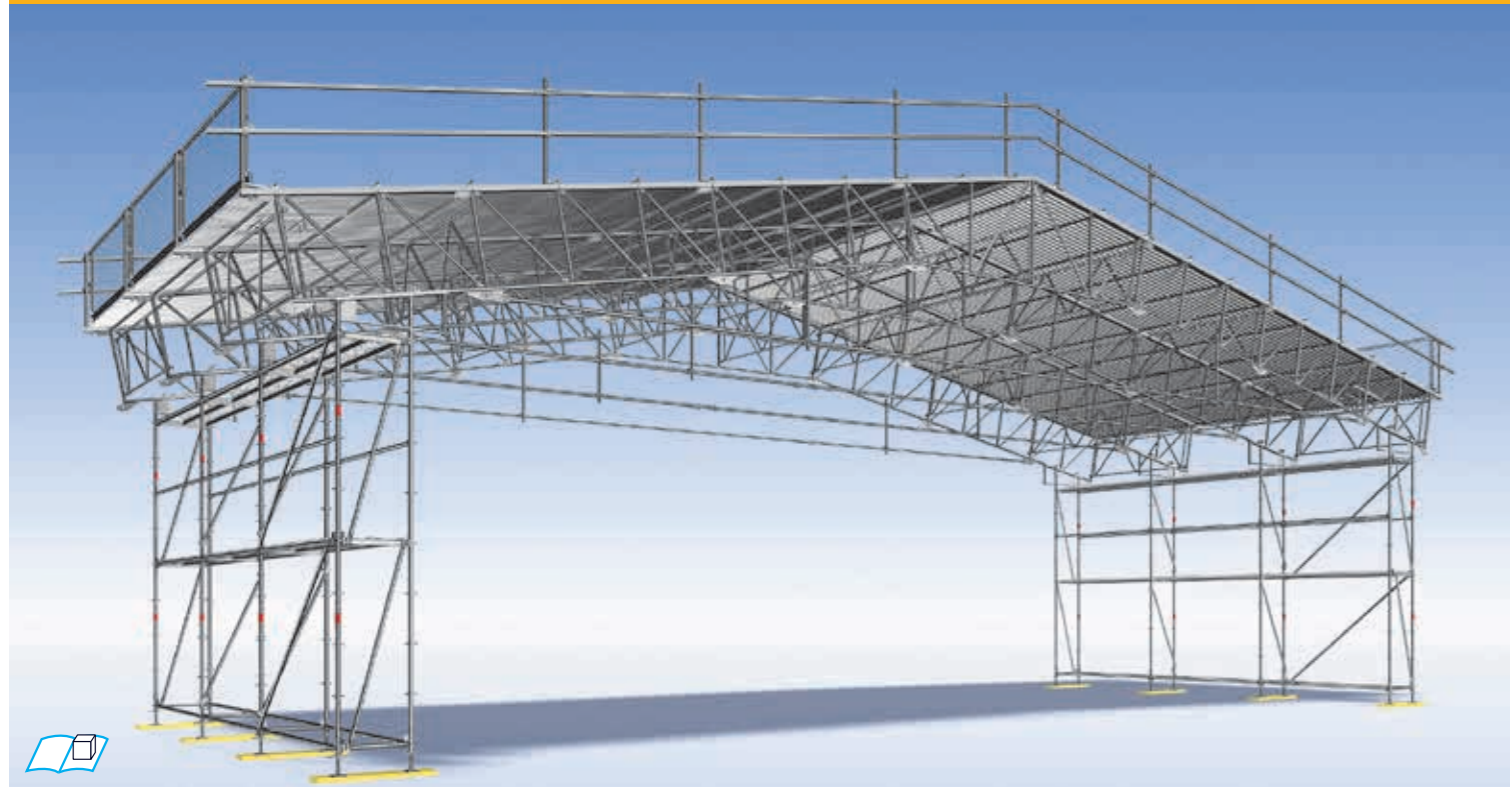


LAYHER CASSETTE ROOF

FOR WEATHERPROOFING AND TEMPORARY HALLS – LOW-COST, FLEXIBLE ROOFING



Notice: Potentially necessary stabilizing measurement are not illustrated.



Layher cassette roofs have established themselves as a firm favourite at construction sites for conversion, renovation and restoration. The structure itself and all the equipment is protected during the conversion or roof refurbishment and normal business operations can continue under a weather protection proof roof.

Following points highlight the advantages of the Layher Cassette Roof.

► **Economical thanks to top-class technology**

A sophisticated, proven construction consisting of high-quality components, specially equipped for recurrent, changing assembly and dismantling operations.

► **Long, useful service life**

The Layher cassette roof is almost indestructible. Its practical design coupled with the chosen materials are key reasons making it an investment that will retain its value over many years. The use of cassette roof girders ensures rapid assembly. The roof trusses are assembled astonishingly quickly at ground level, then mounted on the supporting structure using a crane. The roof cassettes for the intermediate bays are inserted into the channel section and locked

in place with clamping plates and wedges. That's all there is to it! No tensioning or tying is required. The cassettes act as bracing elements. Only every second bay is assembled as a so-called truss bay, and there are no doubled roof trusses. This represents an additional saving of material and, consequently, also of money and assembly time.

► **Economical modular system**

Variable roof areas are possible thanks to the well-conceived section lengths of the roof trusses chord.

► **Vast spans**

Depending on the static system and the climatic conditions, it is possible to create roof structures with spans of more than 30 m.

► **Easy to open for material supply**

To permit material supply to the site, the Layher cassette roof can be opened at any location by simply removing one or more roof cassettes. No crane is needed.

► **System-independent**

The Layher cassette roof does not require any specific substructure. This means that no unwanted additional investments are required. The Layher cassette roof can be mounted easily on almost any scaffolding or other suitable substructure.

► **Total weatherproofing**

Rainwater is excluded effectively thanks to the over-lapping, shaped roof surface elements. This is a basic requirement for any weatherproofing roof.

► **Notes on construction and use**

When assembling and using the roof, it is essential to observe the applicable regulations and the manufacturer's assembly instructions. Personal safety apparatus (PSA) for protection against falls must be used. All data is calculated to the best of Layher's knowledge and based on relevant technical regulations or is adopted from other regulations. It is necessary to check the stability of the supporting structure (e.g. scaffolding) and the roof structure. The Layher cassette roof is made for high snow loads (up to about 0.75 kN / m²) with medium spans.

This cassette roof is a non-insulated covering under which condensation may form and drip depending on the outside weather. The connections between the cassettes are not sealed and rainwater may penetrate due to unfavourable wind conditions. We cannot therefore accept any liability for damage to the covered structure. However, additional sealing options exist.

YOUR BENEFITS AT A GLANCE

- Economical thanks to well-thought-out and durable components and time-saving assembly.
- Investment protection thanks to long, useful service life and high-quality components, specially equipped for recurrent, changing assembly and dismantling operations.
- Application as temporary storehouse, the repair of timber roofs and coverings, refurbishment work on motorways or over bridges and applications for events.
- No interruption of working due to weather influence.
- Fully combinable to Layher Allround Scaffolding and Layher SpeedyScaf.

System Components

The system for large spans and rapid assembly for everyday use

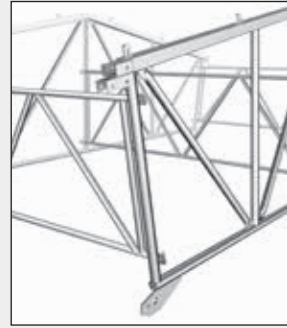
Truss elements

These one metre high **roof beams 1** are the elements that support the cassette roof (U-shaped top chord for the insertion of the roof cassettes, tubular bottom chord and posts of diameter 48.3 mm). The **ridge support 2** is intended for the construction of double-pitch roofs with a roof angle of approximately 11°.

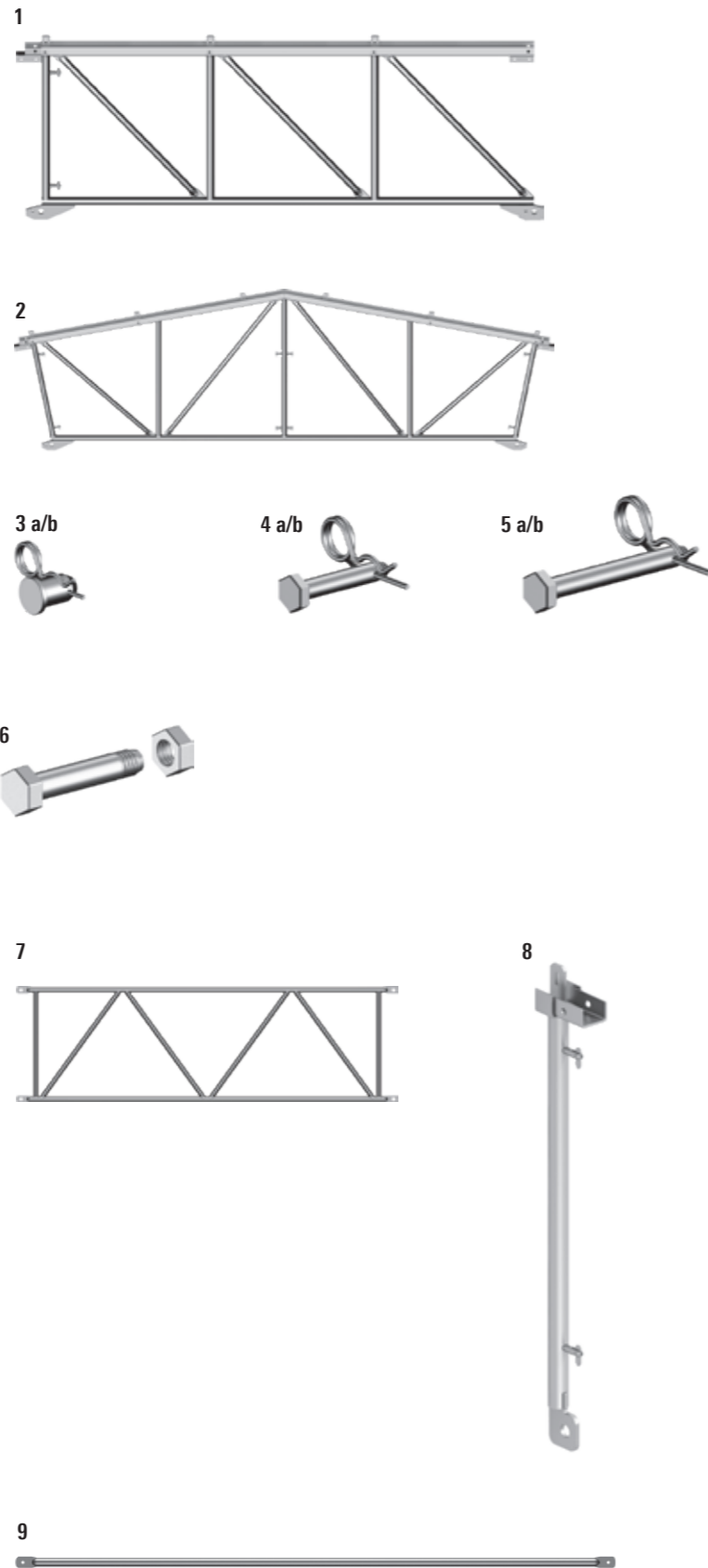
The **roof beams 1** or **ridge supports 2** are connected to one another at the bottom chord with **30 x 50 mm bolts 3** and **4 mm safety clips 4**. At the top chord, it is possible to use either two **M14 x 80 bolts 6** with nuts or **14 x 77 mm bolts 4a** with **2.8 mm safety clips 4b**.

Depending on the structural documentation some construction variants may require the use of a third **14 x 107 mm bolt 5a** and **2.8 mm safety clip 5b** at the top chord.

A truss bay consisting of a pair of roof trusses connected to **beam stiffeners 7** is pre-assembled at ground level and the roof cassettes are mounted on it and wedged in place.



A crane is used to place the pre-mounted truss bays on the scaffolding at intervals of 2.57 m, while the unoccupied intermediate bays are reinforced with **tubular stiffeners 9** and then closed using roof cassettes.



Pos.	Description	Dimensions L/H x W [m]	Weight approx. [kg]	PU [pcs.]	Ref.-No.
1	Roof beam 2.00 m 3.00 m	2.00 x 1.00	48.2	16	5902.200 🏠
		3.00 x 1.00	64.5	16	5902.300 🏠
2	Ridge support	4.30 x 1.00 / 1.50	106.0	10	5901.000 🏠
3a	Bolt, 30 x 50 mm for connecting the roof beams and ridge supports	0.05	3.0	10 🏠	5903.001 🏠
3b	Safety clip, 4 mm for 30 x 50 mm bolts and roof support wedges	0.08	1.5	50 🏠	5905.001 🏠
4a	Bolt, 14 x 77 mm and	0.08	2.2	20 🏠	5906.078 🏠
4b	Safety clip, 2.8 mm		0.5	50 🏠	4905.001
5a	Bolt, 14 x 107 mm and	0.11	3.0	20 🏠	5906.108 🏠
5b	Safety clip, 2.8 mm		0.5	50 🏠	4905.001
6	Bolt, M14 x 80 with washer and nut		2.8	20 🏠	5906.081 🏠
7	Beam stiffener	2.57	15.2	35	5907.000 🏠
8	End post for mono-pitch roofs		6.6	50	5901.100 🕒
9	Tubular stiffener	2.57	5.1	150	2504.257 🏠

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System Components

Tie elements

In the case of high levels of snow and/or large spans, it is necessary to install a **tie 2**. The **end pieces of the ties 1** are connected to the last bottom chord joint using **30 x 64 mm bolts 3** and extended by one or more tie spacers.

The tie elements are joined to one another using **lattice beam connectors 4** and are suspended using scaffolding tubes and couplers.

When mounting ties, it is necessary to install a 2.00 m long roof girder as the external roof girder.

Lattice beam connectors 4 are used to connect the tie end pieces or spacers. Each of these requires either two **M14 x 65 bolts 5** with nuts or four **14 x 77 mm bolts 6a** with **2.8 mm safety clips 6b**.



Tie connection

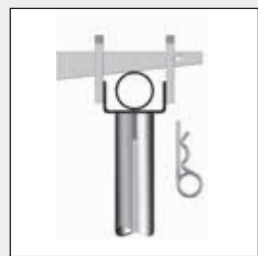
Wedges and clamping plates 7/8 for securing the roof cassettes both on the roof trusses and in the intermediate bay.

The **carrying handles 9** are inserted in the edge section of the roof cassettes and simplify the insertion and removal of individual roof cassettes without there being any need to bend or go too close to the opening.

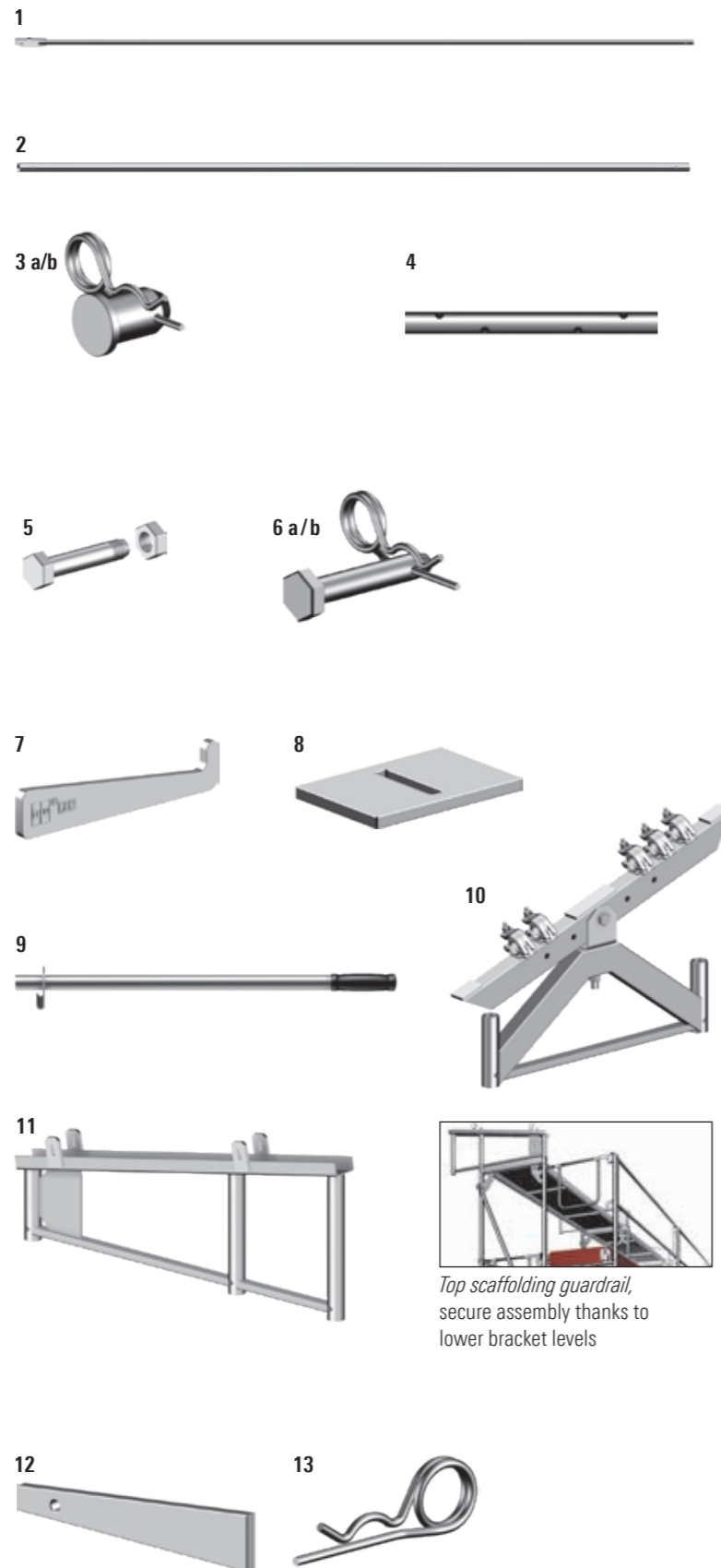
Roof supports as connecting elements for the supporting structure

For the cassette roof, 2 types of roof supports are available. The **swivelling roof support 10** has a movable seesaw, which also can be used for mono-pitch roofs.

The rigid **roof support 11** fits for support scaffolding with widths of 0.73 m and 1.09 m. The pre-mounted truss bays are inserted in the roof support and secured using 2 **wedges 12** with **safety clips 13** to ensure that they cannot lift out of position. And if the roof has to be mounted on another structure: Our engineers have even found solutions for this requirement. Please consult us.



Detail for roof support



Top scaffolding guardrail, secure assembly thanks to lower bracket levels

Pos.	Description	Dimensions L/H x W [m]	Weight approx. [kg]	PU [pcs.]	Ref. No.
1	Tie end piece, for roof girder	6.00	29.5	50	5917.000
2	Tie	2.00	7.1	50	5918.200
		4.00	17.0	50	5918.400
		6.00	25.5	50	5918.600
3a	Bolt , 30 x 64 mm for assembly of the tie end pieces	0.06	4.0	10	5904.001
3b	Safety clip , 4 mm for securing the 30 x 64 mm bolts	0.08	1.5	50	5905.001
4	Lattice beam connector , round steel for joining the tie elements Ref. Nos. 5917 and 5918	0.44	3.4	20	4916.000
5	Bolt , M14 x 65 with nut	0.07	6.5	50	4908.066
6a	Bolt , 14 x 77 mm and	0.08	2.2	20	5906.078
6b	Safety clip , 2.8 mm		0.5	50	4905.001
7	Wedge, for fixing cassette	0.18	7.5	25	5913.002
8	Clamping plate , for fixing cassette	0.12 x 0.08	15.0	25	5914.001
9	Carrying handle , for roof cassette, steel	0.75	1.2	4	5931.100
10	Swivelling roof support	0.73	19.1	20	5975.073
		1.09	22.4	20	5975.109
11	Roof support , rigid 0,73/1,09 m 2 wedges Ref. No. 5913.003 and 2 safety clips Ref. No. 5905.001 are required for each roof support	1.14 x 0.47	15.3	20	5915.000
12	Wedge for roof support	0.18	7.5	25	5913.003
13	Safety clip , 4 mm for bolts and roof support wedges	0.08	1.5	50	5905.001

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Roof cassettes

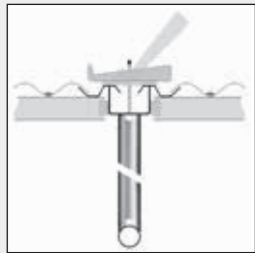
Roof cassettes with corrugated sheet

The **roof cassettes 1** consist of a robust, hot-dip galvanized steel frame with shaped steel sheets. The cassettes improve the horizontal rigidity of the roof. They can be supplied in lengths of 1.00 m and 2.00 m. The roof cassettes are inserted in the channel section of the top chord and are secured positively and non-positively using wedges and clamping plates. In this case, the clamping plate acts as a force-distributing base while the specially shaped wedge prevents slippage.

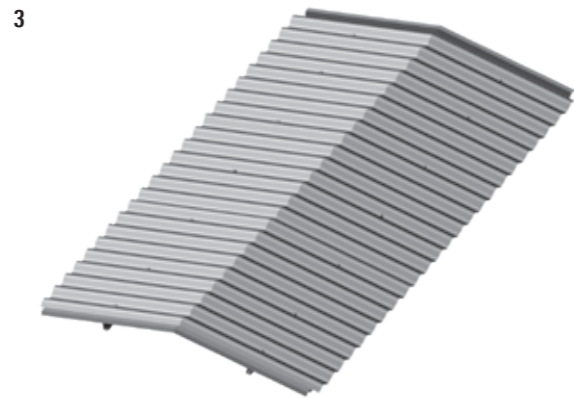
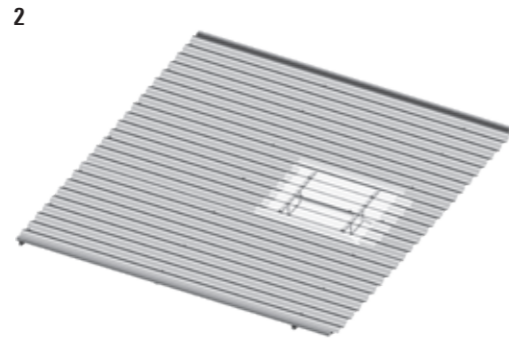
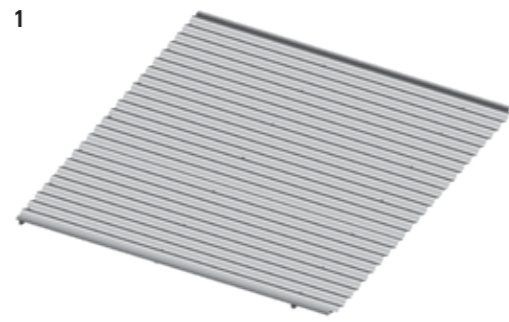
The 2.00 m-long cassette is also available with an **access hatch 2** to provide you with a safe, easy way onto the roof.

Ridge cassettes 3 for use with roof trusses consisting of roof girders and ridge supports.

Support scaffolding for cassette roofs is usually clad with translucent scaffolding tarpaulins. If additional light is required, **light cassettes 4** can also be installed. The light cassettes are fitted with transparent corrugated plastic panels together with a grid at the bottom to prevent people falling through. There is therefore no need for safety guards around the light cassette.



Cassette fixing



Pos.	Description	Dimensions L/H x W [m]	Weight approx. [kg]	PU [pcs.]	Ref. No.
1	Roof cassette , 1.00 m, corrugated sheet	1.00 x 2.57	35.2	20	5909.100 🚚
	Roof cassette , 2.00 m, corrugated sheet	2.00 x 2.57	66.0	20	5909.200 🚚
2	Roof cassette with access hatch , 2.00 m, corrugated sheet	2.00 x 2.57	75.7	10	5910.200 🚚
3	Ridge cassette , with corrugated sheet	1.40 x 2.57	44.4	10	5911.000 🚚
4	Light cassette , 2.00 m. with corrugated plastic panels, installation only in intermediate bays in alternation with roof cassettes	2.00 x 2.57	46.0	10	5930.200 🚚

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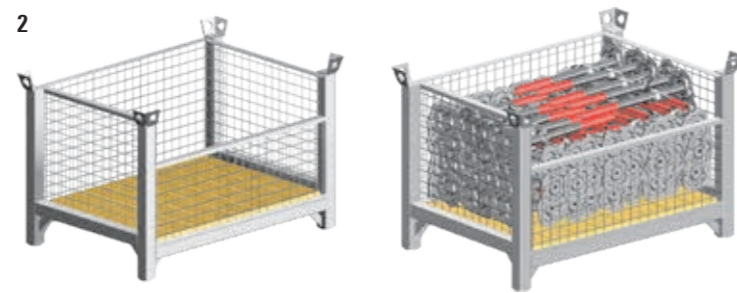
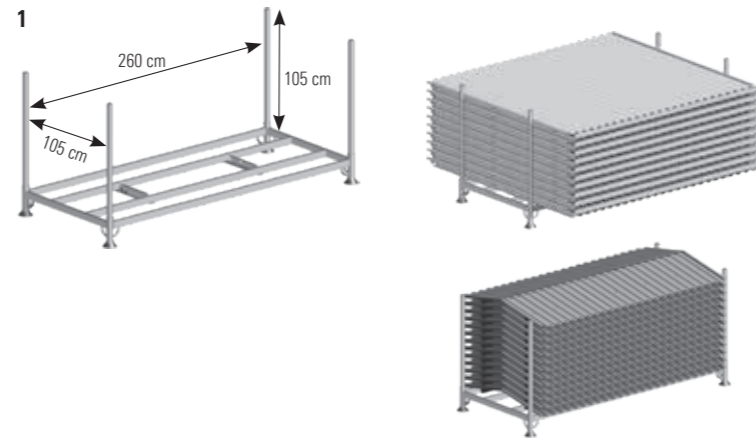
Tubular pallet 1 for the transport and storage of 13 ridge cassettes or 20 roof cassettes, also suitable for brick guards.



Design: **hot-dip galvanized**


The **modular skeleton box 2** in standardized European dimensions has a **carrying capacity of 2 t** and is stackable with Euro pallets. The upper part has crane eyelets.

A side opening makes it possible to remove the stacked items even if several pallets are positioned on top of one another.

Design: **hot-dip galvanized**



 More pallets you'll find in the catalogue System-free Accessories. 

Pos.	Description	Dimensions L/H x W [m]	Weight approx. [kg]	PU [pcs.]	Ref. No.
1	Tubular pallet 265 steel, hot-dip galvanized, length of pallet posts 1.20 m, load 1,300 kg	2.77 x 1.22	50.6	10	5113.265 
2	Modular skeleton box with timber base plate steel, hot-dip galvanized Internal dimensions 1.08 x 0.68 x 0.61 m load 2,000 kg, perm. onload 6,000 kg stackable with Euro pallets	1.20 x 0.80	85.8		5113.002

Fall protection

Safety when walking on the roof

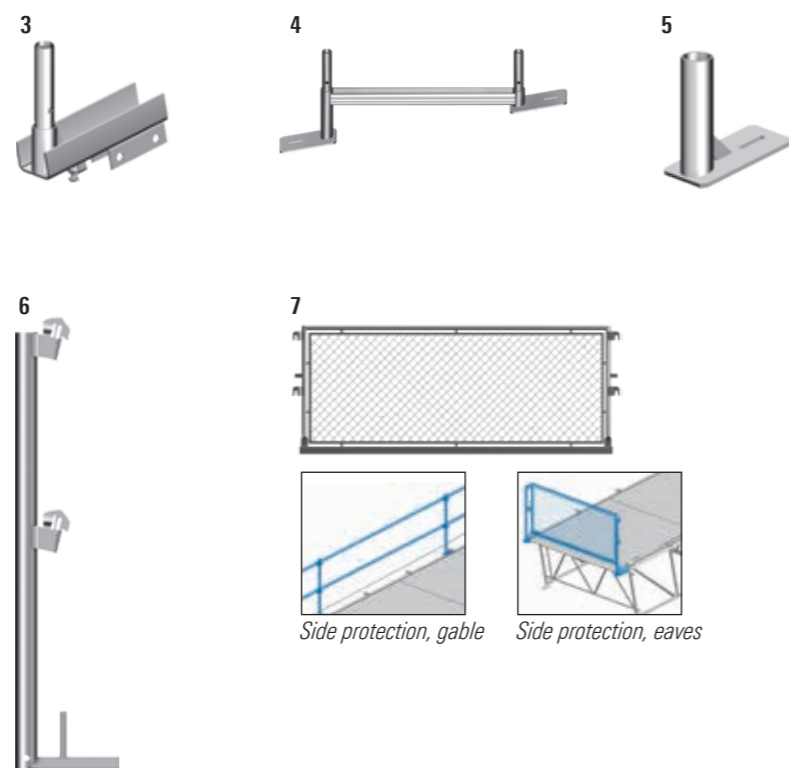
Safety when walking on the roof and the fall protection of anyone who slips on the roof is provided by **roof guards 7** in the eaves area of the side protection.



To this end, the **connecting piece 3** accommodates the **guardrail support 6** and, if necessary, commercially available semicircular gutter supports can be installed on the structure for the controlled removal of water from the roof.

A **standard connection 5** is provided for the construction of the side protection in the gable area or at the barge board and for the Allround scaffolding of openings on the roof surface.

This is installed instead of the clamping plate. The standard connector accommodates a steel scaffolding tube as a guardrail post. Max. distance between posts: 3.00 m.

The **base support for walkway 4** can be used alternatively to the **connecting piece 3** at the eaves area for fixation of the fall protection. It can additionally bear scaffolding decks for a horizontal walkway. It's mounted to the top chord of the lattice beam with 2 wedges.



Pos.	Description	Dimensions L/H x W [m]	Weight approx. [kg]	PU [pcs.]	Ref. No.
3	Connecting piece for cassette supports 1 spigot	0.30	4.1	100	5932.000 
4	Base support for walkway, steel for assembly of a walkway at the eaves area	0.73	8.7	60	5916.073 
5	Standard connection	0.22	3.2	500	5934.000 
6	Guardrail support single with guardrail wedge housings, steel	1.00	5.5	100	1716.000
7	Roof guard	1.00 x 2.57	21.1	30	1749.257 

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Rope up protection

End fastener 1 for suspending fall arrester/pre-tensioner. Fastened in each case with wedge.

Intermediate fastener 2 for assembly of an intermediate element, max. distance 15 m. Each fastening with wedge.

Ridge fastener 4 for fitting of an intermediate element in the ridge area. Fastened in each case with wedge.

Intermediate element 3 as rope guide on intermediate and ridge fastener.

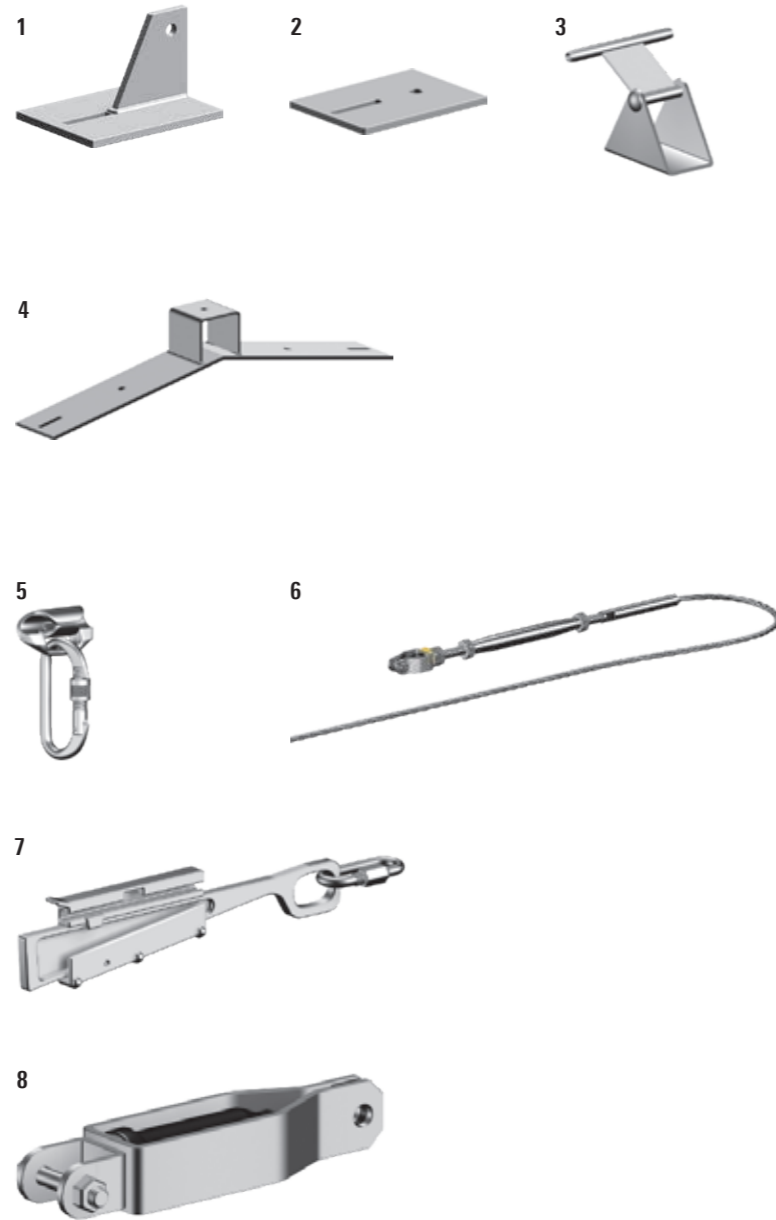


Gripper 5 for the use on slinging ropes with snap-on hooks for securing the gripper and for connecting the safety rope.

End fastener with rope 6 – slinging rope with fastening mechanism. On the opposite side the **fall arrester 8** will be bolted.

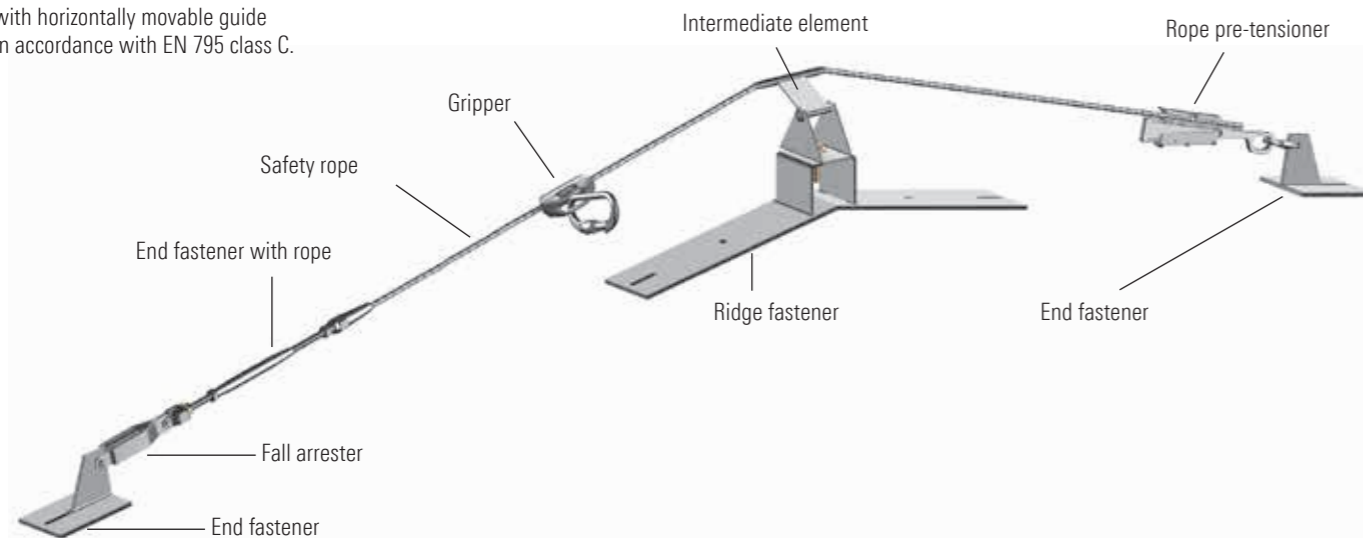
Pretensioner 7 for holding the safety rope with parallel-adjustable clamping jaws, for suspension from the end fastener. The tips of the pressure pads must be checked for flattening before every installation. The pressure pads must be replaced at the latest after they have been used 25 times.

Fall arrester 8 is fitted between end fastener and end tensioner, element for once-only release!



ATTACHMENT DEVICE

with horizontally movable guide in accordance with EN 795 class C.



Pos.	Description	Dimensions L/H x W [m]	Weight approx. [kg]	PU [pcs.]	Ref. No.
1	End fastener , steel, hot-dip galvanized	0.23 x 0.12	3.1		5969.010 📦
2	Intermediate fastener , steel, hot-dip galvanized	0.23 x 0.12	2.2		5969.020 📦
3	Intermediate element , stainless steel, breaking load > 12 kN, incl. M12 x 40 hexagon bolt and lock nut	0.12	0.5		5969.080 📦
4	Ridge fastener , steel, hot-dip galvanized	0.87 x 0.12	9.7		5969.030 📦
5	Gripper , stainless steel, snap hook, steel, breaking load > 12 kN	0.09	0.4		5969.040 📦
6	End fastener with rope , stainless steel	25.00 35.00	7.0 9.4		5969.025 📦 5969.035 📦
7	Rope pre-tensioner , steel, galvanized, rope dia. 5 – 10 mm	0.30	1.0		5969.060 📦
8	Fall arrester , stainless steel, shrink-on hose, synthetic rubber, max. stroke 70 mm, release threshold 2.4 kN	0.25	1.1		5969.070 📦

Up to 25 m span. Consisting of:	Quantity	PU [pcs.]	Ref. No.
Ridge fastener	1	80	5969.030
End fastener	2	200	5969.010
Gripper	1	100	5969.040
End fastener with rope	1	30	5969.025
Rope pre-tensioner	1	100	5969.060
Fall arrester	1	100	5969.070
Intermediate element	1	100	5969.080

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Rope up protection

The **PSA safety harness AX 60 C 1** has impressive features:

- ▶ Comfortable, padded and ergonomic back support
- ▶ Convenient tool holders and click-locks for easy fastening
- ▶ High operational dependability and absolute freedom from maintenance, plus very simple fastening
- ▶ Operating errors are not possible, as the equipment operates in any position
- ▶ Excellent running even under gruelling working conditions
- ▶ Enormous distribution of forces in the event of a fall.

Before use, visual checks must be performed regularly to ensure correct working order. In accordance with German BGR 198 regulations, all personal safety equipment must be inspected at least once a year by an expert. The maximum permissible period of use for the equipment must not be exceeded.

Travelling arrester system ASK 1 2

Travelling rope shortener made of stainless steel, firmly sewn belt fall arrester (conforms to EN 355) with snap hook, rope length 5.00 m, conforms to EN 353-2.

PSA connecting line Y-version 3

Belt fall arrester with two coated-core ropes, dia. 12 mm. Aluminium one-hand snap hook and two tube hooks FS 90 (conforming to EN 354 / EN 355).



Pos.	Description	Weight approx. [kg]	PU [pcs.]	Ref. No.
1	PSA safety harness AX 60 C with extension 0.50 m conforming to EN 361	1.8		5969.160
2	Travelling arrester system ASK 1 Polyamide, dia.12 mm	2.7		5969.200
3	PSA connecting line Y-version with snap hook FS 90 (conforming to EN 354 / EN 355)	1.6		5969.600

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