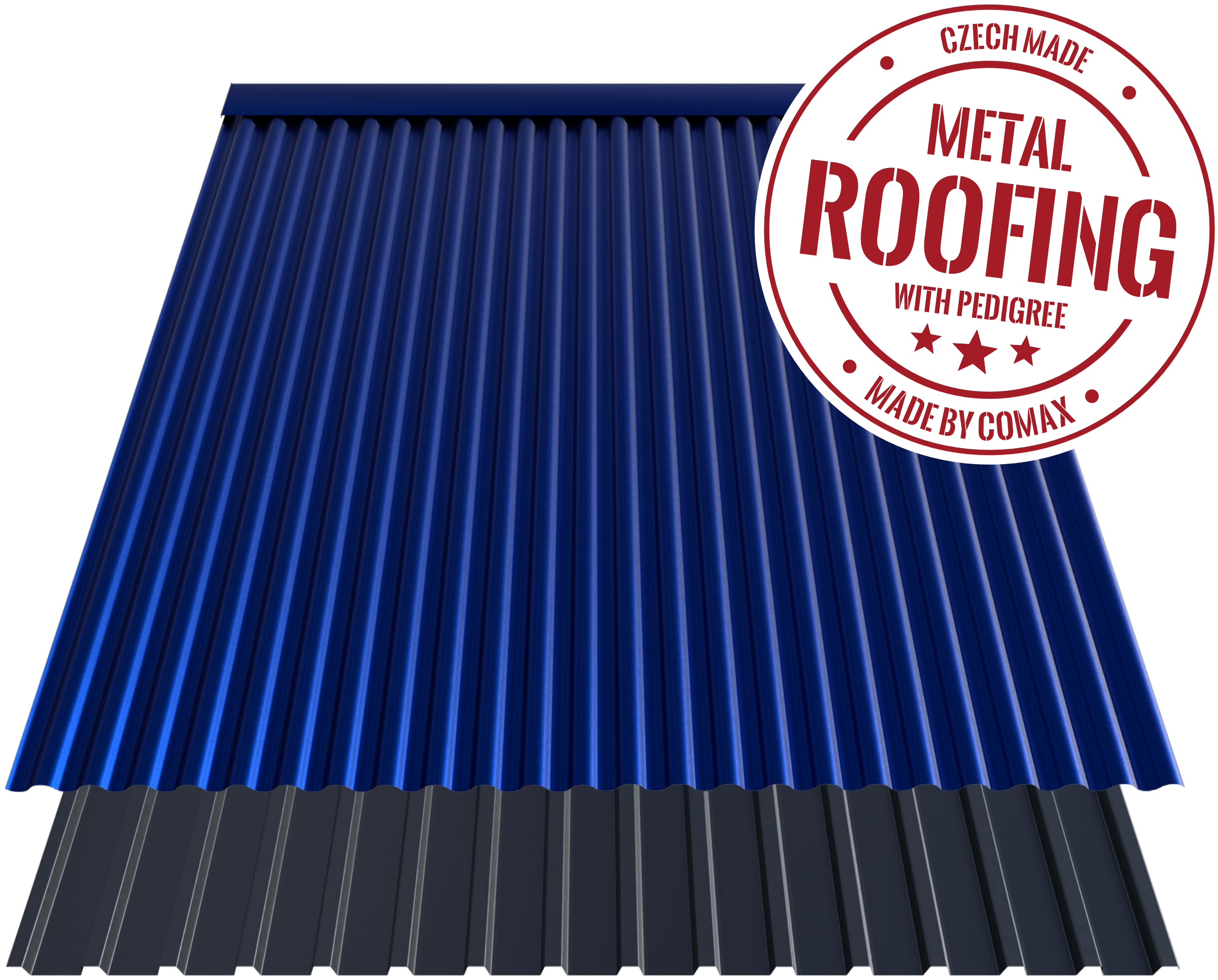
COMAX ROOFS®

Czech Manufacturer of Sheet Metal Roofing



Trapeze & Wave

Summary of basic **information**
for self-installation of the roofing

GENUINE CZECH®

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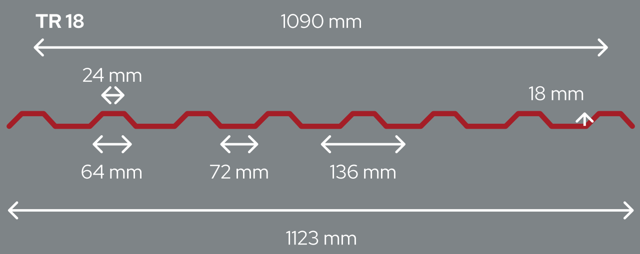
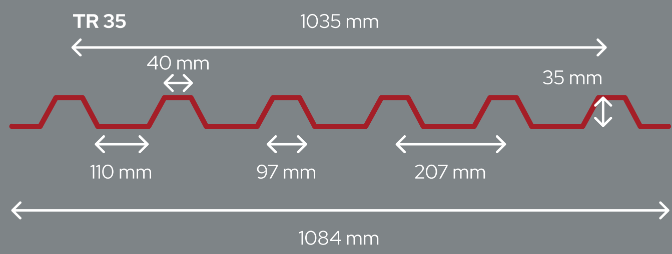
Technical specifications of the roofing

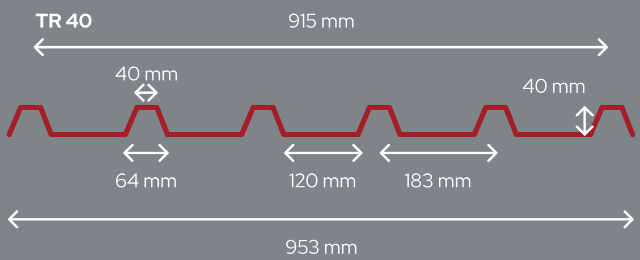
COMAX Trapeze products are manufactured in **two material versions**: from hot-dip galvanized steel or from aluminum alloy. The core's dual protection is ensured by organic coatings from METAL TRADE COMAX, a.s., continuously applied to the metal coils. We supply the roofing in **four height variants: 18 / 35 / 40 / 50 mm**.

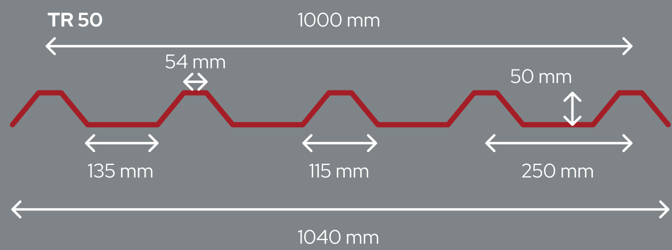
Technical parameters

	TR18		TR35		TR40		TR50	
Material	**FeZn**	**Al**	**FeZn**	**Al**	**FeZn**	**Al**	**FeZn**	**Al**
Material thickness	0,5–0,6 mm	0,6 mm	0,5–0,8 mm	0,6–0,8 mm	0,5–0,8 mm	0,6–0,8 mm	0,7–1,0 mm	0,7–1,0 mm
Profile height	18 mm	18 mm	35 mm	35 mm	40 mm	40 mm	50 mm	50 mm
Effective profile width	1090 mm	1090 mm	1035 mm	1035 mm	915 mm	915 mm	1000 mm	1000 mm
Minimum length	1000 mm	1000 mm	1000 mm	1000 mm	1000 mm	1000 mm	1000 mm	1000 mm
Maximum length	8000 mm	8000 mm	12000 mm	8000 mm	12000 mm	8000 mm	12000 mm	8000 mm
Min. slope without connection	10°	10°	8°	8°	8°	8°	8°	8°
Min. slope with connection	15°	15°	15°	15°	15°	15°	15°	15°
Guarantee on connecting material	up to 20 years	up to 50 years	up to 20 years	up to 50 years	up to 20 years	up to 50 years	up to 20 years	up to 50 years









Stock shades of COMAX Trapeze TR18/136 | TR 35/207

FeZn PES GLOSS 0,50		3009	3009K	3011	5010		7016	8004	8017	8019K	9002	9005	9006		9010
FeZn PES GLOSS 0,60	3000	3009			5010	6011	7016	7035			9002		9006	9007	9010
FeZn PES GLOSS 0,75/0,88 /1,00											9002*		9006*		9010*
Al PES GLOSS 0,70/0,80			3016*				7016*		8017*						

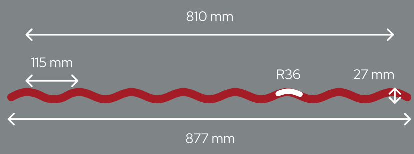
* For availability of shades TR40 and TR50, contact your sales representative.

COMAX Wave is manufactured in **two material versions**: from hot-dip galvanized steel or from aluminum alloy. The core's dual protection is ensured by organic coatings from METAL TRADE COMAX, a.s., continuously applied to the metal coils.

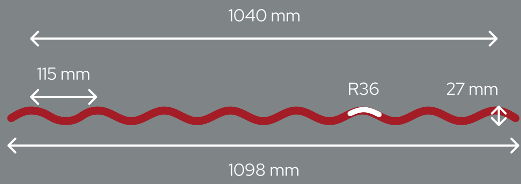
Technical parameters

Material	Al	FeZn
Material thickness	0,60–0,80 mm	0,50–0,80 mm
Profile height	27 mm	27 mm
Total profile width	1 098/877 mm	1 098/877 mm
Effective profile width	1 040/810 mm	1 040/810 mm
Minimum length	1 000 mm	1 000 mm
Maximum length	6 000 mm	6 000 mm
Min. slope without connection	15°	15°
Min. slope with connection	20°	20°

Unfolded width 1000 mm



Unfolded width 1250 mm



Stock shades of COMAX Wave

FeZn PES GLOSS 0,50		3009	3009 K	3011	5010					7016		8004	8017	8019K	9002	9005	9006		9010
FeZn PES GLOSS 0,55		3009	3009 K			6005		6020	7001	7016	7037	8004	8017	8019K		9005	9006		9010
FeZn PES GLOSS 0,60	3000	3009			5010		6011			7016					9002		9006	9007	9010

COMAX Wave – Examples of Installations

Metal waste does not pollute the environment and is 100% recyclable. The product does not contain any substances above the limit set by European REACH and RoHS legislation.

Basic product information

Function

Self-supporting profiles COMAX Trapeze 18/136, COMAX Trapeze 35/207, COMAX Trapeze 40/183, and COMAX Trapeze 50/250 are traditional large-format, machine-profiled roofing, and optionally façade, self-supporting coverings. Large-format profiles are suitable for sloped and steep roofs with flat shapes on buildings of various types and purposes. Due to their excellent properties, COMAX trapezoidal profiles are also used outside the construction industry.

For any questions, we provide consultancy from an experienced team of technicians and sheet metal specialists.

Advantages

Due to the deep profiling, these roofing sheets are self-supporting, allowing a significant reduction in the overall roof weight. Due to this excellent property, they are an outstanding choice for covering sloped flat roofs of residential, industrial, agricultural, and commercial buildings of all sizes and purposes. These economical systems can be used not only for new constructions but also for renovations and temporary buildings, where they replace asbestos-cement and similar materials with a higher level of quality.

COMAX ROOFS offer large-area trapezoidal profiles in four different designs, allowing them to adapt in appearance and properties to the widest range of buildings. They find application not only on large industrial and commercial buildings but, with their technical design, also harmonize with modern architectural styles on the roofs and façades of residential and commercial buildings. Installation is simple and does not require the use of special machines or tools. Deeply profiled sheets, with their rigidity and low weight, also reduce handling costs on the construction site.

A well-executed metal roof traditionally gives buildings a prestigious appearance. The aesthetic qualities of the self-supporting COMAX Trapeze profiles are also effective for façade cladding, where they can visually unify a building during renovation or, through their color, highlight and emphasize the main entrance or other important parts of the building. COMAX ROOFS supply this material in aluminum and galvanized steel variants, with a full range of surface finishes and colors to meet the needs of a wide range of customers.

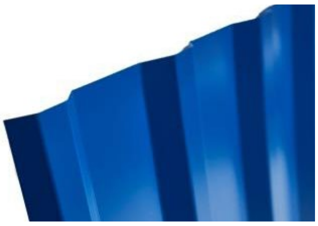
Roof System Components

- COMAX Trapeze Roofing Profiles 18/136, 35/207, 40/183, 50/250
- Bent Elements – roof flashing, valleys, ridges, Z-purlins
- Mounting materials, sealants, and adhesives
- Roof safety system – snow guards, walkways, ladders, anchors
- Roof ventilation system – turbines, ridge vents, vents
- Roof drainage system – gutters, downpipes, elbows, collectors, hooks, brackets

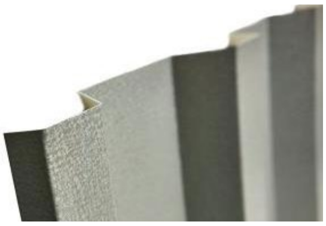
Types of profiles and their fastening

Trapezoidal profiles at COMAX® ROOFS are manufactured on automatic lines directly from coils. This allows production in lengths adapted to the individual requirements of the construction.

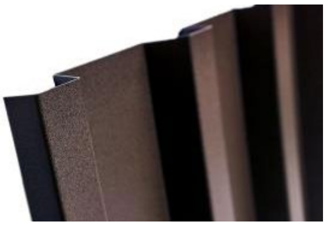
Roof or façade trapezoidal profiles are fastened to the underlying structures with exposed farmer screws supplied in the color of the cladding. Depending on the design of the supporting structure and the size of the roof or profile, caps, roof J-hooks, or expansion Z-purlins may also be used.



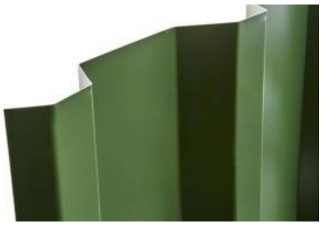
Trapeze 18/136



Trapeze 35/207



Trapeze 40/183



Trapeze 50/250

COMAX Trapeze – Examples of Installations

COMAX Trapeze 18/136

COMAX Trapeze 35/207

COMAX Trapeze 35/207 used on the facade of an industrial building

Protective Film

The front side of the coated COMAX Trapeze 18/136, COMAX Trapeze 35/207, COMAX Trapeze 40/183, and COMAX Trapeze 50/250 profiles is standardly protected against mechanical damage during transport, storage, and handling. The film, intended only for short-term protection, must be removed immediately after installing the profiles. The film is not intended for long-term protection of the sheet; leaving it on the roof may cause color defects, difficulty in removing the film, and potentially even corrosion of the sheet. The film is not resistant to ultraviolet radiation, and both the foiled sheets and the metal must be protected from sun exposure even during storage. The film is removed manually by peeling at sheet temperatures of 10–30°C. Dispose of removed films through separated waste collection as PLASTIC PACKAGING – films (15 01 02).

Under no circumstances should the film remain in roof or facade joints.

Handling and Storage

Please strictly follow the instructions for unloading and storing materials provided on www.comaxroof.co.uk, as we do not accept any liability for defects if these instructions are not followed.

Recommended Tools, Machines, and Equipment

- Metal shears (left, right)
- Stapler, hammer stapler (for films and tapes)
- Electric metal shears
- Chimney pliers
- Cordless drill/driver with torque limitation
- Magnetic wrench OK8
- Plastic mallet
- Electric nibbler
- Rivet pliers for pop rivets
- Caulking gun (for adhesive)
- Tape measure, pencil, scratch awl

Coated COMAX Trapeze sheets can be easily cut or sheared. **The use of an angle grinder is prohibited.** Local heating of the material leads to degradation of the sheet and its coating and subsequent corrosion. Flying sparks damage the coated surface, and iron particles embedded in the coating can cause color spots.

For machine cutting of profiled material, a nibbler is used, which easily creates cuts of any shape even in profiled sheets.

Installation Procedure

Ideally, installation should follow the implementation project, which addresses not only the overall roof structure but also fastening of profiles and other sheet metal elements, including their expansion, any roof ventilation, and sheet metal detailing, flashing, and drainage, considering local construction conditions.

In case of questions, contact the COMAX ROOFS Technical Department.

ČSN 73 1901 – roof design regulations prescribe that all materials used in the roofing assembly must be chemically compatible. It is also necessary to consider ions transferred by runoff or dripping rainwater. All materials from COMAX ROOFS ensure mutual material compatibility when properly installed.

Laying Plan

The basis for preparing a laying plan is the roof project documentation, including elevations, provided by the client.

The following dimensions/parameters are taken from the project documentation:

- Roof length at the eaves
- Ridge length
- Rafter length
- For hip roofs, the length of the hips
- Distance, height, and width of dormers
- The project must indicate and measure all penetrations (e.g., dormers, roof windows, hatches, chimneys, etc.).

Main principles for preparing the laying plan:

1. First, create a scaled drawing, e.g., 1:100, of the individual surfaces showing the locations of the penetrations. Divide the surfaces into strips parallel to the roof slope, in the assembly width according to the relevant covering width of the profile.
2. Considering the expansion possibilities when fastening trapezoidal profiles to the supporting structure, transverse joining of individual profiles along the roof slope may be necessary. The minimum roof slope with joining is 15°.
3. Do not forget the penetrations, flashing, and roof or facade ventilation.

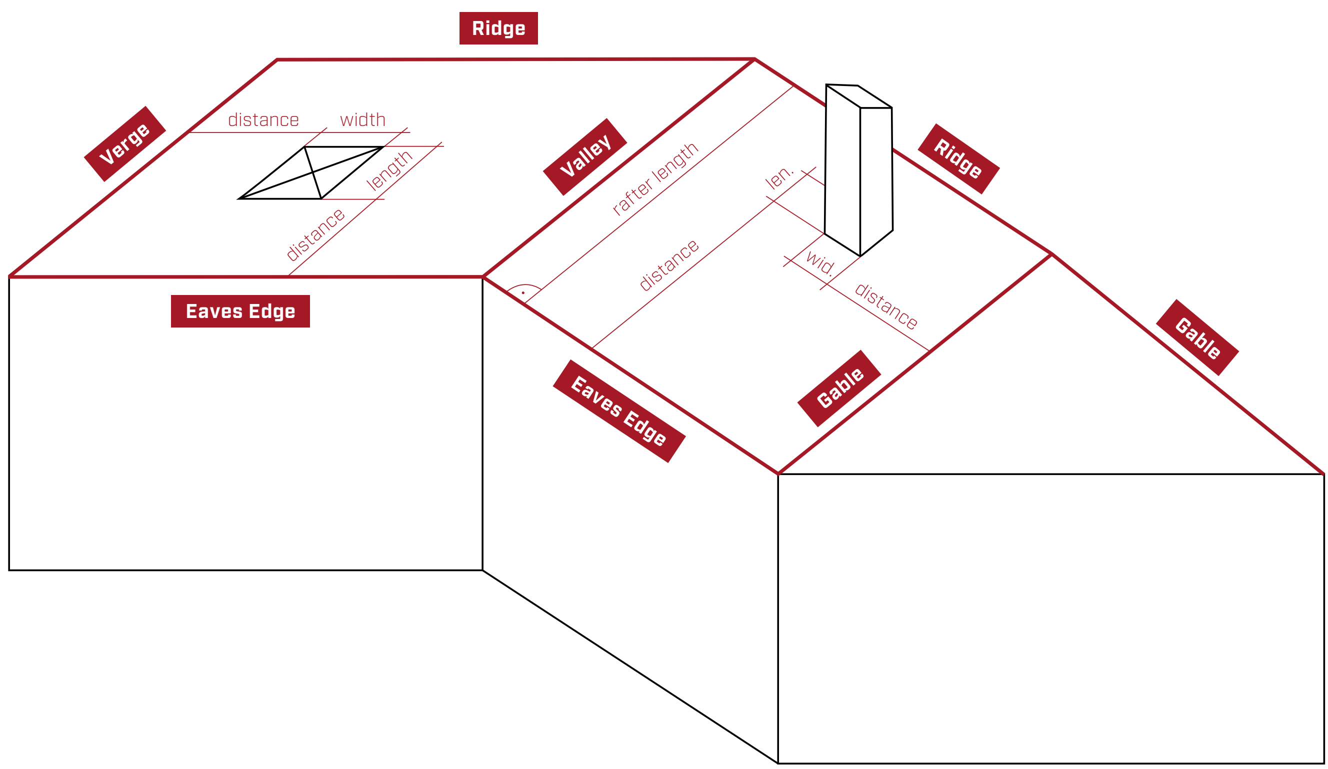
COMAX ROOFS technicians can assist you free of charge with the laying plan.

Roof Measurement Procedure

Measurements are carried out on the roof with completed battens or another supporting structure. In the illustration below, the edges marked in red indicate the lengths that need to be measured for the laying plan. Next, it is necessary to measure the widths and lengths (w, l) of the penetrations, along with the distance (dist.) from the eaves and gable edges. The last required measurement is the rafter length (perpendicular from the ridge to the eaves edge). Also, mark the prevailing wind direction on the sketch.

Roof measurement is recommended even if house project documentation exists. It often happens that the actual roof dimensions do not match the proposed design. This issue affects both renovations and new constructions, where the real truss may deviate from the original project documentation.

If the laying plan is designed by the COMAX ROOFS Technical Department, it must be checked and confirmed by the client as part of the order.



Roof Measurement Scheme for Preparing the Laying Plan

Supporting Structure

Battens

In areas with lower snow loads, COMAX Trapeze can also be laid on roofs on battens. We recommend battens of 40 x 60 mm with a maximum span of 300 mm for TRAPEZE 18/136 and 400 mm for other sizes (larger spans according to structural tables). For double-layer roof construction, the minimum gap above the secondary insulation will be defined using counter-battens. After laying the first layer of the film (DHV) and the eaves flashing, start installing roof counter--battens above the rafters. If necessary to ensure watertightness, the counter-battens can be taped. The battens themselves are installed perpendicular to the roof slope (usually parallel to the eaves edge). The first roof batten is fixed at the eaves edge of the rafters. The second and third battens are fixed at a distance of 120 mm from the bottom edges of the battens to reinforce the eaves edge and mount the eaves hooks. The following battens are installed according to the span up to the ridge (or according to structural tables). The wood moisture content should not exceed 10%. If the wood is impregnated, the impregnation must be bound in the wood material, and a suitable DHV resistant to the impregnation must be used.

Metal Roof Structures

Self-supporting COMAX Trapeze profiles are suitable for covering metal structures of various types and purposes. Apart from the span of the individual supports, it is essential to choose a fastening method that allows thermal expansion of the cladding. Iron structures that are not galvanized are not compatible with the cladding and must be separated from the roof profiles.

Expansion

Thermal expansion is a typical physical property of all materials. In many cases, it can be technically utilized; in construction, it is undesirable and must not be overlooked. In the Czech climate, roof sheet temperatures must normally be considered from -20°C in harsh winter to +80°C in strong summer sun (ČSN 73 3610). Large-format claddings, including self-supporting COMAX Trapeze profiles, must use fastening adapted to this fact. While expansion in the direction perpendicular to the corrugations is accommodated by the profile shape, in the longitudinal direction COMAX Trapeze profiles are rigid, and their length and fastening method must account for this. All trapezoidal profiles are joined longitudinally by simple transverse overlap; this joint remains expansion-capable only if the profiles are not fastened together by screws or rivets. Choosing a white profile is also a solution, as its reflective surface reduces the cladding temperature by 20 K. A white profile can therefore be 20% longer.

As noted, the trapezoidal profile can accommodate all transverse expansion movements through its profile flexibility. In the longitudinal direction, trapezoidal profiles are rigid, and expansion movements must be addressed by limiting profile length or modifying the supporting structure. Remember that aluminum has greater thermal expansion.

Additional Waterproofing Layer (DHV)

The secondary waterproofing protects thermal insulation from moisture that has penetrated or condensed within the roof. If the film is vapor-permeable, it also allows the thermal insulation to dry. Thermal insulation is installed between the rafters and allows the attic to be used as a heated space. For proper function, it must remain dry. It is therefore protected on the interior side by a vapor barrier and on the ventilated side by a vapor-permeable secondary waterproofing. Thermal insulation is further extended below the rafters. This arrangement is suitable for standard interiors. For interiors with demanding moisture conditions, alternative solutions with moisture-proof – absolutely non-absorbent insulation must be used. The secondary waterproofing layer is selected according to the building use and local conditions. The correct type of protective layer is also chosen with regard to possible wood impregnation, which could completely compromise the layer. Film installation is carried out according to the manufacturer's instructions, as well as the use of additional connecting and sealing elements, and if necessary, supporting boarding. Most films come with application tapes, which significantly simplify and speed up installation and connection to the eaves edge or roof surface. Technical assistance for assembling the roof system is provided by the COMAX ROOFS Technical Department.

Anti-Condensation Film

As an optional feature, COMAX ROOFS offers trapezoidal sheets with a full-surface bonded accumulation layer, which reduces the dripping of condensed moisture from the underside of the roof without thermal insulation, as used in unheated warehouses, shelters, and agricultural buildings.

Joining

COMAX Trapeze profiled claddings assume specific joining methods. Profiles are joined by simple overlapping of the sheet profiles. If an expansion joint is not required, the profiles are secured with fastening screws at the crest of the corrugation. Typically, profiles are joined along the roof slope in this way. In addition to screwing, the large-area trapezoidal profiles are also suitable for riveting. For flashing, COMAX FALC material is used, supplied in coils, color-matched, and intended for craft joining by folding. Bent flashings up to 6 m in length are supplied by COMAX ROOFS.

Coated materials are not suitable for soldering. Although soldering of galvanized steel and aluminum is possible after mechanically removing the paint layers, heating during soldering further degrades the material. Soldering aluminum on-site is particularly difficult. Painted materials can be joined by adhesive bonding. Suitable adhesives are polyurethane or MS polymer adhesives with flexible joints. These adhesives are supplied by COMAX ROOFS in cartridges. During curing, the bonded joint must be fixed with a clamp or tight rivets. However, such a joint cannot be considered expansion-capable.

Laying of Profiles

COMAX Trapeze profiles are laid from the eaves toward the ridge. Orientation is always corrugation along the slope. Profiles are laid considering the prevailing wind direction. Individual profiles are linked by simple overlap – horizontally, so that the corrugation of each sheet continues (overlap of one wave) along the slope. Profiles overlap by at least 200 mm for roof slopes above 30°, and double that for lower slopes. Trapezoidal profiles are laid with the larger wave toward the substrate for roofing; on façades, the smaller wave faces the substrate (the profile orientation is fixed for single-sided coating).

Horizontally, profiles are joined with fastening screws at the crest of the corrugation. Along the slope, the joint remains free to allow thermal expansion of the profiles. As an additional waterproofing measure, a 3 x 9 mm EPDM strip can be bonded in the joints.

Safe Roof Slope – without additional measures is specified in the table below:

Up to 600 m a.s.l.	Min. slope [°]	With joining [°]	Slope length over 10 m [°]
TR18/136	10	15	20
TR 35/207	8	15	20
TR 40/183	8	15	20
TR 50/250	8	15	20

Slope Table Note: At altitudes above 600 m a.s.l., we recommend increasing by 5°

The basic fastening of COMAX profiles to the supporting structure is by direct screwing. For facade use of profiles, fastening in valleys with sealed farmer screws is recommended. For roofing, it is recommended to fasten the cladding using caps at the crest of the corrugation. Long profiles are screwed to flexible Z-profiles or anchored to tubular structures using J-hooks (with caps). In normal conditions on a gable roof COMAX Trapeze in the lowlands of the Czech Republic, we recommend 8 screws per m² arranged in a checkerboard pattern, at the roof edges in each wave of the trapezoid. In exposed locations, high-rise buildings, and monopitch roofs, even more fastening may be required. Fastening in such cases is determined by the project. Fastening material must be chosen to ensure pullout resistance of 500 N, or a proportionally higher number of fastening points should be used. If walking on the roof is required, appropriate footwear with soft rubber soles is recommended. Ensure that the soles are free of debris that could scratch the cladding. Step only on areas where the substrate supports the cladding and only on profiles fastened to the substrate. Consider that the protective film is very slippery and unsafe when wet.

If the roof temperature exceeds 60°C in summer – DO NOT STEP ON the hot surface. The coating softens, risking slipping or surface damage.

Transverse Joining of Profiles

The length of trapezoidal profiles is primarily limited by the material's thermal expansion properties. On large roof surfaces, individual profiles must be joined to eliminate thermal stress in the cladding. Trapezoids are joined transversely by simple overlap. To preserve the expansion capability of the joint, it must not be supplemented with screws, rivets, or adhesive. We recommend an overlap of 400 mm for profiles. Horizontal profile surfaces should be slightly bent along the edges against the adjacent sheet to create small gaps that prevent capillary action. Capillary action is especially dangerous in winter when moisture in the joints freezes.

Fastening Material

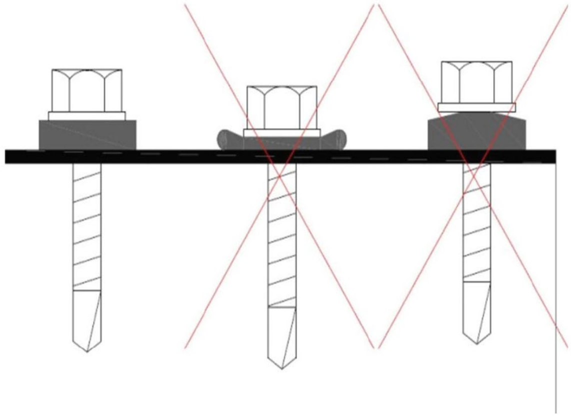
The primary requirement is material compatibility: for aluminum, choose stainless steel or bimetal screws; for FeZn, use galvanized steel.

1. **Exposed fastening at the crest of the wave:**
   Screw or self-drilling screw with cap according to profile – length according to profile height (+25 mm for battens)
2. **Exposed fastening – screw for attaching the sheet to a wooden substrate:**
   Farmer screw 4.8 x 35 mm, hex head OK8
3. **Self-drilling fastening screw for joining sheets together:**
   Farmer screw 4.8 x 20 mm, hex head OK8

Screws are intended for fastening to soft construction timber of C24 quality or better. For fastening to other substrates, fastening material with a pull-out strength of 500 N must be used, or a greater number of fastening points applied.

Example of Correct Screw Fastening

Fastening of cladding is performed with screws, selfdrilling screws, or caps with integrated sealing. For proper function, tighten using a torque-limited tool to avoid under- or over-tightening. When properly tightened, the sealing washer adheres perfectly to the cladding while remaining protected from sunlight by the metal cap.



Supplementary Materials

1. Secondary waterproofing films (according to roof assembly – vapor-permeable) per ČSN 73 1901. **CAUTION The film must always match the intended application.**
2. Roof battens and boards.
3. Bent profiles and flashings.
4. Expansion Z-profiles.
5. Suitable joining and fastening materials.
6. Separation film or tape.
7. Butyl rubber sealing tape – used for bonding vapor-permeable film to porous substrates, as sealingunder counter-battens.
8. Polyurethane flexible adhesive sealant – auxiliary waterproofing in roof details, surface bonding as soldering replacement.
9. EPDM strip 3 x 9 mm – for sealing gable flashing, profiled ridge, and roof profile overlaps.
10. Profile foam gaskets.
11. Integrated anti-condensation layer – custom profile modification.

Installation of Additional Structures

The COMAX Trapeze roofing is installed on battens or another continuous or discontinuous substrate, under which the roof construction layers have already been completed.

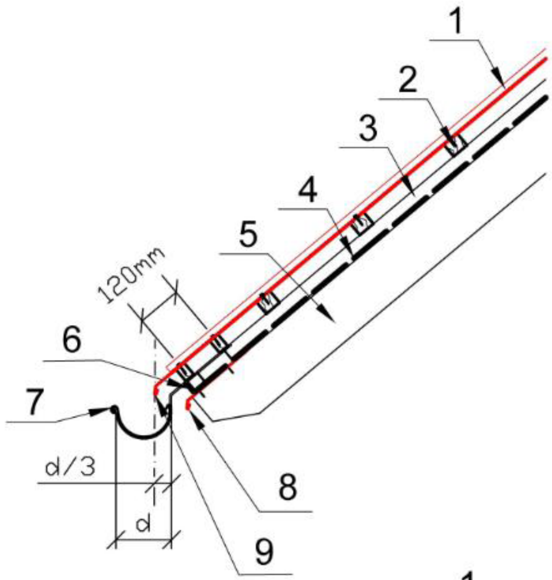
Before laying the roofing, install gutter hooks, eaves gutters, drip edges, and valleys. Prepare the flashing for the chimney and, if applicable, roof windows, following the roof window manufacturer's instructions. Flashing is performed using sheet metal techniques with Comax FALC coils. This material is supplied in the same surface and colors as the roofing. Snow guards and safety elements on COMAX Trapeze roofing are preferably mounted to the rafters or a similar supporting structure.

Eaves Edge Installation

COMAX Trapeze 18/136, COMAX Trapeze 35/207, COMAX Trapeze 40/183, and COMAX Trapeze 50/250 profiles at the eaves may, but do not have to, be equipped with a drip edge. The roofing profile is not bent or otherwise deformed. Ventilation of the roof air gap should be covered with a perforated strip to prevent birds and wasps. In this case, the roofing profile is sealed with a foam sealing profile. Position the eaves edge so that it sits at 1/3 of the width of the sub-gutter. Illustration of Possible Installations:

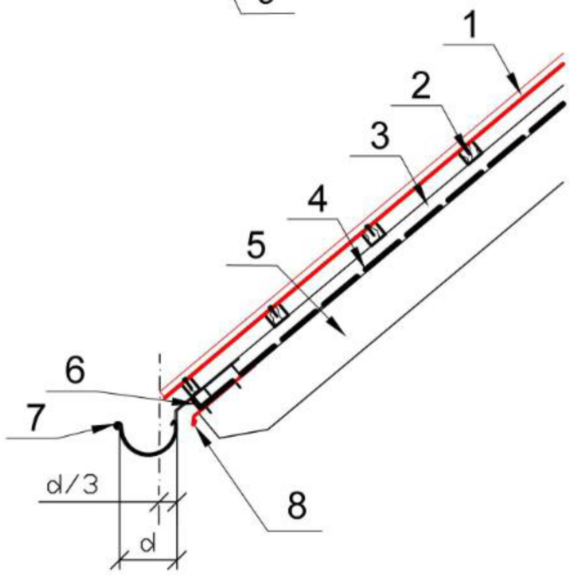
Solution with drip edge:

1. COMAX Trapeze
2. Batten 60 x 40 mm
3. Counter-batten
4. Additional waterproofing
5. Rafter
6. Ventilation grille
7. Gutter
8. Drip edge under film
9. Drip edge under roofing



Solution with roofing overlap into the gutter:

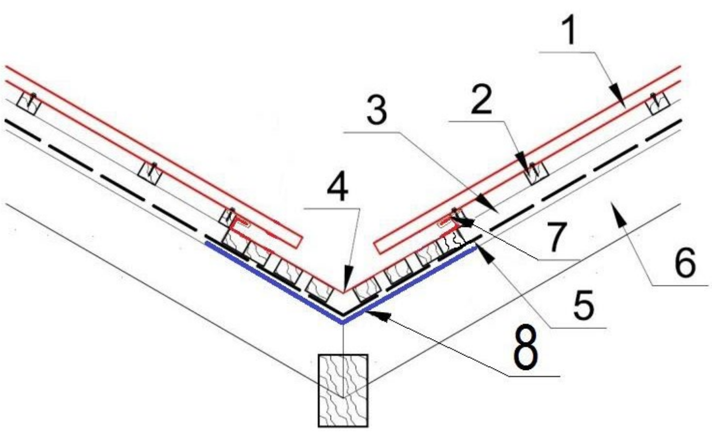
1. COMAX Trapeze
2. Batten 60 x 40 mm
3. Counter-batten
4. Additional waterproofing
5. Rafter
6. Ventilation grille
7. Gutter
8. Drip edge under film



Valley

Valleys are generally weak points of the roof. Special attention must be paid to their execution. Do not underestimate the width of the valley and consider the potential accumulation of leaves or other debris. Trapezoidal roofing profiles are cut at an angle according to the valley direction using a nibbler. This cut forms the "drip edge" into the valley. Profiles are fastened in a way that does not restrict the expansion movement of the valley, which is fastened indirectly using clips attached behind the water groove. For low slopes, it is advisable to adjust the decking and make the valley recessed, again fastened with expansion-capable clips. In any case, the secondary waterproofing under the air gap must be reinforced and a bed prepared if necessary. For large roofs, low-slope valleys should be made from durable coated roofing. The example of a valley with reinforced waterproofing is shown in the illustration.

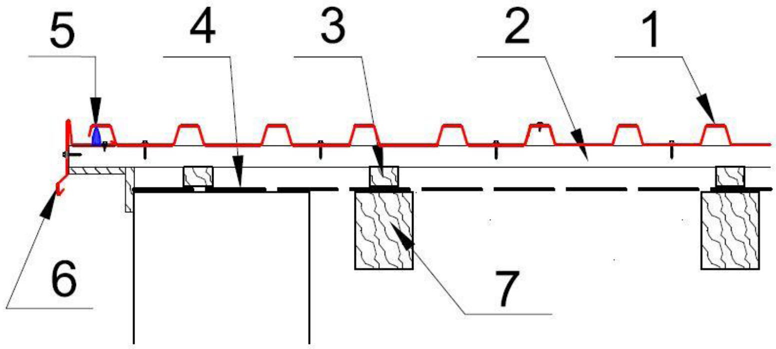
1. COMAX Trapeze
2. Batten 60 x 40 mm
3. Counter-batten
4. Valley
5. Additional waterproofing
6. Rafter
7. Clip
8. Reinforced Waterproofing



Lower Gable Flashing

The windboard protects the exposed edge of the roof from wind and rain. A simple solution is shown in the following example. The bent profile for the longitudinal lower gable flashing is attached to the supporting structure – here to the roof battens at the edge and across the roof surface. An upper version of the detail is also possible. Installation of the gable flashing begins at the eaves edge and proceeds toward the ridge. A minimum overlap of 100 mm between flashing pieces is assumed. Gable flashing must never be fastened directly to the roofing. To define the edge of the gable flashing from the roofing substrate, use a sealing wedge and place it under **the contact edge with the roofing**.

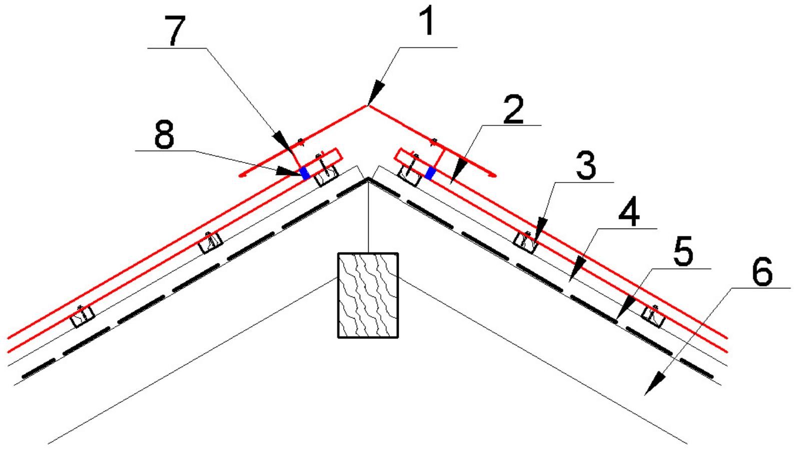
1. Trapezoidal sheet
2. Batten 60 x 40 mm
3. Counter-batten
4. Additional waterproofing
5. Sealing wedge for gable flashing
6. Lower Gable Flashing
7. Rafter



Ridge Installation

COMAX Trapeze profiles are intended for flat roof shapes, as they cannot be bent due to their surface profiling. This installation guide assumes the use of trapezoidal profiles on a double--layer roof. In most cases, the ridge or hips must be ventilated. For the required ventilation area, linear ventilation is the simplest solution. To maximize airflow through the roof structure, use a ventilated ridge strip and a bent ridge cap. These sheet metal elements ensure sufficient airflow through the roof deck and prevent moisture accumulation. Using these elements on TRAPÉZ roofing also prevents penetration of winddriven debris and intrusion by insects or birds. Profiled roofing is sealed with a foam sealing profile. As an alternative to linear ventilation, point aerators (vents, small chimneys) or turbines can be used.

1. Bent ridge cap
2. Trapezoidal sheet
3. Batten 60 x 40 mm
4. Counter-batten
5. Additional waterproofing
6. Rafter
7. Ventilated ridge strip
8. Sealing profiles



Chimney Flashing

Chimney flashing is installed similarly to roof windows and hatches. Flashing is custom-made for the specific situation on the roof using Comax FALC coils, which are color- and material-compatible with COMAX Trapeze profiles. Flashing in general – and this naturally also applies to chimneys – is always installed following the slope of the water flow on the roof. The deep profile of the roofing complicates the transition from the upper part of the flashing (under the roofing) to the lower part (on the roofing). Flashing typically consists of four strechycomax.cz 15 parts. Because the roofing profile cannot be flattened, the lower and side parts must be formed on the upper plane of the profile. Flashing is folded and sealed to the surface of the profiles. Fastening is done with self-drilling screws. The upper part of the flashing – installed under the roofing – directs water flowing across the roof away from the chimney penetration. The side parts are folded tightly to the upper edge of the penetration. Fastening to the chimney body is performed with an expansion-capable clamping cover strip. If the chimney (or window, hatch) is located within approximately 1.5 m of the ridge or eaves, it is advisable to extend the flashing to the corresponding edge and execute the entire flashing as lower (under the roofing – at the eaves) or upper (above the roofing – at the ridge). The actual flashing installation must be adapted to the conditions of the real construction (e.g., wedge design to divert water from behind a wide chimney).

Roof Window Flashing

The procedure is similar to chimney flashing. For technical assistance from COMAX ROOFS, report the roof penetrations and their dimensions already when entering the roof plane measurements into the system for creating the roof layout plan. We recommend consulting the roof window manufacturer, who can provide the specific type of window trim suitable for COMAX Trapeze roofing. For trapezoidal profiles, designs intended for rigid tiled roofing can usually be used.

Roof Penetrations (vent pipes, antennas)

For roof penetrations, we supply suitable materials along with the roofing (for ventilation, antenna gaskets, flexible hoses, etc.). These are manufactured and adapted specifically for metal roofing and meet requirements for watertightness and usability on trapezoidal profiled roofs. To ensure roof tightness, penetrations should be placed outside profile joints. Installation is performed according to the installation instructions provided with the roof accessory.

Solar Collectors, Snow Guards, and Ice Breakers

Systems to prevent falling snow and ice are installed in accordance with ČSN 73 0035. Installing these systems increases operational safety of buildings and reduces excessive stress on the roof structure and gutters caused by sliding snow masses. On COMAX Trapeze roofs, snow guard systems are anchored to the supporting structure. At the installation point, the structure must be reinforced. The snow guard beam on a special cap must be backed with a sealing strip and securely tightened to the substrate. Snow guards are subjected to significant loads – on large roof surfaces, several rows of guards must be installed. The highest loads occur on roof slopes of 45–50° – here it is advisable to mount snow guards in rows spaced 2 m apart along the slope. On slopes above 65°, snow guards are unnecessary – snow does not accumulate, so massive snow slides are not a risk. Ice breakers are installed as a supplement to snow guards to retain ice sheets that may slide during thawing under the lower edge of the guard. Similarly, solar systems, advertising boards, and company signs are fastened to special caps.

COMAX Trapeze 18/136, due to its low profile, is unsuitable for mounting such structures.

Facade Use

Large-format COMAX Trapeze profiles are traditionally used on facades. It should be noted that a facade is not a steep roof, and the builder typically expects different – mostly aesthetic – qualities from a metal facade. Metal cladding is usually closer to the observer, so any craftsmanship imperfections are more visible. For facade cladding, shorter profiles made of thicker material are suitable, ensuring better profile stability. Even during preparation of the supporting structure, note that any deviations from flatness will be more apparent on a metal facade. For horizontal orientation of trapezoidal profiles, an elegant solution is to divide the surface into smaller sections, where the exposed seam is finished with lower or upper sheet metal flashing (see figure: Implementation). Technical staff at COMAX ROOFS are ready to assist with your facade project.

Maintenance

External influences can negatively impact the service life of the roofing. We recommend regular inspection of the roofing and systematic removal of accumulated debris that could cause chemical reactions and damage the protective coating. In case of surface damage (e.g., scratches or peeling paint), the area must be thoroughly cleaned (including degreasing) and treated with repair paint. **Annual checks should include:**

- Functionality of roof ventilation
- Condition and fastening of drainage systems
- Condition and fastening of roof safety elements
- Condition, tightness, and fastening of penetrations
- Condition of seals (ventilation strips)
- Condition and tightness of self-tapping screws
- Condition of surface coating and flashing

Description of Risks

Installing and operating COMAX Trapeze roofing involves only minimal risks, which are mitigated by following basic work safety rules. During installation and maintenance, the main risks are falling from heights, falling objects, and cuts from sheet edges. Anyone handling roofing or strips must take care of their own health and that of others. Roof installation must be carried out by a qualified person. When cutting, the sheet must be held at a safe distance from the shear line. Protective cut-resistant gloves should be used to safely handle individual elements. When working at heights, proper fall protection must be used and the work area secured against unauthorized access.

Disposal Method

Metal roofing from COMAX ROOFS is fully recyclable.

Regulatory Requirements

When installing COMAX Trapeze roofing, the following standards and regulations must be observed:

- ČSN 73 19 01 – Roof Design
- ČSN 73 36 10 – Design of Sheet Metal Constructions
- ČSN EN 1991-1-3,4,5 – Structural Loads: Snow, Wind, Temperature
- ČSN EN 508-1,2 – Self-supporting roofing made of stainless steel and aluminum
- Rules for Design and Implementation of Roofs CKPT 2014
- Rules for Design and Implementation of Sheet Metal Constructions CKPT 2020

Conclusion

Every roof has unique parameters and characteristics, so it is essential to approach each installation component individually and take its specific requirements into account. The installation guide cannot cover every possible detail and variant; it is not intended to do so. Its purpose is to explain standard and most commonly used procedures.

The guide should be understood as a compilation of generally valid recommendations. The actual implementation should always follow the relevant project documentation (if prepared). **The manufacturer, COMAX ROOFS, is not responsible for any damages resulting from failure to follow the installation recommendations outlined in this guide.**

COMAX ROOFS®

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10 benefits of COMAX ROOFS

- Czech made
- long tradition (1973)
- colorfastness
- flexibility
- recyclability
- compatibility
- fair play
- quality
- expertise
- teamwork