

# SHEDS FOR INDUSTRY, TRADE & COMMERCE



## SHEDS THAT MEET YOUR NEEDS PERFECTLY

Production • Storage • Logistics • Commerce • Leisure • Municipalities • Trade • Business



## Our thinking

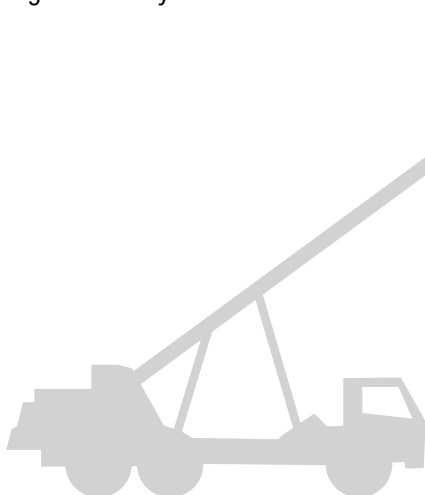
A shed is a long-term investment. The planning and decision-making process requires time, creativity, competence and vision.

For us, it is important to design and build practical sheds that last a long time and meet customers' expectations in full. We would like to feel that our customers are proud of their sheds and will remain satisfied for many years. Therefore, we place great emphasis on providing good advice and good customer support from the first phone call to handover on completion.

The E.L.F. team prides itself on its open, dependable style of communication. Our word counts. We see ourselves as partners to our customers, employees and business associates. To achieve that, we encourage discussions with our customers, employees and business partners, listen to them and respond to their wishes. "E.L.F. is building my future" is the motto that underpins the way in which we create new working and living conditions together with you.



**Dr. Dirk Quest and Klaus Brüggemann**  
*Managing directors*



**MADE IN GERMANY**

**QUALITY VARIETY ADVICE TRUST  
RELIABLE COMPETENT EXPERIENCED  
FLEXIBLE EXACT PREMIUM ACCURATE FIT  
PRECISE LOCAL SUPPORT DURABLE BESPOKE**

*Holzminden production plant: more than 300 sheds are produced here every year.*



## Consulting

All our customers throughout Germany benefit from on-the-spot advice from our experienced field staff. We attach great importance to providing individual advice. To help you make the right decision, we can supply you with details of projects we have already completed.

## Planning partnership

Our buildings are based on a system and so we can use the wealth of documentation available to us, e.g. drawings, foundation layouts and structural calculations, to help complete your building.

All our documents are produced according to the requirements of the new international Eurocode (EC3).

## Production

With their new frame corner details, our sheds offer more headroom and storage space around the columns at the eaves. They are fabricated to EN 15614-1.

Our skilled workforce carries out the fabrication of the sandblasted, hot-rolled sections to DIN EN 10025-2.

Steel structures and shed components are designed using 3D techniques and manufactured in our modern production plant. Our CNC machining centres use the design data to achieve maximum quality, maximum accuracy of fit.

## Erection

Careful erection is essential for achieving the perfect shed. That's why we have qualified erection teams which undergo regular further training.

## Partnership / Sales partner

E.L.F. offers cooperative partnerships especially aimed at building contractors as well as architectural and engineering practices.

## E.L.F. in figures:

**18** MORE THAN YEARS' EXPERIENCE 

**93** PAIRS OF BUSY HANDS 

**300** SHEDS PER YEAR 

**4000** TONNES OF STEEL PER YEAR 





### Precise production

Our CNC machining centres and the use of welding jigs throughout enables us to achieve maximum accuracy of fit for all steel members. In addition, these methods improve corrosion resistance because there is no need for reworking on site or during erection.

### High-quality paint finish

Prior to painting in our own painting shop, we employ a special method to remove the tiniest of dust particles and traces of grease in order to guarantee optimum coat adhesion. Primer and finish coat (2-part acrylic paint system) are then applied electrostatically.

After that, the painted parts are dried in the drying oven to harden the finish. This elaborate process enables us to achieve coating thicknesses of at least  $110\text{ }\mu\text{m}$ . The result is an excellent paint finish that is highly resistant to corrosion. The successful "Fokus Test" of the German Agricultural Society (DLG) proves the high quality.





## Convincing quality

Our production plant in Holzminden in northern Germany manufactures to the highest level of quality and is accredited to the latest standards.

## Our accreditations

EC certificate to DIN EN 1090-2 EXC3

Constructor's qualification to DIN EN ISO 15614-1

Find out more about our production plant in Holzminden.

We were tested/accredited by:





# MONOPITCH SHEDS – PHO SERIES



## We give you the choice

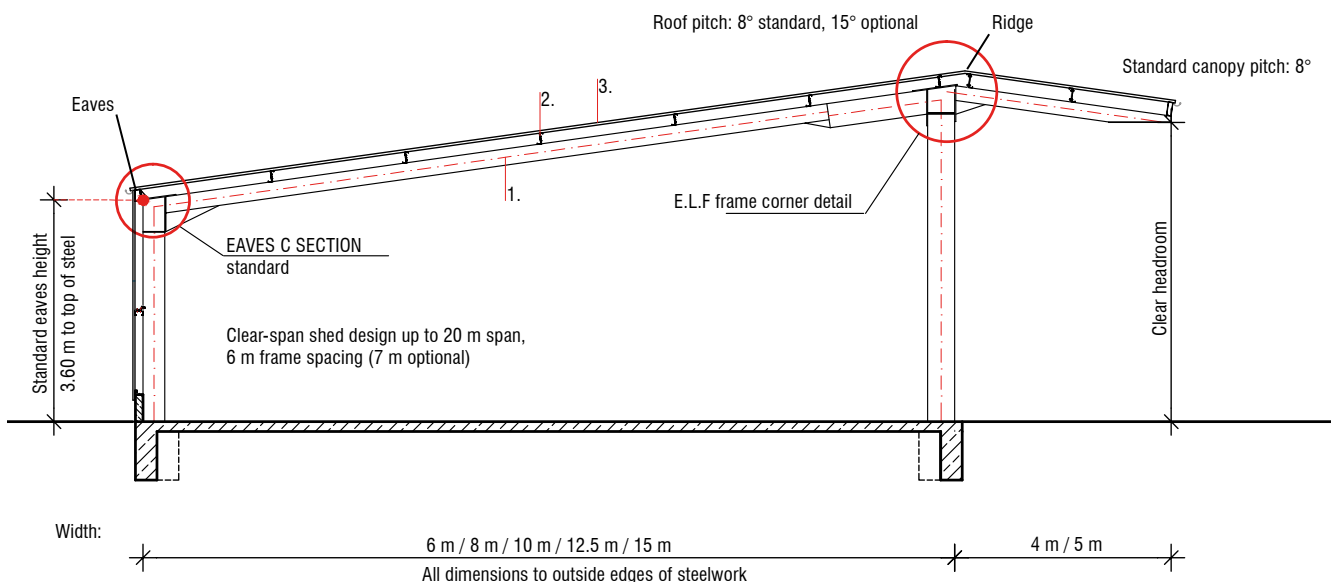
We can design and build your shed using steel trapezoidal profile sheeting, sandwich panels, timber panels or separate concrete walls. You can also choose from many colours for your roof covering and wall cladding. We can supply your PHO monopitch shed with or without insulation, depending on your requirements.

## E.L.F PHO sheds

1. Shed: steel structure
2. Roof structure: continuously hot-dip galvanised steel Z purlins
3. Roof covering: steel trapezoidal profile sheeting or sandwich panels

## What are the advantages of the E.L.F PHO monopitch shed?

- ✓ Optimum use of the shed volume thanks to the E.L.F frame corner detail
- ✓ Ideal for mounting photovoltaic installations over the entire roof surface
- ✓ Inexpensive shed type (cost-benefits ratio)
- ✓ Cost-conscious shelter solution
- ✓ Suitable as a lean-to extension to an existing building



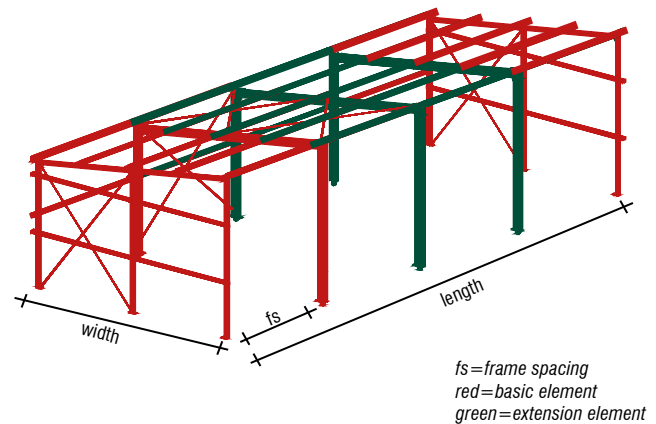


### You remain flexible

Our clear-span steel sheds are fully bolted. Their modular construction permits later extensions, conversions and changes of use.

### You can never have enough shelters!

Therefore, our monopitch sheds can be fitted with a canopy cantilevering by up to 5 m.



### E.L.F monopitch sheds, PHO series (all figures in metres)

Designation	600	800	1000	1250	1500	2000
Width of shed (overall dimension of steel frame)	6.00	8.00	10.00	12.50	15.00	20.00
Length of extension element <sup>2</sup>	12.00 or 14.00	12.00 or 14.00	12.00 or 14.00	12.00 or 14.00	12.00 or 14.00	12.00 or 14.00
Length of extension element <sup>3</sup>	6.00 or 7.00	6.00 or 7.00	6.00 or 7.00	6.00 or 7.00	6.00 or 7.00	6.00 or 7.00
Standard eaves height from	3.60	3.60	3.60	3.60	3.60	3.60
Standard ridge height from	4.44	4.72	5.01	5.36	5.71	6.41
Overall dimension incl. steel trapezoidal profile cladding	6.37	8.37	10.37	12.87	15.37	20.37
Clear headroom beneath 4 m canopy, 8° pitch	3.76	4.04	4.33	4.68	5.03	5.73
Clear headroom beneath 5 m canopy, 8° pitch	-	-	4.19*	4.54*	4.89	5.59

**PLEASE NOTE:** When adding a canopy, please consider the option of raising the eaves height. Our sheds are designed to the new wind and snow load requirements of Eurocode 3.

\*) on request

2) Twice the frame spacing (6 or 7 m possible)

3) Depending on frame spacing selected



## We give you the choice

We can design and build your shed using steel trapezoidal profile sheeting, sandwich panels, timber panels or separate concrete walls. You can also choose from many colours for your roof covering and wall cladding. We can supply your SHO duopitch shed with or without insulation, depending on your requirements.

## Roof covering

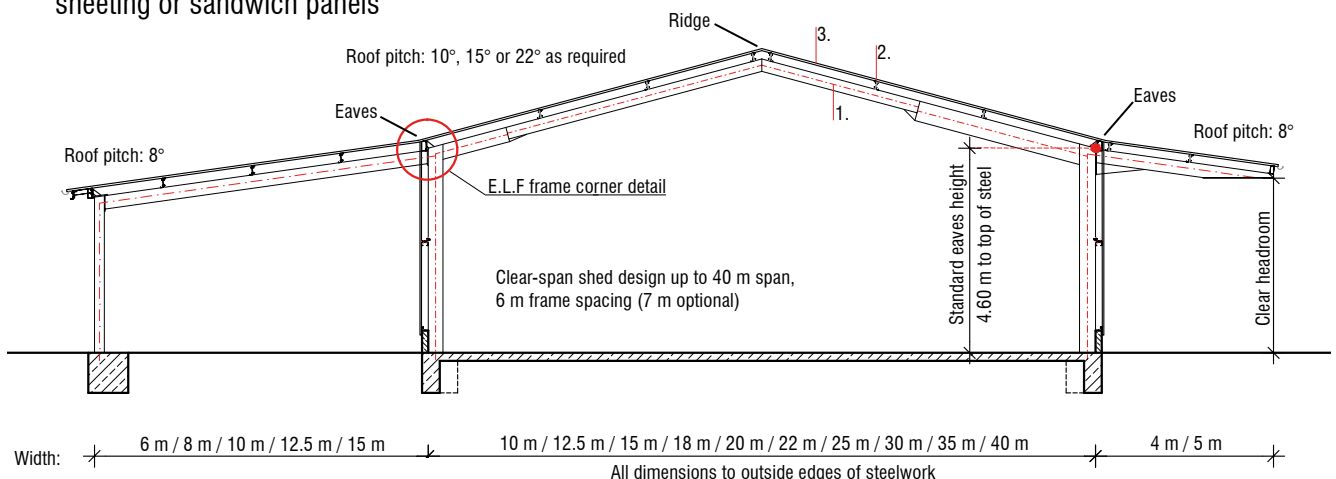
We can supply either steel trapezoidal profile sheeting or sandwich panels mounted on continuously hot-dip galvanised steel Z purlins. As an option, rainwater gutters can be attached to steel sections (uninsulated roof), which prevent distortion of and damage to the roof covering. Overhanging verges can be provided as standard.

## E.L.F SHO sheds

1. Shed: steel structure
2. Roof structure: continuously hot-dip galvanised steel Z purlins
3. Roof covering: steel trapezoidal profile sheeting or sandwich panels

## What are the advantages of the E.L.F SHO duopitch shed?

- ✓ Ideal for installing overhead cranes
- ✓ Optimum use of the clear height thanks to the E.L.F frame corner detail
- ✓ Access openings with the same clear headroom on both sides thanks to the identical eaves height on both sides
- ✓ Central ridge rooflight ensures optimum illumination of the interior
- ✓ Lower ridge height than a monopitch shed for large shed widths
- ✓ Ideal for adding canopies on both sides
- ✓ Perfect for tipping vehicles and for using hoists, for example, thanks to the central ridge





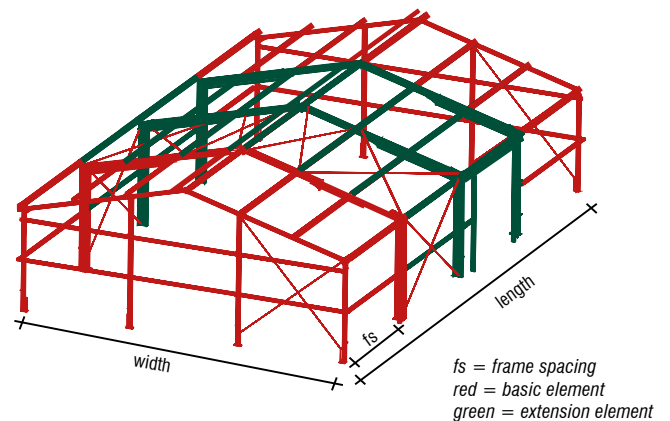


## You remain flexible

Our clear-span steel sheds are fully bolted. Their modular construction permits later extensions, conversions and changes of use.

## You can never have enough shelters!

Therefore, our duopitch sheds can be fitted with a canopy cantilevering by up to 5 m.



E.L.F duopitch sheds, SHO series (all figures in metres)									10 - 40 m span	
Designation	1000	1250	1500	1800	2000	2200	2500	3000	3500	4000
Width of shed (overall dimension of steel frame)	10.00	12.50	15.00	18.00	20.00	22.00	25.00	30.00	35.00	40.00
Length of basic element <sup>2</sup>	12.00 or 14.00	12.00 or 14.00	12.00 or 14.00	12.00 or 14.00	12.00 or 14.00	12.00 or 14.00	12.00 or 14.00	12.00 or 14.00	12.00 or 14.00	12.00 or 14.00
Length of extension element <sup>3</sup>	6.00 or 7.00	6.00 or 7.00	6.00 or 7.00	6.00 or 7.00	6.00 or 7.00	6.00 or 7.00	6.00 or 7.00	6.00 or 7.00	6.00 or 7.00	6.00 or 7.00
Standard eaves height from	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
Ridge height (to top of roof) <sup>4</sup>	10°	5.73	5.95	6.17	6.44	6.61	6.79	7.05	7.49	8.38
	15°	6.19	6.42	6.86	7.26	7.53	7.80	8.20	8.86	10.21
	22°	6.87	7.38	7.88	8.49	8.89	9.29	9.90	10.91	12.93
Overall dimension incl. steel trapezoidal profile cladding	10.37	12.87	15.37	18.37	20.37	22.37	25.37	30.37	35.37	40.37
Clear headroom beneath 4 m canopy, 8° pitch	3.87	3.87	3.87	3.87	3.87	3.87	3.87	3.87	3.87	3.87
Clear headroom beneath 5 m canopy, 8° pitch	3.73*	3.73*	3.73	3.73	3.73	3.73	3.73	3.73	3.73	3.73

**PLEASE NOTE:** When adding a canopy, please consider the option of raising the eaves height.

All SHO sheds can be designed with AS 600, AS 800, AS 1000, AS 1250 and AS 1500 lean-to extensions on request.

\*) on request

2) Twice the frame spacing (6 or 7 m possible)

3) Depending on frame spacing selected

4) In the case of uninsulated steel trapezoidal profile sheeting

## ONE SHED – MULTIPLE OPTIONS



### Bespoke buildings

We design your shed to meet your requirements exactly. As a store for machinery or goods, a production building or a workshop. With adequate space, suitable storage systems, doors and openings to suit the usage, lighting and ventilation. We adapt the shed concept to suit your working procedures exactly and achieve a smooth flow of goods. We can provide specific solutions for insulated and uninsulated buildings. And thanks to the clear spans of E.L.F sheds, you can use every square centimetre of floor space without any disruptive columns.



### All from one supplier

E.L.F can provide you with everything you need. Dimensions, shed form, insulation, cladding and foundations are coordinated so that your shed conforms to your personal specification. Upon request, we can carry out all the necessary building work and complete your new shed ready for you to start work.



### Economy

We also pay attention to economic factors. Our sheds provide you with a compact building concept so that you, regardless of the shed form and span, gain 50 cm or even much more clear, usable storage height. This highly efficient use of the internal volume greatly reduces the operating costs per cubic metre of shed volume.







### Lean-to extensions and canopies

E.L.F sheds can be lengthened at a later date if required, and lean-to extensions added to one or both sides. It is also possible to add canopies cantilevering 5 m provided this has been taken into account in the structural calculations.

### Adaptations to suit regional stipulations

Our design department takes into account the statutory requirements of your local authority, e.g. regional wind and snow load zones, and incorporates these in the concept and structural design.







### Fitting-out

Which roof form is best suited to your shed? Which foundations should you choose? We plan the technical details, interior fitting-out and colours together with you – exactly according to your requirements.





## Small details, big effects

There is ample scope for countless variations. Working together with you, our specialists prepare concepts that do justice to your aspirations.



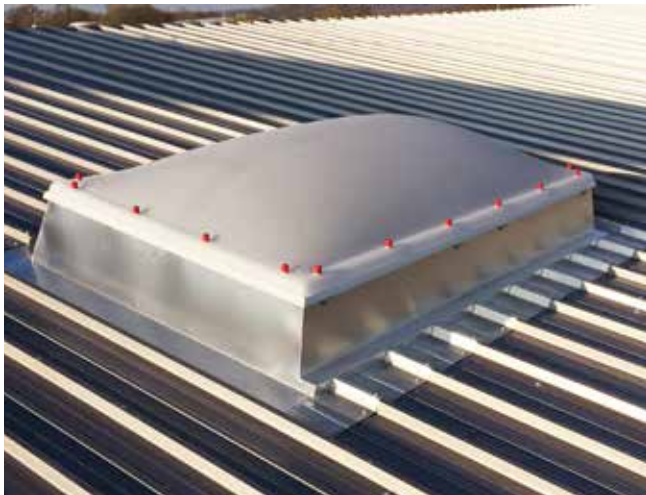




### ONE SHED – MULTIPLE OPTIONS







### Warranty

Appropriate accessories are integrated perfectly into the construction details. All accessories are procured from renowned manufacturers and are covered by our warranty.









## Foundations as individual as our sheds!

Every foundation has to be coordinated with the structure it has to support. Individual aspects such as type of use, intended fitting-out or local circumstances have to be considered. Basically, there are various options for ensuring that your new structure remains stable.

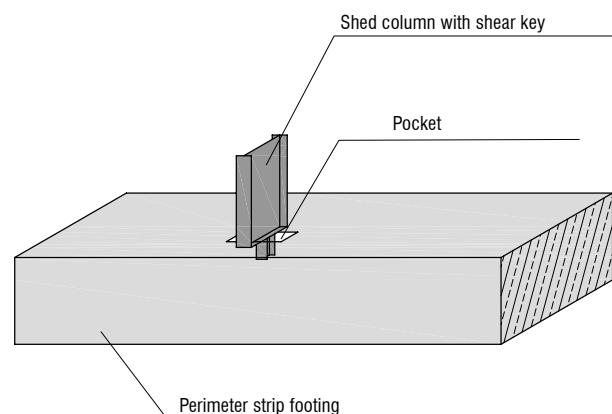
The team at E.L.F. discusses and weighs up the foundation options together with you. Cost-benefits ratio, construction time, handover date and other factors are

incorporated in the decision-making process. In principle, we work with affordable, standardised foundation types which, however, are so flexible that we can take account of your individual requirements regarding openings, strengthening and other non-standard details. All our foundations are based on a bearing pressure of  $150 \text{ kN/m}^2$ , but we can of course happily offer bespoke solutions. After concluding our detailed deliberations, we provide you with foundation drawings at cost.

## Perimeter strip footing

This type of foundation is worth considering when you do not yet know which type of floor is to be laid in the shed. Gravel, paving stones or a ground slab are all possible at a later date – plenty of scope for making your choice. A strip footing is ideal for riding arenas because it can be used to mount the kick boards.

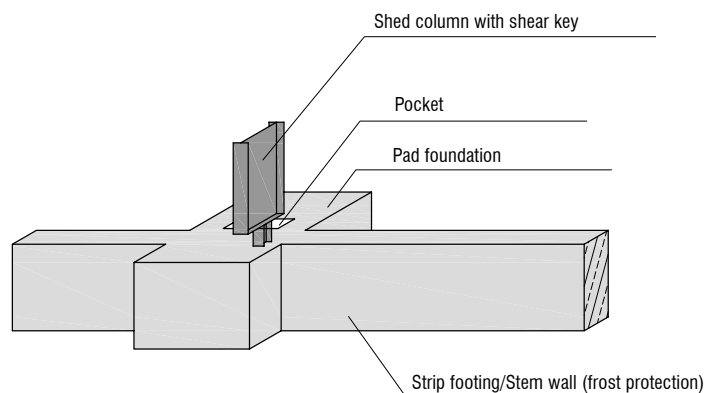
On the eaves sides, the columns of the shed frame are positioned above the foundation pockets. Holding-down bolts guarantee the necessary permanent stability. The gable posts are fixed with bolts fitted in drilled holes. For a small surcharge, certain sheds can be fixed with special anchor bolts without the need for pockets.





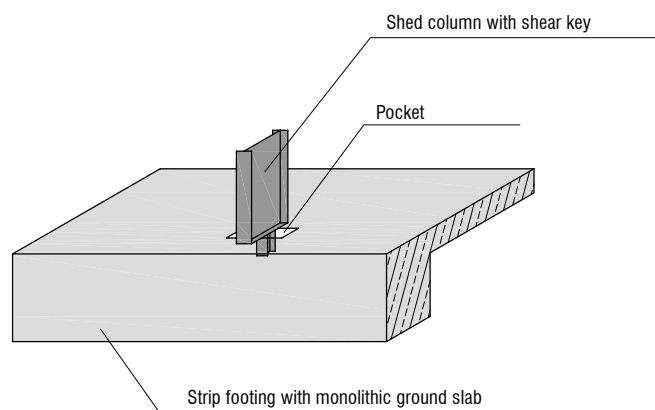
## Pad foundations + strip footing

This type of foundation is frequently chosen because it has the great advantage that it ensures excellent guidance for any doors. Furthermore, masonry walls can be built off the strip footing, which also provides an excellent border for paving stones, gravel or a ground slab laid at a later date. The steel structure is positioned above the empty pockets and fixed with holding-down bolts. The gable posts are fixed with bolts fitted in drilled holes. For a small surcharge, certain sheds can be fixed with special anchor bolts without the need for pockets.



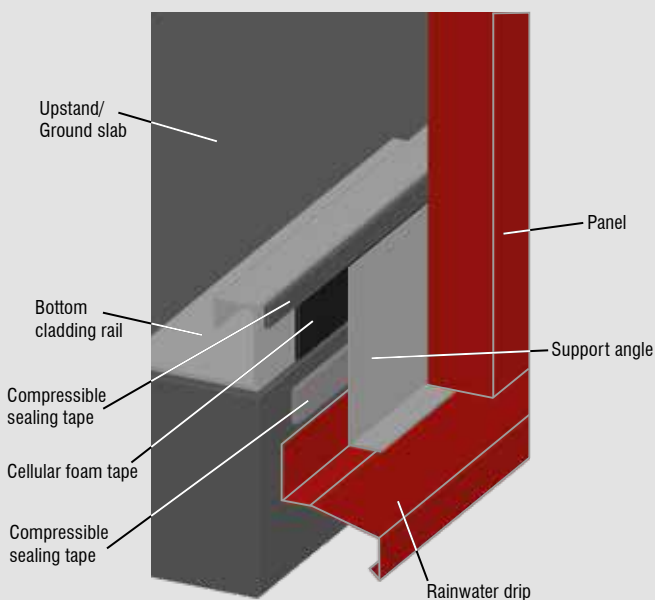
## Strip footing with monolithic ground slab

This type of foundation is specified when it is clear that the shed will have a concrete ground slab. The ground slab is designed for a max. 4 t wheel load as standard. The strip footing is relatively narrow because the steel reinforcement in the footing and the ground slab prevent “overturning” of the foundation. This solution also makes use of open pockets and gable posts fixed with bolts fitted in drilled holes. For a small surcharge, certain sheds can be fixed with special anchor bolts without the need for pockets.

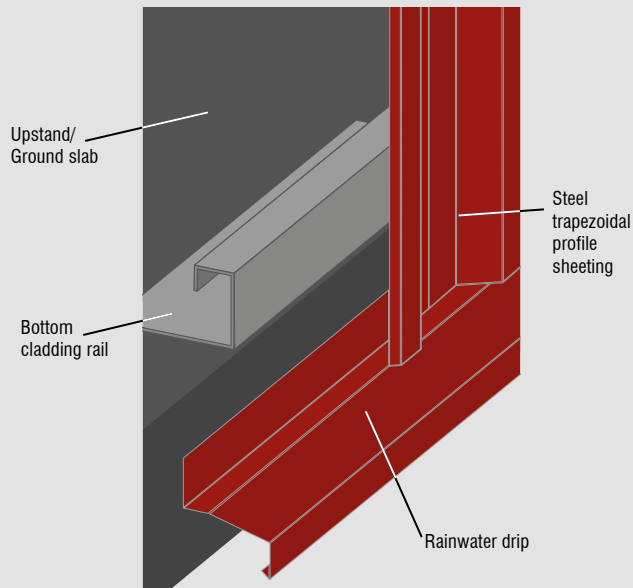


## Schematic view of wall construction

Wall cladding with thermal insulation



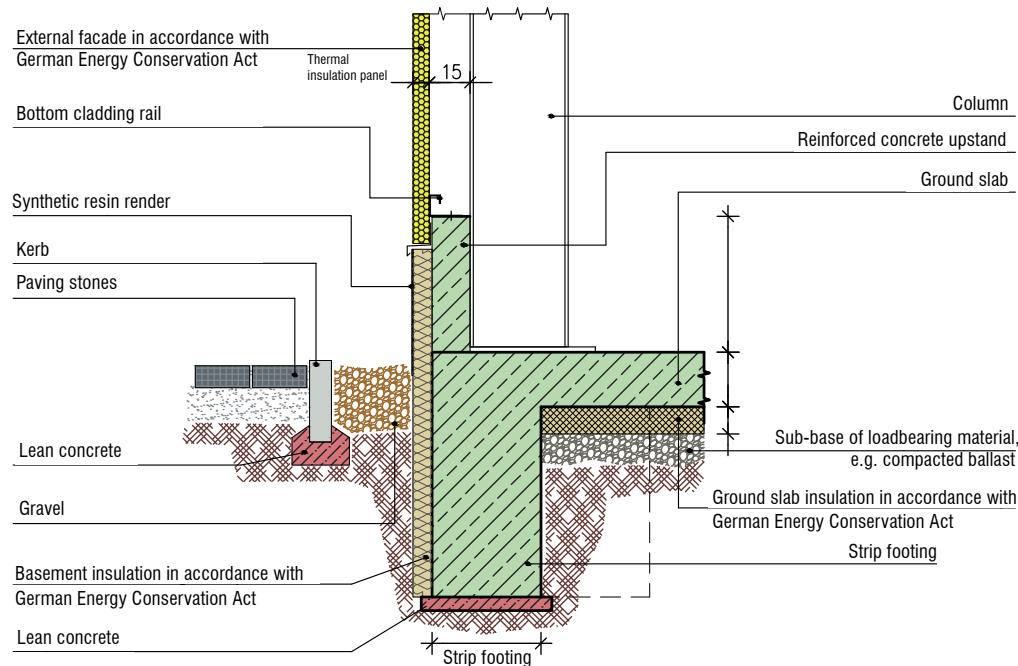
Wall cladding with steel trapezoidal profile sheeting



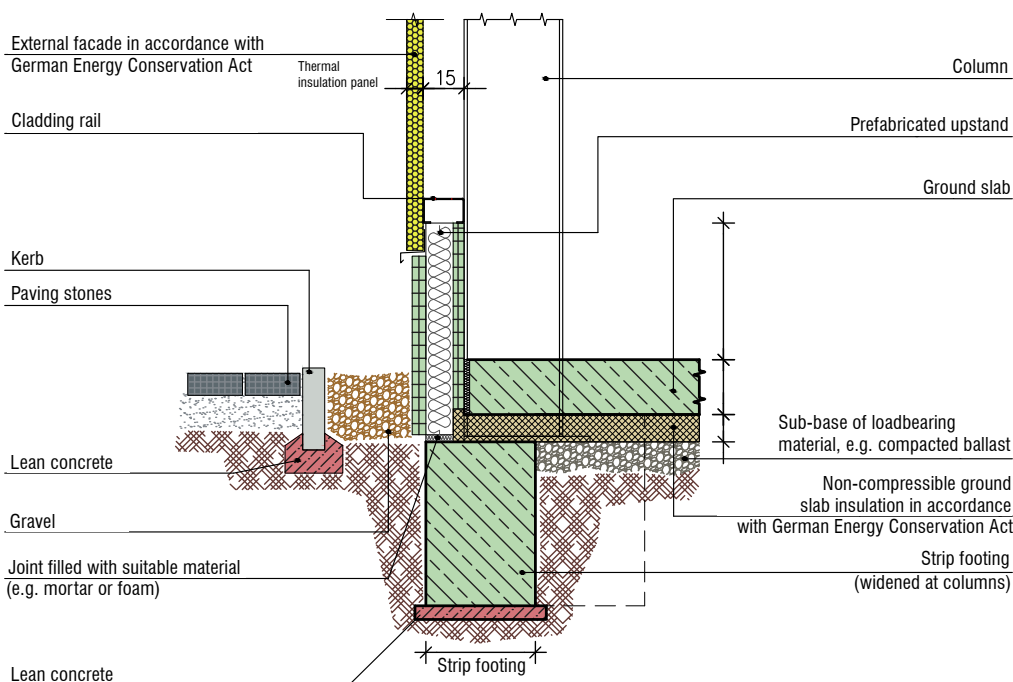
## Choice of many different base details

The base detail is chosen to match your shed specification and takes into account usage plus economic and structural aspects. We would be happy to advise you when choosing one of the many options.

### Example of an uninsulated reinforced concrete upstand with separate basement insulation:



### Example of a prefabricated upstand with core insulation:



# STANDARD COLOURS FOR STEEL, ROOFS & WALLS

## Never before was a shed so precious: functional, flexible, economic

All steel components are sandblasted and then re-blasted with dry ice prior to painting. A foodstuffs-compliant two-part acrylic paint system is used for both the primer and the finish coat. Our elaborate painting procedure results in excellent corrosion protection (C4A) and is your guarantee that you will enjoy your E.L.F shed for many years.

## E.L.F colours, steel structure

Flame red	RAL 3000
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Anthracite grey	RAL 7016
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Light grey	RAL 7035
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Moss green	RAL 6005
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Gentian blue	RAL 5010
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Product colours may vary from those shown here due to the limitations of printing.



Further RAL colours are available on request. Painting in your corporate colours on request!





## E.L.F wall and roof colours, steel trapezoidal profile sheeting + thermal insulation

Light ivory	RAL 1015
Gentian blue	RAL 5010
Reseda green	RAL 6011
Chrome green	RAL 6020
Anthracite grey	RAL 7016
Copper brown	RAL 8004
Nut brown	RAL 8011
Red brown	RAL 8012
Oxide red	RAL 3009
Flame red	RAL 3000
Grey white	RAL 9002
Light grey	RAL 7035
White aluminium	RAL 9006
Grey aluminium	RAL 9007

Steel sheeting for roofs and walls is supplied as standard with a 25  $\mu\text{m}$  polyester coating outside and a 10  $\mu\text{m}$  protective paint coating inside; this also applies to the panels. All colours are similar to the RAL colours given above. They are produced according to the defined standards of our suppliers. Despite careful procedures, differences in colour between different batches cannot be avoided.



### Our policy

Production and erection go together. Our erection contractors are specialised in building E.L.F system sheds. The erection of an E.L.F shed is of course carried out in compliance with safety legislation so that our erection teams can work safely and concentrate on building your shed. Safety nets, helmets and protective clothing are as much a part of our quality standard as ongoing training.

Our site crews use the right tools and equipment, well maintained and in accordance with the standards. They can also install doors and windows so that we can provide you with a fully finished shed.

E.L.F remains your partner throughout the construction phase. We take the responsibility and provide the guarantee.







## **We guarantee maximum quality in production and erection.**

You won't fail to notice that our team is as flexible as our E.L.F sheds! Creativity in design, proper business procedures, excellent workmanship. We will be happy to prove to you that these are the standards to which we work. E.L.F sheds comply with new legislation that stipulates regional wind zones and snow loads.

## **Your satisfaction remains our concern even after the shed is built.**



## **Sheds for every application**

- Production buildings
- Sheds for trade and commerce
- Sheds for the logistics sector
- Warehouses
- Workshops and shelters
- Sheds for local authorities, e.g. fire stations
- Exhibition, sales and office buildings

## **Additional services**

Our specialist E.L.F sheds consultants will be delighted to tell you about the comprehensive range of options.

- Solutions tailored to your sector
- Fire protection
- Foodstuffs storage
- Internal fitting-out
- Solar panels

*We reserve the right to change technical specifications without notice.*

*Product colours may vary from those shown here due to the limitations of printing.*

# SHEDS THAT MEET YOUR NEEDS PERFECTLY



E.L.F Hallen- und Maschinenbau GmbH

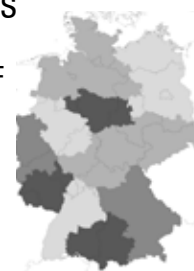
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Help and advice on your premises

Go to our website to find your local E.L.F  
sheds partner: [www.elf-hallen.com](http://www.elf-hallen.com)

Or simply give us a call.



All illustrations correspond to our technical standard. We reserve the right to change technical specifications without notice. Product colours may vary from those shown here due to the limitations of printing. Position as of Feb 2020. Concept & design: [www.gmc-marketing.eu](http://www.gmc-marketing.eu)

Equipment shelters • Warehouses • Production buildings • Workshops