The Layher Keder roof system

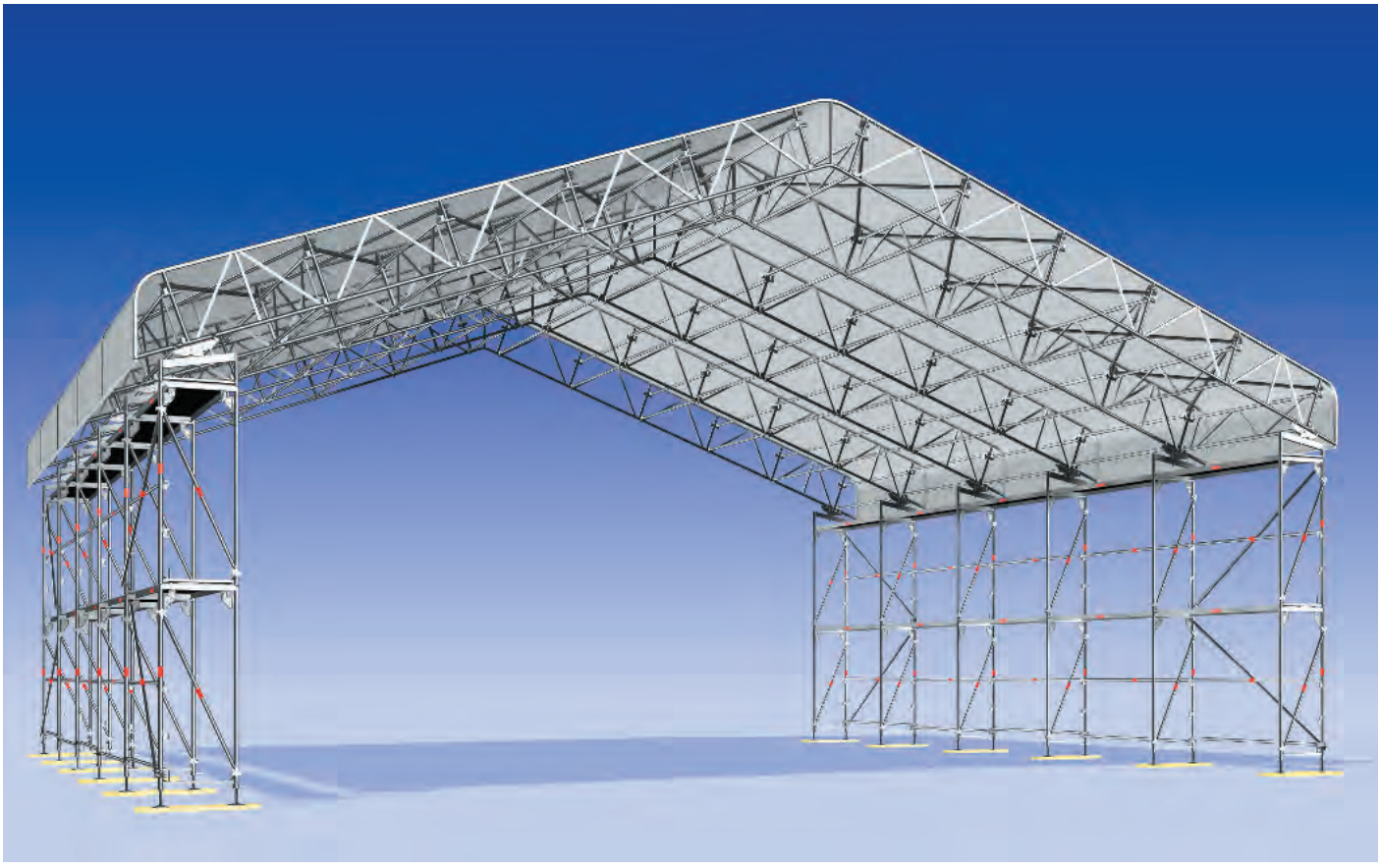
The Layher Keder roof is a lightweight weather protection roof (manufactured from aluminium) which can be mounted **without a crane** up to approximately 18 m. Used in conjunction with Keder rails for wall cladding, it means that the entire construction can be designed to form a lightweight hall.

It has many areas of application, ranging from the **roofing during the addition of storeys** and the **implementation of timber roofs and coverings, weather protection** for new structures or **refurbishment work on motorways** and over bridges through to numerous applications for **events and normal work.**

The distance between trusses is 2.57 m or 2.07 m for SpeedyScaf® or Allround scaffolding® as the supporting structure. It is possible to extend the construction to a height of 12 m without additional stiffeners. Larger spans are possible but require additional construction measures. A special Keder roof support provides the highest possible level of versatility for all assembly variants and compensates for any tolerances due to the underlying surface. The roof surface consists of high-quality PVC tarpaulins guided using keder rails and forms a watertight covering. The appropriate accessories for the fixing of the tarpaulins outside of the Keder rails means that a permanent, watertight solution is also available fore these areas. Snow loads of up to 0.25 kN/m² are permitted. Beyond this value, the snow must be cleared.

The construction is designed in such a way that only every fifth bay has to be fully braced with wind braces. Fewer Keder roof ledgers are thus required in the intermediate bays. Insert connections or snap-on claws at the individual components ensure very short assembly times, while the lightweight aluminium material (approximately 8 kg/m² for the aluminium roof structure) means that no heavy physical work is required: everything is designed to permit simple, clear, efficient assembly. The component dimensions, designed with practical applications in mind, mean that no valuable storage space is occupied unnecessarily.

The **Layher Keder roof** is particularly suitable for meeting short-term requirements. Thanks to its versatile system technology and short assembly times, it is also extremely economical and a very attractive overall solution for **lightweight assemblies.**



Keder roof system

Roof trusses
Depending on the span and roof type, the roof trusses are assembled using 1.5 m and 3.0 m lightweight aluminium lattice girders together with an eaves and ridge section. The top chord of the girders is shaped as a keder rail in order to accommodate the tarpaulin covering. Spigots at the girders form a stable connection between the girders and the individual joins are secured without the use of screws by means of bolts and safety clips.

Lattice girder with fixed, screw-in spigots. The top chord is a keder section designed to accommodate the tarpaulins.

Mono-pitch roof lattice girder with spigots on both sides. Only required as a spacer on mono-pitch roofs.

The **ridge section** (roof pitch 20°) guides the entire keder tarpaulin over the ridge and ensures that water can run off unobstructed.

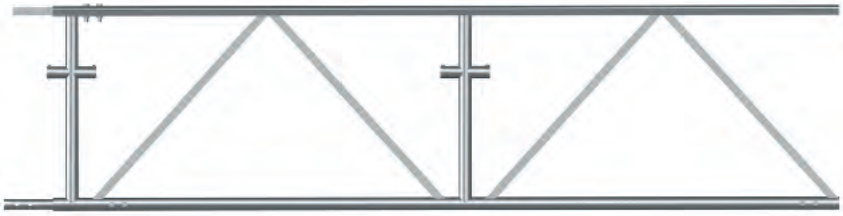
The **eaves section** at the end of the truss guides the keder tarpaulin via the curved top chord towards the wall or closes the construction as required.

The **stiffener** ensures the lateral stability of the trusses. Up to external truss dimensions of 15.6 m, it is only necessary to brace every fifth truss bay. Snap-on claws ensure extremely fast assembly at the girders' tube connectors.

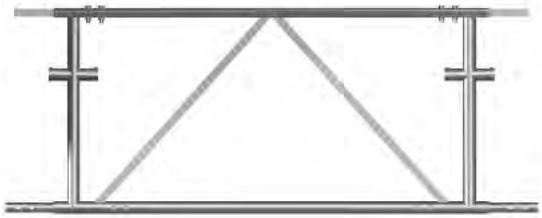
The **diagonal braces** help stabilize the construction and take up wind loads at the truss bays.

The **Keder roof ledger** braces the individual trusses in the intermediate bays.

The steel **support** with its three rotary axes makes it possible to construct mono-pitch and double-pitch roofs. Asymmetrical truss shapes and eaves projecting on one side can be constructed without any additional effort and tolerances in the substructure compensated for. Two half-couplers secure the trusses to the bottom chord.
Possible pitches for the mono-pitch roof variant:
Support 0.73 m: 0° – 25°
Support 1.09 m: 0° – 20°.

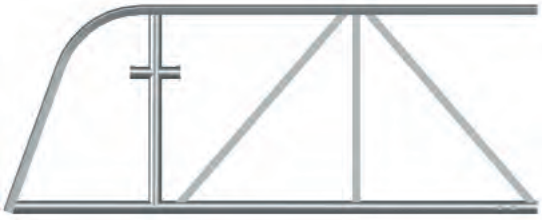


Keder roof lattice girder



Keder roof mono-pitch lattice girder

Keder roof ridge section



Keder roof eaves section

Keder roof stiffener

Keder roof diagonal brace

Keder roof ledger

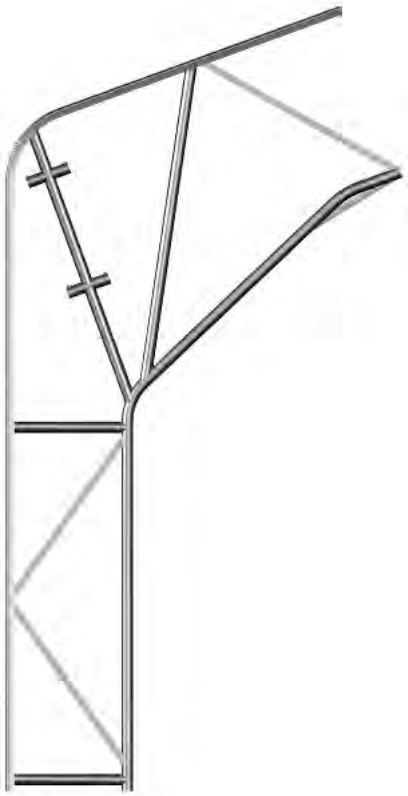
Support

Keder roof system

The **bending-resistant corner** acts as a connector between the keder roof and the wall element and makes it possible to use this system to construct a keder hall.

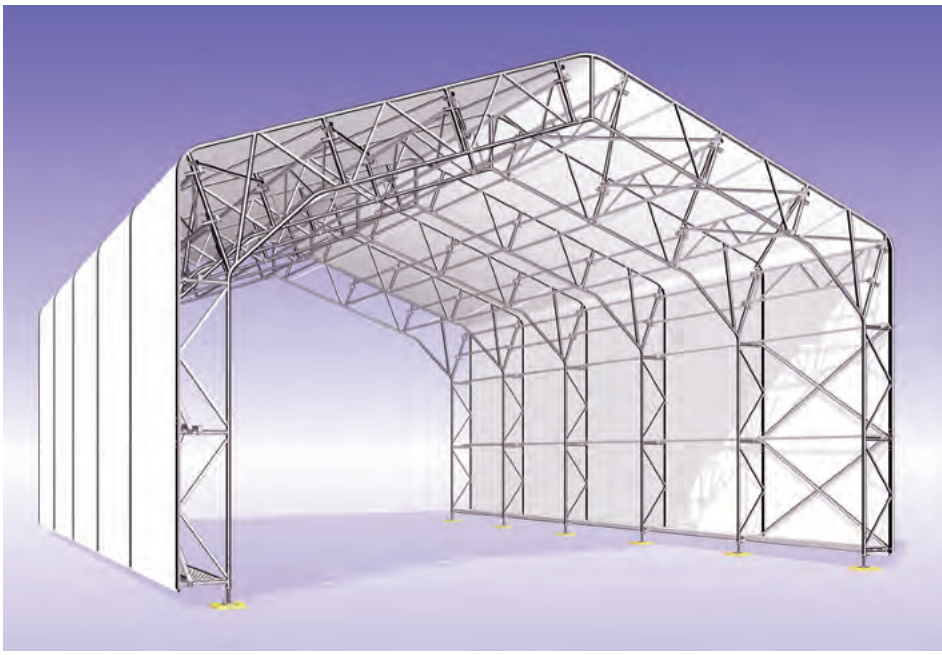
The **Keder roof wall element** makes it possible to extend constructions by using a bending-resistant corner. Two elements may be used on top of one another.

Max. eaves height: approximately 6 m.



Bending-resistant corner

Keder roof-wall element



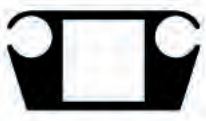
The spring steel **tarpaulin clip** secures the end of a keder roof tarpaulin which is laid over a keder roof ledger.

The 14 x 77 mm **bolt** with **safety clip** ensures the connection between the truss elements.

The **Keder rail seal** seals the truss joins at the top chord.

Tarpaulin clip

Bolt, 14 x 77 mm with safety clip



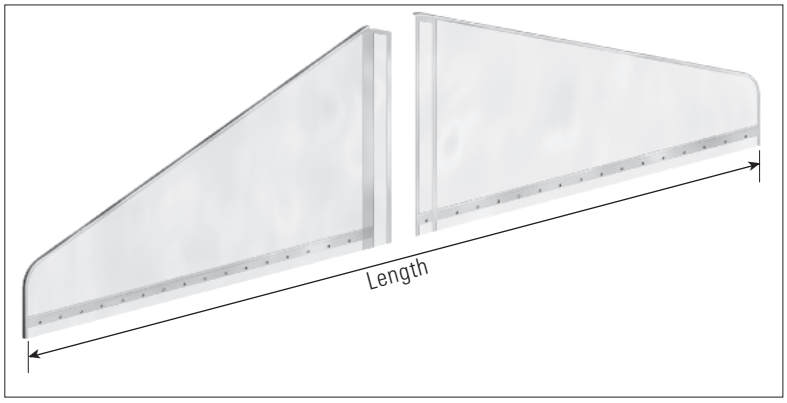
Keder roof seal

Keder roof system

Tarpaulins compliant with DIN 75200, flame-retarding

Cream-coloured PVC tarpaulins with a weight of 630 g/m².

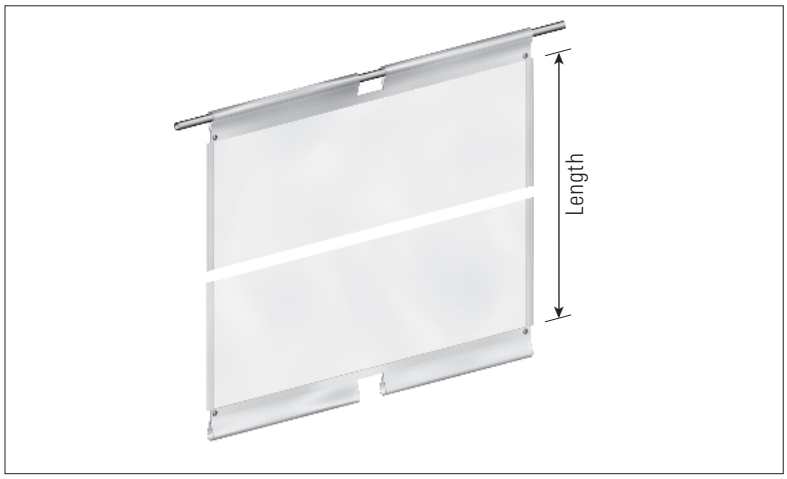
Material: PVC-coated polyester fabric, heat and UV-resistant.



Gable tarpaulins

Tarpaulin compliant with DIN 4102 B1, low-inflammability

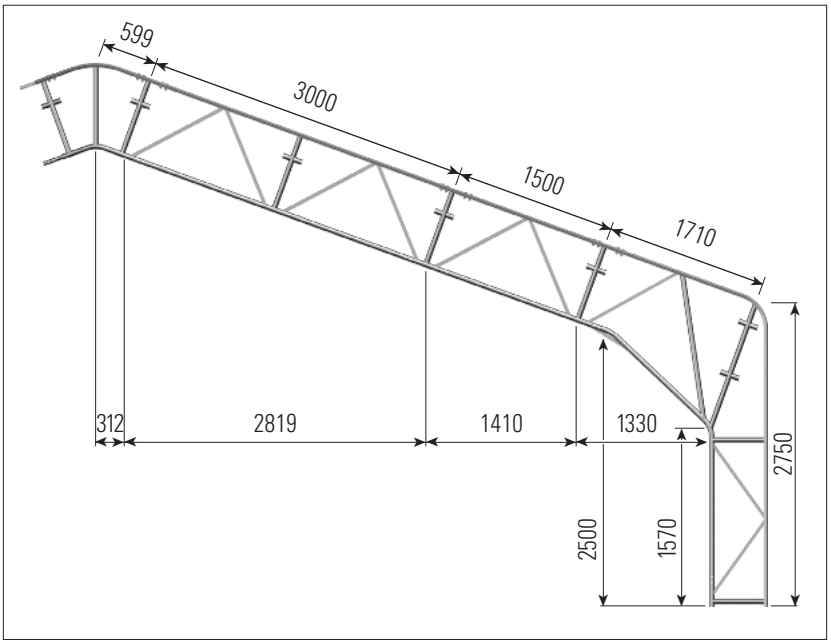
PVC tarpaulins with a weight of 650 g/m².
In the case of public events, the building inspection authorities usually demand low-inflammability tarpaulins.



Roof tarpaulins

Keder roof system

Roof structure with symmetrical truss lengths

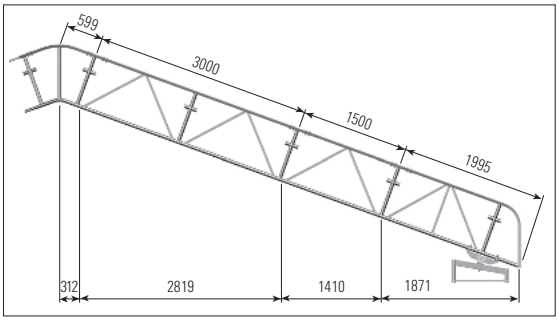


Keder roof as double-pitch roof

Material assemblies for trusses

Ext. dimensions of trusses	Eaves section	Ridge section	Lattice girder 1.50 m	Lattice girder 3.00 m	Roof tarpaulin	Gable tarpaulin/ truss cover
7.15 m	2	1	2	0	11.00 m	7.15 m
10.00 m	2	1	0	2	14.00 m	10.00 m
12.80 m	2	1	2	2	17.00 m	12.80 m
15.62 m	2	1	0	4	20.00 m	15.60 m

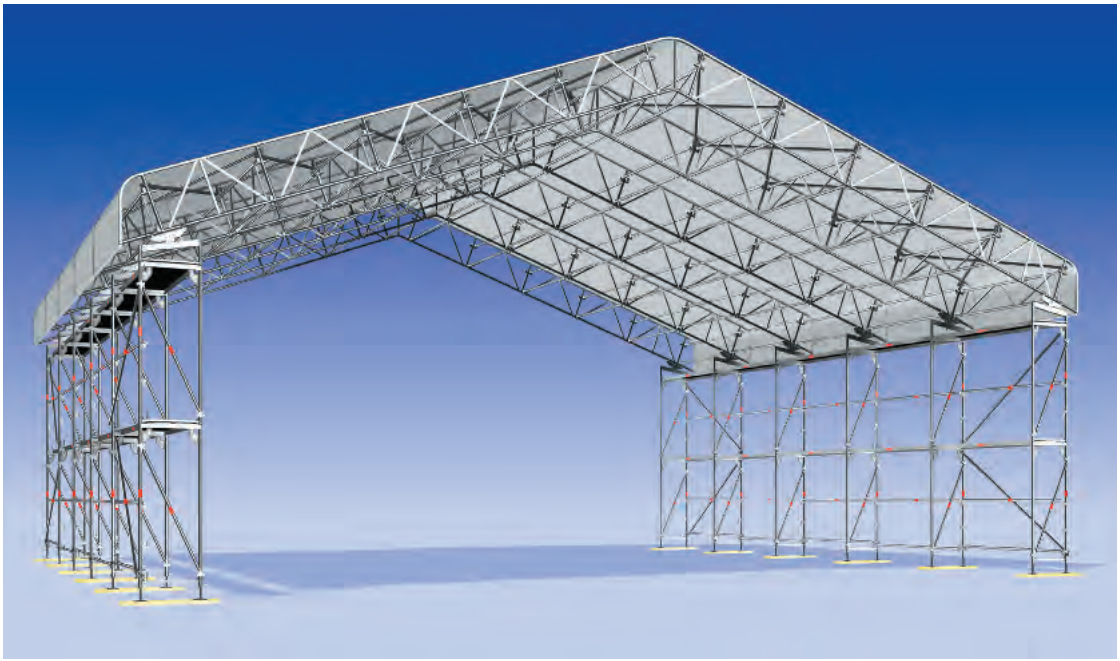
Connectors, see page 28



Price example

Roofed area: 15.6 m x 12.85 m (5 bays at intervals of 2.57 m)

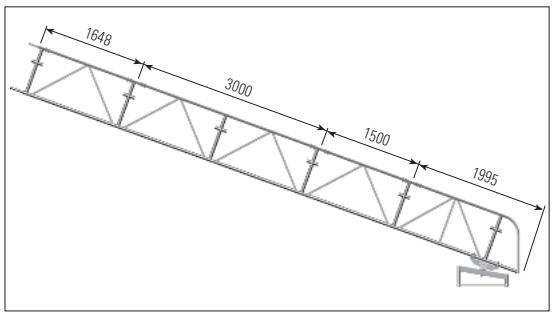
The following material is required	Number of pieces	Ref. No.	Unit price €	Total price €
Keder roof eaves section	12	**5971.100**	**181.00**	**2 172.00**
Keder roof ridge section	6	**5971.110**	**195.00**	**1 170.00**
Keder roof lattice girder 3.0 m	24	**5971.300**	**229.00**	**5 496.00**
Keder roof stiffener 2.57 m	12	**5971.257**	**117.00**	**1 404.00**
Keder roof diagonal brace 2.97 m	20	**5971.297**	**45.50**	**910.00**
Keder roof ledger 2.57 m	96	**5972.257**	**40.00**	**3 840.00**
Keder roof support 0.73 m	12	**5971.120**	**98.00**	**1 176.00**
Keder roof tarpaulin 2.57 m x 20 m	5	**5972.309**	**755.00**	**3 775.00**
Keder roof tarpaulin clip	100	**5971.140**	**0.85**	**85.00**
Locking pin	24	**4000.000**	**0.70**	**16.80**
Bolt	144	**5906.077**	**2.00**	**288.00**
Safety clip	144	**4905.000**	**0.45**	**64.80**
			Total:	**20 397.60**
			Price per m^2	**101.75**



Keder roof as mono-pitch roof

Material assemblies for trusses

Ext. dimensions Length	Eaves section	Mono-pitch roof lattice girder	Lattice girder 1.50 m	Lattice girder 3.00 m	Roof tarpaulin
5.64 m	2	1	0	0	11.00 m
7.14 m	2	1	1	0	11.00 m
8.64 m	2	1	0	1	11.00 m
10.14 m	2	1	1	1	14.00 m
11.64 m	2	1	0	2	14.00 m
13.14 m	2	1	1	2	17.00 m
14.64 m	2	1	0	3	17.00 m
16.14 m	2	1	1	3	20.00 m



Connectors, see page 28

Price example

Roofed area: 9.5 m x 12.85 m (5 bays at intervals of 2.57 m)

The following material is required	Number of pieces	Ref. No.	Unit price €	Total price €
Keder roof eaves section	12	**5971.100**	**181.00**	**2 172.00**
Mono-pitch roof lattice girder	6	**5972.150**	**199.00**	**1 194.00**
Keder roof lattice girder 1.5 m	6	**5971.150**	**145.00**	**870.00**
Keder roof lattice girder 3.0 m	6	**5971.300**	**229.00**	**1 374.00**
Keder roof stiffener 2.57 m	7	**5971.257**	**117.00**	**819.00**
Keder roof diagonal brace 2.97 m	12	**5971.297**	**45.50**	**546.00**
Keder roof ledger 2.57 m	56	**5972.257**	**40.00**	**2 240.00**
Keder roof support 0.73 m	12	**5971.120**	**98.00**	**1 176.00**
Keder roof tarpaulin 2.57 m x 14.0 m	5	**5972.307**	**528.00**	**2 640.00**
Keder roof tarpaulin clip	100	**5971.140**	**0.85**	**85.00**
Locking pin	24	**4000.000**	**0.70**	**16.80**
Bolt	96	**5906.077**	**2.00**	**192.00**
Safety clip	96	**4905.000**	**0.45**	**43.20**
			Total:	**13 368.00**
			Price per m^2	**109.51**