ceiling at intervals of approx. 1000 mm.

- Support reinforcement profile and distance shoe are attached to the A-base bracket at a maximum spacing of 2000 mm according to the roof pitch, continuously to accommodate the offset 750 or 2500 mm directional profiles as required by the structural analysis.

- Stiffening bracing for A-base brackets with cross- and longitudinal stiffeners (aluminium eaves angle), for directional profiles as purlins

Roof shape: pent-/gable roof
Slope: x,x °
Material: Sheet steel 2.0 mm (or according to statics) with AZ 185 or ZM 300 coating

Fixing holes in the A-base brackets must be sealed watertight.
The A-base brackets must be fixed to the supporting structure x.....x (reinforced concrete ceiling) using approved fasteners.

The lightweight substructure creates a slope-forming overall system in accordance with the static dimensioning of the individual elements and installation plans.

Delivery and installation according to the installation plan, including all fasteners.
.

0,000 m² UP _____ TP _____

00.06.02.20 Hat profile on eaves / ridge side

Hat profile on the eaves/ridge side for load transfer, e.g. to accommodate gutter hooks or to form fixed points (thermally separated from the supporting structure if required)

Material: Sheet steel with AZ 185 or ZM 300 coating
Thickness: 2.0 mm (or according to structural analysis)
Cut to size: according to project-related required heights and roof pitches

Delivery and installation according to installation plan

0,000 m UP _____ TP _____

00.06.02.30 Rear ventilation on eaves / ridge-side cap profile with ventilator clip

Rear ventilation on eaves / ridge-side hat profile with ventilator clip consisting of
Standard clip RIB-ROOF Speed 500 made of 1.30 mm sheet steel with AZ185/ZM300 coating, attached to
Ventilation spacer made of aluminium rectangular tube - Material: aluminium, thickness: 4.0 mm

Delivery and installation according to installation plan

00.06 Wooden supporting structures TP _____

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EINFACH FUNKTIONELL BEDACHT

00.07 Metal roof covering

00.07.01 RIB-ROOF Metal roof covering

00.07.01.10 RIB-ROOF Evolution

RIB-ROOF Evolution metal roofing system, sliding standing seam roofing,
CE marking* according to the European Technical Assessment (ETA)
approved by the DIBt (Deutsches Institut für Bautechnik, Berlin),
self-supporting, accessible,
“hard” roofing according to DIN 4102-4, resistant to flying sparks and radiant heat,
standard width 500mm, profile height 67mm,
sheet length ..... m without transvers joint,
with pre-fabricated rounded sliding standing seam joints.
Profiled sheets are exclusively installed by clamping, without any additional mechanical folding or crimping of individual elements on building site.
Roof pitch ..... degrees,
building height up to ..... m
Type RIB-ROOF Evolution or equivalent .....
Material consisting of:

- Aluminum mill finish and stucco-embossed*
  Material thickness - 0.8 - 0.9 - 1.0 mm
  CE marking according to European Technical Assessment ETA-17/1069

- Aluminum smooth, colour- coated*
  Top-side 25µm polyester lacquer in RAL standard colours,
  rear side protective coating,
  material thickness - 0.8 - 0.9 - 1.0 mm
  CE marking according to European Technical Assessment ETA-17/1069

- Steel sheet galvanized and colour-coated*
  Top-side 25µm polyester lacquer "robust”, highly scratch resistant, RUV4 resistant, in RAL standard colours, rear side protective coating,
  material thickness 0.63mm
  CE marking according to European Technical Assessment ETA-17/1068

- Steel sheet with aluminium-zinc alloy *
  Coating weight 185 g/m^2, corrosion protection class III,
  material thickness 0.63 mm
  CE marking according to European Technical Assessment ETA-17/1068

- Titanium-zinc mill finish according to DIN EN 988
  Material thickness - 0.7 - 0.8 mm

- Titanium-zinc pre-weathered according to DIN EN 988
  Material thickness - 0.7 - 0.8 mm

- Copper - TECU mill finish according to DIN EN 1172
  (KM-Europametal AG, Osnabrück)
  Material thickness 0.60 mm

Perforation free fastening according to the manufacturer’s guidelines by means of:

- Standard clips made of steel 1.30 mm with aluminium-zinc alloy
  Quantity….pcs./m^2 or according to static calculations

- Directional clips made of steel 1.30 mm with aluminium-zinc alloy
  Quantity .... pcs./m^2 or according to static calculations

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- Directional profiles made of steel 1.00 mm with aluminium-zinc alloy
  Quantity .... pcs./m² or according to static calculations

According to DIN EN 1991-1-4, increased wind loads in the edge and corner roof areas are to be observed.
Profiled sheets are folded up at the ridge side, folded down at the eaves side and fastened with fixed-points.
Substructure according to separate item:……..
Fastening materials consisting of stainless material according to the approval or static requirements
Manufacturer's declaration
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0.000 sqm UP _____ TP _____

00.07.01.20 RIB-ROOF Speed 500
RIB-ROOF Speed 500 metal roofing system, sliding standing seam roofing,
CE marking* according to the European Technical Assessment (ETA)
approved by the DIBt (Deutsches Institut für Bautechnik, Berlin),
self-supporting, accessible,
“hard” roofing according to DIN 4102-4, resistant to flying sparks and radiant heat,
standard width 500 mm, profile height 65 mm,
sheet length ..... m without transvers joint,
pre-fabricated trapezoidal sliding standing seam joints.

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EINFACH FUNKTIONELL BEDACHT

Profiled sheets are exclusively installed by clamping, without any additional mechanical folding or crimping of individual elements on building site.
Roof pitch ..... degrees,
building height up to ..... m
Type RIB-ROOF Speed 500 or equivalent .....
Material consisting of:

- Aluminum mill finish and stucco-embossed*
  Material thickness - 0.7 - 0.8 - 0.9 - 1.0 mm
  CE marking according to European Technical Assessment ETA-18/0035

- Aluminum smooth, colour-coated*
  Top-side 25µm polyester lacquer in RAL standard colours,
  rear side protective coating,
  material thickness - 0.7 - 0.8 - 0.9 - 1.0 mm
  CE marking according to European Technical Assessment ETA-18/0035

- Steel sheet galvanized and colour-coated*
  Top-side 25µm polyester lacquer "Robust", highly scratch resistant,
  RUV4 resistant, in RAL standard colours, rear side protective coating,
  material thickness 0.63mm
  CE marking according to European Technical Assessment ETA-18/0034

- Steel sheet with aluminium-zinc alloy *
  Coating weight 185 g/m^2, corrosion protection class III,
  material thickness 0.63 mm
  CE marking according to European Technical Assessment ETA-18/0034

- Titanium-zinc mill finish according to DIN EN 988
  Material thickness - 0.7 - 0.8 mm

- Titanium-zinc pre-weathered according to DIN EN 988
  Material thickness - 0.7 - 0.8 mm

- Copper - TECU mill finish, according to DIN EN 1172
  (KM-Europametal AG, Osnabrück)
  Material thickness 0.60 mm

Perforation free fastening according to the manufacturer's guidelines by means of:

- Standard clips made of steel 1.30 mm with aluminium-zinc alloy
  (For copper profiled sheets: standard clips made of copper 1.30 mm
  or standard clips made of stainless steel 1.20mm, material number: 1.4301 III c)
  Quantity….pcs./m^2 or according to static calculations

- Directional clips made of steel 1.00 mm with aluminium-zinc alloy
  Quantity .... pcs./m^2 or according to static calculations

- Directional profiles made of steel 1.00 mm with aluminium-zinc alloy
  Quantity .... pcs./m^2 or according to static calculations

- Clip borders made of steel sheet 1.30 mm with aluminium-zinc alloy
  - flat design or
  - perforated design with factory stamped, sunk holes

Quantity .... pcs./m^2 or according to static calculations

According to DIN EN 1991-1-4, increased wind loads in the edge and corner roof areas are to be observed.
Profiled sheets are folded up at the ridge side, folded down at the eaves side and fastened with fixed-points.
Substructure according to separate item:……..

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EINFACH FUNKTIONELL BEDACHT

Fastening materials consisting of stainless material according to the approval or static requirements
Manufacturer's declaration
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0.000 sqm UP _____ TP _____

00.07.01.30 RIB-ROOF 465
RIB-ROOF 465 metal roofing system, sliding standing seam roofing,
CE marking* according to DIN EN 14782,
self-supporting, accessible,
“hard” roofing according to DIN 4102-4, resistant to flying sparks and radiant heat,
construction width 465 mm, profile height 48 mm,
sheet length ..... m without transvers joint,
with per-fabricated trapezoidal sliding standing seam joints.
Profiled sheets are exclusively installed by clamping, without any additional mechanical folding or crimping of individual elements on construction site.
Roof pitch ..... degrees,
building height up to ..... m
Type RIB-ROOF 465 or equivalent .....
Material consisting of:

- Aluminum mill finish and stucco-embossed *
  Material thickness 0.7 - 0.8 - 0.9 - 1.0 mm
  CE marking according to DIN EN 14782
  (General System Authorisation Z-14.1-346 valid until 1 February 2021)

- Aluminum smooth and colour-coated*
  Top-side 25µm polyester lacquer in RAL standard colours,
  rear side protective coating,
  material thickness 0.7 - 0.8 - 0.9 - 1.0 mm
  CE marking according to DIN EN 14782
  (General System Authorisation Z-14.1-346 valid until 1 February 2021)

- Steel sheet galvanized and colour-coated*
  Top-side 25µm polyester lacquer "Robust", highly scratch resistant,
  RUV4 resistant, in RAL standard colours,
  rear side protective coating,
  material thickness 0.63 mm
  CE marking according to DIN EN 14782
  (General System Authorisation Z-14.1-345 valid until 1 February 2021)

- Steel sheet with aluminium-zinc alloy*
  Coating weight 185 g/m^2, corrosion protection class III,
  material thickness 0.63 mm
  CE marking according to DIN EN 14782
  (General System Authorisation Z-14.1-345 valid until 1 February 2021)

- Titanium-zinc mill finish according to DIN EN 988
  Material thickness 0.7 - 0.8 mm

- Titanium-zinc pre-weathered according to DIN EN 988
  Material thickness 0.7 - 0.8 mm

- Copper - TECU mill finish according to DIN EN 1172
  (KM-Europametal AG, Osnabrück)
  Material thickness 0.60mm

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Perforation free fastening according to the manufacturer's guidelines by means of:

Standard clips made of steel sheet 1.30 mm with aluminium-zinc alloy
(For copper profiled sheets: standard clips made of copper 1.30 mm or
standard clips made of stainless steel 1.20 mm, material number: 1.4301 III c)
Quantity .... pcs./m^2 or according to static calculations
without perforation of the profiled sheets.

According to DIN EN 1991-1-4, increased wind loads in the edge and corner roof areas are to be observed.
Profiled sheets are folded up at the ridge side, folded down at the eaves side and fastened with fixed-points.
Substructure according to separate item:……..
Fastening materials consisting of stainless material according to the approval or static requirements.
Manufacturer's declaration
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0.000 sqm UP _____ TP _____

00.07.01.40 Installation Plan
A digital version of the installation plan for installation of RIB-ROOF profiled sheets is to be submitted to the Customer for his approval prior to the commencement of the installation works

1.000 flatrate UP _____ TP _____

00.07.01.50 Object-related RIB-ROOF standard details
Object-related RIB-ROOF standard details, exclusively for system components, e.g. for ridge, verge, eaves in digital form, to be submitted to the Customer for approval prior to the start of the installation works

Note: Execution details or other planning services are not included in the scope of delivery

00.07.01.60 Calculation of necessary holding bracket distances
Verifiable analysis for calculation of the necessary holding bracket distances for wind suction fastening of RIB-ROOF profiled sheets
digitally

1.000 flatrate UP _____ TP _____

00.07.01 RIB-ROOF metal roofing system TP _____

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00.07.02 Extras for metal roofs

00.07.02.10 Execution of fixed points by means of directional clip / profiles

Execution of fixed points by means of:
- directional clip 200 mm
- directional profile 750 mm -

for long profiled sheets or steep roofs or high snow loads including substructures consisting of:
- wooden lathing
- steel hat profiles, galvanized and coated,

cutting ..... mm, material thickness ..... mm,
including filling of cavity with mineral wool,
height according to thickness of thermal insulation,
Fixed points are installed with screws or rivets (... pcs./profiled sheet).

Note:
The quantity of wooden slats/hat profiles and distance between them depend on the profiled sheets length and statics, and must be coordinated with the manufacturer.

0,000 pc UP _____ TP _____

00.07.02.20 PVDF coating system

PVDF - (polyvinylidene fluoride type A) coating system
extra for top side of profiled sheets,
coating thickness 25µm

0.000 sqm UP _____ TP _____

00.07.02.30 Special colours and surfaces

Special colours and surfaces
extra for top side of profiled sheets:
- Patina Look
- Zinc Look
- Stucco-embossed Patina Matt

0.000 sqm UP _____ TP _____

00.07.02.40 Anticondensation/sound absorption

Anticondensation / sound absorption fleece coating extra for the rear side of profiled sheets,
consisting of fleece – thickness 1 mm, consisting of PES – with water and sound absorbing properties, area of application cold roof or on structured separation layer.
Water absorption approx. 900 g/m^2
Insulation of rainfall noises 3 dB according to ISO140-18
Flammability A2 – s1, d0 according to 13501-1
Standard colour flecked with grey

0.000 sqm UP _____ TP _____

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00.07.02.50 Acoustic fleece coating for RIB-ROOF acoustic roof
Acoustic fleece coating extra for the rear side of profiled sheets for RIB-ROOF acoustic roof,
consisting of fleece – thickness 3 mm, consisting of PES/PE/synthetic rubber – with sound and water absorbing properties, area of application cold roof or on structured separation layer.
Insulation of rainfall noises 6 dB according to ISO140-18
Water absorption up to approx.. 2500 g/m2
Flammability C – s1, d0 according to EN 13501-1
Standard colour black-and-white

00.07.02.60 Curving
Curving, factory-made
extra for installation of
- convex
- concave

curved roof structures,
Radius of roof area ..... m
Length of deformation area ..... m

0.000 sqm UP _____ TP _____

00.07.02.70 Curving - forced-curved
Curving - forced-curved, factory-made,
for RIB-ROOF profiled sheets, construction width 465mm
extra for curved roof structures,
Radius of roof area ..... m
Length of deformation area ..... m

0.000 sqm UP _____ TP _____

00.07.02.80 Tapered
Extra for tapered RIB ROOF profiled sheets Evolution/Speed 500
- minimum construction width 230 mm
- maximum construction width 500mm - special construction width up to 600mm as a maximum

0.000 sqm UP _____ TP _____

00.07.02.90 Tapered curved
Extra for tapered curved RIB ROOF profiled sheets Evolution/Speed 500
tapered, minimum construction width 230mm
- maximum contruction width 500mm - special construction width up to maximum 600mm and curved for
  - convex
  - concave

curved roof structures,
Radius of roof area ..... m
Length of deformation area ..... m

0.000 sqm UP _____ TP _____

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00.07.02.100 Curving, sealing of longitudinal overlap
Sealing of longitudinal overlap of curved profiled sheets for rounded roof structures with roof pitches of less than 1.5°in its highest point
one-sided self-adhesive sealing strips out of PUR flexible foam, driving rain-proof, breathable, as backwater protection on small profiled steel seams
Dimensions: band width: 15 mm, application area: 3 x 9 mm
Manufacturer Iso-Chemie, type Iso-Zell PE cord or equivalent: .....

0.000 m UP _____ TP _____

00.07.02.110 Green roof, sealing of longitudinal overlap
Sealing of longitudinal overlap of profiled sheets installed on green roofs with one-sided self-adhesive sealing tape out of PUR flexible foam, driving rain-proof, diffusion-open, as backwater protection on small profiled sheet seam
Dimension: band width: 15 mm, application area: 3 x 9 mm
Manufacturer Iso-Chemie, type Iso-Membra SX or equivalent: .....

0,000 m UP _____ TP _____

00.07.02.120 Profiling on site
Extra for on-site profiling for profiled sheet lengths of ..... m
The following must be provided
- 380 V electrical connection and
- fixed utility space of approx. 5.00 x .... m

Note:
(to be executed with profiled sheet length of more than 33 m or narrow access roads)

1.000 flatrate UP _____ TP _____

00.07.02.130 Curving on site
Extra for on-site curving for curved profiled sheets
The following must be provided
- 380 V electrical connection and
- fixed utility space of approx. … x .... m

Note:
Depending on the rise of the curved profiled sheets, they are curved on construction site for transportation reasons.

1.000 flatrate UP _____ TP _____

00.07.02 Extras for metal roofs TP _____

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00.07.03 Joints and closures

00.07.03.10 Eaves angle

Eaves angle for RIB ROOF profiled sheets, out of aluminum, dimensions 40 x 20 x 2 mm to be fastened with aluminum blind rivets with stainless steel pin penetrating the flanges of the profiled sheets at the bottom.

0.000 m UP _____ TP _____

00.07.03.20 Diagonal cut

Diagonal cut of metal profiled sheets,
including cutting, exclusively implemented by means of plate shears
Note:
In case of corrosion-resistant materials (steel), it is necessary to ensure a proper treatment of cut edges.

0.000 m UP _____ TP _____

00.07.03.30 Ridge cap

Ridge cap for metal profiled sheets,
Material and surface, such as roof covering consisting of:
- 2 closures, cutting 223 mm
- 2 profile fillers for the top side of profiled sheets
- Ridge cap, cutting – 416 mm – 625 mm -, 3 edges,

including necessary expansion elements

0.000 m UP _____ TP _____

00.07.03.40 Single pitch ridge cap

Single pitch ridge cap for metal profiled sheets,
Material and surface, such as roof covering consisting of:
- Closure, cutting 223 mm
- Profile filler for the top side of profiled sheets
- Stopping plate, cutting 125 mm, 2 edges,
- Ridge cap, material the same as roof covering, cutting – 416 mm – 625 mm -, 5 edges,

including necessary expansion elements

0.000 m UP _____ TP _____

00.07.03.50 Special construction: sliding ridge cap

Special construction: sliding ridge cap according to detail no. .....
extra for fixed points outside the ridge area and sheet lengths of ..... m

0.000 m UP _____ TP _____

00.07.03.60 Ventilation ridge cap

Ventilation ridge cap for metal profiled sheets, height 80mm
material and surface, such as roof covering consisting of:
- two ventilation closures with profile fillers
- ridge cap free airflow cross section 450 cm^2/m

including necessary expansion elements

0.000 m UP _____ TP _____

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00.07.03.70 End formation
Extra for end formation for ventilation ridge cap

0,000 St UP _____ TP _____

00.07.03.80 Cover sheet for verge
Cover sheet for verge for metal profiled sheets,
Material and surface like roof covering, consisting of:
- Stopping plate, cutting 125 mm, 2 edges,
- Suspended profile, material like roof covering, cutting 223 mm – 330 mm
- Cover sheet for verge, material like roof covering,

cutting – 312 mm – 416 mm -, 5 edges,
including necessary expansion elements

0.000 m UP _____ TP _____

00.07.03.90 Cover sheet for verge, extra for rounded structures
Rounded design of cover sheets for verge extra for curved roof structures, rounded elements are fixed with the help of stopping plates

0.000 m UP _____ TP _____

00.07.03.100 RIB-ROOF verge, roll-formed
RIB-ROOF profile sheet without transverse joint formation with integrated verge trim, height 90 mm, incl. water guiding edge.
Same material and surface as the RIB-ROOF Evolution/Speed500 roof cladding.
Fastening with RIB-ROOF clip systems and/or special flashing made of 1.0 mm galvanised and colour-coated sheet steel.
For customised, project-related distribution and installation of the entire RIB-ROOF covering surface in customised width

0.000 m UP _____ TP _____

00.07.03.110 Step joint
Step joint for metal profiled sheets
Material and surface the same as roof covering consisting of:
- folding up and folding down of both bottom chords of profiled sheets
- closure, cutting 223 mm
- joining plate for grading, cutting 416 mm, 3 edges, including expansion elements
- eaves stripes underneath the upper profiled sheet, cutting 312 mm, 3 edges

including fixing material

0.000 m UP _____ TP _____

00.07.03.120 Arris cover

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Arris cover for metal profiled sheets,
Material and surface the same as roof covering consisting of:
- Two suspended profiles with on-site notch in the area of upper flanges
- 2 profile fillers for top side of profiled sheets
- Arris cover, cutting 416 mm, 3 edges,

including necessary expansion elements,
Angle cutting of profiled sheets is accounted as separate item.

0.000 m UP _____ TP _____

00.07.03.130 Wall connection, lateral
Wall connection, lateral (verge wall connection) for metal profiled sheets,
Material and surface the same as roof covering consisting of:
- Suspended profile, cutting 223 mm
- Joining plate, cutting 312 mm, 3 edges,

including necessary expansion elements

0.000 m UP _____ TP _____

00.07.03.140 Wall connection, ridge-side
Wall connection at ridge-side (wall connection for single pitch roofs) for metal profiled sheets,
Material and surface the same as roof covering consisting of:
- Closure, cutting 223 mm
- Profile filler for top side of profiled sheets
- Joining plate, cutting 312 mm, 3 edges,

including necessary expansion elements

0.000 m UP _____ TP _____

00.07.03.150 Ventilated wall connection, ridge-side
Ventilated wall connection at ridge-side (wall connection for single pitch roofs) for metal profiled sheets,
Material and surface the same as roof covering consisting of:
- Ventilation closure, cutting 443 mm
- Profile filler for top side of profiled sheets
- Joining plate, cutting 625 mm, 6 edges,

including necessary expansion elements

0.000 m UP _____ TP _____

00.07.03.160 Overhang strip
Overhang strips for wall connection
Material and surface the same as roof covering,
cutting 125mm, 4 edges,
including cutting of wall material and sealing of joints with silicon

0.000 m UP _____ TP _____

00.07.03.170 Green roof – cover sheet for eaves

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EINFACH FUNKTIONELL BEDACHT

Green roof cover sheet for eaves for metal profiled sheets
Material and surface the same as roof covering consisting of:
- closure for green roof, perforated, cutting 223 mm,
- material for cover sheet for eaves as roof covering, height the same as cover sheet for verge

including necessary expansion elements

0.000 m UP _____ TP _____

00.07.03 Joints and closures TP _____

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00.07.04 Roof penetrations

00.07.04.10 Window strip connection

Window strip connection for metal profiled sheets,
Material and surface the same as roof covering consisting of:
- Closure (eaves-side) or suspended profile (head side), cutting 223mm,
- Profile filler for top side of profiled sheets
- Joining plate, cutting 416 mm, 3 edges,

including necessary expansion elements

0.000 m UP _____ TP _____

00.07.04.20 Corner construction

Extra for corner construction for window strip joining plate

0.000 St UP _____ TP _____

00.07.04.30 Thermal insulation of window strip soaker

Thermal insulation for window strip soaker consisting of mineral wool mats KI 40 according to DIN EN 13162 thickness 60mm,
thermal conductivity group 040,
non-flammable according to DIN 4102, water-repellent, water-proofed,
Height of soaker approx. 450mm
Manufacturer Isover type Metac UF 040 Universal-felt (Filz 320) or equivalent:
.....

0.000 m UP _____ TP _____

00.07.04.40 Edging rounded pipe

Edging for – round pipe - room ventilation - antenna - sanitary ventilation -
Diameter up to ..... mm, consisting of:

- Cutting-out of metal profiled sheets
- Pipe coating as truncated cone, material and surface the same as roof covering, minimum height 150mm
  beading to be professionally:
- welded
- sealed

with metal roof covering

Note:
Prior to carrying out any welding, it is necessary to ensure that the substructure is protected with suitable fire protection mats and that the relevant statutory provisions are observed.

0.000 pc UP _____ TP _____

00.07.04.50 Covering cap for rounded pipe

Covering cap extra for rounded pipe DN 100 – 125 – 150 mm,
made of stainless steel V2A mill-finish, nipple dimension DN 100 – 125 – 150 mm,
including suitable rain collar made of stainless steel V2A mill-finish.

0.000 pc UP _____ TP _____

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00.07.04.60 Gooseneck diameter 80mm
Gooseneck DN 80 for round pipe DN 100 as a extra, made of mill-finished aluminium, suitable for concentric reducer diameter 100mm/80 mm,
incl. matching rain collar made of stainless steel V2A mill finish

0.000 pc UP _____ TP _____

00.07.04.70 Thermal insulation for pipe
Extra for thermal insulation of pipe
consisting of mineral wool fleece, to fill the cavity of round pipe and sheet.

0.000 pc UP _____ TP _____

00.07.04.80 Edging of dome lights - roof exit door - chimney
Edging for - smoke/heat removal systems - dome lights - roof exit doors - chimneys - consisting of:
- Cutting-out of metal profiled sheets
- Framing sheet on soaker, material the same as roof covering,

cutting 416mm (position of roof penetration according to layout plan)
Dimensions:
Length: ..... mm width: ..... mm
Diameter: ..... mm

- welded according to technical rules
- sealed according to technical rules

Note:
Prior to carrying out any welding, it is necessary to ensure that the substructure is protected with suitable fire protection mats and that the relevant statutory provisions are observed.

0.000 pc UP _____ TP _____

00.07.04.90 Thermal insulation for dome lights
Extra for thermal insulation for – dome lights - roof exit doors – chimney surround - consisting of:
Mineral wool mats KI 40 according to DIN EN 13162,
Thickness 60mm, WLG 040, non-flammable according to DIN 4102, water-repellent, waterproof,
Height approx. 150 mm
Manufacturer Isover type Metac UF 040 Universal-felt (Filz 320) or equivalent

0.000 pc UP _____ TP _____

00.07.04.100 Soaker for dome light
RIB-ROOF metal soaker for – dome lights - smoke/heat removal systems (RWA) - consisting of material:

- Aluminum mill finish, stucco-embossed, material thickness 1.0 mm
- Aluminum colour-coated, same as roof covering
- Titanium-zinc mill finish according to DIN EN 17770,
- Copper TECU mill finish according to DIN EN 17650,

and inner framing sheet in RAL colour 9002,
Dimensions: ..... mm / ..... mm, height 150 / 250 mm,
Installation thermally insulated, thickness 60 mm, non-flammable with mineral wool according to DIN 4102.
including - welding - sealing -.

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When welding colour-coated sheets, it is necessary to remove the lacquer coating in the welding area and repair the spot upon completion of welding.
Static changes and load transfer is shown with the corresponding item.
Note:
Prior to carrying out any welding, it is necessary to ensure that the substructure is protected with suitable fire protection mats and that the relevant statutory provisions are observed.

0.000 pc UP _____ TP _____

00.07.04 Roof penetrations TP _____

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00.07.05 Attic

00.07.05.10 Attic connection, lateral

Attic connection, lateral (verge attic connection) for metal profiled sheets,
Material and surface the same as roof covering, consisting of:
- Suspended profile, cutting 223 mm
- Joining plate, tapered cutting 416 to .... mm, 3 edges,

including necessary expansion elements,

0.000 m UP _____ TP _____

00.07.05.20 Attic connection, ridge-side

Attic connection at ridge-side (single pitch roof, attic connection) for metal profiled sheets,
Material and surface the same as roof covering, consisting of:
- Closure, cutting 223 mm
- Profile filler for top side of profiled sheets
- Joining plate, cutting 416 mm, - .... mm -, 3 edges,

including necessary expansion elements,

0.000 m UP _____ TP _____

00.07.05.30 Attic substructure, wooden plank

Attic substructure, wooden plank
all-round impregnated, quality grade II, spruce/fir according to DIN 4074,
attic cover to be integrated in surfaces inclined toward the roof,
width approx. ..... mm , minimum height approx. 30 mm,
including separation layer of polymer bitumen roofing sheet and approved fastening elements, on the existing substructure consisting of .....,

0.000 m UP _____ TP _____

00.07.05.40 Attic cover

Attic cover fixed on wooden plank with inclination consisting of:
- Stopping angle out of steel sheet galvanized and colour-coated,

Material thickness 1.5 mm, cutting 416 mm, 2 edges
- Attic cover plate, material and surface like roof covering,

cutting ..... mm, view height approx. 75 mm, 4 edges,
including necessary expansion elements

0.000 m UP _____ TP _____

00.07.05.50 Corner formation

Extra for corner formation of attic

0.000 pc UP _____ TP _____

00.07.05.60 End formation

Extra for end formation of attic cover,

0.000 pc UP _____ TP _____

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00.07.05 Attic TP _____

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00.07.06 Accessories

00.07.06.10 RIB-ROOF snow guard system

Snow guard system for RIB-ROOF profiled sheets consisting of
- Snow guard pipe with nut against twisting, 32 x 2 mm with external pipe connectors
- Snow guard bracket incl. stainless steel screws M8 x 40 and stainless steel nuts

Application rate: 2.00 pcs/m with RIB-ROOF Evolution/Speed 500
2.15 pcs/m with RIB-ROOF 465
General System Authorisation Z-14.4-774 by DIBt (Deutsches Institut für Bautechnik, Berlin)
Material: - Aluminum mill finish -
To be fastened on the upper flange by snapping in the snow guarding pipes with nut without perforation of the profiled sheets.

0.000 m UP _____ TP _____

00.07.06.20 Ice stopper

Extra for snow guard system, ice stopper to lock against twisting for metal profiled sheets consisting of a metal bracket, width approx. 50 mm, gripping in the bottom chord of the profiled sheets
Application rate: 4.0 pcs/m (for RIB ROOF Speed 500)
4.3 pcs./m (for RIB ROOF 465) -
To be fastened by locking the ice stopper in the snow guard pipe with nut without perforation of the profiled sheets.
Material: - Aluminum mill finish -

0.000 pc UP _____ TP _____

00.07.06.30 Snow guard raising element

Extra for snow guard system, snow guard raising element for RIB-ROOF metal profiled sheets,
for stable raising of snow guard row by about 200 mm,
e.g. for PV-modules, consisting of
- 2 x snow guard pipes 32 x 2 mm with pipe connector
- Snow guard bracket incl. stainless steel screws M8 x 40 and stainless steel nuts

Application rate: 2.00 pcs/m with RIB-ROOF Evolution/Speed 500
2.15 pcs/m with RIB-ROOF 465
General System Authorisation No. Z-14.4-774 by DIBt (Deutsches Institut für Bautechnik, Berlin)
Material: - Aluminum mill finish -
To be fastened on the upper flange without penetrating the profiled sheets

0.000 m UP _____ TP _____

00.07.06.40 Walkways (tread support)

Walkways for metal profiled sheets consisting of:
- Tread supports made of aluminum

adjustable for roof pitches of 0 up to 15 degrees
or defined roof pitches of ..... degrees.
Fastening on top flanges without perforation of the profiled sheets incl. stainless steel screws M8 x 40 and self-locking stainless steel nuts.
General System Authorisation Z-14.4-774 by DIBt (Deutsches Institut für Bautechnik, Berlin)

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- Roof grating, walkway, treads

Width: 250 mm (- 500 mm -)
Individual length: 800mm -..... mm
With perforated anti-slip protection, incl. fixing material out of steel hot-dip galvanized (aluminium, stainless steel)

0.000 pc UP _____ TP _____

00.07.06.50 Solar brackets
Solar brackets for metal profiled sheets
consisting of:

- solar brackets incl. stainless steel screws M8 x 40 and stainless steel nuts
- angle brackets used as connection between solar brackets and solar systems

General System Authorisation Z-14.4-774 by DIBt (Deutsches Institut für Bautechnik)
Material: Aluminum mill finish
To be fastened on the upper flange without perforation of the profiled sheets.

Note: according to DIN EN 50164-1, test class N / VDE 0185 Part 201, uncoated aluminium solar brackets are also used as brackets for lightning protection.

0.000 pc UP _____ TP _____

00.07.06.60 Solar pipe - substructure
Solar pipe substructure for RIB-ROOF profiled sheets for further fastening of slot nuts/hammer-head bolts, e.g. for PV-modules consisting of

- Solar pipe 32 x 2 mm with groove
- Snow guard bracket incl. stainless steel screws M8 x 40 and stainless steel nuts

Application rate: 2.00 pcs/m with RIB-ROOF Evolution/Speed 500
2.15 pcs/m with RIB-ROOF 465
- General System Authorisation Z-14.4-774 by DIBt (Deutsches Institut für Bautechnik, Berlin)
Material: - Aluminium mill finish
To be fastened on the upper flange without penetrating the profiled sheets

0.000 m UP _____ TP _____

00.07.06.70 Bracket for lightning protection
Bracket for lightning protection for metal profiled sheets,
tested for lightning current carrying capacity of connecting elements according to DIN EN 50164-1, test class N / VDE 0185 Part 201 for connecting to
RIB ROOF metal roofing applicable according to DIN EN 62305-3 / VDE 0185 Part 305-3
consisting of:
- brackets incl. stainless steel screws M8 x 40 and stainless steel nuts

Material: Aluminum mill finish
To be fastened on the upper flange without perforation of the profiled sheets
to be delivered

0.000 pc UP _____ TP _____

00.07.06 Accessories TP _____

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00.07.07 Accessories for fall arrest system

00.07.07.10 Single anchor point

These safety systems are used as a personal roping safety system for works in areas where the risk of falling is very high. To be fastened perforation-free on the RIB-ROOF metal roofing system.

Permanently useable anchor for mounting of personal safety equipment (DIN 4426 Equipment for building maintenance - safety requirements for workplaces and accesses – design and execution)

Testing and load:
Single anchor point is proven and certified according to DIN EN 795:2012 class A/max. 3 persons and according to General System Authorisation Z-14.9-802*.)
Important: Incl. evidence of the proper installation by documenting fastening on the subsurface with the aid of fastening system report rendered by a suitable installation company.

The roof structure must be checked on site for the absorption of input forces. The technical building regulations must be observed. Construction of the substructure is performed by the customer according to the local conditions.

The single anchor point made of stainless steel for type-tested mounting on RIB-ROOF profiled sheet with aluminium clamping jaws.

- for metal roofing system RIB-ROOF 465 metal roofing system
  General System Authorisation Z-14.9-802*) for Aluminium ≥ 0,70 mm
  Manufacturer: LUX-top GBD-RR 465 or equivalent …….

- for metal roofing system RIB-ROOF Speed 500 metal roofing system
  authorisation Z-14.9-802*) for aluminium ≥ 0,70 mm and Stahl ≥ 0,63 mm
  Manufacturer: LUX-top GBD-Z500 or equivalent …….

- for metal roofing system RIB-ROOF Evolution metal roofing system
  authorisation Z-14.9-802*) for aluminium ≥ 0,70 mm
  Manufacturer: LUX-top FALZ-PLUS Evolution or equivalent …….

0.000 pc UP _____ TP _____

00.07.07.20 Horizontal lifeline system

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These safety systems are used as a personal roping safety system for works in areas where the risk of falling is very high. To be fastened perforation-free with a system clamping fastening on the RIB-ROOF metal roofing system.

Permanently on the roofing area remaining anchorage system with flexible control of the fastening of the personal safety system against falling (DIN 4426 establishment for the maintenance of structural facilities - safety requirements regarding working places and infrastructure – planning and execution).

Horizontal lifeline system out of stainless steel, tested and certified according to DIN EN 795:2012 - Type C and according to General System Authorisation Z-14.9-789.
Important: Evidence of the proper installation by documenting fastening on the substructure by means of fastening system report issued by a suitable installation company.

The roof structure must be checked on site for the absorption of input forces. The technical building regulations must be observed. Preparation of the system planning with a distance of about 7.50 m under consideration of the substructure is done by the customer according to local conditions; training and final acceptance incl. test report and rating plate installed at roof access are provided by the contractor.

Horizontal lifeline system out of stainless steel in traversable execution (intermediate bracket points and corners are free traversable) for the type-tested fastening on RIB-ROOF profiled sheets consisting of:
clamping elements and end terminal, cable force maintainer (SKE), intermediate bracket and stainless steel rope 8mm (construction 7x7).

Installation of the horizontal lifeline system has to be done exclusively by trained, qualified personnel.

type: LUX-top ® FSE 2003, or equivalent …….

0.000 m UP _____ TP _____

00.07.07.30 End lock set
End lockset consisting of clamping element or end terminal
Material: stainless steel
Type: LUX-top ® FSE 2003, or equivalent …….

0.000 pc UP _____ TP _____

00.07.07.40 Corner bracing element 90 / ..... degrees
can be used as inner and outer corner;
Material: stainless steel
Type: LUX-top ® FSE 2003 cable guide 90° or variable, or equivalent …….

0.000 pc UP _____ TP _____

00.07.07.50 Annual inspection
Inspection needs to be carried out annually by a competent qualified person. Annual inspection
of lifeline system incl. documentation in test report. Necessary repairs resulting from the inspection will be separately settled after consultation, incl. all travel expenses, billing per system.

1.000 flatrate UP _____ TP _____

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00.07.07.60 Rope slide
Moveable anchor point to fasten the personal safety system against falling.
The rope slide enables free passing of the corner and intermediate anchoring of the lifeline system LUX-top® FSE 2003 and thus makes it unnecessary for the user to release the anchorage devices in order to rehang them on the intermediate anchors.
The running element has an opening function which allows the user to place and remove the rope slide at any point of the system.

Type: LUX-top® FSE 2003 SG-A or equivalent …….
to be delivered and passed over to the construction management on site

0.000 pc UP _____ TP _____

00.07.07.70 Personal safety equipment
Safety harness, guided type fall arrester 10 m with a kernmantle rope 12 mm
incl. a carrying bag
Type: LUCX-top® PSAgA, or equivalent …….
to be delivered and passed over to the construction management on site

0.000 pc UP _____ TP _____

00.07.07.80 Storage cupboard
Storage cupboard, steel sheet, grey lacquered, lockable,
Size 730 x 340 x 222 mm, for storage of above-described personal safety equipment,
to be delivered and passed over to the construction management on site

0.000 pc UP _____ TP _____

00.07.07 Accessories for fall arrest system TP _____

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EINFACH FUNKTIONELL BEDACHT

00.07.08 Accessories for green roof

00.07.08.10 RIB-ROOF green roof

Green roof system Urbanscape for RIB-ROOF Speed 500/ Evolution system width 500mm, for roof pitches up to 10°

Height: approx. 100 mm, dry weight of the whole system: approx. 22 kg/sqm – waterlogged: approx. 77 kg/sqm, to be delivered and professionally installed according to manufacturer's specifications.

The system has been tested according to DIN CEN/TS 1187-1 classified according to DIN EN 13501-5 as "broof (t1,3)". Build-up consisting of 4 layers:

Layer 1: Urbanscape drainage with water storage, height 40 mm,
Layer 2: Fleece out of polypropylene, thermally strengthened,
Layer 3: Urbanscape Green Roll protection sheet, thickness 40 mm
Layer 4: Urbascape Sedum Mix vegetation mat, thickness approx. 20 mm,
(Additional measures may be required for roof pitches >10°)

Note: Observe Service- and maintenance instructions

Edge strips: framed edge strips with gravels of a grain size of 16/32 mm, width 500 mm, according to RIB-ROOF green roof standard details

Edging of green roof partial areas as extra article in the RIB-ROOF tender specifications.
Eaves as extra article in the RIB-ROOF tender specifications.
Sealing tape within the profiled sheet seam as extra article in the RIB-ROOF tender specification.

Note: The RIB-ROOF metal roofing system is not susceptible to root penetration, therefore root protection foil is unnecessary.

Make: system Urbanscape "for Zambelli RIB-ROOF"
Proof of delivery: Knauf Insulation GmbH, Heraklithstraße 8, D-84359 Simbach am Inn

The General Terms and Conditions specifically for green roofs apply in addition to our General Terms and Conditions, available at http://www.zambelli.de/agb.html.

0.000 pc UP _____ TP _____

00.07.08.20 Green roof extra for roof pitches >10°

Addition to layer 4: reinforced vegetation mat as a safety measure against slipping for roof pitches > 10°
Supply and install in accordance with the manufacturer's instructions. The sliping protection of the green roof system as an extra in the RIB-ROOF tender:
Snow guard system according to roof pitch and local conditions. Additional snow guard above the gravel fill.

0.000 pc UP _____ TP _____

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EINFACH FUNKTIONELL BEDACHT

00.07.08 Accessories for green roof TP _____

00.07 Metal roof covering TP _____

00.08 Metal sheet works

Basis for roof drainage system
The following sizes of gutters and downpipes shall be taken as basis for the roof drainage system:

Gutter:	500 mm	400 mm	333 mm	280 mm	250 mm
Downpipes:	150 mm	120 mm	100 mm	80 mm	60 mm

00.08.01 Gutters

00.08.01.10 Gutter board
Gutter boards are intended for fixing of gutter hooks and holding brackets,
quality grade II, spruce/fir according to DIN 4074, impregnated on all sides,
Height ..... mm (according to thickness of thermal insulation), width 160mm,

0.000 m UP _____ TP _____

00.08.01.20 Gutter, half-round
Gutter, non-bearing, half-round according to DIN EN 612
- cutting - 250mm (8-parts), .
- cutting - 280 mm (7-parts), .
- cutting - 333 mm (6-parts), .
- cutting - 400 mm (5-parts), .
- cutting - 500 mm (4-parts), .
- or cutting based on requirements ..... mm

incl. gutter hooks, minimum thickness 6 x 25mm,
Gutter hook spacing according to Table 9 of the technical rules for metal roofers, maximum 900mm or static requirements for areas with heavy snowfalls
and necessary expansion elements as well as outlets and gutter ends
Manufacturer Zambelli or equivalent .....
Material:
- Aluminum mill finish
- Steel sheet galvanized
- Steel sheet galvanized, colour-coated, same colour as roof covering
- Titanium-zinc mill finish according to DIN EN 988,
- Copper TECU mill finish according to DIN EN 1172,

0.000 m UP _____ TP _____

00.08.01.30 Box-shaped gutter
Gutter, non-bearing, execution as box-shaped gutter according to DIN EN 612,
- cutting - 250mm (8-parts), .
- cutting – 280 mm (7-parts)
- cutting - 333 mm (6-parts), .
- cutting - 400 mm (5-parts), .
- cutting - 500 mm (4-parts), .
- or cutting based on requirements ..... mm

Gutter hooks, minimum thickness 6 x 25mm,

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Gutter hook spacing according to Table 9 of the technical rules for metal roofers, maximum 900mm or
static requirements for areas with heavy snowfalls
and necessary expansion elements as well as outlets and gutter ends
Manufacturer Zambelli or equivalent .....
Material:
- Aluminum mill finish
- Steel sheet galvanized
- Steel sheet galvanized, colour-coated, same colour as roof covering
- Titanium-zinc mill finish according to DIN EN 988,
- Copper TECU mill finish according to DIN EN 1172,

0.000 m UP _____ TP _____

00.08.01.40 Gutter hooks, painted per piece
Gutter hooks, painted per piece,
the same colour as gutter

0.000 pc UP _____ TP _____

00.08.01.50 Gutter corner
Gutter corner patented, for
- inner corner 90°
- outer corner 90° -
seamless deep-drawn with continuous water bend extra for gutter
Manufacturer Zambelli or equivalent .....

0.000 pc UP _____ TP _____

00.08.01.60 Outlet
Outlet, with reinforced bend and eye welded on back side, with compass card
Sizes: 500/150 mm
400/120 mm
333/100 mm
280/80 mm
250/60 mm
Manufacturer Zambelli or equivalent .....

0.000 pc UP _____ TP _____

00.08.01.70 Inclined outlet
Inclined outlet,
- tapered outlet
- cylindrical - outlet

Angle of inclination 50°, with eye extra for gutter
Make: Zambelli or equivalent .....

0.000 pc UP _____ TP _____

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00.08.01.80 Hinged outlet
Hinged outlet patented with adjustable ball joint, half-round extra for gutter
Overall length: ..... mm
Max. roof overhang: ..... mm
Make: Zambelli or equivalent .....

0.000 pc UP _____ TP _____

00.08.01.90 Leaf basket
Leaf filter basket extra for gutter out of:
- copper
- stainless steel
- steel sheet galvanized

Make: Zambelli or equivalent .....

0.000 pc UP _____ TP _____

00.08.01.100 Hopper
Hopper extra for gutter, execution types:
- square
- long
- curved

Make: Zambelli or equivalent .....

0.000 pc UP _____ TP _____

00.08.01.110 Gutter inlet sheet
Gutter inlet sheet, material the same as:
- gutter
- roof covering

cutting 333mm, 3 edges, incl. fastening materials

0.000 m UP _____ TP _____

00.08.01.120 Internal box-shaped gutter

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Internal box-shaped gutter
according to DIN EN 612 and technical rules for metal roofers
consisting of:
- Support gutter and safety gutter out of (galvanized) steel sheet, corrosion protection class 2
material thickness 1.0mm, cutting 1250mm, 4 edges,
all joints soldered water-tight, incl. necessary expansion elements
The execution of the moisture seal is included and described in the corresponding item.
- Slope-thermal insulation of rigid mineral fiber panels, according to DIN EN 13162,
application type WD, fitted in the support gutter, material thickness ..... mm, - from ..... to ..... mm
(corresponding to the thickness of insulation in the roof area)
- Water-loaded gutter out of aluminium mill finish, material thickness 1.5mm,

cutting 1000mm / ..... mm, 4 edges,
Joints, water-tight welded, incl. necessary expansion elements,
The gutter inlet sheets are invoiced as a separate item.
Note:
The installation and electrical connection of gutter heating system is carried out on site or is specified as a separate item.

0.000 m UP _____ TP _____

00.08.01.130 Internal box-shaped gutter in timber construction
Internal box-shaped gutter in timber construction
according to DIN EN 612 and technical rules for metal roofers
consisting of:
- Welded bituminous sheet V 60 S 4 + Al 01, according to DIN 52131,
total thickness 4.0 mm with metal strip insert, to be stuck onto the existing support gutter on
construction site according to the technical rules for metal roofers and manufacturer's works, all joints
and seams have to be welded
- Slope-thermal insulation of rigid mineral fiber panels, according to DIN EN 13162,
application type WD, fitted in the support gutter, material thickness ..... mm, - from ..... to ..... mm
(corresponding to the thickness of insulation in the roof area)
- Water-loaded gutter out of aluminium mill finish, material thickness 1.5mm,
cutting 1000mm / ..... mm, 4 edges,
Joints, water-tight welded, incl. necessary expansion elements,
The gutter inlet sheets are invoiced as a separate item.
Note:
The installation and electrical connection of gutter heating system is carried out on site or is specified as a separate item.

0.000 m UP _____ TP _____

00.08.01.140 Composite film sheet
Extra as composite film sheet for internal gutter
Material thickness 2.0mm,
Incl. professional welding of joints and seams in accordance with the manufacturer's guidelines.
Overall cutting approx. 2000mm or based on requirements ..... mm
Manufacturer Sika or equivalent: .....

0.000 m UP _____ TP _____

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00.08.01.150 Internal gutter (end formation)
Extra for internal gutter as end formation

0.000 pc UP _____ TP _____

00.08.01.160 Two-piece run-off outlet
Two-piece run-off outlet extra for internal gutter consisting of:
- Cutting-out of support gutter and protection gutter
- Sealing of outlet NW 150mm, out of galvanized steel sheet 1.0mm, 300mm long, into the support gutter and protection gutter
- Cutting out of water-bearing gutter
- Welding of outlet into the water-bearing gutter, with tapered inlet, NW 140mm, out of aluminium 1.5mm, approx. 350mm long, inserted and centred in the drain pipe of the support gutter

0.000 pc UP _____ TP _____

00.08.01.170 Emergency overflow
Emergency overflow extra for internal gutter
according to detailed drawing no.....
Execution of any possibly wall breakthroughs on site

0.000 pc UP _____ TP _____

00.08.01.180 Valleys
Valleys - recessed -
Material same as roof covering, consisting of:
- Valley gutter, material thickness ....mm, cutting 667mm, 5 edges,
- Suspended profile, both sides, material thickness ....mm, cutting 2 x 333 mm, 2 edges

incl. necessary expansion elements, continuous closures and fastening elements,
Angle cutting of profiled sheets is invoiced as a separate item.

0.000 m UP _____ TP _____

00.08.01 Gutters GP _____

00.08.02 Flashings

00.08.02.10 Perforated metal angles
Perforated metal angles for covering of ventilation openings at ridge (single-pitch roof) or eaves,
cutting 150 mm, 3 edges, fastened on timber boarding of substructure,
incl. all necessary retainers and suspended profiles,
Material:
- Aluminium mill finish
- Steel sheet galvanized
- Steel sheet galvanized, colour-coated, the same colour as roof covering
- Titanium-zinc mill finish according to DIN EN 988,
- Copper TECU mill finish according to DIN EN 1172,

0.000 m UP _____ TP _____

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00.08.02.20 Gutter board lining
Lining of gutter boards or porous concrete elements,
consisting of cover sheets, U-shaped, material the same as:
- roof covering
- gutter

cutting 223mm, or based on static requirements ..... mm, 3 edges,
incl. adhesive strips and fastening materials,

0.000 m UP _____ TP _____

00.08.02.30 Chimney flashings
Chimney flashings, seamed at front and back sides, material the same as - gutter,
Chimney dimensions L=..m W=....mm,
incl. adhesive and fastening materials,

0.000 m UP _____ TP _____

00.08.02.40 Chimney stack flashing
Chimney stack flashing, material the same as - gutter,
Chimney dimensions approx. L=....mm W=....mm H=....mm,
incl. fastening materials,

0.000 m UP _____ TP _____

00.08.02.50 Chimney hood (Napoleon form)
Chimney hood (Napoleon form), 10cm circumferential overhang,
out of stainless steel - copper,
with compression-molded support out of stainless steel, height 250mm,
Chimney dimensions L=....m, W=....mm, incl. fastening materials,

0.000 m UP _____ TP _____

00.08.02 Flashings TP _____

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00.08.03 Downpipes

00.08.03.10 Rainwater downpipes

Circular rainwater downpipes according to DIN EN 612,
Material the same as roof gutter.
To be fastened by means of brackets with thread socket:
Nominal width 80 mm
Nominal width 100 mm
Nominal width 120 mm
Nominal width 150 mm
Incl. necessary elbows, out of butt-welded pipe, extruded seamless, and downpipe caps
Make: Zambelli or equivalent .....

0.000 m UP _____ TP _____

00.08.03.20 Bracket, painted per piece

Extra as pipe bracket, painted per piece, colour the same as rainwater downpipe

0.000 pc UP _____ TP _____

00.08.03.30 Master elbow Vario

Master elbow Vario 72°, as connector between outlet and downpipe
out of butt-welded pipe, extruded seamless,
extra for downpipe,
Make: Zambelli or equivalent .....

0.000 pc UP _____ TP _____

00.08.03.40 S-curve

S-curve, out of butt-welded pipe, extruded seamless,
extra for downpipe,
Make: Zambelli or equivalent .....

0.000 pc UP _____ TP _____

00.08.03.50 Rainwater pipe flap

Rainwater flap extra for downpipe
- with handle
- with handle and stainless steel sieve -
Make: Zambelli or equivalent .....

0.000 pc UP _____ TP _____

00.08.03.60 Drive pipe

Rainwater drive pipe, round version according to DIN EN 612, with socket connection:
with cleaning hole
without cleaning hole
DN 80mm
DN 100 mm
DN 125 mm
DN 150 mm
Length = 1000 mm

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Material:
- Steel hot-dip galvanized with additional internal coating
- Copper

Make: Zambelli or equivalent .....

0.000 pc UP _____ TP _____

00.08.03 Downpipes TP _____

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00.08 Metal sheet works TP _____

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00.09 Gutter heating

00.09.10 Self-regulating heating tape

Self-regulating heating tape for internal box-shaped gutter consisting of:
- Two parallel, galvanized copper strands, the intermediate cross-linked, self-regulating heating element, an insulating cover of modified polyolefin, a protective meshing of galvanized copper strands according to VDE specifications and a protective jacket out of modified, UV-resistant polyolefin.
- Self-regulating heating tape

overall length ..... m installed in box-shaped gutter according to the manufacturer's specifications incl. installation of heating tape approx. 1.0m in the rainwater downpipes
Manufacturer: Raychem or equivalent .....
Nominal output: 18 W/m at 0°C in air, 36 W/m in ice water
- Heating tape connections, closure and branch fittings, distributed in 2 heating circuits.

Wiring from thermostat or controller to heating bank has to be available on site.

0.000 pc UP _____ TP _____

00.09.20 Electronic control

Electronic moisture and temperature controller for heating tape.
Electronic control for 2 control circuits with temperature and moisture sensors.
Residual current circuit breaker and automatic cut-outs
Completely installed and wired IP-54 protection rating incl. electric wiring from controller to heating tape.
The control has to be mounted in close proximity to the heating tape and the supply line has to be present on site.

0.000 pc UP _____ TP _____

00.09.30 Electronic safety and functional test

Electronic safety and functional tests incl. drawing up of test reports, acceptance and commissioning of system
Training of maintenance personnel

1.000 flatrate UP _____ TP _____

00.09 Gutter heating TP _____

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00.10 Hourly labour rate

Possible hourly labour rate has to be reported prior to start of works and documented within three working days or directly sent to the construction site management within one week.
Hourly labour rate is to be invoiced based on already agreed rates incl. all surcharges, e.g. contractor surcharges, incidental wage expenses, travel costs, per diem and similar.
Time allowances are based on collective labour agreement applicable during the installation.

00.10.10 Master metal sheet worker
Master metal sheet worker

0.000 hrs UP _____ TP _____

00.10.20 Metal sheet worker - foreman
Metal sheet worker - foreman

0.000 hrs UP _____ TP _____

00.10.30 Metal sheet worker - skilled worker
Metal sheet worker - skilled worker

0.000 hrs UP _____ TP _____

00.10.40 Semi-skilled worker
Semi-skilled worker

0.000 hrs UP _____ TP _____

00.10.50 Trainees
Trainees

0.000 hrs UP _____ TP _____

00.10 Hourly labour rate TP _____

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Summary

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00.07.08 Accessories for green roof

TP _____

00.08 Metal sheet works

TP _____

00.08.01 Gutters

TP _____

00.08.02 Flashings

TP _____

00.08.03 Downpipes

TP _____

00.09 Gutter heating

TP _____

00.10 Hourly labour rate

TP _____

Service Specifications 00 of 12 January 2022 TP _____