



The

PERI UP

Scaffolding Kit

Issue 12/2022



Issue 12/2022

Publisher

PERI SE

Formwork Scaffolding Engineering

Rudolf-Diesel-Strasse 19

89264 Weissenhorn

Germany

info@peri.com

www.peri.com

Important notes

All current regulations and guidelines applicable in countries where our products are used must be observed.

The photos shown in this brochure feature construction sites in progress. For this reason, safety and anchor details in particular cannot always be considered conclusive or final. These are subject to the risk assessment carried out by the contractor.

In addition, the computer graphics used are to be regarded as system representations. To facilitate understanding, these and the detailed illustrations shown have been partially reduced to

certain aspects. The safety equipments that are not shown in these detailed descriptions must nevertheless be available. The systems or items shown might not be available in every country.

Safety instructions and load specifications are to be strictly observed at all times. Separate structural calculations are required for any deviations from the standard design data.

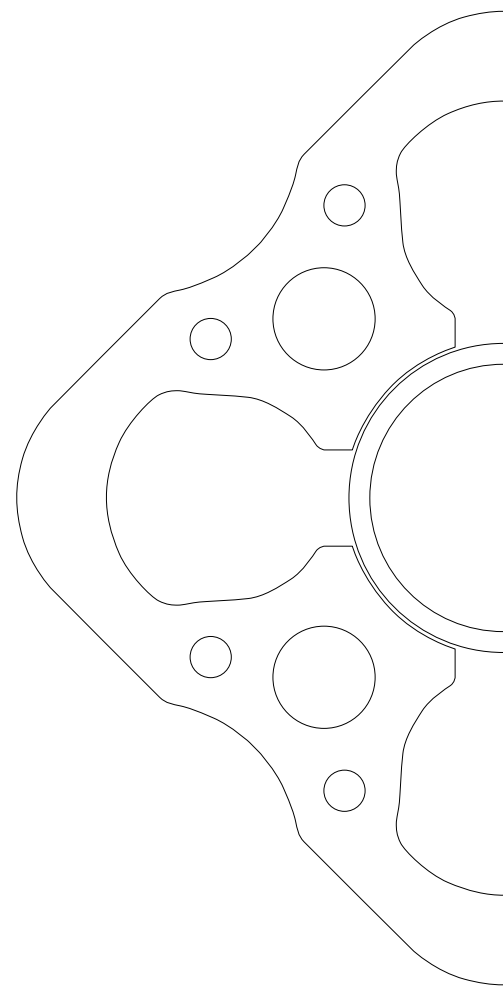
The information contained herein is subject to technical changes in the interests of progress. Errors and typographical mistakes reserved.

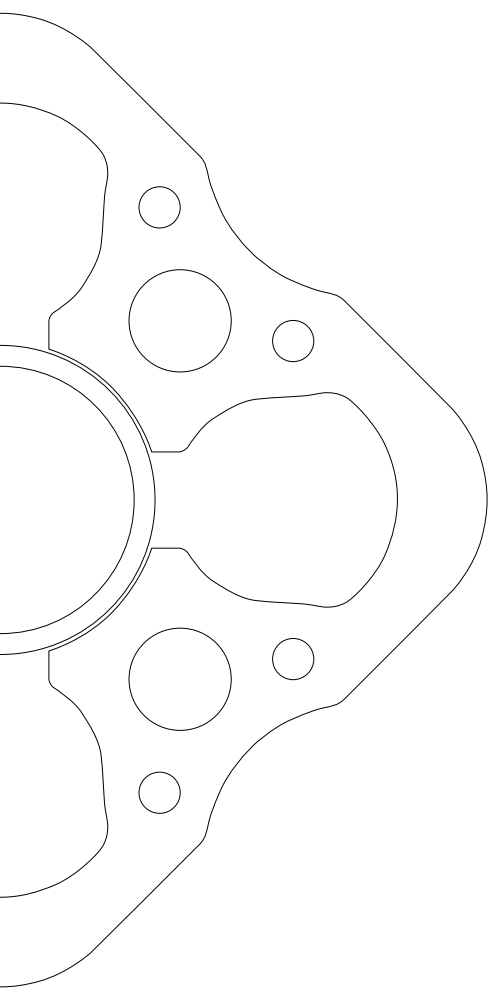
Page **PERI – the Scaffolding Specialist**

- 10** **Equipped for the future**
Scaffolding construction in a state of change
- 11** **PERI – the Scaffolding Specialist**
Development, innovation and solutions
- 14** **Made by PERI**
The benchmark – product quality
- 15** **PERI brings the trades together**
Win-win situation
- 18** **Working together to achieve success**
The four pillars of success
- 20** **The application diversity of PERI UP**
A wide range of possible solutions

Page **PERI UP Scaffolding Kit – the basic components**

- 24** **Achieving a lot with just a few components**
Pushing boundaries
- 25** **Core components**
Their powerful characteristics
- 27** **Easy planning, quick assembly**
A grid-based approach to planning
- 30** **PERI UP scaffolding nodes**
An element of flexibility
- 31** **Gravity Lock | Locking Deck | horizontal ledger**
Quick assembly and self-locking
- 36** **Decks**
Non-slip, durable and easy to clean
- 39** **Toe boards**
For even greater safety
- 41** **Connecting components**
Flexible solutions
- 43** **Digital products**
Software and tools





PERI UP – applications

	Page
Facade scaffolds Combinations and possibilities	52
Reinforcement scaffolds The utmost stability at work	64
Bridging Temporary crossings	68
Working platforms Safety at great heights	74
Weather protection roofs Ready for all kinds of weather conditions	84
Suspended scaffolds Movable working platforms	94
Shoring Shoring towers with a modular design	96
Stairs Scaffolding kit solutions	104
Mega Scaffolding Kit PERI UP and VARIOKIT combined	117
Special applications Project-specific solutions	118

PERI – right by your side

	Page
PERI services Expertise that will bring you success	133
Courses and training Efficient and safe product application	134
BIM, Engineering and project management Planning, project support and advice	135
Professional logistics Ensure material availability	138
More than a scaffold Our performance mix	142
PERI Scaffolding Kit The ideal solution for every user	154

PERI

▶ 7 – 20

the Scaffolding Specialist





Equipped for the future

Scaffolding construction is in a noticeable state of change.

The demands for increased safety are constantly growing and the shortage of skilled workers is exacerbating the situation to an ever increasing degree. Innovative materials, professional planning and well-trained personnel are becoming increasingly decisive factors in the competitiveness of scaffolding companies.

Those who do not compromise on safety and speed, and excel at expert planning not only delight customers, but also emphasise the importance of warehousing and logistics in the success of a project.

With the right system, you can unlock entirely new possibilities in scaffolding construction. Ergonomic and lightweight material not only speeds up processes on the construction site, but also protects the health and well-being of your employees.

In this brochure, we will show you solutions and services that will set you apart from the competition and enable you to meet the challenges of the scaffolding industry both now and in the future, and to achieve great things.



Product development
PERI is synonymous with teamwork: practice-oriented scaffolding that is easy and safe to use is created through the collaboration of specialists in development, manufacturing and in the field.

PERI – the Scaffolding Specialist



The primary plant for scaffolding materials in Günzburg is kitted out with efficient systems engineering facilities, state-of-the-art welding processes and fully automatic welding robots. In this way, the primary plant ensures that PERI's outstanding quality, material availability and delivery reliability are maintained worldwide.



50 years of innovation

For over 50 years now, the PERI brand has been synonymous with quality, innovative strength and customer focus.

At PERI, scaffolding, formwork and services come from a single source – ensuring that customers achieve the greatest possible success. We are a reliable partner and single-source supplier and guide our customers through the entire value creation process. We set production and quality standards for our global network at our two primary plants for the production of scaffolding materials (Günzburg) and formwork systems (Weissenhorn). PERI products are specially designed for demanding everyday use on construction sites and therefore constitute a worthwhile investment.



Working together towards a solution

At a time when it is not easy to find suitable personnel and to earn money with scaffolding services, new approaches are required. You will only stand out from the competition if you can execute more projects in the same amount of time with your team, while reliably ensuring safety and good time management. PERI can support you in this – after all, your success is also our success.



No matter if it's a complex technical solution or a particularly tight deadline you are facing – we'll be right by your side. We would also be happy to advise you in person at the construction site or find a solution to your scaffolding construction challenge in cooperation with our experienced engineers.

Professionalism in action

PERI is more than just a material supplier or scaffolding manufacturer: our know-how stems from decades of experience gained on construction sites all over the world as well as direct interaction with customers and users of our products. During development, we put the emphasis on the benefits for the customer. We strive to continuously optimise our products so that they are comprehensively prepared for the challenges of the future.

For further information on the PERI UP Scaffolding System:





**Our benchmark
for the highest
product quality
and
reliability**

Quality “made in Germany” – developed and manufactured by PERI

- ▶ As early as the product development stage, PERI’s research and development department ensures that the materials not only deliver what they promise but also provide the required protection during use.
- ▶ State-of-the-art measuring procedures, outstanding manufacturing processes and automated production ensure a consistently high level of component quality.
- ▶ Compatibility with other, commercially available systems is virtually impossible. This protects users to the greatest possible extent from material mixing with cheap copies or replicas.



High availability and global network

- ▶ By having full and flexible control over our own extensive production capacity, we are able to supply large quantities in the shortest possible time frame.
- ▶ Our global network of logistics and warehouse locations as well as supply chain experts ensures comprehensive availability.
- ▶ PERI’s software solutions were developed to provide the greatest possible planning capability, e.g. for coordinated deliveries of materials and quantities.



Ready for the future

- ▶ As an independent family business, we attach great importance to the long-term, sustainable nature of our activities.
- ▶ Visionary product development, comprehensive research work and long-standing customer relationships enable solid and consistent growth as well as continuous further development in all aspects of scaffolding.
- ▶ We set standards and embrace them with integrity and enthusiasm, so that efficient solutions and safety regulations continue to go hand in hand in the future.



Made by PERI

[You are the scaffolding construction professional. We will support you by providing a innovative system.]

PERI brings the trades together

PERI's extensive network will open doors for you. PERI has access to countless contacts through its many years of successful international cooperation in almost every conceivable construction project and industrial application.

Timely access to decision-makers at construction companies and to architects, for example, could see you land projects as early as the planning phase. This synergy between scaffolders and construction companies results in long-standing partnerships as well as better planning of the use of materials. We always strive to find the best solution for our customers by producing first-class scaffolding and supporting them with our services.

Win-win

Scaffolders are given the opportunity to land projects early on and thus improve planning reliability for the entire project.

Construction companies benefit from being able to deploy a scaffolder with a safe and efficient system into their projects with planning certainty.



Successful projects are the result of cooperation between different trades. We help bring the right partners together with our global network. In this case, for staircase solutions and reinforcement scaffolding on in-situ concrete construction sites.

PERI was, is and will continue to be a supplier of scaffolding solutions and engineering services.

We do not erect scaffolding ourselves, so we will not be competing with you. On the contrary, you will receive the best possible support from us so that you can carry out your work faster and more safely. Our services – such as personal experts or software solutions – will make your day-to-day work easier.



The four pillars of **SUCCESS**



Impressive variety of applications

The PERI UP Scaffolding Kit is characterised by the compatibility of all its components – a single system for virtually any application.

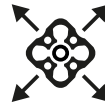
Pushing boundaries with simple means

The PERI UP Scaffolding Kit transcends the boundaries between frame and modular scaffolding. The components are compatible and do not require any additional components to join them together.

For even greater application diversity, you can also expand the scaffolding kit to include components from the VARIOKIT Engineering Construction Kit.

Succeed with digital expertise

A multitude of digital solutions and services from our PERI experts puts the finishing touches on our portfolio. Project management, engineering services, training, configurators, CAD software and project planning software are available. You even have access to professional and reliable project management and documentation based on BIM.



Sophisticated flexibility

As few components as necessary, as many applications as possible – that is what PERI UP aims to achieve.

Achieving a lot with just a few components

To do this, we use components that all have connecting, load-bearing, securing and adjusting properties, enabling them to perform a wide range of functions. This means that only a small number of components are required for most applications. This saves time and money and eliminates unnecessary material on the construction site.



Swift, yet safe

With PERI UP, safety is the top priority during assembly and disassembly – without disregarding cost-effectiveness.

A safe way to cut costs

The safety requirements in scaffolding construction are becoming ever more stringent. The PERI UP Scaffolding Kit has innovative safety features that are ahead of their time and are also impressive in terms of assembly and disassembly speed. For example, since 1998, the system-integrated guardrail in advance assembly system has been an integral part of the PERI UP Scaffolding Kit. To this day, the system makes the scaffold safer and is particularly quick and easy to assemble. In addition, the lightweight single components of the PERI UP Scaffolding Kit, the integrated user safety features and easily understandable system with logical assembly sequences, increase protection levels for your employees and, given the fact they are able to work without becoming fatigued, also improve their satisfaction.



Robust, yet lightweight

Light and robust components can ensure better working conditions over the long term and simplify logistical processes at the same time.

Hit the heights with low weight

The PERI UP Scaffolding Kit stands out on account of how lightweight the components are. A lower component weight not only facilitates logistical processes, but can also noticeably reduce the load that scaffolders have to carry on a daily basis and thus safeguard their health and well-being. Our aim is to ensure that you are optimally equipped for the future. For this reason, we recently developed an even lighter component generation that is fully compatible with existing PERI scaffolding systems.

The easy route to greater stability

Despite its low weight, PERI UP retains its robustness thanks to its ingenious design and high-strength steel. The load capacity and overall product quality are strictly monitored and each component can be traced back to its origin.

Achieving success together with PERI!

The application div

A wide range of possible sol



Industrial facilities and projects – pushing boundaries

Cost reduction through labour savings and rapid commissioning of plants

- ▶ Versatile system with a low number of components
- ▶ Access technology, suspended scaffolds and working platforms with safe decking
- ▶ VARIOKIT Engineering Construction Kit for even more solution options
- ▶ Projectable processes and digital project documentation

Examples: Raw material producing or processing industry, manufacturing industry, ship vessels, train and aircraft maintenance facilities and many more.



SERVICE · TRAINING · ENGINEERING SERVICES

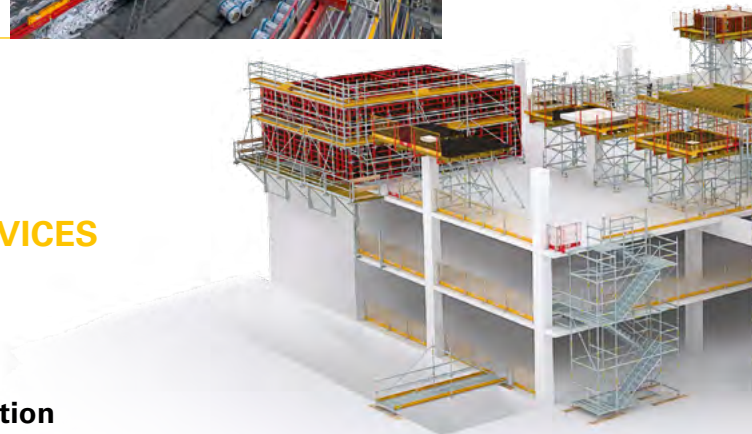


Infrastructure – the ideal engineering solution

Comprehensive engineering and planning services for efficient and safe implementation

- ▶ Shoring and shoring towers to hold formwork in place
- ▶ Access technology such as stair towers and working platforms
- ▶ Suspended scaffolds for creating additional access options
- ▶ VARIOKIT Engineering Construction Kit with versatile application options

Examples: Scaffolds and formwork for bridges, canals, tunnels, power plants, water and sewage treatment plants and many more.



Diversity of PERI UP

Solutions with a single system



Scaffolding construction – from small businesses to international corporations

Quick and efficient scaffolding of facades, surfaces and complex structures

- ▶ Scaffolding kit according to single-system logic with low number of components
- ▶ Access technology and working platforms as part of the system
- ▶ Weather protection roofs and bridging for additional versatility

Examples: New construction and refurbishment of residential and office buildings or historical buildings, etc.



ADVICE · LOGISTICS · PLANNING TOOLS



Housing and multi-storey buildings – scaffolds for building construction

Expertise in both areas and combinable solutions from a single source

- ▶ Access to the construction site using stair towers and bridging
- ▶ Reinforcement scaffolds for carrying out work on the formwork and reinforcement
- ▶ Shoring solutions for slab formwork
- ▶ Weather protection roofs for protected work areas
- ▶ Facade scaffolds for simple geometries right through to complex geometries

Examples: Residential and office buildings, schools, hospitals, football stadiums and many more.



PERI UP

SCAFFOLDING KIT



the

▶ 21 – 48

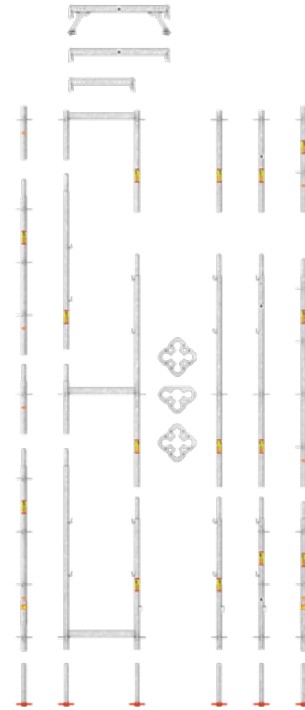
basic components



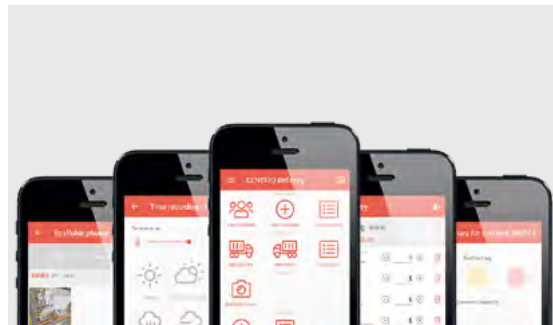
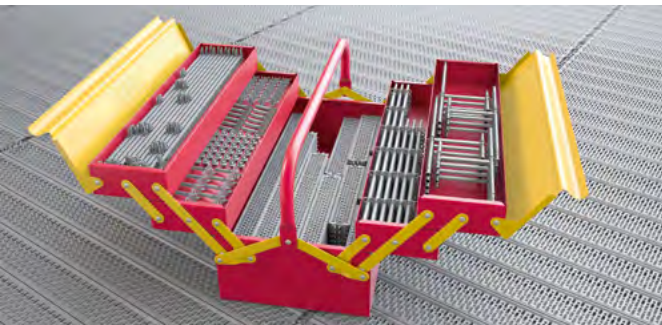
[Transcending the boundaries of modular and frame scaffolding]



Achieving a lot with just a few components



The integrated scaffolding node – both on the facade and modular scaffolding standards as well as on Easy Standards and frames – allows you to combine the component series in a flexible way.



Made to overcome challenges

The PERI UP Scaffolding Kit is a system and consists of various frame and modular scaffolding elements. The versatile compatibility and the individual strengths of the well thought-out components ensure that you have safe and cost-effective scaffolding for almost any challenge.

This is achieved by using the integrated scaffolding node throughout. As standards and frames have identical height dimensions, they can be combined in a flexible manner on the horizontal plane. All in all, this results in a scaffolding system that can be used for almost any typical scaffolding construction design and application, both in terms of connection technology and component combination. And this with a high degree of geometric assembly versatility. Another special feature of the scaffolding kit is that a wide range of applications can be realised with a small number of system, supplementary or special components.

Developed to find solutions

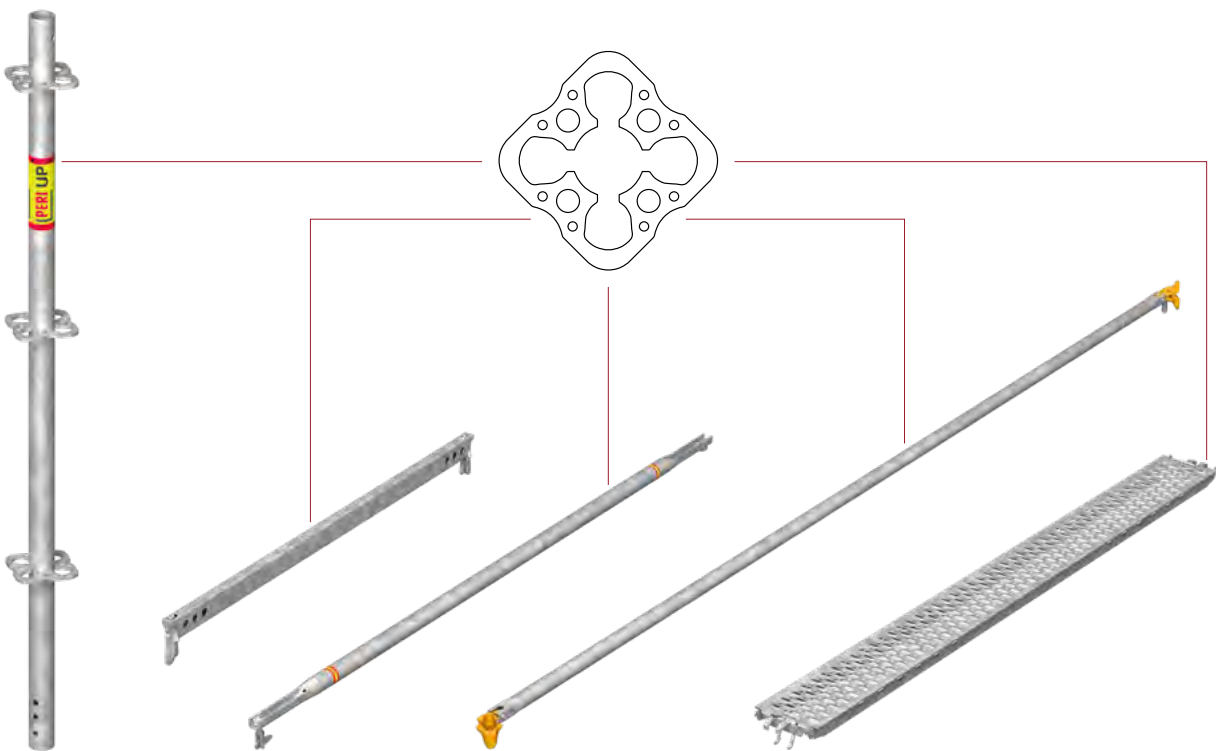
Digital products make it easier to ensure safety and reliable project management. For a wide range of issues, PERI offers a digital assistant that helps you to keep track of things and save costs. Our apps and software solutions also give you the opportunity to land big projects and implement them successfully.

Solutions for scaffolding planning, engineering, logistics, project management, scanning, structural analysis and visualisation are available to you.

Core components with impressive characteristics

The versatility of the core components and the ease with which they can be combined make a significant contribution to component reduction. The number of components and fasteners is low because they combine several functions: they have connecting, load-bearing, securing and adjusting properties.

The system components can be stored in a clearly arranged manner, stacked conveniently and transported with ease thanks to the uniform metric grid arrangement and logistics-friendly geometry. With fewer yet multifunctional and diverse components, the PERI UP Scaffolding Kit also ensures high material utilisation.



How is it possible that the components are so light yet so durable and stable at the same time?

PERI UP components meet the highest demands due to high node strength, state-of-the-art production methods and the use of high quality steels.

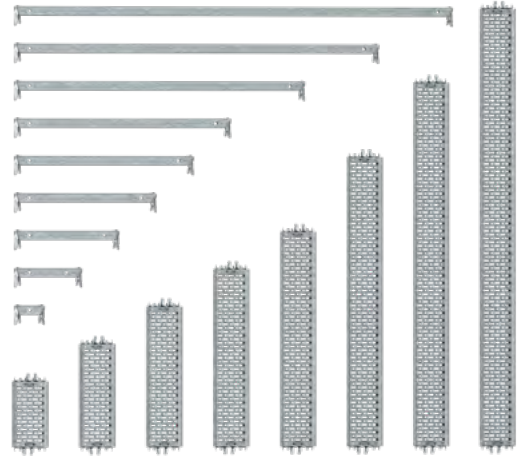
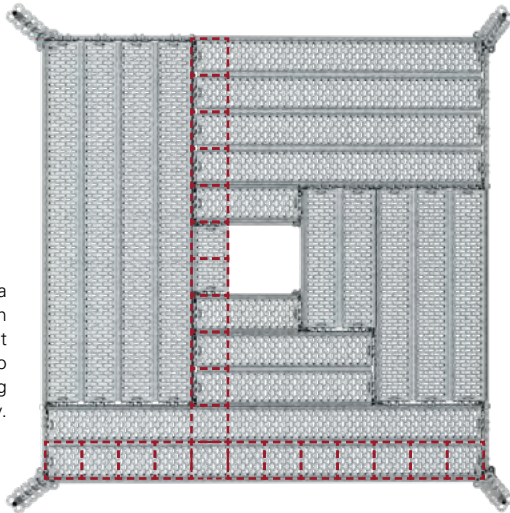




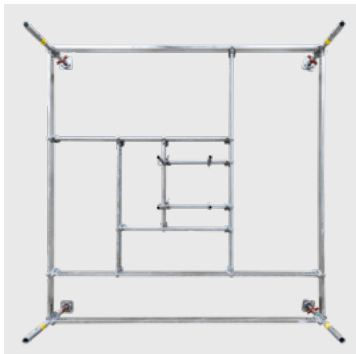


Easy planning, **quick** assembly

Components in a 25 cm or 50 cm grid arrangement fit together snugly to facilitate planning and assembly.

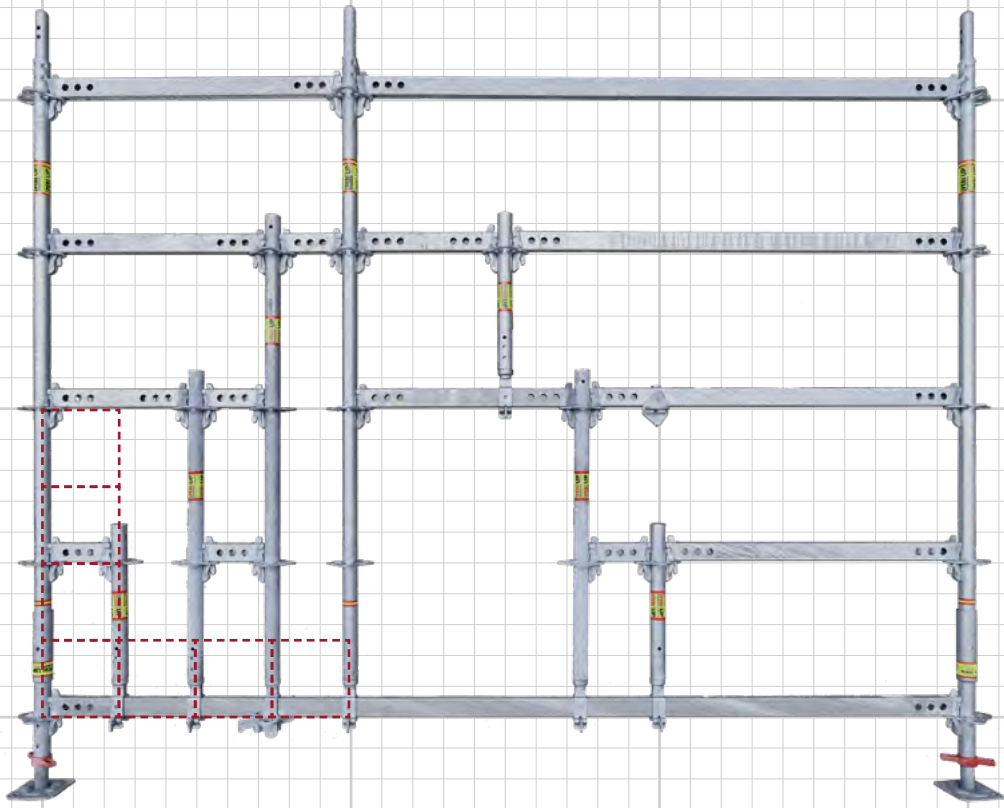


Working areas and walkways can be joined together in the desired geometry using the system components, instead of having to improvise the construction using special solutions or tolerate trip hazards.



PERI UP has a basic grid arrangement of 25 cm. The wide variety of ledgers with lengths starting at 25 cm makes it easy to change the direction of decks. This ensures a high degree of adaptability to different geometries – with virtually no couplings. Deck levels can be closed with system components. Even with obstacles, the maximum clear space is less than 25 cm.

The entire PERI UP scaffolding technology is based on metric grid dimensions. All PERI UP decks are available in incremental lengths of 25 cm or 50 cm; whilst the widths of the decks also take the metre into account as the base unit. PERI UP generally uses 25 cm, or in the case of working scaffolds, 33-cm-wide steel decks with lengths ranging from 50 cm to 300 cm for applications from shoring to various working scaffolds and access solutions. The PERI UP Facade Scaffold is available in both the vertical and frame versions in sizes of 67 cm and 100 cm; depending on the width, both 66-cm-wide combi decks or 33 cm or 25-cm-wide steel decks can be used.

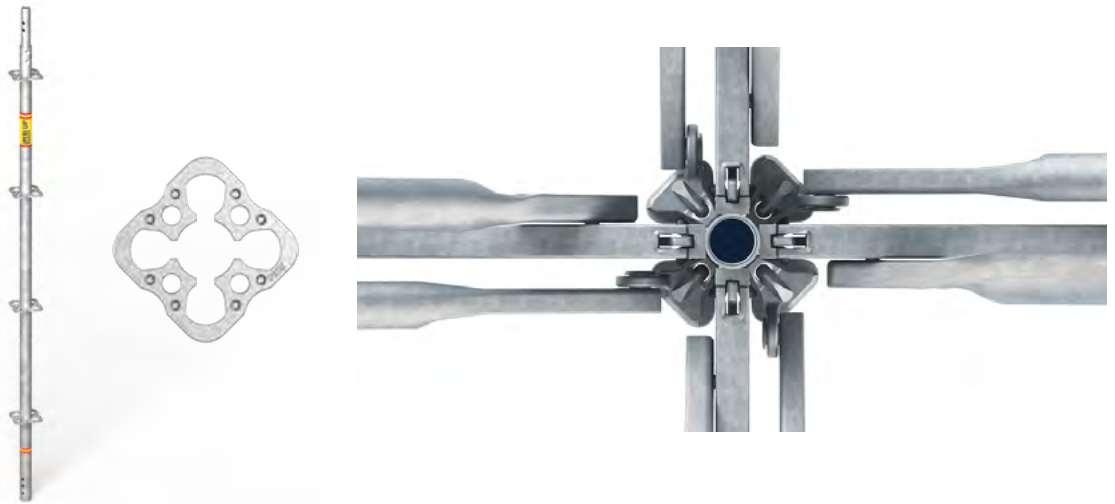


**Easy-to-plan
metric grid dimensions:**

No matter where a ledger or a vertical is required, everything fits together in a 25 cm grid arrangement, even vertically.



The **PERI UP scaffolding node**: the key



The Standard is available in lengths of 50 cm to 300 cm (in 50 cm or 100 cm increments). The integrated 50 cm scaffolding node spacings match the logical grid dimensions.



The PERI UP scaffolding node allows for angles of 45° and offers up to 16 connection possibilities in the node area. In addition to four horizontal ledgers and node braces respectively, eight ledger braces can be connected. Given the fact that it is positioned on the verticals at consistent intervals of 50 cm, you can fit the horizontal ledgers in this grid arrangement in a way that is easy to plan. This means that the ledgers for the deck height and guardrails can be positioned more or less intuitively. The openings in the node are compatible with a wide range of components in the PERI UP Scaffolding System and thus reduce the required number of components, while at the same time increasing flexibility. In addition, the flattened edge ensures that it is easier to stack the verticals, simplifying storage and transport considerably and, incidentally, preventing the verticals from rolling away.

- ▶ Up to 16 connection options in the node area and the option for angles of 45°
- ▶ The flattened sides with concave indentations make for straightforward and space-saving stacking procedures and prevent them from rolling away
- ▶ Continuous metric height graduation for straightforward, seamless compatibility, even between frames and verticals
- ▶ Openings for gravity locks and diagonal braces facilitate attachment from a secured position



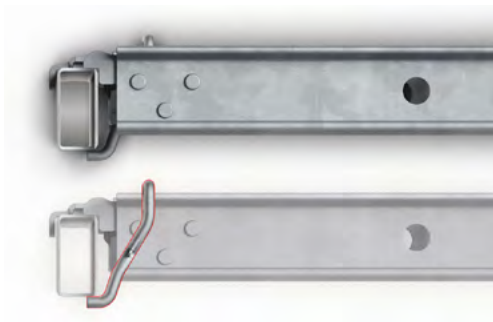
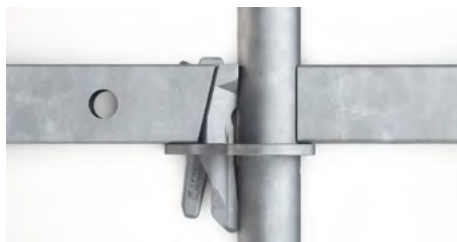
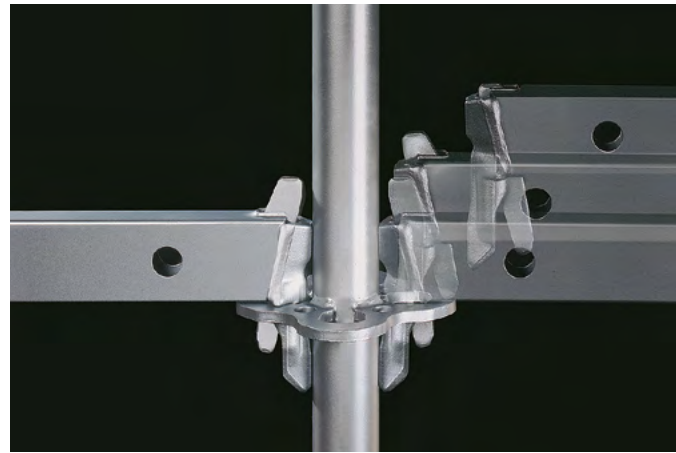


element for high flexibility



The interplay between the verticals, ledgers and decks opens up an impressive range of possibilities.

Gravity Lock and Locking Deck – self-locking and quick to install



Ledgers

The PERI UP Ledgers have a connection in the form of a wedge that is hooked into the node opening. The securing wedge drops into the node opening on account of its own weight and locks automatically. This principle – PERI calls it the Gravity Lock – ensures that assembly operations are quick and safe. The wedge is then secured in position with one hammer blow.

Decks

PERI UP decks are secured without requiring any additional components: a securing device integrated in the deck engages the ledger immediately after being installed and secures each deck against lifting. Another benefit of this design is that the decks can be removed bay by bay if necessary, for example to move materials into a building.

Rectangular profile

The rectangular profile of the horizontal ledgers leads to weight savings compared to circular tubes of the same length and load capacity. The rectangular shape also reduces the risk of couplings being attached to ledgers or railings where they are not statically intended.

Components

This simple form of quick and self-locking connection is also found, of course, in other components of the scaffolding kit, for example, in the aluminium stairs and console brackets.



Integrated safety and the guardrail in advance.



Did you know that PERI invented the system-integrated guardrail in advance over 20 years ago?

PERI is proud to be the inventor of the guardrail in advance, in addition to a multitude of other innovations. The patent registered in 1998 makes it possible to erect the next level from a safe position – even without personal protective equipment to prevent falling from a height (PPE) or other additional components.

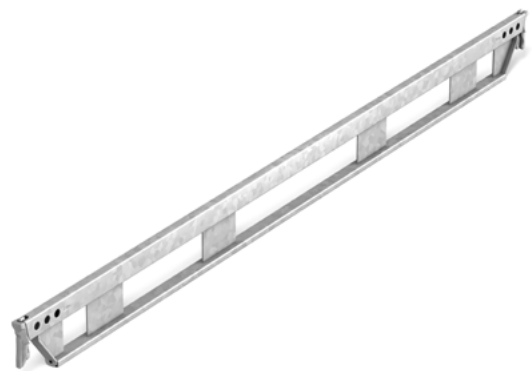
To this day, PERI has remained true to this approach and integrates many safety aspects into its standard products or into the way they are assembled.



Horizontal ledgers – light and self-explanatory



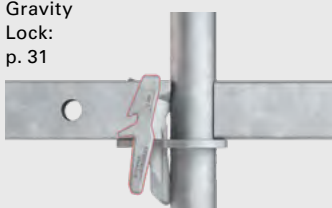
Horizontal Ledger UH in lengths ranging from 25 cm to 300 cm – increments of 25 cm or 50 cm.



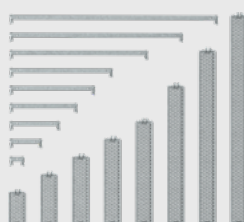
A reinforced horizontal ledger is also available from a span of 1.50 m.

- ▶ Ledger head with large contact point spacing for greater bending strength
- ▶ Gravity Lock for straightforward pre-assembly from a secured position
- ▶ Rectangular profile brings weight savings of up to 30% compared to circular profiles for the same vertical load-bearing capacities.
- ▶ The increased stiffness means that fewer diagonal braces are required

Gravity Lock:
p. 31



Metric grid dimensions:
p. 27



The ledgers consist of a combination of rectangular profiles and ledger heads. The rectangular profile not only cuts down on weight compared to the round tube, but also increases stiffness.

In addition to the Gravity Lock, which facilitates assembly from a secured position, the ledger heads also have a large contact point spacing, which builds up a high level of bending strength at the point of contact with the vertical. This additional stiffness supports high vertical loads and the number of diagonal braces used can be greatly reduced.

In addition, the design of the horizontal ledgers with rectangular instead of round profiles makes them up to 30% lighter with the same length and the same vertical load-bearing capacities.



Whether horizontal or vertical – the ledgers in the metric grid arrangement fit together as you need them to. It is possible to make savings on special-purpose and provisional solutions in a skilful way.





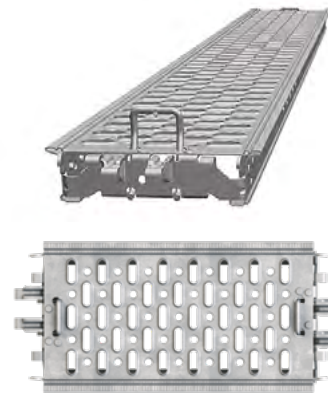
Due to the low weight, it is possible to support several decks at once.



The safe assembly process is facilitated by the clearly visible deck locking mechanism.

Decks – non-slip and self-locking

PERI UP decks have a non-slip steel surface, can be assembled without tools and are characterised by a low component weight. Other special features are that they have an integrated protection against lifting and can be laid more or less without leaving gaps. The Locking Deck is clearly visible from above and below, meaning you can quickly check whether a deck is secured from any position. Since the decks do not require any additional securing from above, there is no need to carry and fit any additional fixing and securing components.



25-cm-wide steel decks in lengths from 50 cm to 300 cm, also in increments of 25 cm or 50 cm.



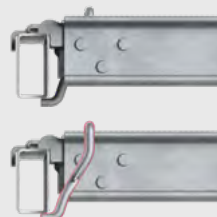
The Locking Decks are locked directly to the rectangular ledger profile.



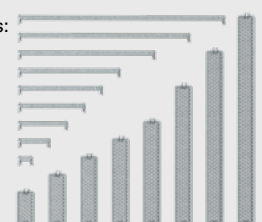
You can combine the different lengths more or less without leaving gaps and without creating trip hazards.

- ▶ The geometry of the decks and the metric grid arrangement pave the way for a closed walking and working area without any tripping hazards
- ▶ Locking deck for tool-free installation from a secured position
- ▶ No additional components or extra steps required to prevent the decks from lifting off
- ▶ It is easy to check the locking mechanism as it is visible from above and below

Locking Deck:
p. 31



Metric grid dimensions:
p. 27



Decks – durable and easy to clean

Combi Deck EDW

The Combi Deck EDW is the entry-level model in the PERI UP deck portfolio. This is a scaffold deck with a classic plywood board, which is characterised by its particularly easy-to-clean surface.



Aluminium Deck EDA

With its low weight, the aluminium deck was specially developed for ergonomic work processes. Its low installation height of 51 mm and its long service life make it a suitable choice for construction site use over a period of several years.



Steel Deck EDS and UDG

Non-slip, adaptable, robust: the steel decks in the PERI UP deck portfolio are particularly suitable for industrial applications thanks to their perforated surface.

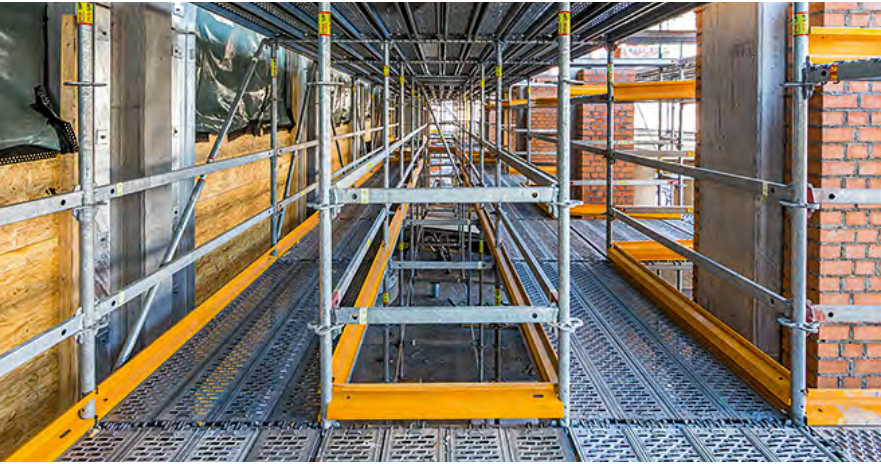


Composite deck

Comfort meets durability – the glass fibre-reinforced plastic panel of the composite decks provides the foundation for a long service life and increased abrasion resistance compared to traditional wooden decks. The decks are easy to clean, do not swell – even when damp, and are resistant to weather conditions, construction chemicals and fungal attack.



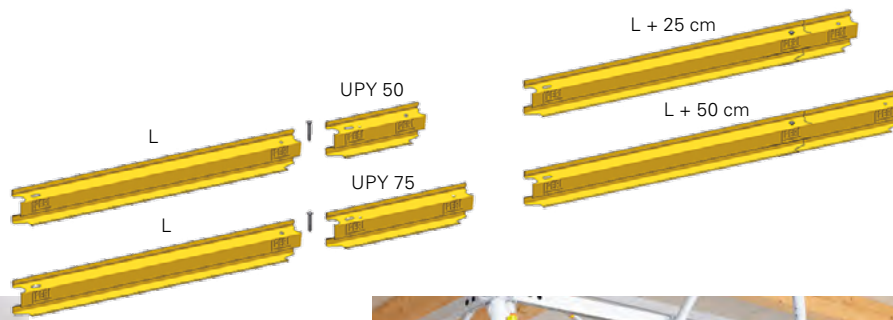
Toe boards – quicker installation for even greater safety



End-to-end toe boards provide a reliable safety element – they offer a visible border on working scaffolds and platforms, on all sides if required. The striking signal colour makes it easy to check that they are fully installed, even from a distance.

The components are fitted together in a simple manner without any tools. This automatically prevents the toe boards from unhooking.



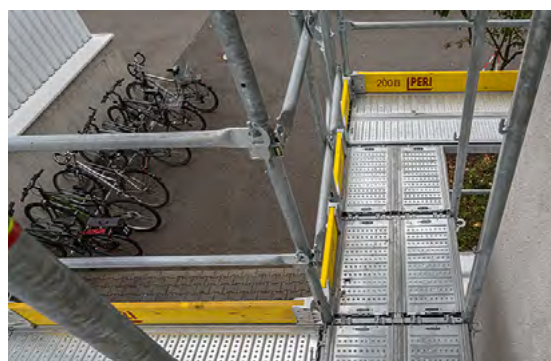


For intermediate lengths, the UPY 50 and UPY 75 toe boards can be screwed onto longer toe boards.



Accessory clamps enable you to connect two boards seamlessly if the required length is not available at that time.

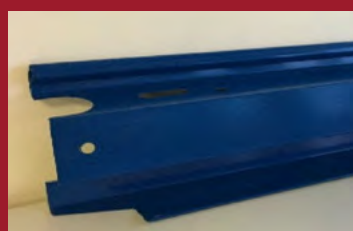
- ▶ **The components are fitted together and disconnected in a simple manner without any tools**
- ▶ **Simple, space-saving stacking procedures simplify logistics and transport**
- ▶ **A consistent metric system makes it easier to plan lengths**



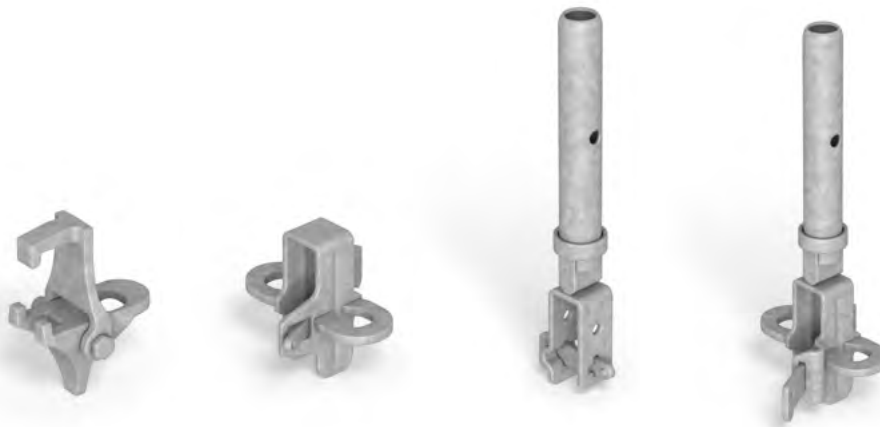
Not only are our toe boards compatible with each other, they can also be installed without tools.

Did you know that you can also order toe boards in the colour of your choice?

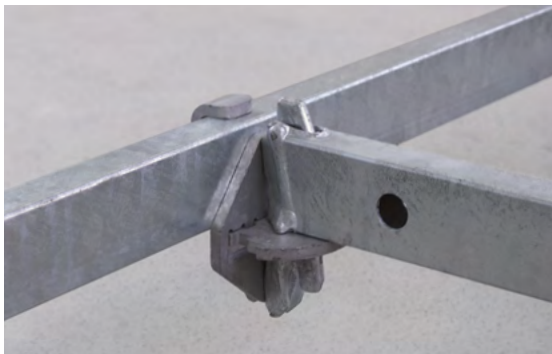
This allows you to draw attention to your corporate colour scheme and strengthen your brand. We can also print your logo.



Connecting parts – versatile connections instead of special solutions



Our rectangular horizontal ledgers open up completely new possibilities for versatile connecting elements without having to engineer cumbersome solutions from steel tube/coupling connections. New geometries can be created in a three-dimensional manner whenever a ledger or vertical is required for expansion. Tube penetrations, complex deck structures or internal guardrails to fence in tripping hazards in working areas, can all be realised with these simple system components.



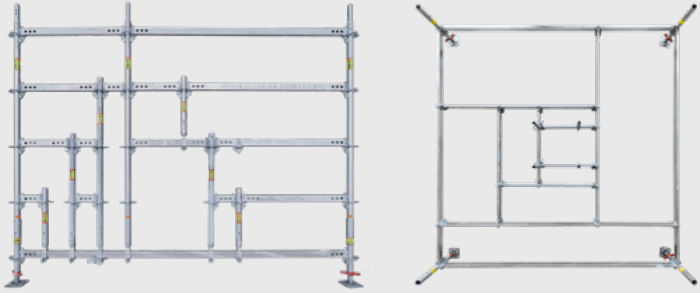


Examples for the use of connecting elements are tube penetrations, complex deck structures and internal guardrails.



Standard system components offer unexpected possibilities, both horizontally and vertically. Everything is easy to plan and assemble using a 25 cm grid arrangement.

p. 27-28





Digital products

from useful tools to an extensive range of software

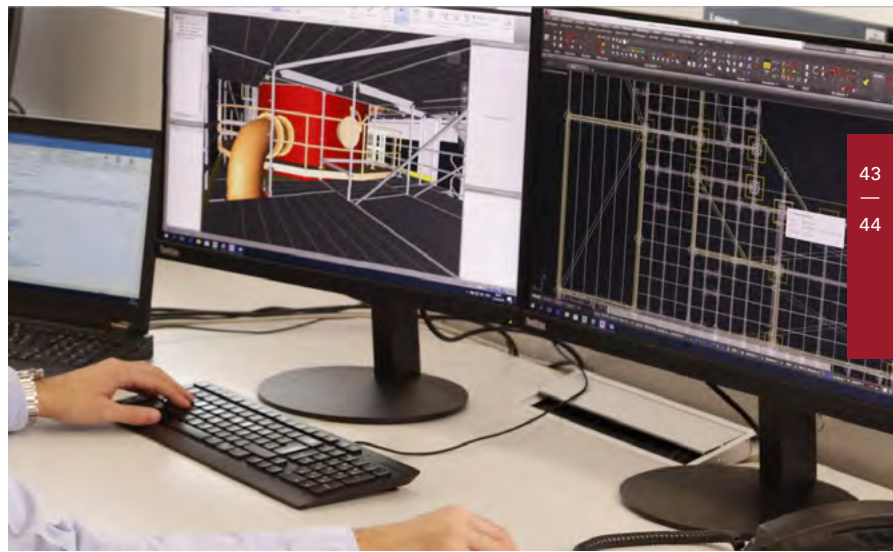
Whether it's in the office or on the construction site: digital assistants from PERI are valuable tools in the planning, work preparation and execution of scaffolding projects.

The range of digital applications available today extends from product-related apps for simple calculations for scaffolding systems through to the project planning software PERIpath, which maps the entire process as well as the material and personnel requirements of a project. Easily comprehensible and intuitive operability is of paramount importance for all PERI software programs and web tools – while simultaneously ensuring high user benefits.

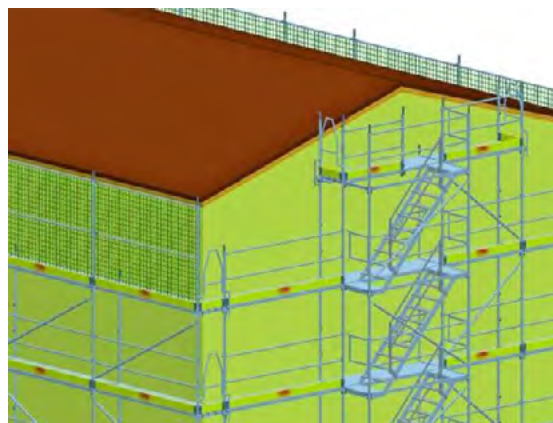


PERI CAD and CAD external connection

PERI CAD software is the right tool for the experienced CAD user and offers a wide range of possible applications for scaffolding planning. 2D and 3D planning, derivation of parts lists, or use as an interface for other tools are just a few of them. You can choose whether you want to use the software at your company or have a PERI engineer do it for you.



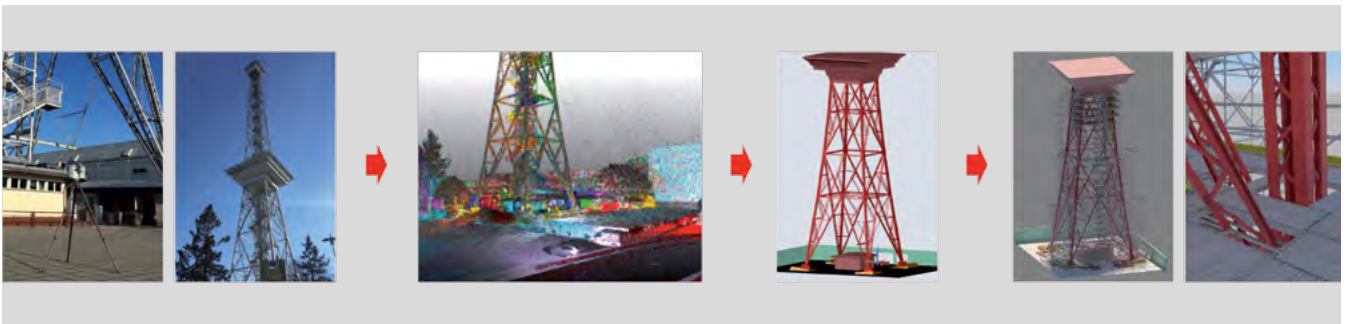
The PERI UP Scaffolding Kit is also integrated into the CAD scaffolding planning programs. This means that you can use the software you work with to plan PERI scaffolds. The CAD programs Scaffmax and CP-PRO are just two examples of this.



Examples of PERI UP scaffolding components in common planning and design tools such as Scaffmax (left) and CP-Pro (right).

3D laser scanning

Our 3D laser scanning service comprises true-to-scale measurement of buildings or facilities that are to be scaffolded. By creating a digital twin through the use of stationary laser scanners and special drones, it is possible to plan the scaffolding precisely in CAD. This forms the basis for project planning according to BIM methodology, as it allows the necessary documentation and visualisation to be generated.



The scanning process turns the existing building into a point cloud that can then be converted into a 3D model.



Particularly in the case of old existing buildings – regardless of whether they are listed buildings or outdated infrastructure – there is often insufficient documentation and plans and no digital data available. Here, laser scanning not only helps to create the missing documentation, but also to benefit from it for a long time – after all, many refurbishment measures are recurring ones and reliable data therefore holds great savings potential.



The PERI Extended Experience App (XR)

Visualisation is playing an increasingly important role in all stages of the construction process. The communication, security and efficiency of many processes all benefit from detailed virtual models.

With the PERI Extended Experience App, mobile 3D visualisation has entered a new dimension. Using augmented and virtual reality, planning (e.g. from SET) can be walked through virtually or projected into the physical environment. The virtual and real worlds start to merge with one another.

Digital products

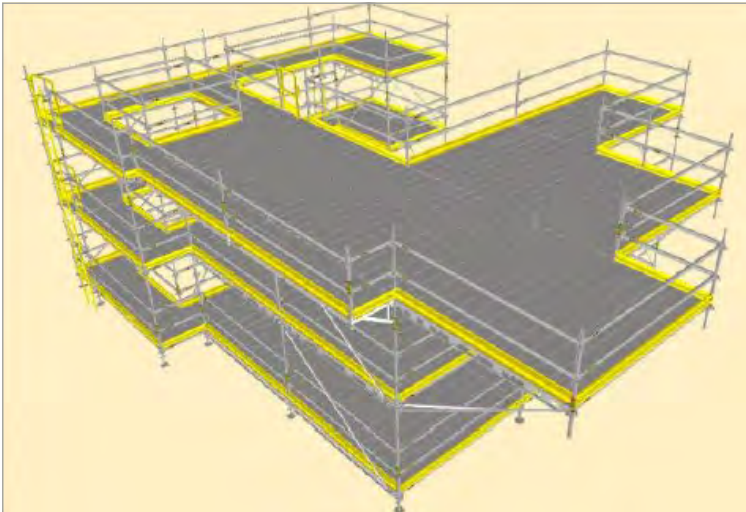
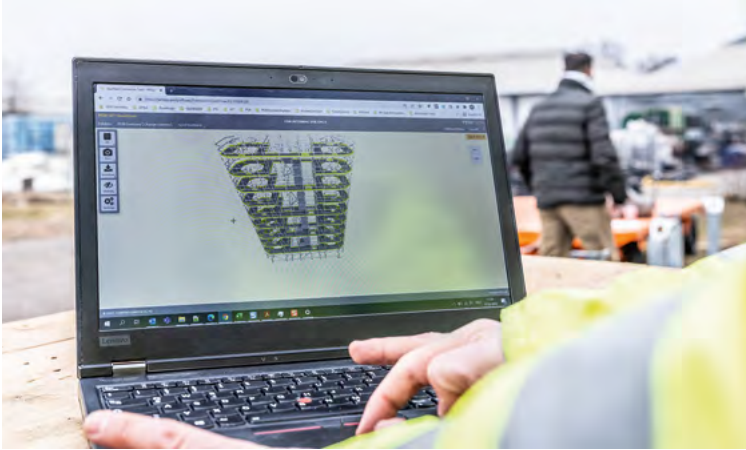


► Download for
iOS



► Download for
Android

Visualisation of a scaffolding project and the resulting parts list with the web-based quotation software PERIpath SET.



The planning tools

PERIpath and SET

With the PERI Scaffold Estimation Tool (SET), you can configure your scaffold project quickly and easily, even without CAD software.

Create intuitive 2D and 3D models for your scaffolding planning; models that are no longer reduced to a ground plan, and can also depict complex scaffolding geometry.

You then deduce the parts lists for your quotation directly in the app. In PERIpath, material usage, working time and logistical processes can also be planned and added to the quotation. This allows for comprehensive control over the entire project.

If you already have a project management solution or prefer to do your planning in CAD software, you can use the SET quotation tool and the PERIpath project planning app independently of each other.



You can even walk around the scaffold virtually in the PERI Extended Experience App.

Complete project planning and overview with material costs and labour hours, logistics status as well as target achievement control and identification of bottlenecks are all possible with PERIpath.



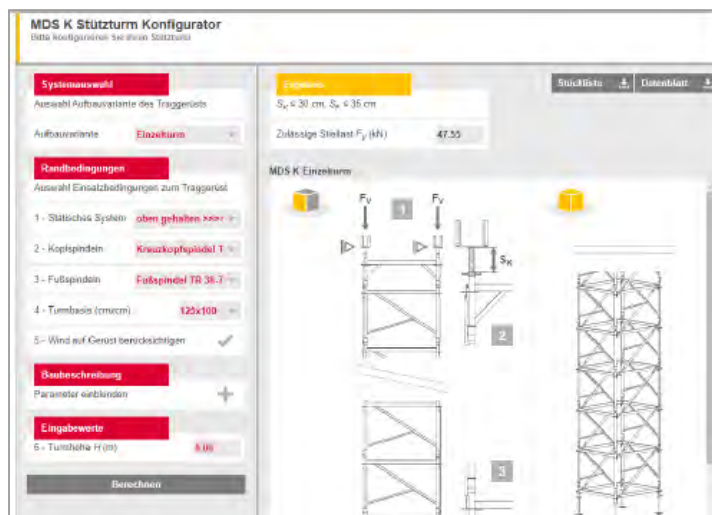
Digital products

Configuring shoring

With free configurators for shoring, you can create plans and parts lists as well as determine the permissible leg loads.

For example, the application QuickSolve enables regulation-compliant planning of shoring. By entering various parameters such as a ground plan, a clear 3D visualisation can be created in a simple way. You can choose from various shoring applications and create a parts list once planning is complete.

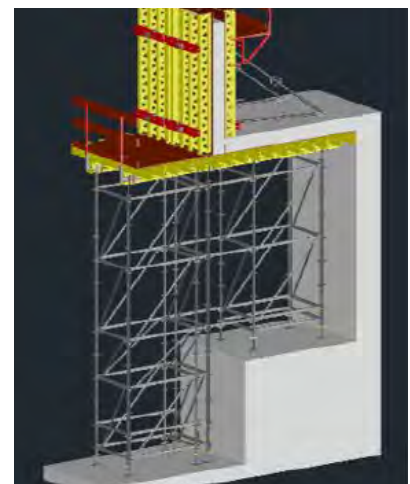
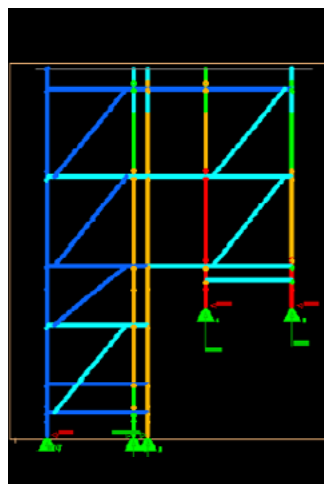
The MULTIPROP Shoring Tower Configurator and the MDS K Shoring Tower Configurator are programs that allow you to determine the load capacity or create a structure for the load to be supported.



The MDS K Shoring Tower Configurator is helpful when creating shoring towers because, in addition to the required dimensions, the load capacity is also taken into account and the appropriate shoring tower is proposed.

Structural analysis calculations with Force Control

PERI also offers a structural analysis calculation service. The Force Control software has an interface to PERI CAD and can convert the scaffolds designed there into static models. A visualisation at component level is useful for verifying the structural safety and is also suitable for documenting the results.



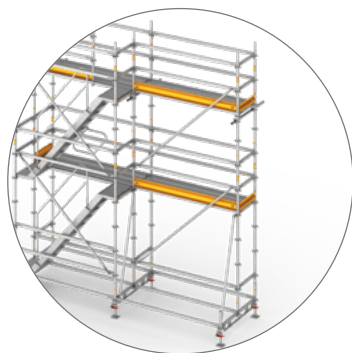
PERI UP



▶ 48 – 129

Applications

Possible applications



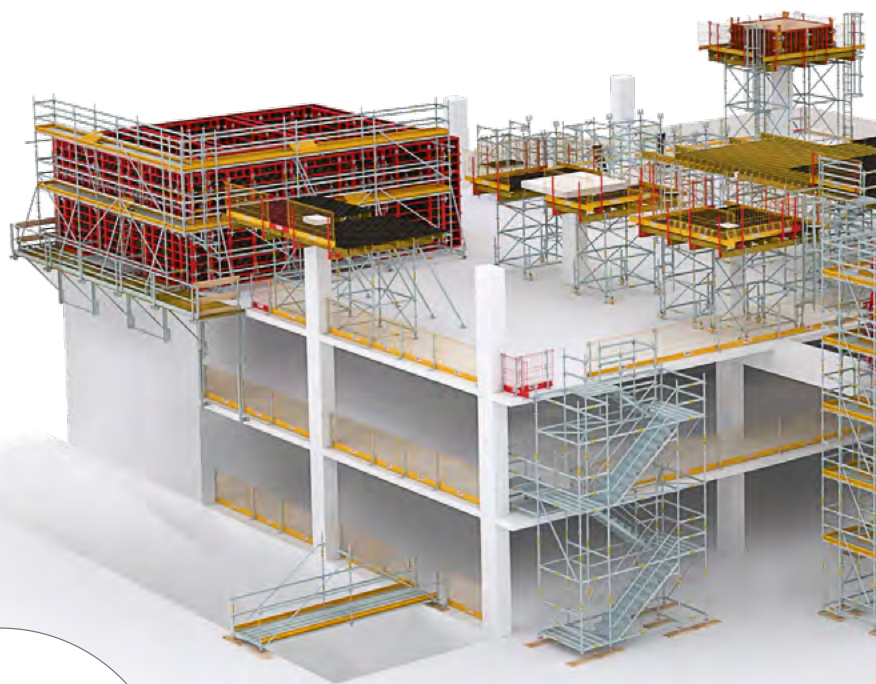
Reinforcement scaffolds
Page 64



Shoring and heavy-duty props
Page 96



Trench bridges and bridging
Page 68



Suspended scaffolds
Page 94



Working platforms
Page 74



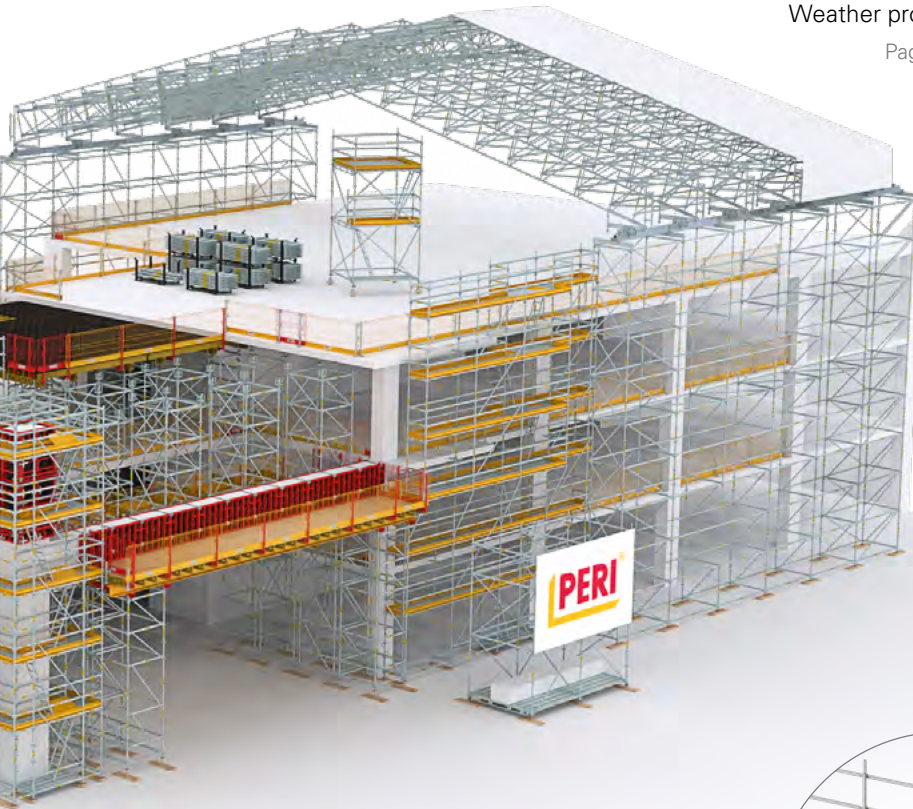
Stairs

Page 104



Weather protection roofs

Page 84



STS 300
Scaffold Transport System

Page 63



VARIOKIT
Engineering Construction Kit

Page 117



Facade scaffolds

Page 52

Facade scaffolds

Vertical and frame construction method

Technical data:

- ▶ **System width of standard configuration:**
67 cm (Width Class SW06)/100 cm (Width Class SW09)
- ▶ **Deck width of standard configuration:**
2/3 meters(66 cm)/1 meter (100 cm)
- ▶ **Single-piece aluminium deck b = 66 cm:**
Can be loaded with 2 kN/m² (LC3)
- ▶ **Single-piece steel deck b = 33 cm:**
Can be loaded with 3 kN/m² (LC4) at L 3.00 m

▶ The PERI UP Facade Scaffold with its modular and frame construction method allows you to carry out your assembly work on the facade quickly, safely and easily.

▶ Clever features such as the system-integrated guardrail in advance, which is mounted from the scaffolding level below, or the integrated lift lock for the decks make the system particularly safe.

▶ The low weight of the individual system components will speed up the assembly process. What's more, you only need a few tools for assembly because the PERI UP Facade Scaffold requires next to no couplings.



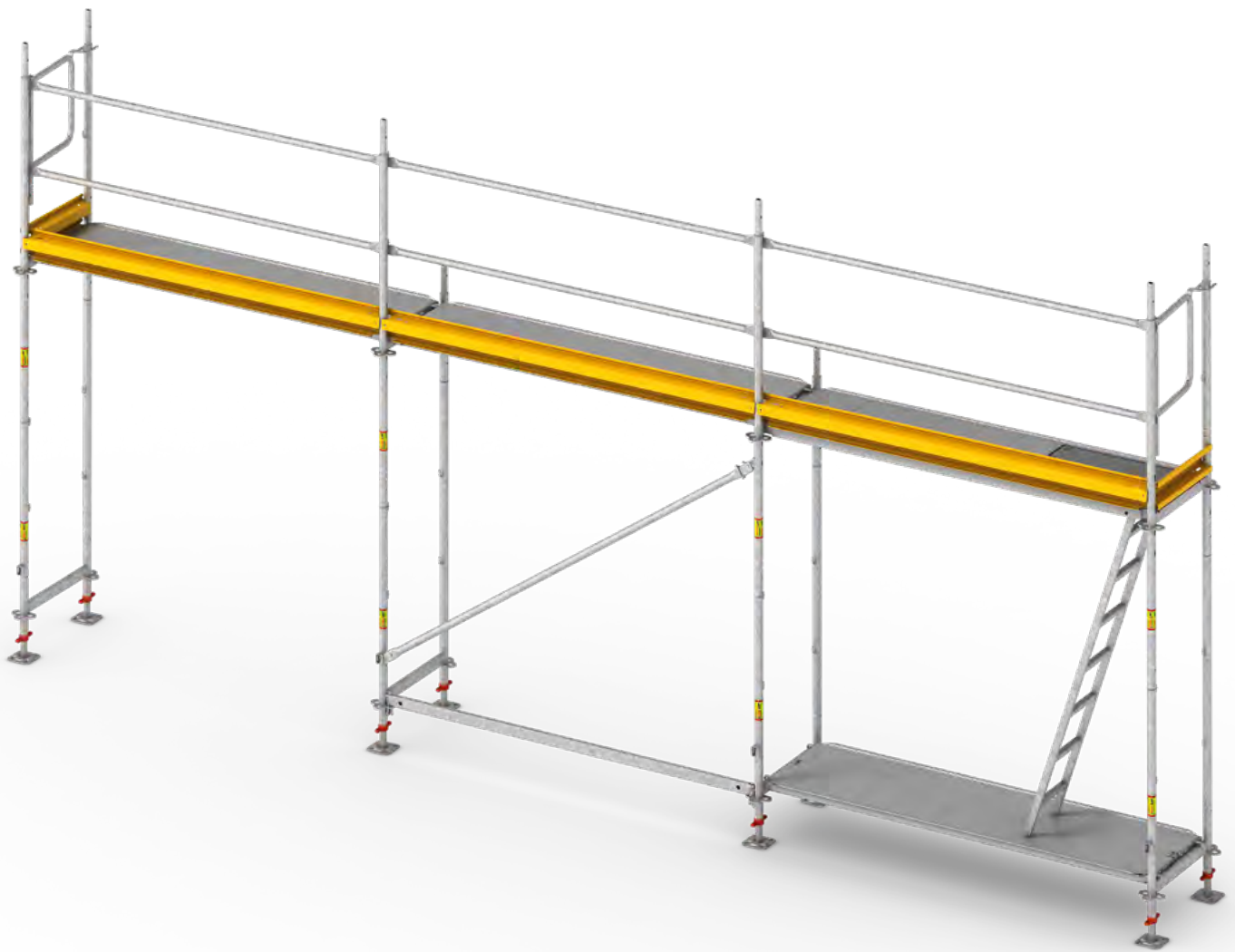
The facade scaffold from the PERI UP Scaffolding Kit is characterised not only by many sophisticated component details but also by the low weight of the individual components. For example, the Easy Standard, weighing only 7.2 kg, makes it easier to transport and erect scaffolding.



You can attach both guardrail posts to the vertical as well as to the frame and fit or remove them from the level below.



To form outside corners, you only need a frame column – all you then have to do is fit your decks on the horizontal ledger of the adjoining scaffolding bay.



Supports and console brackets can be connected directly to the integrated scaffolding nodes of the vertical and frame both quickly and without tools.



Facade scaffolds

“Ypsilon” residential and office building, Ulm, Germany



Scaffolding construction with a high level of safety

- ▶ 10-storey, 35-m-high tower building and adjoining 7-storey longitudinal wing and 2 underground parking levels
- ▶ Challenging building geometry, cramped construction site in city centre location and mandate to protect passers-by
- ▶ The PERI UP Facade Scaffold was erected during construction as a peripheral working and safety scaffold and a pedestrian tunnel was integrated into the scaffolding solution
- ▶ Advantage: The virtually tool-free scaffold erection process and system-integrated guardrail in advance meant that the shell of the building was completed in 22 months – within the planned cost and time frame and without any work accidents



Florian Beyer, Foreman/Schäfer
Gerüstbau GmbH, Memmenhausen

“I’ve been working in the scaffolding sector since 2004 and have worked with all the different systems. It took me a little while to get used to it, but I enjoy working with PERI UP. The tool-free assembly is first-class and, thanks to the guardrail in advance integrated into the system, you have less weight on your body when working.”



Naim Dacaj, Supervisor/Schäfer
Gerüstbau GmbH, Memmenhausen

“In spite of the demanding building geometry, we were still able to work quickly and safely thanks to the PERI UP scaffolding which was installed while construction was ongoing. We finished on schedule – and without a single work accident.”

Office building facade refurbishment, Pfaffenhofen, Germany



Work carried out quickly on the facade

- ▶ Facade refurbishment at the company headquarters of New-Tec GmbH in Pfaffenhofen/Roth
- ▶ A working scaffold with a system width of 67 cm (Width Class SW06) was used for facade work on the 8-m-high office building
- ▶ Advantage: Fast work operations due to the low weight of the individual components and the fact that the outside and inside corners could be completed easily without time-consuming tube-coupling work

Facade scaffolds combined with core components

“Louise” residential project, Oranienburg, Germany



Residential project with demanding PERI facade scaffolding solution

- ▶ Assistance with the construction of 264 new flats in a total of 12 housing blocks with up to 5 storeys as well as an underground car park with 220 parking spaces
- ▶ The heavily articulated facade geometry with irregularly protruding and receding balcony projections posed a major challenge in terms of facade scaffold construction
- ▶ Advantage: Scaffold assembly with system-integrated guardrail in advance – without additional components and without additional expenditure



Mike Minning, Site Manager/
Gerüstbau Scheffler GmbH,
Werder-Plötzin

“On account of its complexity, it would not have been possible to set up this construction site with conventional frame scaffolding, or only with a great deal of effort. PERI UP was highly beneficial in this respect: a high degree of flexibility paired with a high degree of occupational safety for my crew thanks to the guardrail in advance. It is also worth mentioning that the cooperation between ourselves and PERI was excellent right from the very start when we were planning operations for the scaffolding required.”

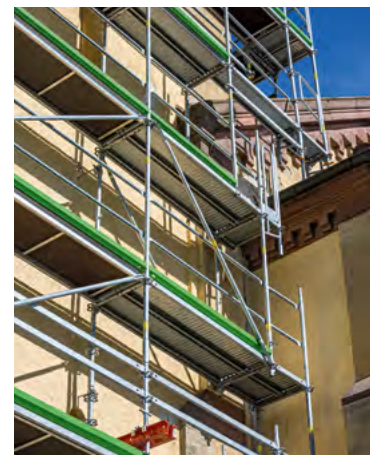
Facade scaffolds with frame construction method

St. Stephan Church, Hartheim-Bremgarten, Germany



A different approach to church scaffolding

- ▶ Scaffolding for a church tower with a height of almost 35 m for the purpose of facade refurbishment and for plastering work
- ▶ A conventional modular scaffolding system was not used for this project. Instead, the frame variant of the PERI UP Facade Scaffold was used
- ▶ In particular, the transitions to the nave and the monopitch roof of the sacristy had to be taken into account in the planning and execution; occupational safety was the number one priority
- ▶ Advantage: Thanks to the low component weight and system-integrated safety features, the assembly process for the PERI UP scaffold was simple, fast and safe. Corner solutions and external, internal and frontal attachments could be realised virtually without couplings; the lack of suitable erection surface was solved with steel components from the VARIOKIT Engineering Construction Kit



Michael Bachmayer, Owner/
Zimmerei und Gerüstbau mba
Bachmayer, Hartheim-Feldkirch

"We have no regrets about switching to PERI UP Easy. After all, it is on projects like this in particular that we can count on the expertise that the PERI specialists bring to the table."

Facade scaffolds

A flexible approach with PERI UP core components



► The PERI UP Facade Scaffold consisting of core components has a particularly high load-bearing capacity and is highly adaptable, making it suitable for scaffolding complex building geometries.

► Making adjustments to accommodate the shape of the building is easy thanks to the uniform 25 cm grid arrangement. Other system components can be connected using node spacings of 50 cm on the standards.

► The integrated deck lock and the Gravity Lock for the horizontal ledgers make the system particularly safe and easy to handle. What's more, you can assemble the guardrail for the next level in advance from a safe position on the level below.

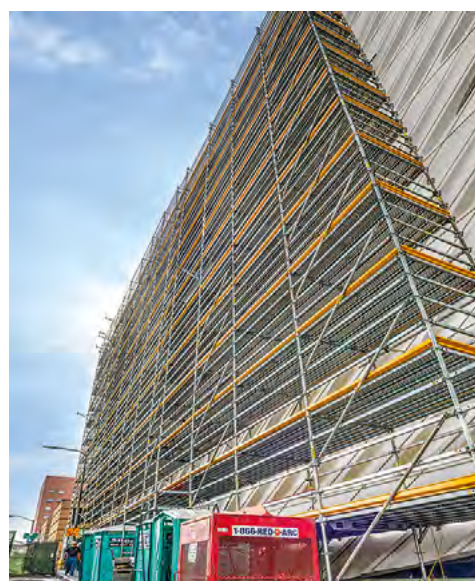


The scaffold width is freely selectable and can be adapted to meet a wide range of requirements. Even curved structures can be scaffolded with ease using the PERI UP Facade Scaffold made of core components.

Complex building structures can be assembled from core components and erected **efficiently**.

Technical data:

- ▶ **System width of standard configuration:**
75 cm or 100 cm
- ▶ **System width = 75 cm:**
Load Class 1 to 4 (0.75 kN/m² – 3 kN/m²)
- ▶ **System width = 100 cm:**
Load Class 1 to 6 (0.75 kN/m² – 6 kN/m²)
- ▶ **Uniform, metric length and width grid arrangement for all system components:**
25 cm or 50 cm



The deck levels are normally free of gaps, as each bay is set out precisely with system decking and without tripping hazards.

Facade scaffolds for complex building structures

Rhön-Klinikum campus, Bad Neustadt an der Saale,



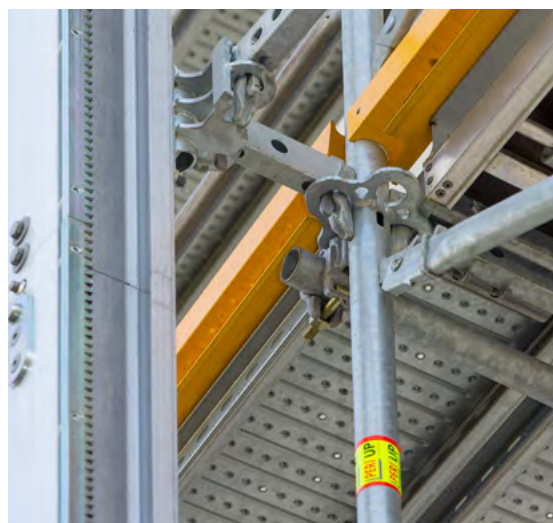
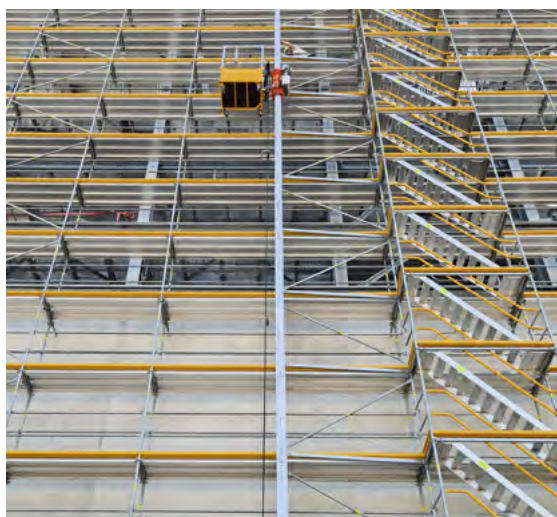
Germany



Facade scaffolds – accessories

The scaffolding **revolution**

The STS 300 system is designed to be used with the PERI UP Scaffolding Kit. It is a completely new scaffold transport concept that will assist you in assembling and disassembling PERI UP scaffolds in a safe and efficient manner. The removable baskets of the STS 300 system facilitate not only vertical transport on the scaffold itself but also horizontal transport on the ground.



► **Facilitating scaffold assembly**

With STS 300, only two people are required for scaffold assembly: one on the ground to load or unload the baskets, the other to assemble or disassemble the scaffold. STS 300 grows one level at a time during assembly, making it a powerful support system for assembly and disassembly.

Thanks to its revolutionary assembly logic, you can complete more projects with less manpower and in less time: The scaffolding contractor can focus on the assembly process, while the STS 300 takes care of the transport work.

► **Vertical and horizontal transport**

The sophisticated design of the STS 300 system enables transport in both vertical and horizontal directions with great efficiency. What's more, you no longer have to reload the material when changing from horizontal to vertical transport on the ground, as the same basket can be used.

With the wheel set for the baskets, horizontal transport on the ground is also straightforward. In addition, the ability to simply stack the baskets simplifies the logistical process. You can easily move the compact base unit of the STS 300 by forklift, crane or manually.

► **Straightforward installation on existing scaffold**

You can attach the STS 300 directly to the PERI UP scaffold without special components, couplings, additional rows of standards or special tools. No conversion is required to connect the STS 300 to the existing scaffold. The single-bolt connection for the masts and the simple anchoring process using PERI UP core components accelerates and simplifies the assembly process even further.

Thanks to swivelling baskets, not only are the scaffolding component loading and unloading processes carried out in an upright position behind the guardrail, the STS 300 assembly process is also carried out from this secure position.

A system that grows as you make progress

The STS 300 system grows from level to level and plays an active role in assembly and disassembly.

Swivelling transport baskets

Safe loading and unloading process, both at height and on the ground. While a new basket is being filled at the bottom, work can continue uninterrupted at the top.

Masts and anchoring

Quick fixing of masts using PERI UP core components.

Stackable and removable transport baskets

For straightforward handling and transport processes.

Compact basic unit

Designed and built to enable you to lift equipment safely and easily by crane, forklift or manually using fitted wheels.

Wheel set for baskets

For convenient transport of filled or empty baskets at ground level.

Technical specifications

Drive system: rack and pinion
Certifications: CE marking
Machinery Directive: 2006/42/EC
Max. load capacity: 300 kg
Max. speed: 17 m/min.
Max. conveying height: 50 m



STS 300 helps with assembly and transport, thus saving time and cutting costs:

- ▶ This ability to carry out the assembly process in a straightforward manner without having to modify the existing scaffolding means that you can speed up the scaffolding process.
- ▶ STS 300 accompanies you from level to level and is always there to support you during assembly and disassembly.
- ▶ You can transport the pre-packed baskets quickly and easily from the truck to the place of use using the wheel set or the forklift.
- ▶ Simultaneous loading and unloading of the baskets on the ground and at the top of the scaffolding reduces waiting times.
- ▶ The fact that loading and unloading can be done from a secured position and that the reduction in manual transport lightens the workload for the personnel means that there are health benefits for the scaffolders.
- ▶ The transport baskets improve the level of organisation on the construction site. Like well-organised toolboxes, you can easily find what you are looking for and notice more quickly if something is missing.

Reinforcement scaffolds



Ensuring **stability** when working on formwork

► The PERI UP Reinforcement Scaffold with its two base widths of 150 cm and 250 cm can be used for activities such as reinforcement, formwork and concreting.

► The stable scaffold can be erected using up to 3 bays in the longitudinal direction. It does not require any ballasting or ties as long as it can be supported in front of a wall or formwork.

► The self-securing ledger connection and the integrated lift lock in the decks ensure fast and safe assembly. Continuous, level deck surfaces without disruptive gaps also offer you a high level of safety during work.



You can use the PERI UP Reinforcement Scaffold in front of formwork and walls without any ties or ballasting.



On account of its tension-proof connections, even large-format units of the PERI UP Reinforcement Scaffold can be moved in their entirety by crane.



Technical data:

- ▶ **System widths:**
75 cm and 100 cm
- ▶ **Scaffolding bay lengths:**
150 cm, 200 cm, 300 cm
- ▶ **Maximum standing height:**
6.6 m (with base width 150 cm) or 10.8 m (with base width 250 cm)
- ▶ **Load Class 1 – 3 according to EN 12811-1:**
Can be loaded with 0.75 kN/m² up to 2 kN/m²



Thanks to pre-assembled units, the material requirement can be determined quickly, thereby facilitating your planning process.

Reinforcement scaffolds

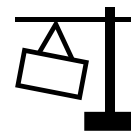
Sonnenbühl sports hall, Genkingen, Germany



► Construction of a modern sports hall with open-plan room layout and large glazed sections using PERI Scaffolding and Formwork systems

► PERI UP Reinforcement Scaffolds for reinforcement, shuttering, concreting and deshuttering sped up the construction work

► The benefit: PERI UP Reinforcement Scaffolds can be moved as a complete scaffold unit in a single crane movement and are stabilised immediately without ballasting on account of the widened base



► The short shell construction period of only six months meant that everything had to be carried out quickly





Bridging

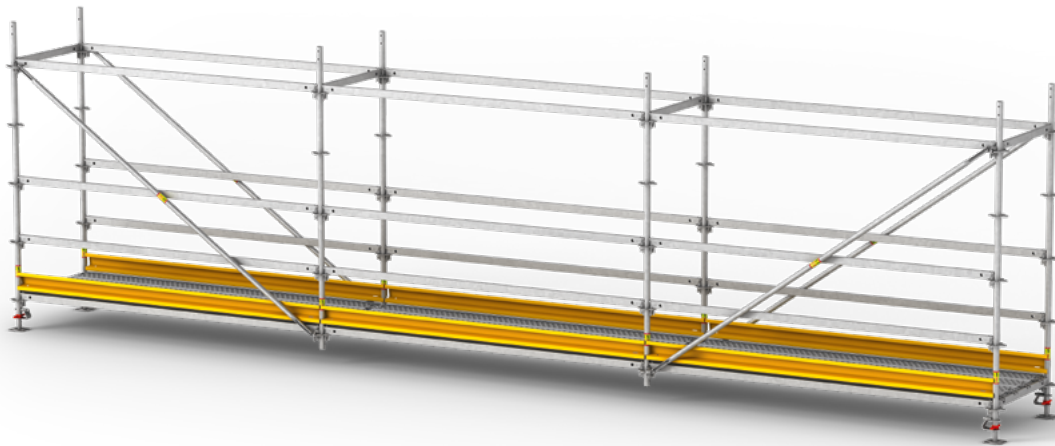
Trench bridge as **temporary** crossing and bridging

PERI UP

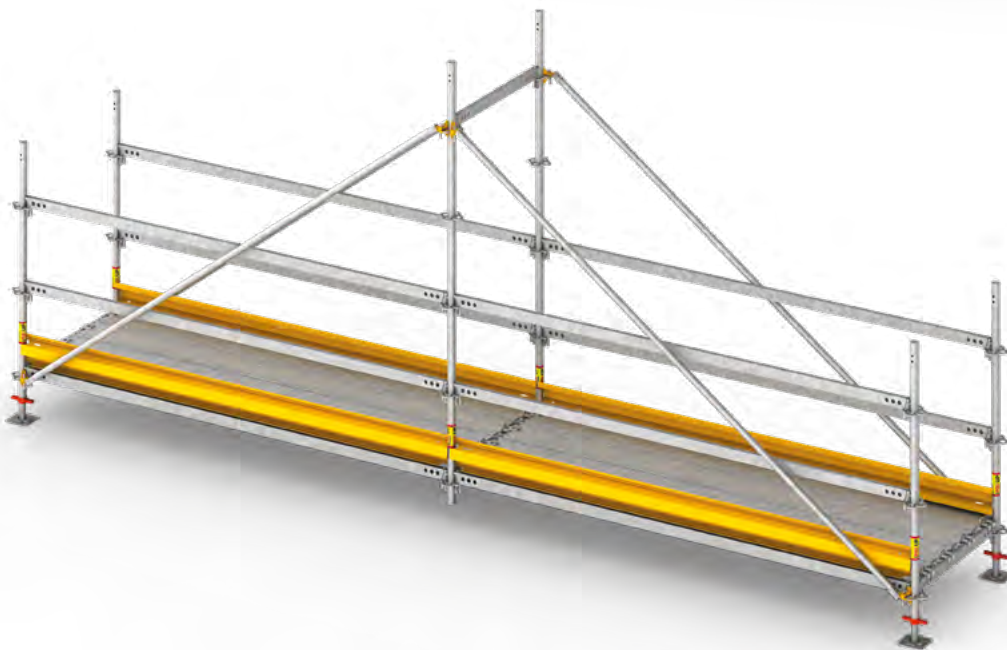


The standard configuration of the trench bridge with 6 m and 9 m spans can be moved quickly and easily as a unit by crane.

- ▶ The PERI UP Trench Bridge is your quick and easy solution for crossing over construction pits, trenches and channel trenches in a safe manner.
- ▶ The assembly process relies on standard components of the PERI UP Scaffolding Kit and speeds up your assembly process thanks to clever system-integrated features such as the Gravity Lock and tool-free installation of the diagonal braces.
- ▶ The decks with their integrated lift locks and non-slip, perforated surface as well as toe boards along the bridge provide safe access.



Due to its 1 m width, the trench bridge can be accessed comfortably even when carrying materials or when people are walking in the opposite direction.



The PERI UP Trench Bridge stands up well to the effects of the weather due to its timber-free construction.

Technical data:

- ▶ **Span:**
6.00 m and 9.00 m in the standard configuration
- ▶ **Maximum permissible load:**
2 kN/m² (Load Class 3)
- ▶ **System width:**
1.00 m
- ▶ Other spans and load requirements are possible on request.

Bridging

Formwork girder as **temporary** crossing and bridging



► With the help of the Formwork Girder ULS Flex consisting of five individual components with a maximum length of 1.50 m and a individual weight of 15.4 kg, it is possible to construct bridging with a span of up to 8.50 m.

► Assembly is quick and easy using bolts and cotter pins – even in the case of bracing with diagonals – and all this without any tube-coupling connections.

► Combining the Formwork Girder ULS with PERI UP verticals and decks makes the system particularly cost-effective. What's more, the girder length is adjustable due to the 25 cm grid arrangement.

Verticals and decks from the PERI UP Scaffolding Kit paired with the Formwork Girder ULS Flex makes for a particularly suitable and cost-effective combination.

Technical data:

- **Span in standard configuration:**
from 3.00 m to 8.50 m in 25 cm increments
- **Maximum permissible load:**
3 kN/m²
- **Dimensions:**
Individual lengths from 50 cm to 150 cm and a girder height of 50 cm
- **Attachment:**
To the scaffolding nodes of the standards

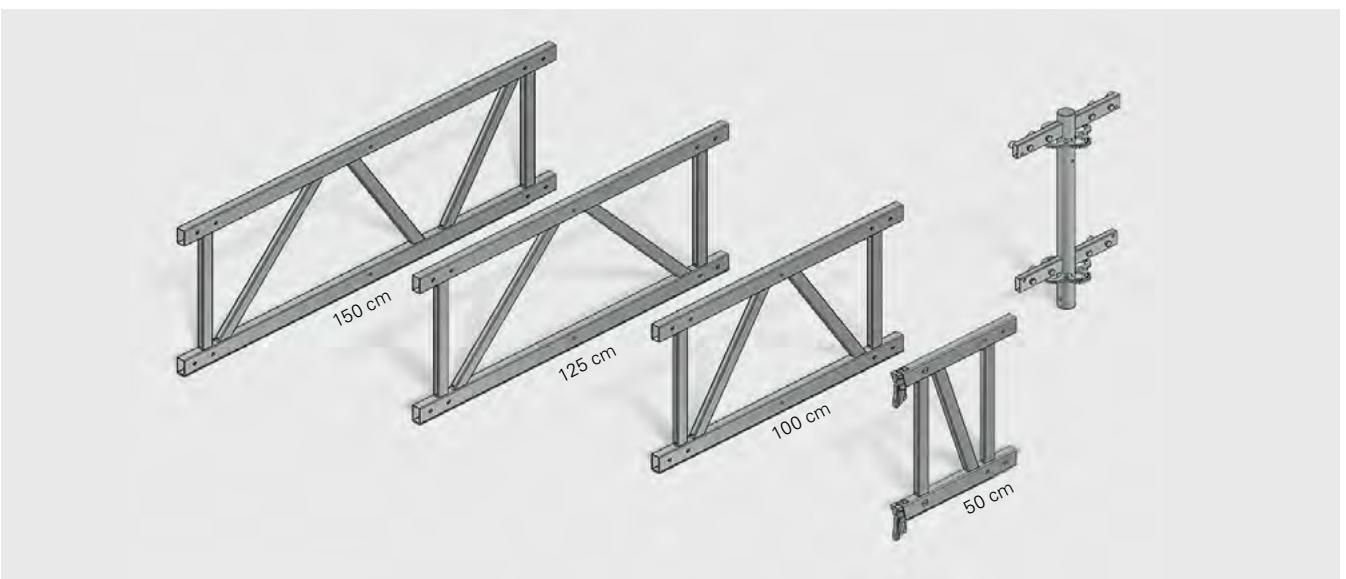


Due to its compact dimensions and low weight, the system is also suitable for use in confined spaces and for manhole entry points. It is therefore ideally suited for renovation work.



You can install the tried-and-tested PERI decks quickly and easily on the top chords of the girder.

The system components are comprised of 3 intermediate elements and one connecting element, as well as a 50-cm-long end element that is connected to the PERI UP Scaffolding Node.

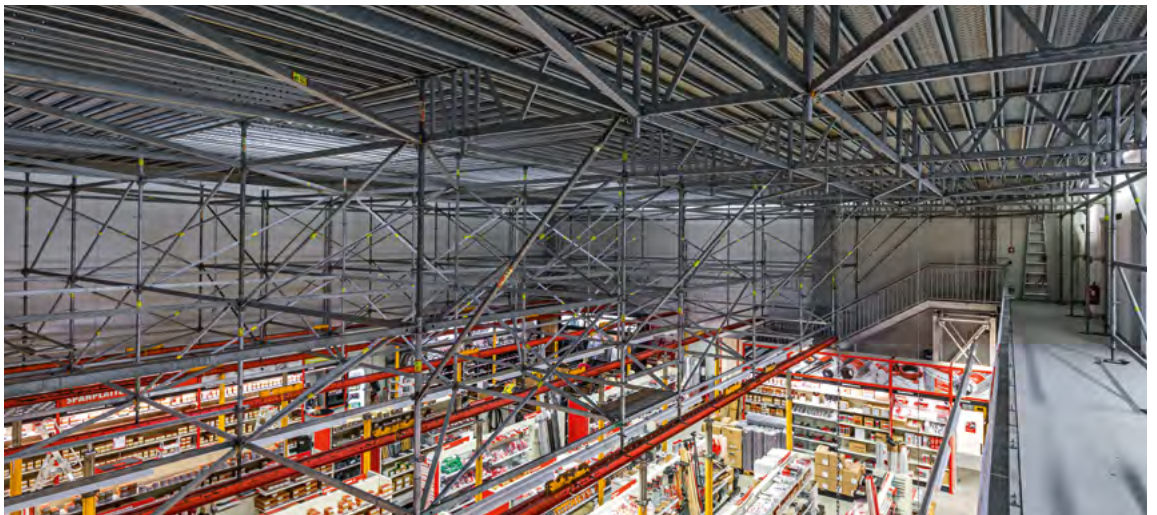


Bridging

Projects with ULS **bridging**

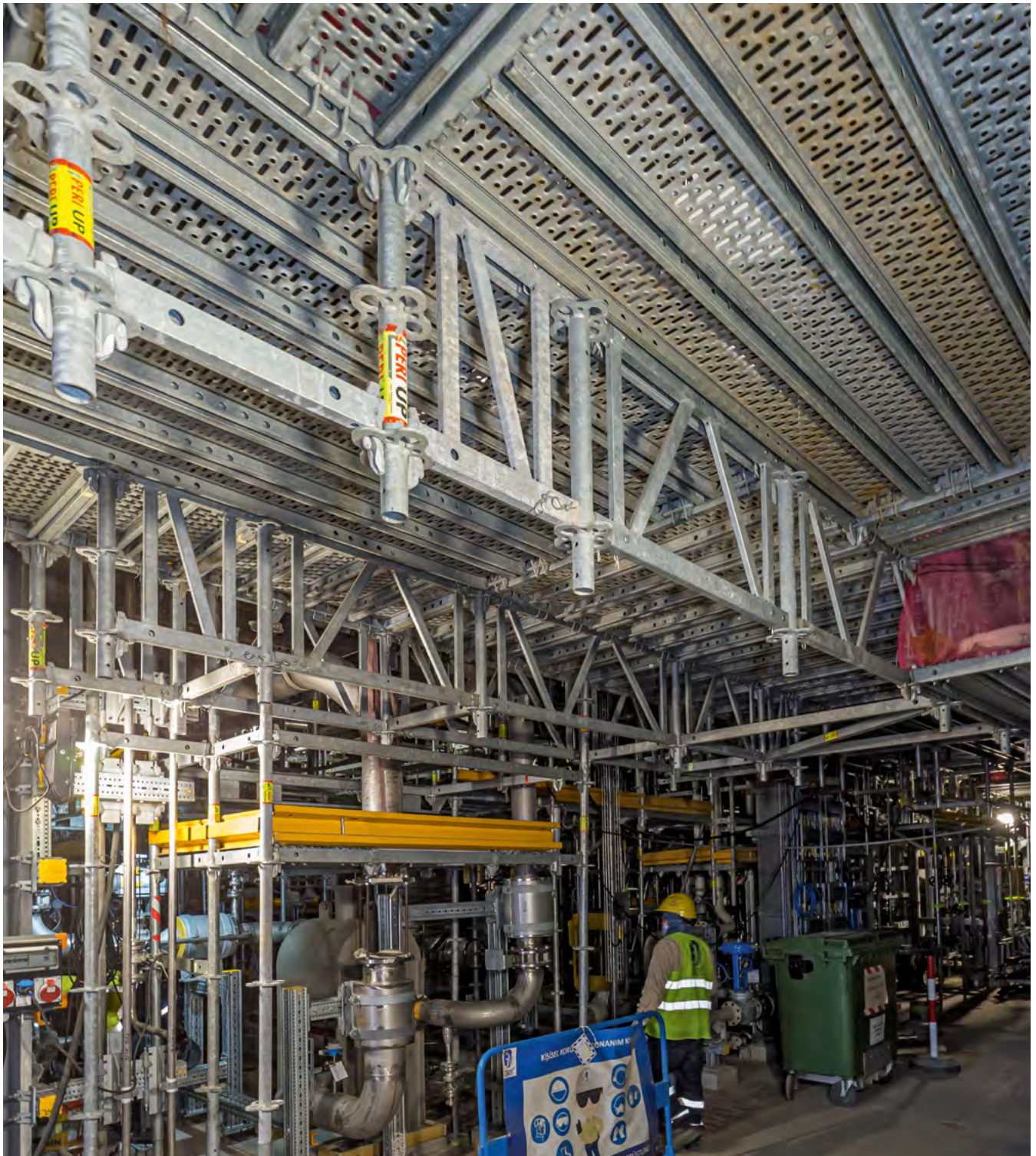


Ulm Minster,
Ulm, Germany



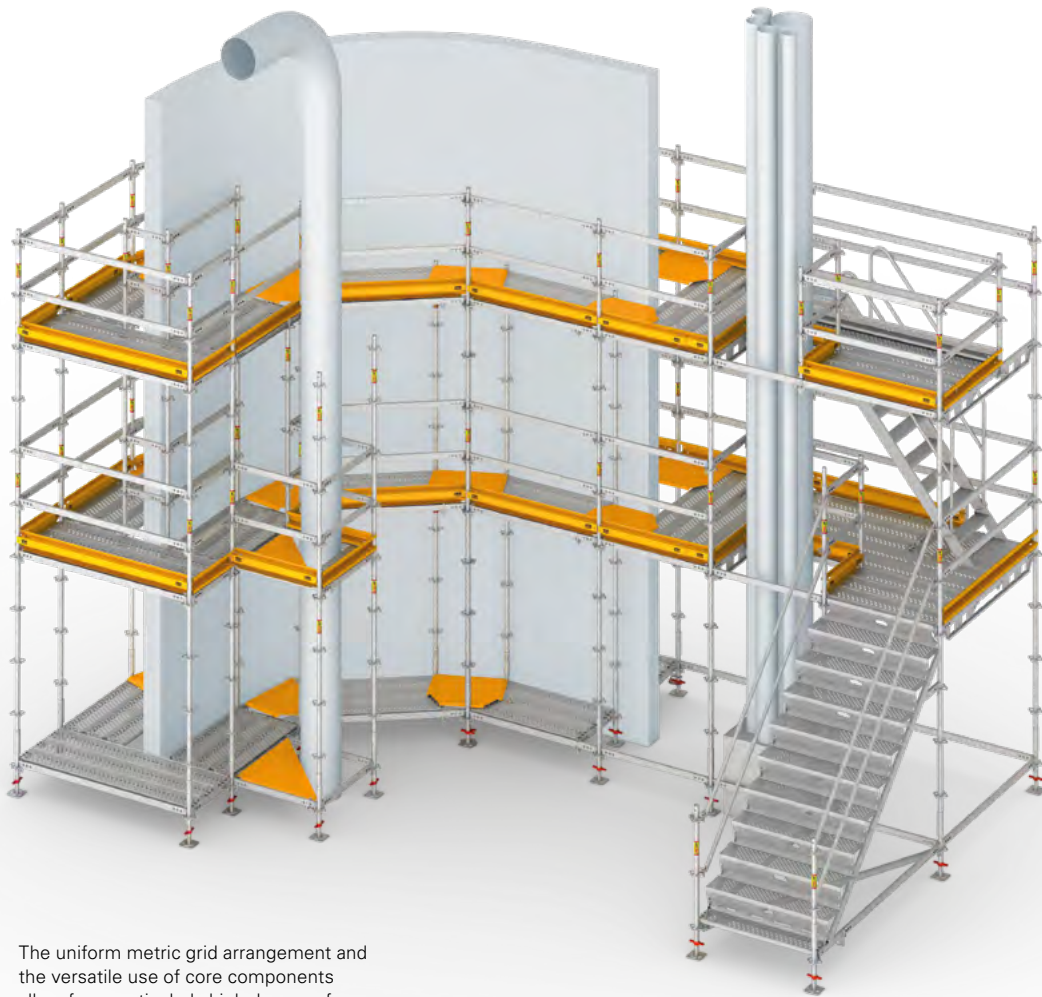
Würth sales hall,
Oberschleissheim,
Germany

BASF Vitamin A plant,
Ludwigshafen, Germany



Working platforms

Safe working conditions at various heights

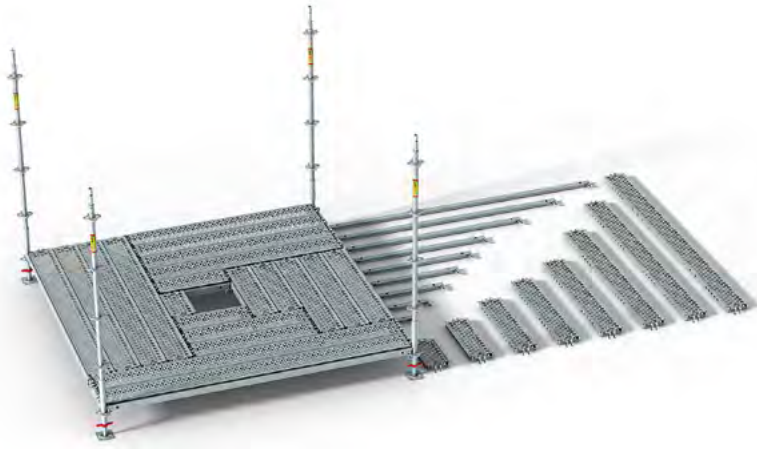


The uniform metric grid arrangement and the versatile use of core components allow for a particularly high degree of material utilisation.

► With the PERI UP Scaffolding Kit, you can create safe working platforms at various heights from core components.

► The consistent metric system grid and the ability to change the direction of the decks make the components highly adaptable to local conditions.

► PERI UP completely covers working areas without leaving any disruptive gaps. Interference points are simply redesigned. In this way, potential trip hazards are eliminated from the outset.



With the metric system grid in 25 cm or 50 cm increments, you can redesign interference points quickly and easily. It is also possible to change the direction of the decks without any issues. This ensures maximum adaptability to accommodate project-specific geometries – with virtually no couplings.



The self-locking ledger connection on the scaffolding node Gravity Lock and the integrated lift lock in the decks can speed up your assembly process.



System components with a wide range of add-ons and accessories for different applications offer you a high degree of application diversity.



During use, the non-slip perforated decks, circumferential guardrails and yellow toe boards provide you with a high degree of occupational safety.

Technical data:

► Metric width and length grid arrangement for all components:

25 cm or 50 cm; connection possibilities on the standards at spacings of 50 cm

► Deck lengths:

50 cm, 75 cm, 100 cm, 125 cm, 150 cm, 200 cm, 250 cm, 300 cm

Working platforms

Gasometer Nord, Leipzig, Germany



High assembly capacity and safe working levels

► Refurbishment and conversion of a striking, over 100-year-old industrial landmark with a 60 m diameter and high steel dome construction

► During the conservation work on the steel skeleton dome, the safe working levels had to be adapted to the building geometry – a complex task.

► The benefit: 10,000 m³ or 361 t of scaffolding were erected at high speed in only six weeks thanks to the elimination of additional work steps and single components. This was possible due to the integrated Locking Deck and no necessity of tube coupling work.



Tom Plata (Safety Officer),
Ralf Wolf (Service Manager),
Fernando Alonso (Site Manager)/
Intering GmbH, Scaffolding Department, Leuna

“The high versatility of PERI UP and its associated adaptability constitute a safety feature, as all working levels could be formed with system components without creating any tripping hazards. Time-consuming connections involving couplings are no longer required, which shortens assembly times. The integrated Locking Deck in particular eliminated about 1,800 additional work steps when it came to the staggered working levels in the area of the steel dome.”

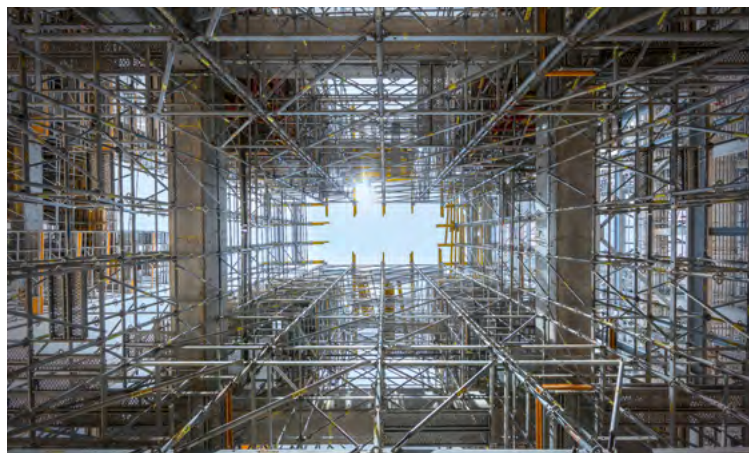


Johor Refinery, Johor, Malaysia



Flexible and safe scaffolding in the narrowest of spaces

- ▶ Assistance with the construction of the Pengerang Integrated Petroleum Complex in the south of Malaysia, a cracking plant for heavy residue materials resulting from the first petroleum processing steps
- ▶ Implementation of a complex overall scaffolding solution consisting of PERI UP Shoring Towers, access points and working levels
- ▶ The benefit: Fast assembly due to lightweight components and labour-saving connection technology with a high load-bearing capacity



"SMCC has worked with PERI on many projects for a long time now and always to our complete satisfaction. Once again, everything was done on time and with minimal workload. We will certainly be relying on PERI for our next projects."

Richard Vergara, Deputy Managing Director/Sumitomo Mitsui Construction Co., Ltd – SMCC Malaysia Sdn. Bhd.

Working platforms

Hotel Le Royal, Luxembourg, Luxembourg

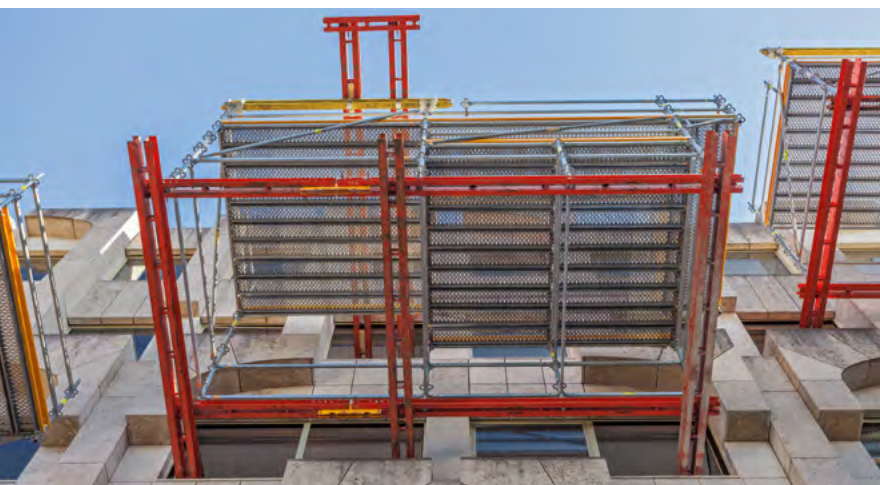
Quick and safe despite heavy loads

- ▶ Assistance with the complete refurbishment of a 5-star hotel with 165 rooms in the centre of Luxembourg
- ▶ The short project duration of only nine months posed a major challenge in terms of facade scaffold construction
- ▶ The benefit: Combining the VARIOKIT and PERI UP systems created a solution for two applications: By combining stable and safe working platforms with mobile formwork carriages, it was possible to remove rubble, walls and stone slabs quickly and easily through the windows – without the need for additional components or additional costs



Thomas Bronquard,
Site Manager/Soludéc S.A., Differdange

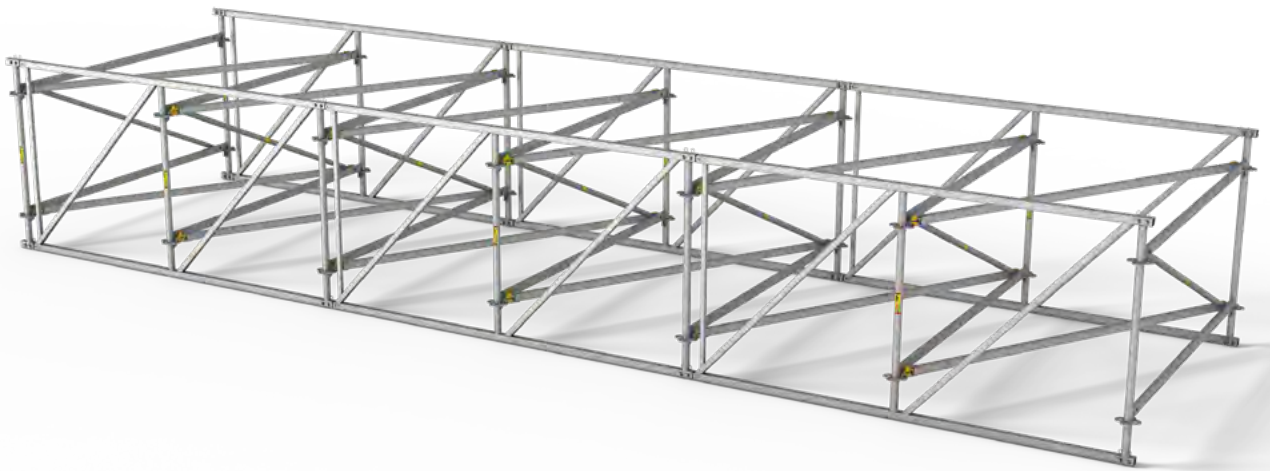
“PERI’s great strength is that components from different scaffolding systems can be combined in almost any way. This is hugely advantageous, especially for complex, unusual building geometries. It results in scaffolding solutions that are reliable and safe at the same time, with due regard to the economic aspects.”





Working platforms

With truss girders



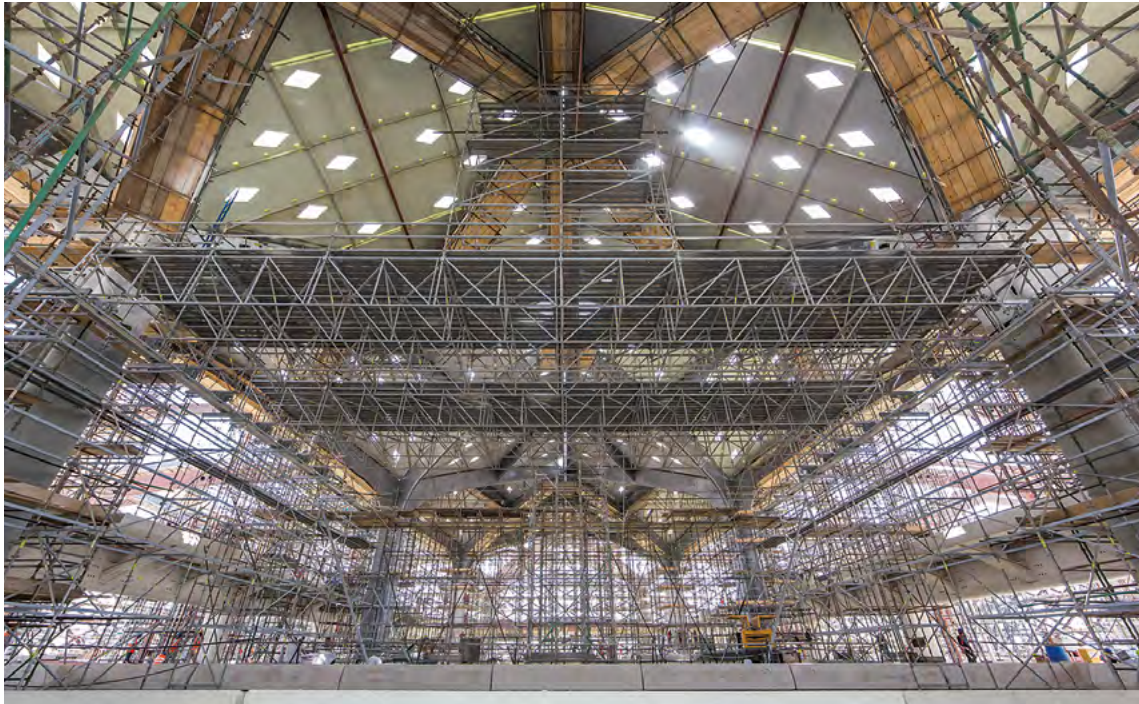
Technical data:

- ▶ **Spans:**
Up to 20 m, depending on the payload
- ▶ **Girder spacings:**
Variable from 25 cm to 300 cm
- ▶ **Dimensions:**
LGS 75 Standard Elements H = 75 cm,
L = 3.00 m or L = 1.50 m/
LGS 150 Standard Elements H = 1.50 m,
L = 3.00 m or L = 1.50 m

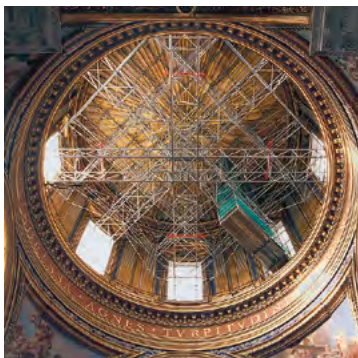
▶ Using the LGS Truss Girder System as a basis, you can create working platforms as well as temporary bridging in various heights and spans.

▶ You can assemble ledgers and diagonals quickly and easily to create load-bearing elements. The high load-bearing capacity of the components even allows you to create large spans of up to 20 m.

▶ The LGS Truss Girder System can not only be adapted easily to different geometries, but can also be used for a wide range of applications.



Portable platforms provide safe working areas for different tasks to be carried out on the underside of a railway station roof.



You can create safe working platforms with the LGS Truss Girder System. If required, completely closed areas can be formed with system decks and dust-proof coverings.



As a temporary pedestrian bridge, the LGS Truss Girder System meets the requirements for guardrail loads and geometries for public areas.

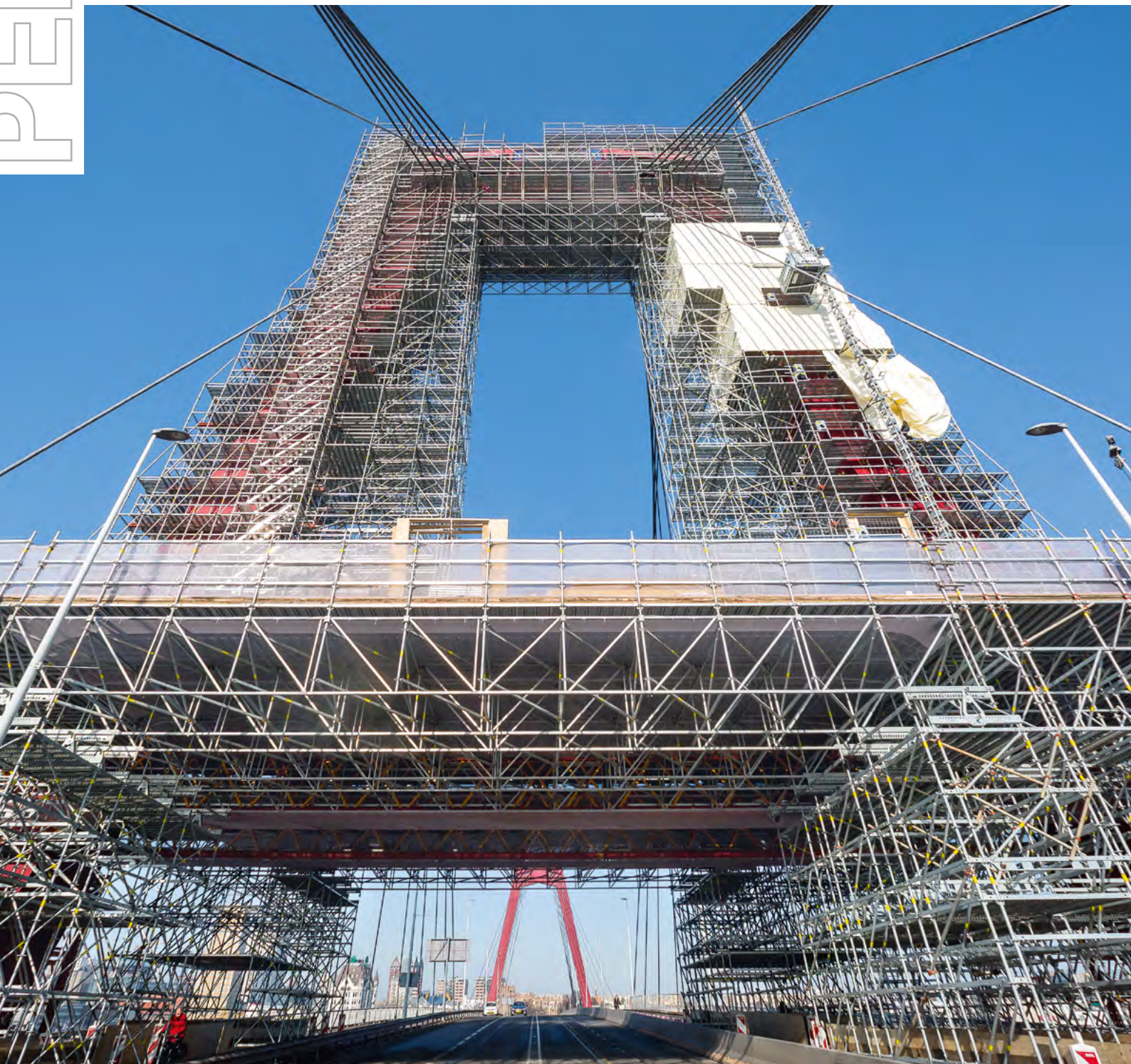


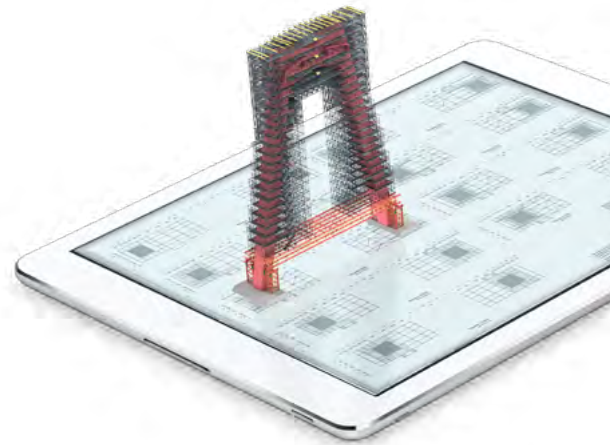
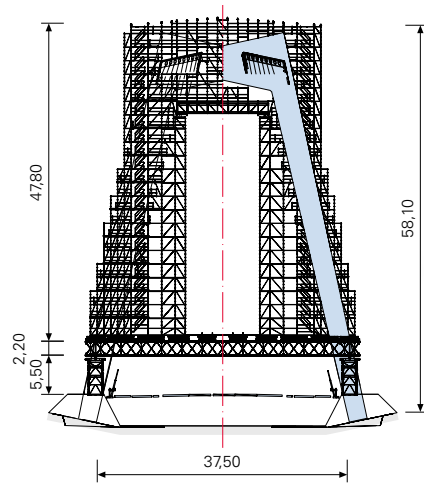
The manually portable scaffolding with its 20 m span is based on the LGS system and serves as a working platform for implementing corrosion protection measures.

Working platforms

Williams Bridge refurbishment, Rotterdam, Netherlands

PERI UP





Working safely at a height of 50 m – with the truss girder system as a working platform

- ▶ Scaffolding the two 60-m-high steel pylons of the cable-stayed bridge
- ▶ Protective roof structure on both sides, 10 m in front, and working platform with 12 m span at a height of 50 m, based on the LGS Truss Girder System
- ▶ The benefit: Flexible adaptation to the pylon geometry and creation of safe working levels complete with access technology



Marcel Broekman,
Project Manager/Steigerbouw
Van der Panne, Rotterdam

“Together with PERI, we developed a great concept for the extraordinarily challenging pylon scaffolding of the Williams Bridge. The combination of VARIOKIT and PERI UP proved to be a good solution for the bracing and anchoring – it even stood up to wind force 10 several times.”



▶ More info
in the video



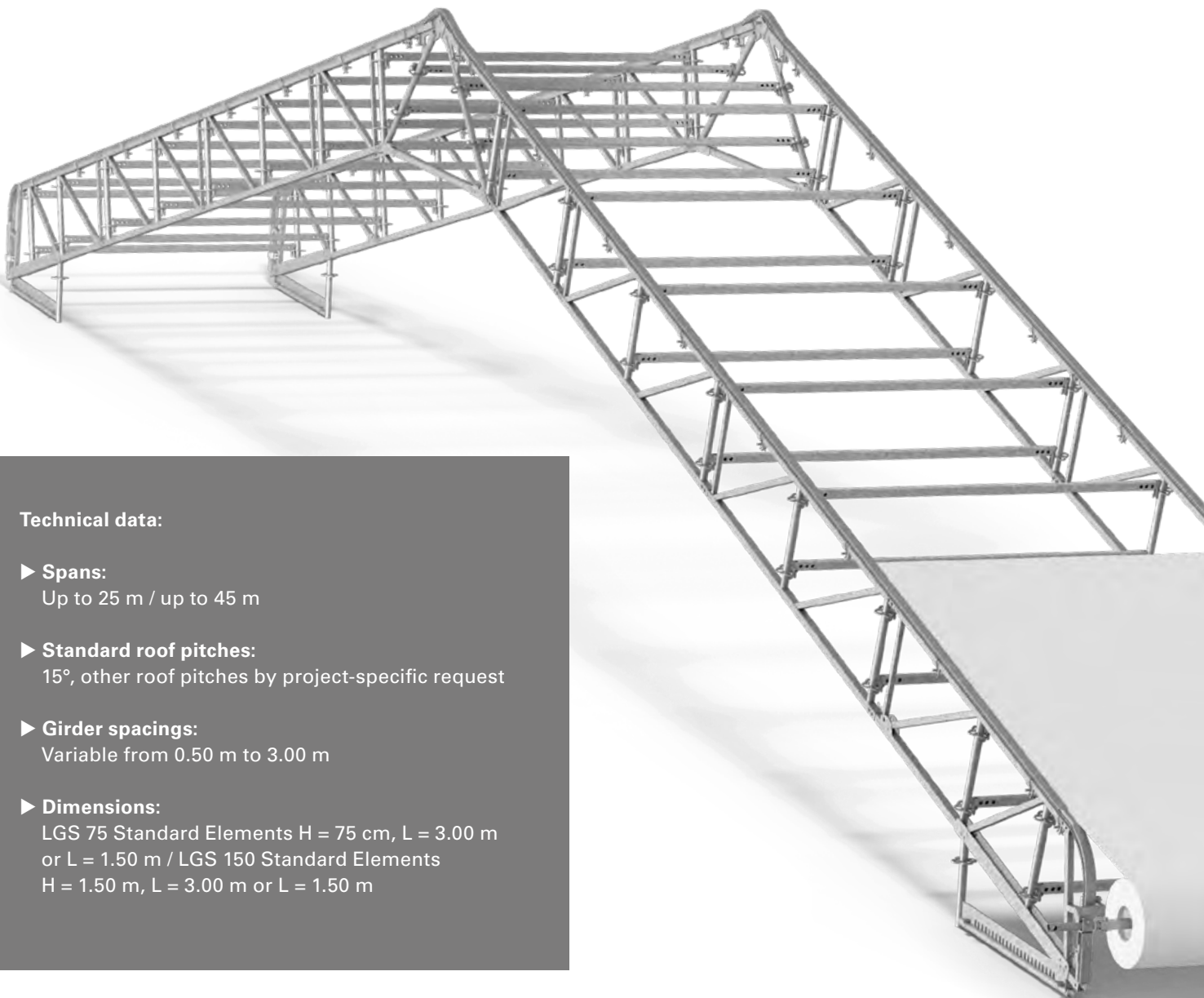
Weather protection roofs

Ready for all kinds of weather conditions

► The PERI UP Weather Protection Roof provides your construction site with cost-effective protection against the effects of the weather. It is available in two versions: For small and medium spans, and for large spans.

► You can also use PERI UP Weather Protection Roof components for other applications such as temporary pedestrian bridging or working platforms (for more information, see the section Bridging (p. 68-73)).

► The components offer you a high degree of flexibility, as they are compatible with the core components of the PERI UP Scaffolding Kit.



Technical data:

- **Spans:**
Up to 25 m / up to 45 m
- **Standard roof pitches:**
15°, other roof pitches by project-specific request
- **Girder spacings:**
Variable from 0.50 m to 3.00 m
- **Dimensions:**
LGS 75 Standard Elements H = 75 cm, L = 3.00 m
or L = 1.50 m / LGS 150 Standard Elements
H = 1.50 m, L = 3.00 m or L = 1.50 m



The PERI UP Weather Protection Roof can be erected independently of the substructure. Assembly is carried out without formwork girders and couplings.



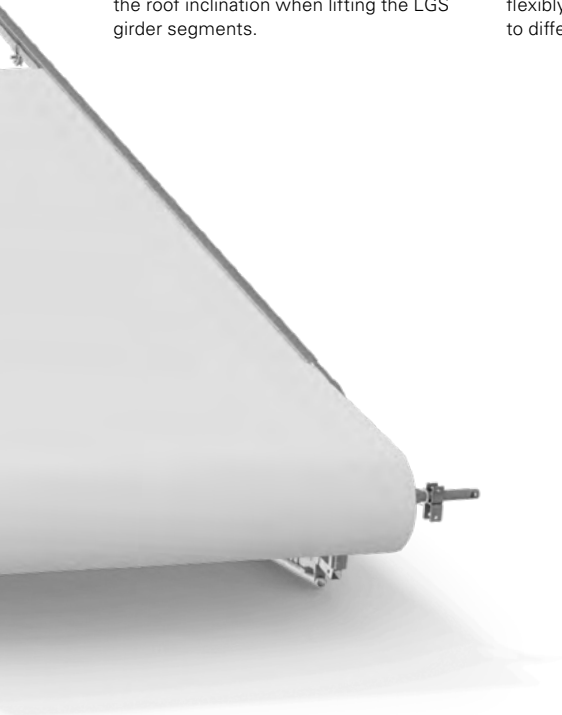
The ridge bars facilitate easy fixation of the roof inclination when lifting the LGS girder segments.



With the portable support, you can flexibly adapt the weather protection roof to different roof geometries.



Pre-assembly of the truss units is carried out from a safe position on the ground. Lifting is done by crane.



Weather protection roofs

Gate building renovation, Neuschwanstein Castle, Füssen, Germany

Well equipped through the winter

Neuschwanstein Castle, the magical fairytale castle near Füssen, is one of the most famous sights in Germany. Every year, around 1.5 million tourists visit the attraction in Bavaria's Allgäu region, which was built in the 19th century.

Therefore, during the renovation work on the eastern gate building, the main focus was on protecting the historic structure of the landmark. In PERI, and the company's temporary

Weather Protection Roof LGS 150, the customer found a suitable solution. The weather protection roof could be erected independently of the sub-structure.

Assembly was also carried out without formwork girders and couplings. This made it possible to scaffold the eastern gate building in its entirety without any ties, and to span the access to the castle.



Michael Koschorreck,
Supervisor
Andreas Dölz, Site Manager
BSB Bau- und Spezialgerüstbau
Franke & Wagner GmbH, Schmölln

"By using the heatable keder roof, an innovation from PERI, we were able to reduce the snow load and thereby ensure that the bridging and load transfer construction was cost-effective. Despite the challenging geometry of the building, we did not need any additional overhangs or coverings thanks to the form-fit and friction-locked connections of the PERI UP system."



A special solution for an exceptional building

- ▶ The PERI UP scaffolding solution was adapted perfectly to suit the structural conditions and static requirements involved in scaffolding and enclosing this cultural monument
- ▶ The roof was constructed independently of the substructure, thereby protecting the historic facade
- ▶ Time-consuming tube and coupling work was avoided during the scaffold erection process, as were any associated dangerous tripping hazards during subsequent use of the scaffold
- ▶ Significant savings were made in terms of material usage and assembly costs by optimising the bay and span widths of the weather protection roof
- ▶ Project support from PERI scaffolding specialists: from project-specific scaffolding planning to on-site assembly support



Weather protection roofs

Training building at Sachsen-Energie AG, Dresden, Germany

Adaptable protection for existing structures

- ▶ Conversion of an existing office building into a new, modern training centre
- ▶ Throughout the entire conversion phase, it had to be ensured that the building stock was protected against the effects of the weather and that materials could be transported to the first and second floors
- ▶ The benefit: Portable Weather Protection Roof LGS 75 for weather-protected renovation work on the roof structure with simultaneous transport of materials by means of a site crane; high cost-effectiveness for small and medium spans thanks to the Truss System LGS 75



Sebastian Sethmacher, Master Scaffolder and Project Manager/
Otto Gerüstbau GmbH, Radeberg

“Thanks to the guardrail in advance, PERI UP enables us to work in compliance with TRBS even in the case of articulated ground plans. There are fewer screw connections for corners and building projections and recesses, and there are no tripping hazards. With the modular PERI UP Easy vertical variant, we are also able to be extremely flexible.”



Weather protection roofs

Production hall canopy, Gerolzhofen, Germany



"LGS assembly using ridge bars and rollers is utterly convincing. In addition, the engineers from PERI were able to demonstrate their expertise through the extremely fast planning service – after all, we had to stick to an extremely tight schedule."

Thorsten Wahner,
Site Manager and Managing Director/
Eugen Wahner GmbH, Sulzfeld

Weather protection system involving system components adapted to the needs of the project

- ▶ Canopy for refurbishment of the 90-m-long and 27-m-wide production hall
- ▶ Customised weather protection roof based on the LGS Truss Girder System
- ▶ The benefit: Construction work carried out regardless of atmospheric influences and the ability to open and close individual keder tarpaulin roof panels to lift in building materials

Weather protection roofs

Kailas House, Heinola, Finland


PERI





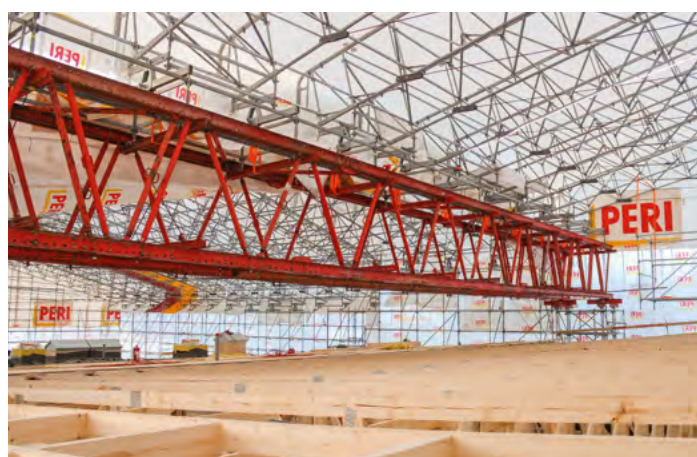
Moderne Wetterschutztechnik hält Herausforderungen stand

- ▶ Construction of a new school complex in the city centre of Heinola, Finland
- ▶ A weather protection solution that would reliably protect timber work on the roof and masonry work on the facade from moisture was essential; the roof construction work was not to be impaired by shoring towers
- ▶ The benefit: PERI UP Weather Protection Roof, supported by VARIOKIT Heavy-Duty Truss Girders, for dry and safe working conditions in all weathers. A shoring and access solution was created at the same time by connecting parts of the PERI UP Scaffolding Kit



Petri Orava, Site Manager PetInsinööritö Hentinen Oy, Joutsa

“The frame assembly process went smoothly, as both a reliable weather protection system and safe scaffolding were in place. It was also a relief that the scaffolding and weather protection plans had been finalised and approved by the structural engineer.”



Weather protection roofs

Gurrehus, Kvistgård, Dänemark

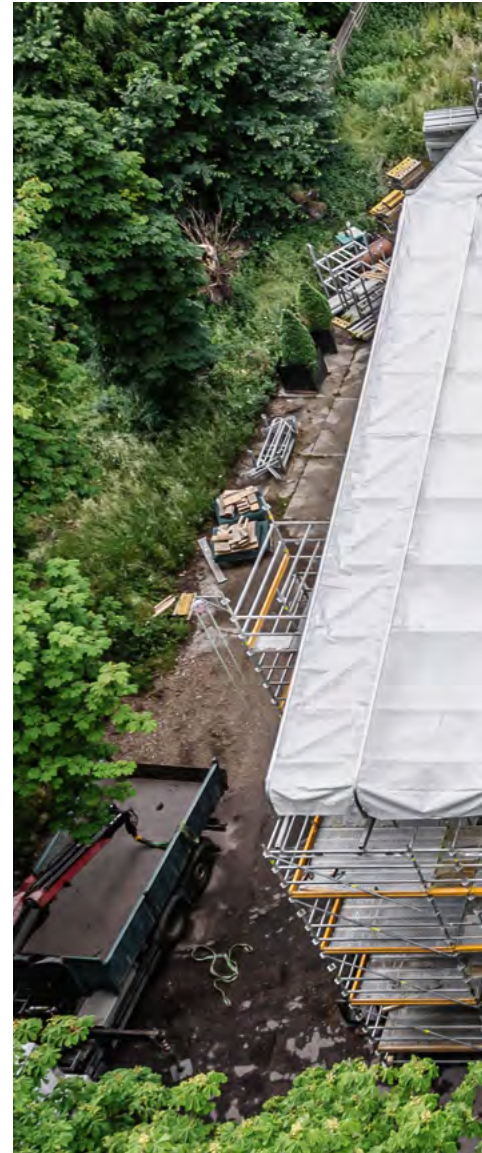
PERI UP enables uninterrupted renovation work

- ▶ Extensive renovation of the 16th century Gurrehus in northern Denmark
- ▶ Scaffolding of the entire facade of the historic building using PERI UP as well as a full weather protection canopy using the LGS 75 Weather Protection Roof for medium spans
- ▶ The benefit: The fact that the weather protection solution was fully compatible with PERI UP scaffolding materials meant that the pre-assembly process was easy, material/crane transport was straightforward and a lot of time was saved. The system combination also impressed on account of its versatility, accuracy of fit and user-oriented handling characteristics.



Frederik Kyed,
Owner/KyedStillads A/S, Tikøb

“We are grateful for PERI's willingness to help us with the first steps of the project. The canopy works in the manner intended and the dialogue and support has been good from start to finish.”





Suspended scaffolds

Movable working platforms in a uniform system grid



Technical data:

► Tension force between standards:

Connection: with M10x70 bolts,
grade 8.8 and nuts

Permissible loads: up to 20.6 kN

► Scope of application of Trolley UFS 20:

Flange widths: from 200-320 mm

Flange thicknesses: up to 40 mm

Permissible loads: up to 20 kN

► With the PERI UP Suspended Scaffold, you can create temporary and safe working platforms based on core components of the PERI UP Scaffolding Kit.

► When it comes to mobile solutions, the Trolley UFS 20 with its maximum permissible load-bearing capacity of 19.7 kN is used. This allows you to create large-scale working areas quickly and cost-effectively.

► The working area of the PERI UP Suspended Scaffold can be constructed flexibly in 25 cm increments. Furthermore, it is easy to adapt it to variable steel girder spacings.



The smooth-running plastic rollers allow you to move it easily with little effort.

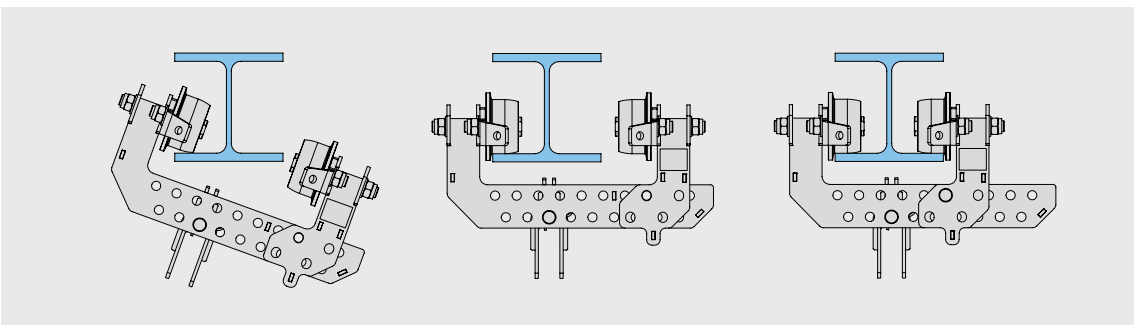


Installation is carried out without tubes and couplings on the basis of core components from the PERI UP Scaffolding Kit, and is therefore particularly fast.

It is carried out by means of the variable adjustment function of the vertical support in the system grid, which is independent of the flange width.

Thanks to its practical design, the trolley can be used on various steel profiles. You can adapt it to suit girders that are 20 cm to 32 cm wide with flange thicknesses up to 40 mm.

The trolley is often used in combination with the steel components of the VARIOKIT Engineering Construction Kit or other PERI formwork systems for load-bearing constructions, as shown here with PERI RCS Rails.

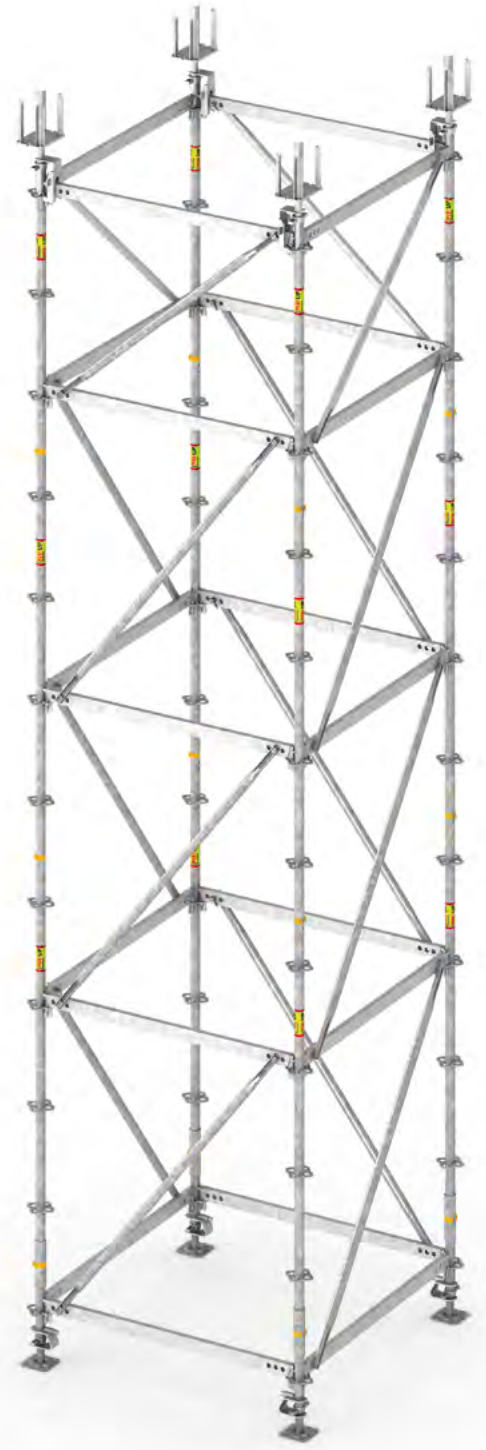


To fit the trolley, simply move one of the legs of the roller bracket. The roller spacing can be adapted to accommodate the steel girder and is secured by means of a bolt.

Shoring

Shoring towers with a modular design

- ▶ The shoring tower with its modular design consisting of core components from the PERI UP Scaffolding Kit is used for a wide range of shoring construction tasks. You can create cost-effective shoring towers, shoring towers with additional frames as well as spatial shoring using the flexibly combinable components, which are also compatible with PERI slab formwork systems.
- ▶ When erecting shoring, the 25 cm and 50 cm system grid dimensions provide optimal adaptation options to accommodate various geometries and loads across all dimensions.
- ▶ The shoring tower provides a particularly high level of safety thanks to the self-securing deck, ledger with Gravity Lock and a complete, level cover for the working areas.



Technical data:

- ▶ **Load introduction:**
Up to 46 kN per vertical
- ▶ **Structural verification by way of type test:**
Up to 8.39 m free-standing and up to 21.89 m high (or 22.34 m with spindle extension)



The shoring towers are compatible with PERI Slab Formwork Systems. What's more, the PERI UP Shoring Tower is compatible with the customary steel and timber construction dimensions.



The combination of 2-m-long standards and different lengths of top standards allows for continuous height adjustment.



With the PERI UP Shoring Tower, you can achieve a high degree of material utilisation through optimal positioning of the verticals in line with the respective load situation.

Shoring

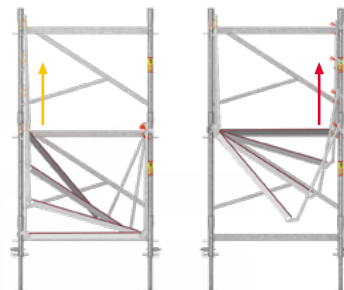
System-integrated safety with the Shoring Tower MDS K



► You can use the PERI UP Shoring Tower MDS K from the PERI UP Scaffolding Kit to transfer vertical and horizontal loads in shoring construction.

► The shoring tower facilitates safe and system-integrated assembly without additional components. Assembly and disassembly of the crane-movable Shoring Tower always takes place under the protection of end-to-end guardrails. Therefore, the user is always in a safe and secure position during all assembly situations. The low weight as well as the ability to carry out the work at torso level mean that the work processes are easy on the body.

► The decks are attached to the horizontal ledgers without tools, while any unintentional lifting from below is not possible. Materials are supplied through the inside of the shoring tower.



Technical data:

► Ground plans:

1.25 x 1.00 m | 1.50 m | 2.00 m | 2.50 m | 3.00 m

► Height adjustment in 50 cm increments:

By combining the Frame MDS 100 K and Intermediate Frame MDS 50; fine adjustment using the head and base spindles

► Erection height and loads:

As free-standing shoring tower up to 6.39 m erection height and loads up to 45 kN; up to 21.39 m when restrained at the head, and for loads up to 50 kN

Heavy-Duty Prop HD with integrated load control



The lightweight system components make assembly easy, thereby ensuring considerable cost and time benefits.

- ▶ You can use the PERI UP Heavy-Duty Prop HD whenever high loads need to be transferred and lifting accessories are either limited or not available at all.
- ▶ The PERI UP Heavy-Duty Prop consists of standard verticals and 25 cm ledgers from the PERI UP Scaffolding Kit and offers the possibility of lowering loads of up to 200 kN in a force- and displacement-controlled manner by means of easy-to-operate hydraulics.
- ▶ The mobile hydraulic unit of the prop ensures controlled loading and unloading. This will make the disassembly process easier for you.



The hydraulic unit consists of the lift cylinder and hand pump. You can read both the pressure [bar] and the force [kN] on the pressure gauge.

Technical data:

▶ **Erection height:**
Up to 8.33 m

▶ **Permissible load:**
Up to 200 kN

▶ **Components:**
Standards UVR with lengths from 50 cm to 3.00 m, Horizontal Ledgers UH-2, lowering and head spindles and an additional hydraulic unit for the base

▶ **Head spindle:**
With head plate that can be tilted up to 3°, connection to HDT Main Beam possible

Shoring

Ocean Plaza Business Centre, Kiev, Ukraine



Continuous work operations without interruptions

- ▶ Assistance with the construction of the four-storey business centre in a city centre location with a total of 250,000 m² of usable space and 3,000 underground parking spaces
- ▶ For transferring loads over several floors, PERI UP Shoring Towers were assembled and used as a spatial load-bearing structure up to 13.80 m high
- ▶ The benefit: Optimum adaptation to the support height and load due to 1.50 m and 2 m base widths – with additional frame, if required – as well as to load concentration by means of 50 and 75 cm horizontal ledgers. Clustered standards in the system rendered time-consuming tube coupling assembly superfluous



Andrey Anatolievitch Boiko,
Foreman/ K.A.N.
Stroy, Kiev

“Through the very close cooperation with the PERI engineers, we were able to carry out all work on site at any given time very professionally. The support ranged from technical preparation through to return deliveries of materials.”

Shoring

Hakaniemen Kauppahalli, Helsinki, Finland

High level of support for straightforward installation

- ▶ Refurbishment and modernisation of the over 100-year-old Hakaniemen market hall in a district of Helsinki, Finland
- ▶ Foundations in the form of piles and the concrete structures to be cast resulted in very high loads due to their size
- ▶ Use of 70 PERI UP HD Heavy-Duty Props as temporary piers to support the superstructures until the new columns were cast
- ▶ The benefit: Timely, cost-effective and safe work processes thanks to hydraulically adjustable support system and straightforward tool-free assembly. PERI UP HD facilitated controlled load distribution and a load-bearing capacity of up to 200 kN. The logistical demands of the site, which did not allow for conventional lifting or transport equipment, could be met with the manually portable DUO Composite Formwork



Kari Suomala,
Concrete Foreman/E.M.
Pekkinen Oy, Espoo

"It was essential that we had good partners for a demanding project like this one!"



PERI UP

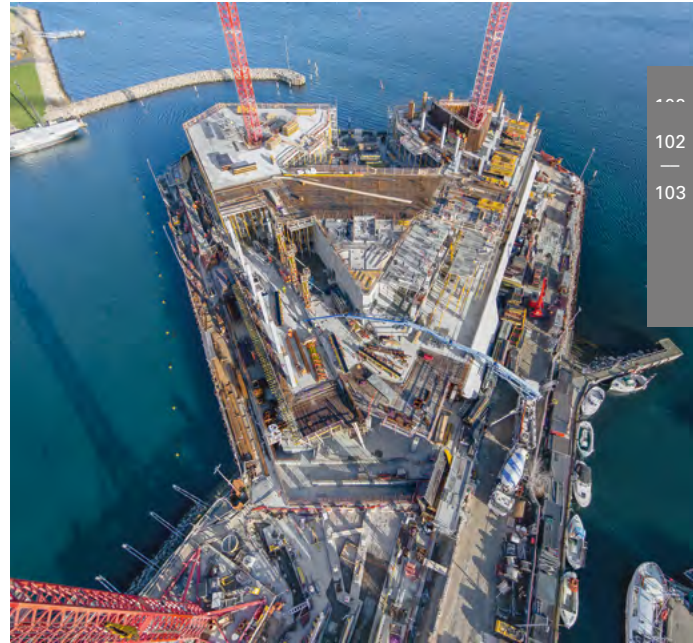


Shoring

Research and Development Centre for Ferring Pharmaceuticals AS, Copenhagen, Denmark

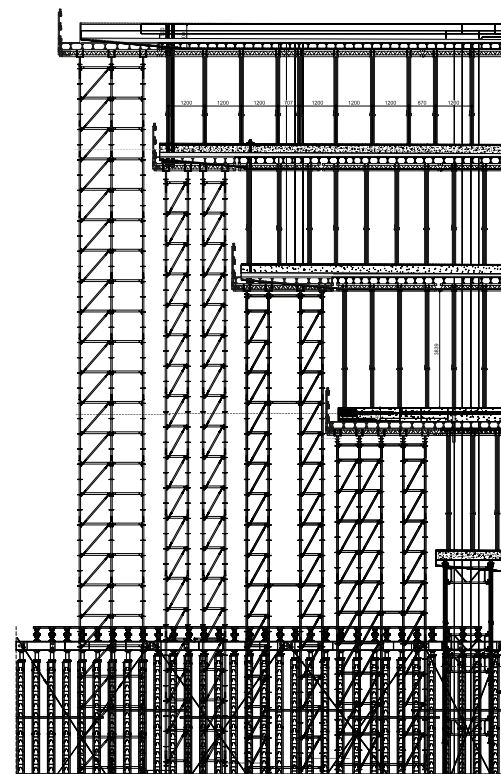
Safe access for highly complex concreting work

- ▶ Construction of a triangular-shaped research and development centre with a pronounced horizontal facade. Most of the walls of the eight-storey structure were built with extremely high-quality SB 4 architectural concrete.
- ▶ Development of a customised solution consisting of the PERI UP Scaffolding System, pre-assembled VARIO Formwork, SKYDECK Slab Formwork, MULTIPROP Slab Props and VARIODECK Slab Tables in order to achieve the exceptional geometry, the high level of architectural concrete quality as well as the defined joint and tie pattern for the walls.
- ▶ The benefit: A wide range of potential applications for PERI UP thanks to the continuous system grid arrangement of 25 cm or 50 cm as well as the possibility of combining it with SRU Steel Walers from the VARIOKIT Engineering Construction Kit. In addition to load transfer, the scaffold also served as a safe working platform and as an access point to the various concreting heights of the entire building



**Stefano Borroni (l.) u.
Massimiliano Landriscina (r.)**
Construction Site Managers

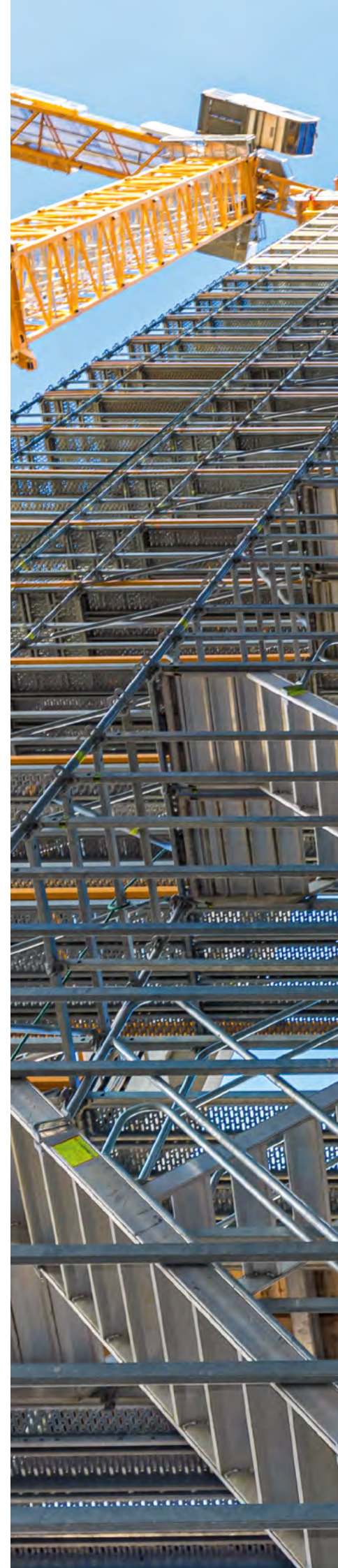
"PERI systems provide numerous benefits on the construction site and meet all safety requirements. The decision to use these systems sped up the construction process and led to high-quality results."

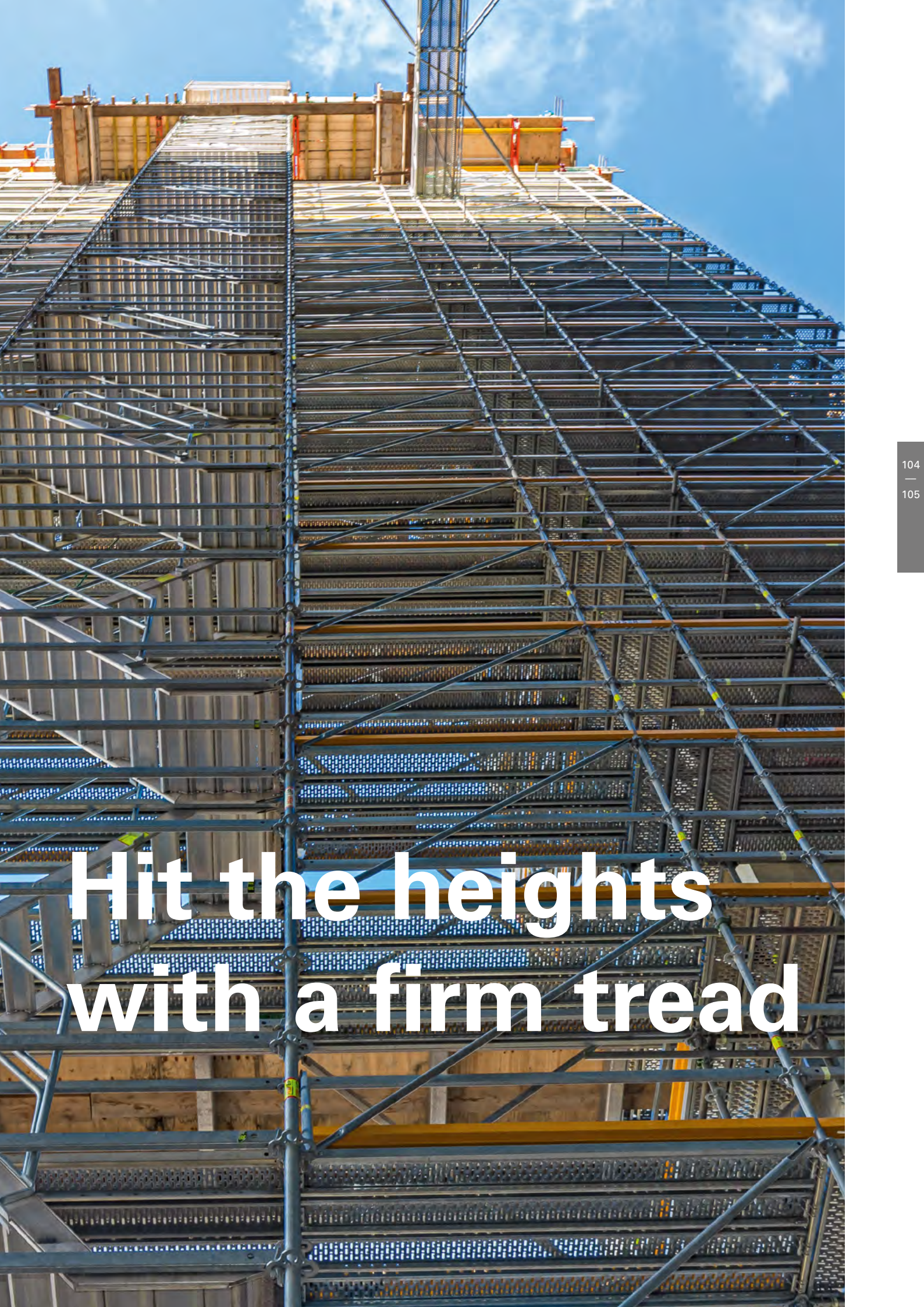


Stairs

Staircase solutions in the **scaffolding kit**

- ▶ Staircase solutions are also part of the PERI UP Scaffolding Kit and can be implemented easily using core components. This way, you can minimise unexpected additional costs.
- ▶ The built-in safety features also give workers a safe place to stand during assembly and protect them from potential accident risks. Stair class B with its deeper steps provides additional convenience.
- ▶ Thanks to the use of new production and welding equipment, the individual components are high quality and, most notably, robust; the straightforward handling features also prevent errors during assembly.
- ▶ By using only a few components, the staircase solutions offer greater versatility as well as improved assembly and disassembly speed.





Hit the heights with a firm tread

Stairs

The **lightweight** and **convenient** solution for facade scaffolds



Technical data:

► **Ground plans:**

0.67 m x 0.75 m/0.50 m; 0.67 m x 1.50 m/1.00 m;
0.67 m x 2.50 m/2.00 m; 0.67 m x 3.00 m/2.00 m

► **Permissible loads:**

For flights of stairs: 2.5 kN/m²

► **Weights:**

Stair Guardrail in Advance EAG 250/200: 7.18 kg
Stair Guardrail in Advance EAG 300/250: 8.18 kg
Stair Tower UAS 67 x 250/200: 26.10 kg
Stair Tower UAS 67 x 300/200: 30.60 kg

► **Adaptation to the facade scaffold:**

Assembly on the facade scaffold itself using integrated scaffolding nodes on the frame or vertical with 67-cm-long horizontal ledgers → no additional frame column required for assembly

► Thanks to the guardrail in advance, which can always be mounted from a secured position, you can reach the next level up at any time with the 67-cm-wide staircase, in compliance with current safety guidelines.

► The low weight of the components improves the ergonomic situation for the user, reduces physical strain and can accelerate assembly and disassembly.

► Assembly takes place nearly without additional clamps or screws; the stair decks are prevented from being lifted by means of a self-securing locking deck.

► The numerous combination possibilities involving the components of the PERI UP Scaffolding Kit not only ensure greater flexibility and availability, but also enable you to realise more applications with fewer standard components.

Stairs

The **flexible** solution for facades and stair towers

- ▶ The 75-cm-wide staircase provides you with a reliable level of safety even under a load of up to 2.5 kN/m².
- ▶ A safeguard that is already integrated in the system reliably prevents all decks from being lifted off without any additional components. Equal step heights and level landing platforms minimise tripping hazards.
- ▶ The reduced weight of the PERI UP components improves ergonomics and also simplifies assembly.
- ▶ 75-cm-wide, deep steps offer a high level of comfort, even during the transport of materials.
- ▶ You can either integrate the staircase into an existing facade scaffold or use it as a stand-alone stair tower.

Technical data:

▶ Ground plans:

0.75 m x 0.75 m/0.50 m; 0.75 m x 1.50 m/0.50 m;
0.75 m x 1.50 m/1.00 m; 0.75 m x 2.50 m/2.00 m;
0.75 m x 3.00 m/2.00 m

▶ Permissible loads:

For flights of stairs and decks: 2.50 kN/m²
For the entire construction up to 66 m: 2 kN/m² across
20 linear metres

▶ Weights:

Counter-climbing metre in 2.50 m variant: approx. 85 kg
Climbing metre in the same direction in 3.00 m variant:
approx. 115 kg

▶ Adjustment to the building:

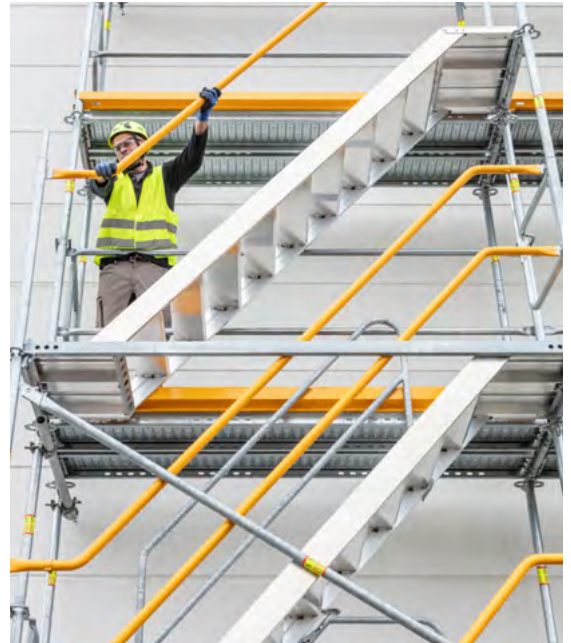
1.00 m and 0.50 m height adjustments via console bracket
or in tower 0.20 m height adjustments via stair ledgers



Stairs

Safety

The PERI UP Stairs have guardrails that can be mounted from a secured position. Used together with the guardrail in advance assembly of the facade scaffold, PPE is not necessarily required, as the fitter is always protected from falling by the system.



Speed

Due to the use of standard components, PERI UP Stairs can be mounted on the scaffold directly without the need for couplings, tubes or an additional row of verticals. This not only speeds up assembly, but also saves time and money.

The reduced number of components also simplifies logistics and the loads to be carried by the fitters.

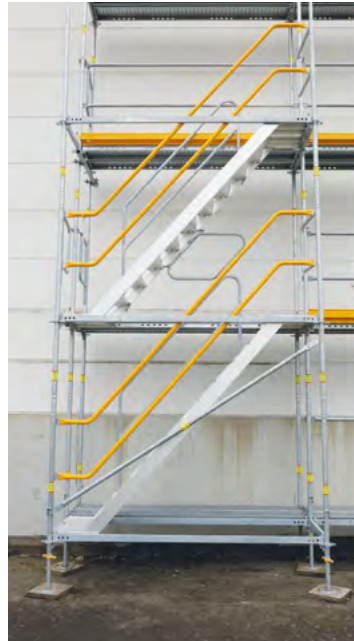


Stairs

Compatibility

The numerous combination possibilities offered by the PERI UP Scaffolding Kit make it possible to achieve a high degree of application diversity with only a few components. Both staircase solutions can be easily attached to the PERI UP Facade Scaffold – regardless of whether it is built with Easy or Flex components.

In addition, this ability to combine parts as desired streamlines the inventory and reduces the complexity of planning.



Flexibility

Even when it comes to the final entry point into the scaffold, PERI UP Stairs not only offer high level of protection and employee safety, but also flexibility in the choice of components. A wide range of staircase ends can be installed using the standard components of the PERI UP Scaffolding Kit without the need for special components.

This versatility also ensures that all country- and building-specific requirements for the uppermost entry point can be met.



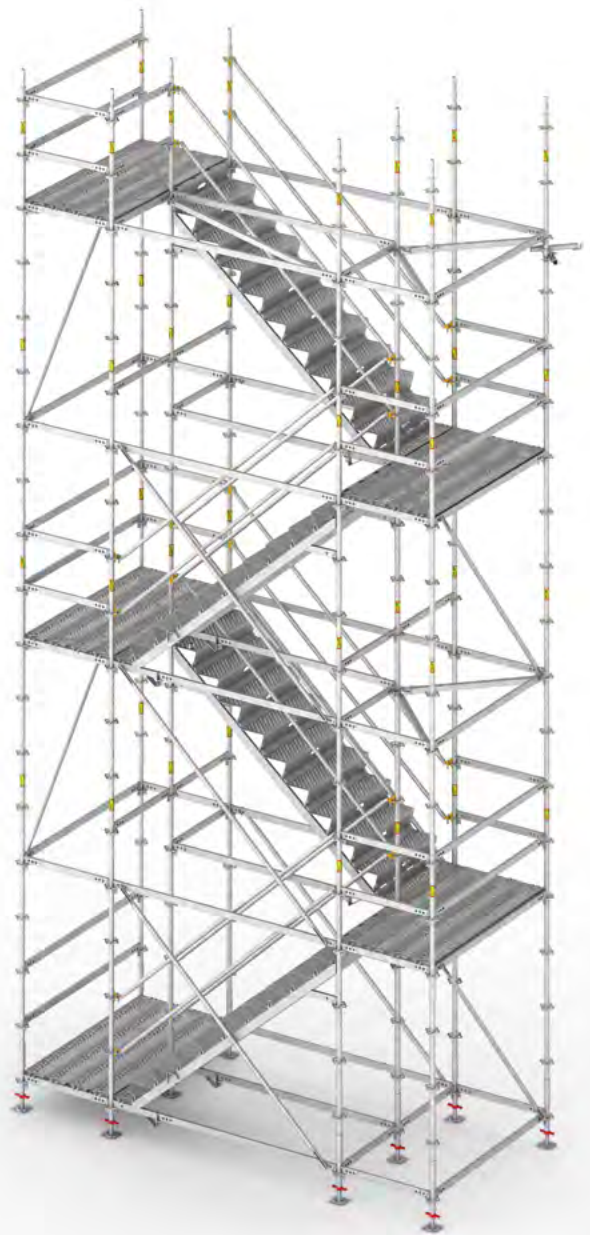
Given the fact that the locking pins can be fitted easily and without the use of tools, groups of components can also be moved by crane.



Stairs

PERI UP Stairs – for **high demands** on load-bearing capacity and accessibility

- ▶ The 100/125 staircase from the PERI UP Scaffolding Kit consists of lightweight individual components, has separate landing platforms and can reach a height of 50 m with a permissible load of 3 kN/m².
- ▶ It is available in two step widths, 100 cm or 125 cm. You can either use the stairs as an independent system or integrate them into the existing PERI UP Scaffold without any difficulty.
- ▶ Assembly is carried out with next to no tools – and is therefore particularly quick and easy: Fit the stair stringers and then fasten on the steps. They interlock automatically during installation and are locked in place by the top step.



Technical data:

- ▶ **Permissible loads:**
Up to 3 kN/m² for stairs and decks
- ▶ **Executable widths:**
1.50 m | 2.00 m | 2.50 m
- ▶ **Ground plans:**
2.00 m x 4.50 m (Staircase 100)
2.50 m x 5.00 m (Staircase 125)
- ▶ **Structural arrangements:**
Single width continuous staircases 1.50 m, 2.00 m or 2.50 m wide; linked continuous staircases with different widths as a succession of single continuous staircases; dog-legged staircases as well as stair towers with and without stair wells



The closed, non-slip decking offers a high level of comfort and safety.



The lightweight individual steps interlock during assembly, locking themselves in position without additional measures.



The PERI UP Staircase 100/125 provides sufficient space to allow people to pass each other easily.

Stairs

PERI UP Stairs Public – for the **public** areas



► PERI UP Stairs Public were developed specifically for high footfall in public areas. Whether as access for large events or as emergency stairs for public buildings – they can be easily adapted to the number of users, geometry and loads.

► A wide range of structures can be realised with a low number of individual components, such as, for example, various widths of continuous staircases, linked continuous staircases with different widths as a succession of single continuous staircases, dog-legged staircases, and stair towers.

► You can create staircases of any width when installing left- or right-sided stair stringers. Using standard steel decks with a length of 2.5 m gives you a load-bearing capacity of up to 600 kg/m².

Technical data:

► Permissible loads:

Up to 7.5 kN/m²

► System widths:

1.5 m | 2.0 m | 2.5 m

► Ground plan dimensions of tower:

3.25 m x 2.50 m

► Structural arrangements:

Single width continuous staircases 1.5 m, 2.0 m or 2.5 m wide; linked continuous staircases with different widths as a succession of single continuous staircases; dog-legged staircases as well as stair towers with and without stair wells



Need help with planning? At PERI, we can assist you in developing various solutions right from the start. We will provide you with the necessary plans together with the corresponding static verifications.



The PERI UP Stairs Public can be used to negotiate multi-lane roads and other obstacles quickly and easily.



For large events, the PERI UP Stair Public can be used, for example, to create linked continuous staircases with inner guardrails to allow segregation of routes. This provides access for large crowds.

Stairs

Gasperich Water Tower, Gasperich, Luxembourg



Functional work of art made of concrete

- ▶ Assistance with the construction of the 73-m-high Gasperich Water Tower with a diameter of almost 15 m
- ▶ Use of PERI UP components as a reinforcement scaffold and staircase
- ▶ The benefit: Flexible access for site personnel



Pierre-Henry Lejeune, Site Manager/
Perrard S.A., Niederanven

“The safety equipments were an integral aspect and did not have to be adapted to suit the different construction phases.”

Stairs

Margam Biomass Power Plant, Port Talbot, United Kingdom

Safe access for numerous workers

- ▶ Assistance with the construction of the biomass plant for renewable electricity for the region around Port Talbot, South Wales
- ▶ Use of components from the PERI UP Scaffolding Kit for various applications during the project, including as a stair tower for worker access
- ▶ The benefit: Solution to complex geometric challenges and safe work processes at great heights



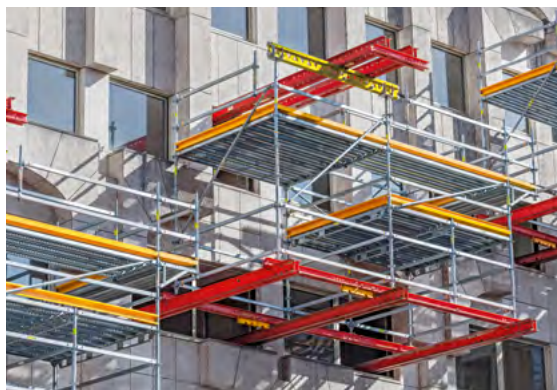


Combining **PERI UP** with **VARIOKIT** steel components

As PERI UP is compatible with system components taken from the VARIOKIT Engineering Construction Kit, even highly complex solutions for working platforms, shoring and access means can be realised cost-effectively in the system. The basis for this compatibility is the grid dimensions of 12.5 cm for the VARIOKIT and 25.0 cm for the PERI UP Scaffolding Kit.

In the case of non-everyday requirements, the combination with system steel components from the VARIOKIT Engineering Construction Kit in particular ensures a very high level of efficiency. Planning and delivery from a single source prevents any interface losses during the planning phase itself as well as on the construction site. In addition, PERI can also provide verifiable structural calculations on request.

The worldwide PERI rental park network means that solutions are not least extremely cost-effective because the standardised components can be rented according to project-specific requirements. In this way, scaffolders can often expand their range of tasks without additional investment in the form of material purchases.



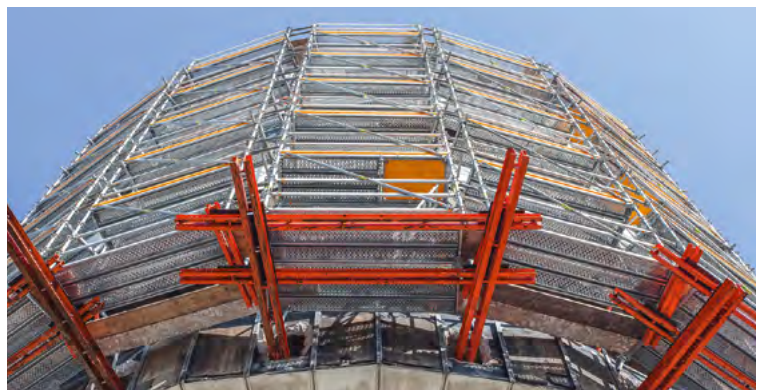
In combination with VARIOKIT, the PERI UP Scaffolding Kit provides you with safe access to various work areas. Even working areas are easy to integrate.



The VARIOKIT Engineering Construction Kit offers you countless application possibilities: The system is used, among other things, for bridging applications in industrial and engineering scaffolding.



With the VARIOKIT Engineering Construction Kit, you can produce a wide variety of supporting structures in a cost-effective manner.



Rent the standardised components individually in line with project-specific requirements. After all, your construction site needs will be met on time thanks to our worldwide PERI rental park. In this way, you will be able to expand your range of tasks without additional investment in the form of material purchases.

PERI

Special applications

Project-specific solutions for engineering and industrial structures

Civil engineering structures are technically demanding. These include bridges or retaining walls for tunnels, but also high-rise buildings and towers.

With customised PERI solutions based on working and safety scaffolds and shoring, you will be optimally equipped for heavy-duty applications in the field of civil engineering.

The comprehensive engineering services of PERI Engineering play a decisive role in the effective interplay of scaffolding and formwork technology. The mandate and objectives of PERI Engineering are to consistently optimise system selection and the construction process during the customer's project.



Industrial construction includes new construction, planning and execution, modernisation and maintenance of industrial buildings.

The actual execution is usually associated with stringent safety regulations. Furthermore, the structural work to be carried out and technical equipment installation call for close coordination of the construction sequences.

The metric system grid in particular offers flexible options for adapting to local conditions in the industrial sector, as it is often necessary to redesign interference points. Since the components can be flexibly combined with each other, they cover an enormous range of applications. In addition to their extensive expertise and the PERI UP Scaffolding Kit, PERI can provide the appropriate design and planning software.



Special applications

Combining **PERI UP** with the **ALPHAKIT** Shoring Construction Kit

The compatibility of the PERI UP Scaffolding Kit with system components of the ALPHAKIT Shoring Construction Kit paves the way for economical and versatile solutions for demanding projects. It will enable you to build heavy-duty truss girders, shoring towers or even pedestrian bridges.

In the case of non-everyday requirements, the combination with system steel components from the ALPHAKIT Shoring Construction kit in particular ensures a high level of efficiency. Planning and delivery from a single source prevents any interface losses during the planning phase itself as well as on the construction site.

The variable range of applications make the system simple and cost-efficient. Furthermore, you do not need a crane for the pre-assembly of steel components due to their low weight. The towers and girder packages are assembled by hand, i.e. without any lifting equipment.



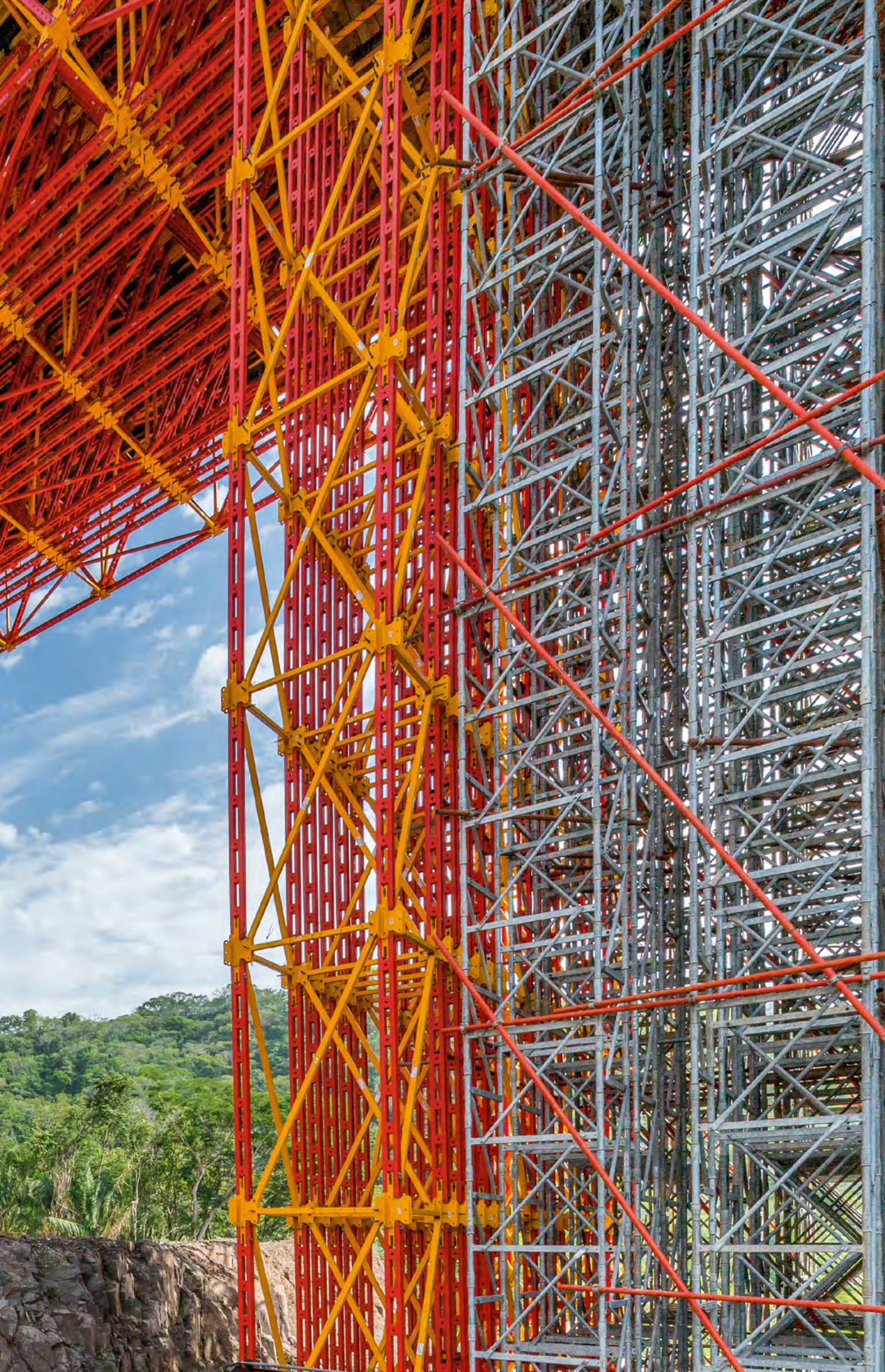
In combination with PERI UP access technology as walkway decking and lateral protection, ALPHAKIT constitutes a safe access solution. With temporary centre support, the system's width can be flexibly adjusted and expanded.



Height adjustments of +/- 75 mm are possible with the head spindle. What's more, you can adjust the head spindle by hand in an unloaded state. When under load, the Hydraulic Unit HD allows controlled lowering and lifting of the head spindle.



The ALPHAKIT Shoring Construction Kit is designed for shoring up to a height of 30 m and bridging with a span of 27.75 m. Assembly is quick and easy thanks to the tried-and-tested fitting pin connection.



Versatile use for special applications

Brdjani motorway bridges, Čačak, Serbia



Aleksandar Milenković,
Site Manager/GP Planum
AD, Belgrade

"PERI developed an excellent technical solution for our challenging project. All systems used on the construction site were easy to use; in addition, PERI engineers provided us with regular and reliable on-site support."

Successfully implemented thanks to modular systems and expert knowledge

- ▶ Assistance with the construction of two bridges with lengths of 232 m and 424 m and individual spans of between 32 m and 42 m within a section of the E 763 European route
- ▶ Combination of two falsework variants consisting of PERI UP and VARIOKIT for the load-bearing system of the superstructure formwork
- ▶ The benefit: Load-optimised adjustment within the panels due to bay widths of 50 cm, 75 cm and 150 cm as well as selective load transfer by means of VST Heavy-Duty Towers

Versatile use for special applications

Puente Ejército, Lima, Peru



Quick and safe assembly of steel arched bridges

- ▶ Assistance with the assembly of two 105-m-long steel arched bridges to connect the northern district with the city centre of Lima
- ▶ Use of PERI UP as a shoring and working scaffold for up to 20-m-high temporary support
- ▶ The benefit: High load-bearing capacity and adaptability for the scaffolding solution as well as combination options using system components from the formwork portfolio for reliable load transfer



Aristóteles Parra,
Project Manager/
COSEI Consorcio,
Flansa

“With the help of the PERI UP scaffolding solution, assembly work on the steel arched bridges could be carried out faster and much more safely.”

Versatile use for special applications

Gas compressor platform CA-KU-A1, Altamira, Mexico





Juan José Martín Niño,
Head of Design, /Dragados
Offshore S.A.

“The fact that we can use our chosen solution as a suspended scaffold is hugely advantageous when compared to competing products. For our project, we used PERI scaffolding systems and ALPHAKIT, saving many tonnes of steel and countless cubic centimetres of welded joints. This helped us to increase the profit margin of the project. Changes happen all the time on our construction sites over the course of the project. PERI scaffolding systems offer extensive adaptation options and are therefore a great fit for our requirement profile.”



Comprehensive scaffolding solution coupled with ALPHAKIT

- ▶ Assistance with the construction of the 23,900 tonne gas compressor platform CA-KU-A1 at the Dragados Offshore shipyard in the federal state of Tamaulipas, Mexico
- ▶ Assembly of working platforms consisting largely of suspended working platforms and PERI UP Stairs 100

- ▶ Combination of PERI UP Working Platforms with ALPHAKIT Towers on the tripods
- ▶ The benefit: Straightforward redesign of interference points in a 25 cm grid arrangement and simultaneous access for up to 500 workers in 30 to 60 minutes



▶ More Info in the video

Versatile use for special applications

DOMO Chemicals gas flare tower, Leuna Industrial Park, Leuna, Germany



Slender scaffold construction saves time and money

- ▶ Refurbishment of the 90-m-high “flare”, one of the landmarks of the Leuna industrial site and a safety-relevant element of the DOMO Chemicals production plant
- ▶ Use of working and safety scaffolds for extensive corrosion prevention and insulation work
- ▶ The benefit: Safe workplaces for all works carried out as well as simplification of planning and assembly work due to the compatibility of modular systems and the use of standardised connecting parts



Robert Matthiesen,
Service Manager for
Scaffolding Construction
and Site Manager/Intering
GmbH, Scaffolding Department,
Leuna

“The variant developed by PERI using the VARIOKIT Girder Grid and the associated material savings of 40% were the decisive points for us when choosing the design. With this enormous reduction in the amount of material required, we were also able to make considerable savings in personnel costs and therefore had the best solution for our customer.”

Versatile use for special applications

Airbus A350 XWB test bed, Erding, Germany



126
—
127

Modular, combinable and adaptable

- ▶ Certification tests on the new Airbus A350 XWB wide-body aircraft in a purpose-built test hangar
- ▶ Scaffolding solution consisting of PERI UP and VARIOKIT for test preparations and continuous measurement and inspection work to simulate 86,400 flights
- ▶ The benefit: Optimum adaptation of the working levels to the fuselage and wing, taking into account the steel and hydraulic structures and the traffic routes that needed to be kept clear, as well as straightforward conversion in 25 cm increments



Michael Stodt,
Head of Department, Aircraft
Structure Tests at IBAG/Ker-
scher Gerüstbau, Atting/Rinkam

“The modularity and adaptability of the PERI UP Scaffolding System is the recipe for success – as well as its compatibility with other products from the PERI family. The project support provided by the PERI engineers was also professional and extremely positive.”

Versatile use for special applications



Use pillars and advertising banners to ensure that your company's name is visible, even at great heights.



A world full

- ▶ The PERI UP Scaffold Construction Kit is also being used to an ever-increasing extent away from the construction site
- ▶ The low number of single components coupled with its versatile design allow it to be used in a wide range of applications
- ▶ This means that even temporary solutions such as privacy screens or heavy-duty racks can be installed and then removed easily after use



Thanks to the high load-bearing capacity of the holder, nothing is standing in the way of a cinematic experience.





of possibilities



Use the exceptional construction techniques to your advantage to attract attention with your trade fair stands and exhibition areas.



No matter if it's on selfie towers or lookout towers, PERI UP will keep your visitors safe at all times.

PERI

▶ 130 – 155

right by your side

PERI SERVICES AND PROJECT SUPPORT



Customised solutions and expertise that will bring you success

The PERI UP Scaffolding Kit is rounded off by a wide range of services and scaffolding experts who are at hand to meet your individual requirements. In addition to engineering services, professional project support, equipment services, training and logistics services, PERI also offers support for BIM project planning and BIM-based tender preparation.



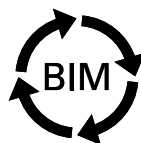
If required, PERI can support customers directly on site, for example, with professional project support. Among other things, a PERI project manager will help you to meet budget and schedule requirements.



Our experienced engineers prepare drawings, parts lists and structural calculations with the aim of using the PERI UP Scaffolding Kit in a timely, cost-effective and quality-oriented manner.



Practical and theoretical training seminars at PERI exhibition and training centres contribute to ensuring efficient and resource-optimised work operations and correct product handling.



With Building Information Modelling (BIM), PERI offers project planning that factors in time and costs in addition to a three-dimensional and animated visualisation of the processes. This leads to increased transparency and efficient execution.



Another success factor in scaffolding construction is economical and reliable logistics. You can benefit from high availability and extensive planning support from PERI.



COURSES AND TRAINING

Efficient and safe product application

Practice-relevant further training for different user groups and the professional on-site briefings ensure safe and faster handling, and can thus reduce costs.

PERI develops training programmes customised to suit individual needs – tailored to match your scaffolding applications, your special tasks or general execution of site activities. This allows you to realise efficient and resource-optimised work operations during implementation of the project right from the very beginning. In addition to practical training on the systems in the PERI exhibition and training centres worldwide, we also offer theoretical training courses and software training. If required, PERI scaffolding specialists can assist your team on site.

Training and courses are tailored to meet individual requirements and are offered worldwide.



Practical applications provide a suitable opportunity to become familiar with the assembly process for PERI products.



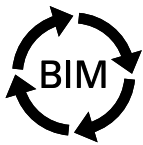
Modern training centres and exhibition halls are not merely a place to exchange ideas with our experts, but also enable you to try out our products. Whether you want to experience the benefits of the PERI UP Scaffolding Kit with your own hands and eyes or have your colleagues and employees trained for use on site – we will help you to find and execute a suitable format.

3D → 5D

Planning and control of all construction processes

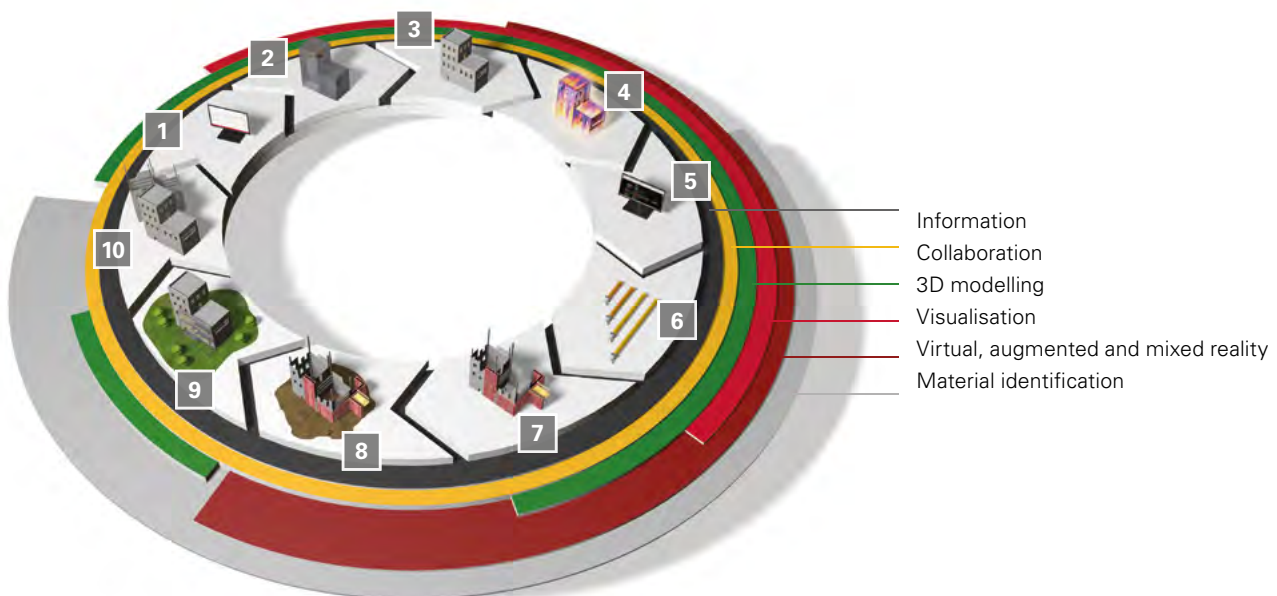
BUILDING INFORMATION MODELLING (BIM)

The most important benefit of BIM lies in the fact that planning and design variants of the 3D building model can be simulated at a very early stage of the project. In this way, it is visible to all parties involved where, when, why and at what cost interface problems can arise – at the structure planning stage and in the subsequent construction work. This future-oriented optimisation of the construction process provides transparent project management and a high level of planning reliability. Through the additional integration of the time and cost factors, the three-dimensional visualisation of the planning gradually turns into a 4D or 5D model.



When it comes to BIM, PERI has been one of the leading companies in the industry for many years now. With software support, the method optimises the planning and execution of projects.

Additional process data relating to scaffolding technology, such as required plan changes, automated collision checks, safety checklists and QR codes for object navigation, are documented in a mobile building information management system. All relevant data is available on the construction site via app solutions for day-to-day operations.



Platform-independent planning makes work easier and results in fewer interface losses. At PERI, the BIM method is more than just an idea. We have lived and breathed this approach for a long time now, and it is producing impressive results.

By pooling the planning of the PERI UP Scaffolding Kit and VARIOKIT, even the most complex geometries can be planned in CAD.



Implementation plans are coordinated; and it becomes much easier and quicker to organise subsequent plan changes and put them into practice.

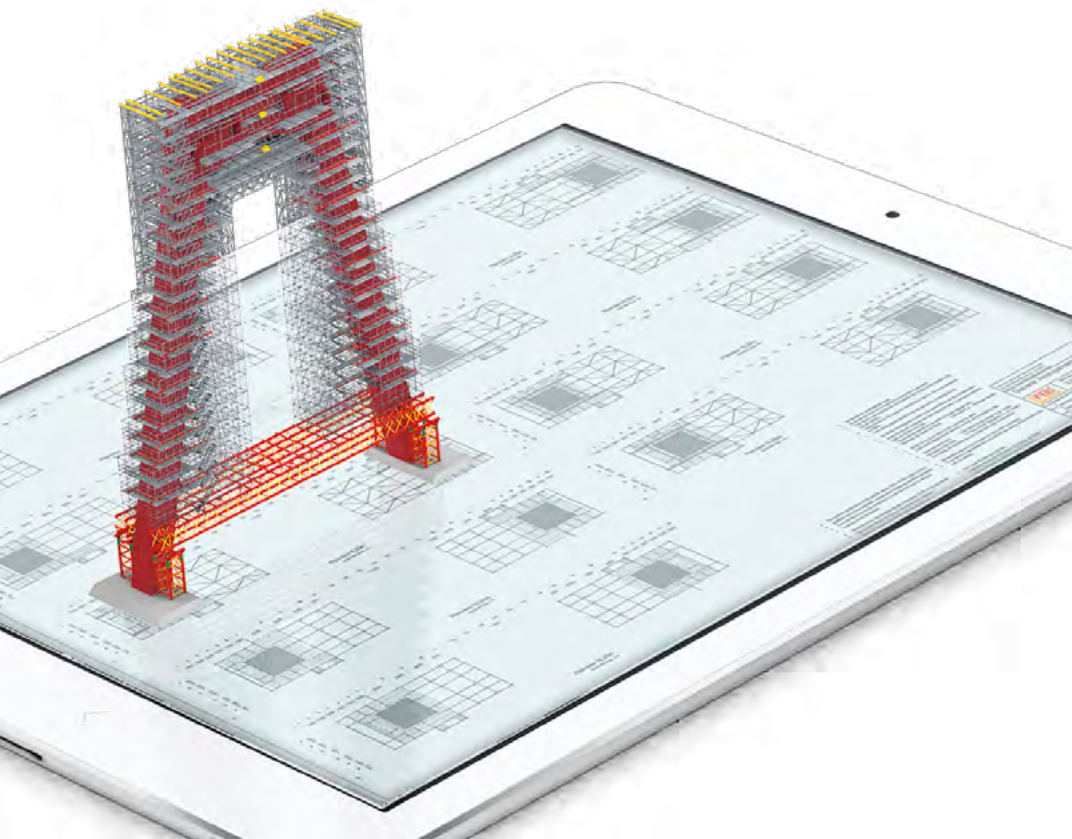
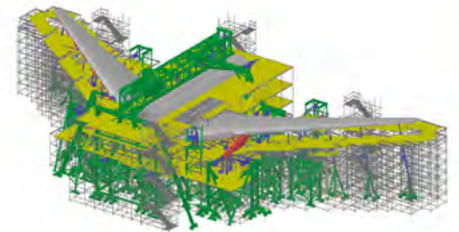


ENGINEERING SERVICES

Individual planning and advice

The engineering services provided by PERI increase planning reliability by means of drawings, parts lists and static calculations.

The aim of the engineering services is to ensure that PERI scaffolds are always used in line with time constraints as well as meeting cost and quality standards. The basis for this is the execution plan records, which are based on 2D views or realistically visualised 3D building models. As a result, technical solutions are developed with customers that optimise the use of materials and the construction process itself. Verifiable, static calculations as proof of stability for scaffold assembly, as well as project-specific installation and disassembly plans for the professional assembly of special applications, are also among the range of engineering services. Scaffolding companies can use the plans to assemble the individual PERI components correctly and prepare them for use.



The PERI UP Scaffolding Kit and all digital products are intuitive and easy to use. Of course, everyday scaffolding applications can also get by without an engineering service. However, if things do get more complex, then simply make use of our engineering services.





PROJECT MANAGEMENT

Professional project support and advice

Through our project management services, PERI provides professional advice and support directly on the construction site – for cost-effective and efficient work processes.

To achieve your planning goals, it is essential that construction site operations run smoothly. On request, PERI project managers can support you in managing and executing your project directly on the construction site. Due to their extensive experience, PERI project managers know the entire process chain inside out and can react quickly in the event of site-related changes to the sequence of operations. They also help you find the most economical solution for a wide range of scaffolding applications and are your point of contact for all technical, commercial and logistical matters. The online-based project control tools myPERI and PERIpath SET also ensure a high level of transparency and provide access to all important construction site data.



Continuous project support provided by a PERI specialist prevents interface losses and ensures efficient work processes.



Advice on safety issues optimises daily work operations on the construction site.



PERI project management also includes the organisation of straightforward return delivery processes.

PROFESSIONAL LOGISTICS AND HIGH Materials where and how you need them

High-performance, modern production facilities coupled with a strong, global logistics network

The interplay of efficient and highly automated production and a dense network of warehouse locations ensures material flow and availability. Even across national borders, PERI is therefore able to produce large quantities of scaffolding in a short time and pull it together from several warehouse locations. These availability advantages, coupled with professional planning, contribute to the success of PERI scaffolding projects worldwide.

More efficient logistics through better planning

The basis for optimal material utilisation is professional planning. Instead of holding large buffer stocks, more projects can be catered for or storage space can be reduced. If you require more materials, we will be happy to assist you through our network or by providing a scaffold for hire.



In-house production that sets new standards.



Project, warehouse and logistics planning as a success factor.

**The right material with
a consistent level of
quality in the right place
at the right time.**

AVAILABILITY

(Assembled) materials
at the customer's
site are a scaffolder's
favourite warehouse.



Metric grid dimensions and versatile core components

Your logistics processes benefit from the low number of system components that make up the PERI UP Scaffolding Kit. The high versatility of the core components, the ease with which they can be combined with each other and the additional functions already integrated, allow you to reduce the number of different items you hold in the warehouse and on the construction site. This not only saves time and effort, but also storage space.

Easy to stack and prevented from rolling away – thanks to the PERI UP Scaffolding Node

The indentations on the scaffolding nodes not only prevent the verticals from rolling away, but also enable them to be stacked. They can be stored in an orderly manner, as well as in a transport pallet to save space.



Multifunctional components and metric dimensions simplify logistics processes.



Stackable verticals facilitate logistics and handling on the construction site.



PERI Slot Management
Info film (EN)



MAINTAINING ORDER

with transport containers from PERI

Storage aids for your logistical needs

PERI offers reusable transport containers for fast, safe and economical transportation of materials. These include stacking pallets, crate pallets and hardware boxes. All containers provide orderly material storage, space-saving stacking, rapid access to materials and safe transport with a forklift and/or crane.



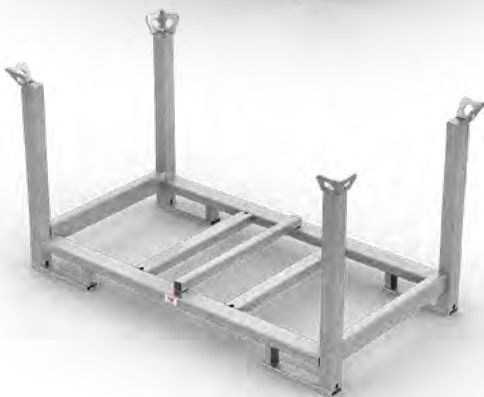
Crate pallets

The crate pallet for transporting components that are difficult to stack is available with a painted or galvanised finish. It corresponds to Euro pallet dimensions and can be stacked and moved easily with a crane. A foldable side section facilitates easy storage and removal of components – also if the crate pallet is stacked. The permissible load-bearing capacity is 1.5 t.



Hardware box

The hardware box is used for storing items that are difficult or impossible to stack. The hardware boxes, which can be stacked together with crate pallets and stacking pallets, are available with a galvanised or painted finish. The permissible load-bearing capacity is 1.5 t.



Pallets

The galvanised pallets are designed for stacking and transporting scaffolding components. Up to 4 pallets can be stacked on top of each other. The permissible load-bearing capacity is 1.5 t. As for all PERI pallets and stacking devices, they are suitable for crane and forklift operations, and can be moved with the pallet lifting truck.

MORE THAN A SCAFFOLD.

**Our performance mix
for your success: a
symbiosis of product,
software and service.**





**High degree
of planning
reliability**



**Low inventory
costs**



High efficiency

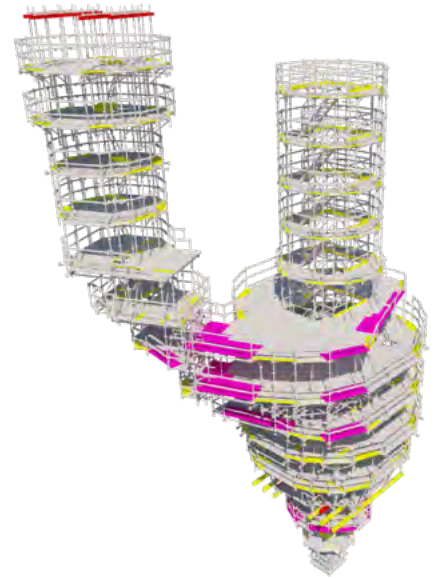
Inspection of HeidelbergCement heat exchanger tower, Schelklingen, Germany

Accessibility through visualisation

Scaffolding projects are not always easily accessible or even visible at first glance. In the case of the inspection of the heat exchanger tower of HeidelbergCement's cement plant, the project was carried out on the inside. Digital planning not only made it possible to visualise the scaffolding to be erected, but also, together with BIM planning, to erect it on time and within budget.

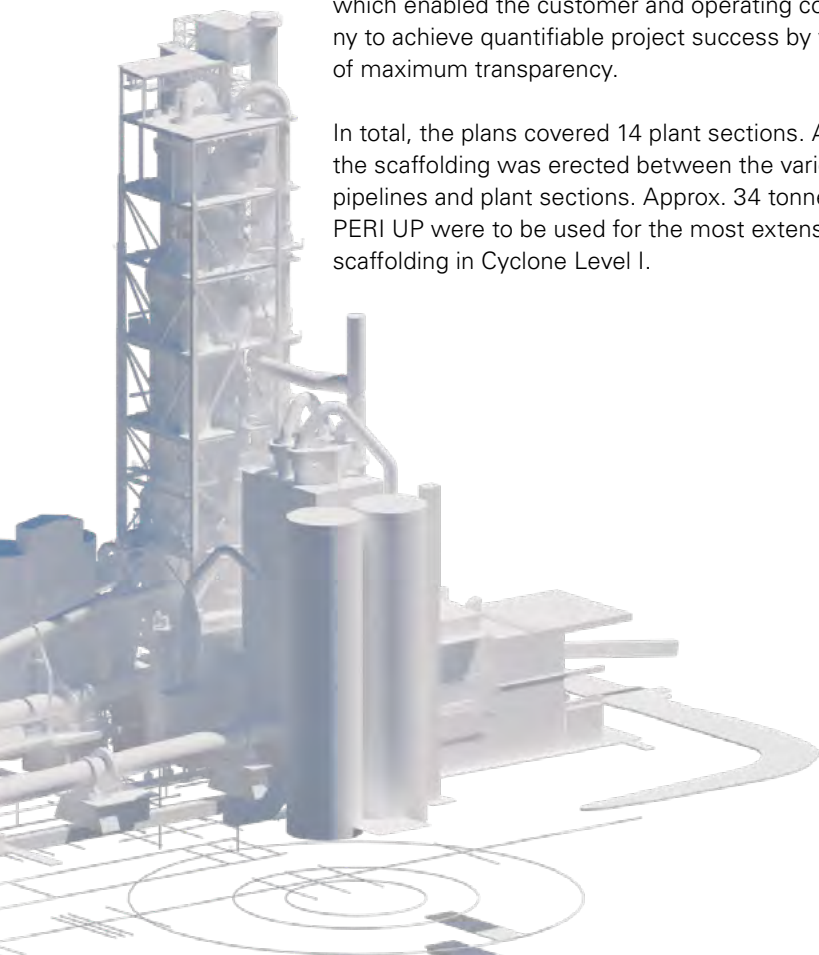
Through close cooperation and with the aid of BIM methodology, Schäfer Gerüstbau and PERI were awarded the contract to provide the scaffolding for the predominantly internally located heat exchanger tower of a HeidelbergCement cement plant for the purposes of inspection. PERI assisted with the planning and structural calculation of the individual scaffolds. The project was then set up in BIM, which enabled the customer and operating company to achieve quantifiable project success by way of maximum transparency.

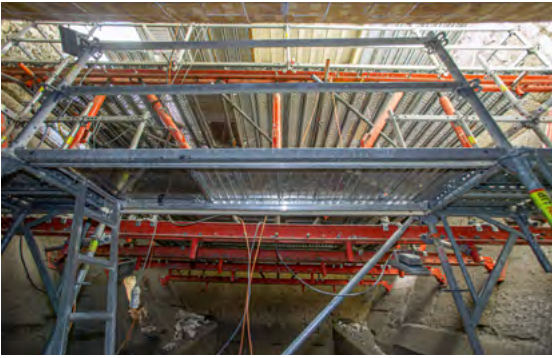
In total, the plans covered 14 plant sections. All of the scaffolding was erected between the various pipelines and plant sections. Approx. 34 tonnes of PERI UP were to be used for the most extensive scaffolding in Cyclone Level I.



In addition to services such as engineering, planning, structural calculation and project management, the tried-and-tested components and applications from the PERI UP Scaffolding Kit were used. An optimal mix of working platforms and facade scaffolds made it possible to depict the slopes and curves of the plant in the best possible way. Cantilevers up to 1.50 m in size were realised with node braces and console brackets. Suspended scaffolds and erection areas, even on sloping surfaces, formed a strong basis for assembling the other scaffolding applications thanks to VARIOKIT.

Thanks to the highly precise planning and the trusting cooperation between PERI and Schäfer Gerüstbau, it was not only possible to convince the operating company of the facility to award the contract for the project, but to impress them by completing the project safely, on time and within budget. In addition to PERI's high safety standards, the scaffolders benefited from the lightweight and easy-to-assemble components in this difficult-to-access setting. Assembling the individual scaffolding elements according to a predefined sequence with the help of 2D and 3D planning documents also facilitated the assembly process in the dark, labyrinthine facility.





3D planning facilitated assembly in the narrow and dusty chimneys and helped the scaffolders to find their way around.



The lightweight, easy-to-handle PERI UP components were fed easily into the facility through small openings and then brought into position.



Client

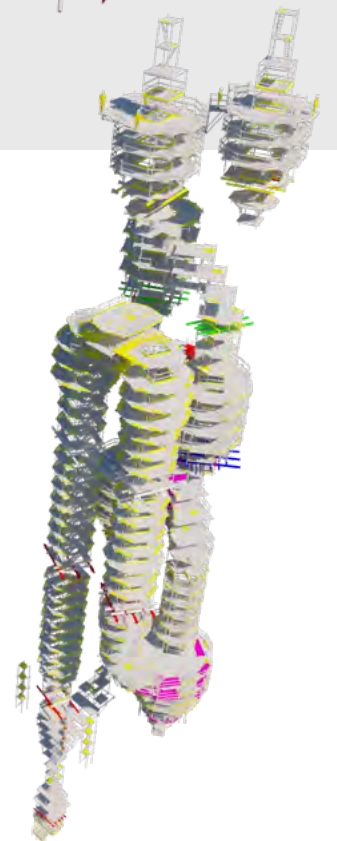
HeidelbergCement, Schelklingen, Germany

Project Management Plant Construction

Schäfer Gerüstbau GmbH, Ulm, Germany

Field service

PERI Germany, Competence Center Scaffolding, Weissenhorn



New construction of an acetylene plant, BASF Ludwigshafen, Germany

Innovative BIM scaffolding concept for industrial structures



Matthias Geyer, Senior Construction Manager BASF SE

“3D scaffolding planning in conjunction with PERI UP forms the basis of our innovative scaffolding construction concept in chemical plant engineering. With this concept, we can plan and erect scaffolding using a cross-trade and forward-looking approach, leading to time and cost savings, as well as setting new standards in occupational safety.”



Gerhard Hawemann, Managing Director promaintain GmbH & Co. KG

“In cooperation with PERI and BASF, an innovative scaffolding concept is emerging from a vision. The combination of scaffolding management, 3D planning, coordination and execution, in conjunction with PERI UP and BIM, forms a perfect overall solution for industrial projects. Planning time and costs are minimised.”

Client

BASF SE, Ludwigshafen, Germany

Project Management Plant Construction

promaintain GmbH & Co. KG, Ingolstadt, Germany

Field service

PERI Germany, Competence Center Industry/Scaffolding, Weissenhorn

PERI Germany, Stuttgart



In one of BASF's largest investment projects, an innovative scaffolding concept based on the PERI UP Scaffolding Kit, in combination with BIM, ensured significant time and cost savings – and also set high standards regarding occupational safety.

With a capacity of 90,000 t per year, the plant has replaced an older, less-productive facility and operates in accordance with the world's most efficient production processes. Acetylene is an important intermediate product and is used as a central source material for around 20 production plants at BASF's Ludwigshafen site. Not only does the new plant operate with the world's most advanced technical equipment and processes, modern planning and working methods were employed during construction – a basic prerequisite for adhering to the demanding schedule. At peak times, up to 1,300 people were working at the construction site, which covered an area of around 55,000 m² – the equivalent of almost 8 football pitches – and had an installation height of up to 90 m.

In order to install the plant technology efficiently and safely, which featured more than 400 machines and pieces of equipment along with a 90-km-long pipe system and electrical installations, the PERI UP Scaffold System was used in the second construction phase. New working levels and access means were realised for construction and assembly work on an almost daily basis.

The central project approach was based on the combination of BIM methodology for planning and execution, and high standards of occupational safety. The jointly developed, innovative scaffolding concept provided the basis for a comprehensive overall solution for scaffolding construction management, 3D planning, cross-trade coordination and execution, in order to minimise planning time and costs. With its 25-cm grid arrangement in combination with VARIOKIT system components, PERI UP thereby ensured excellent adaptability and a high level of occupational safety.





The Chevron Phillips U.S. Gulf Coast Petrochemicals Project in Baytown, Texas is a gigantic natural gas processing plant. During construction of the centerpiece of the complex, the support provided by PERI in the form of software and experts helped to ensure the efficient use of large quantities of materials.



Ron Fontenot, Site Manager

“By combining the PERI scaffolding with the Integrated Scaffold Program provided by PERI, we were able to complete our tasks faster and with less site personnel. This reduced the total man hours of the entire project. This combined system is a tremendous cost saver in all of our projects.”

Gulf Coast Petrochemicals Project, Baytown, Texas, USA

High degree of safety and enhanced efficiency

Just considering the sheer size of the \$5 billion ethane cracker at Chevron Phillips Chemical, with a targeted production output of 1.5 million tonnes, is extremely impressive. The complexity of the facility is also highlighted when looking at the amount of steel that has been installed along with the continuously winding pipelines. During construction, it was necessary to provide workers with secure access means to all areas. On the one hand, this called for an enormous amount of scaffolding materials. On the other, it is important in projects of this size that all relevant information regarding the scaffolding components is constantly available.

The Integrated Scaffold Program (ISP) from PERI encompasses the 5D PERIpath software program and facilitates early cost estimates, operational planning and materials management as well as planning on-site material requirements in advance. In Baytown, the software monitored the use of around 750,000 scaffolding components and all related work considerations. The data allowed a

detailed analysis of the working hours required and provided enormous transparency. As a result, it was possible to plan in more detail, reduce labour and logistics costs, and more effectively manage scaffolding operations.

The PERI UP scaffolding system used was able to accurately follow the numerous cylindrical reactors and countless pipelines as well as providing the highest level of safety for all site personnel throughout the entire construction process. The addition of GT 24 Formwork Girders facilitated a cost-efficient solution for realising temporary support for the installation of the control system.

General contractor

AMECO (subsidiary of the Fluor Corporation),
Houston, Texas, USA

Field service

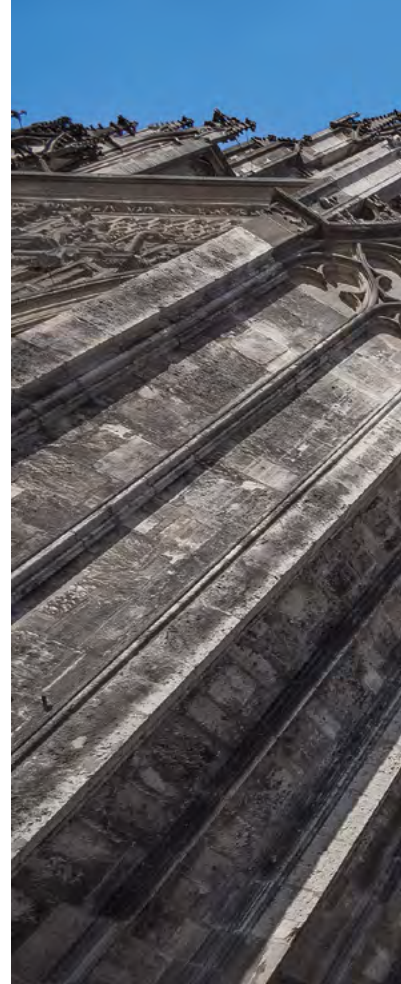
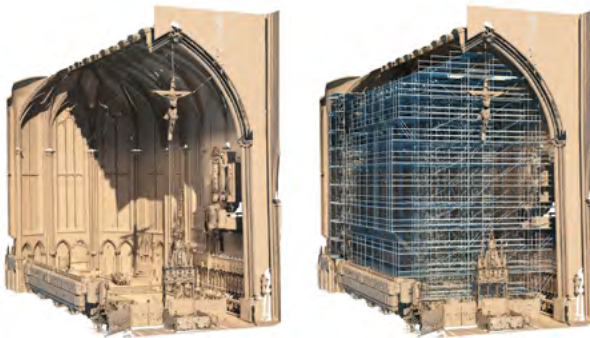
PERI USA, Houston, Texas



Ulm Minster, Ulm, Germany

Restoration work on the highest church tower in the world

The interior was measured without any as-built plans using 3D laser scanning and this was transferred into a 3D building model – providing the basis for the scaffolding planning with PERI CAD.



In the case of building restorations or conversions, there are usually no plans or drawings at all or insufficient plans or drawings for planning complex scaffolding



PERI systems have been providing support for the extensive restoration work on the historic Ulm Minster since 2015: The main and outer choir towers are being restored in addition to the inner sanctuary. In addition to the application diversity of the PERI UP Scaffolding Kit, comprehensive BIM planning was a decisive factor for success.

The 161.53-m-high main tower of Ulm Minster is known as the highest church spire in the world. The PERI UP Scaffolding System was the key element of the renovation project: The secure working and safety scaffold is designed for a



Michael Hilbert, Former Master Builder of the Minster, † 2020

“The time frame of only four weeks for the preparation process was extremely demanding. That’s why it was important to me that we were able to combine the laser scanning and scaffolding planning processes, and therefore plan the scaffolding for the structure in the shortest possible time. In the end, it only took three weeks to erect the scaffolding. An incredible achievement.”



massive live load of 15 kN/m². A 7-m-high heavy-duty platform was also erected on the facade to allow for the professional, temporary storage of heavy stones weighing up to 1.5 t.

The inner sanctuary of the Minster is an impressive 29 m long, 15 m wide and 26 m high. Due to the lack of as-built plans, the engineers from PERI developed a complex 3D scaffolding plan using the BIM methodology (BIM = Building Information Modelling). It was possible in the early planning phase to prevent potential collisions with the historic building fabric by using 3D laser scanning and then transferring this into a 3D building model. Subsequently, the complicated, three-dimensional building geometry with a total volume of 13,000 m³ was worked on using the PERI UP Scaffolding Kit with its metric system grid of 25 cm or 50 cm increments.

Client

Münsterbauhütte [Minster Site Office],
Ulm, Germany

Contractor

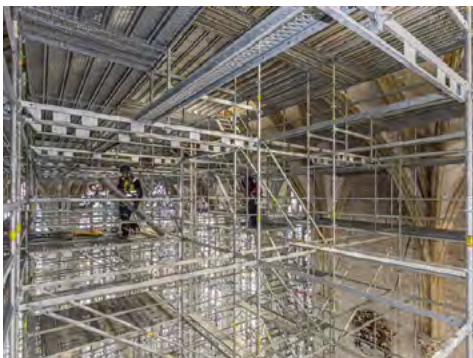
Mack Gerüstbau GmbH, Nersingen,
Germany

3D surveying support

Moselcopter GmbH, Longuich, Germany

Field service

PERI Germany, Weissenhorn
PERI Competence Centre Scaffolding,
Weissenhorn, Germany



The 13,000 m³ PERI UP birdcage scaffold in the sanctuary of Ulm Minster was constructed free standing – with no anchoring on the historic building structure.

During the renovation of the north-east choir tower, a drone was used for surveying.



The Berlin Radio Tower, a 147-m-high steel framework construction in the middle of the exhibition grounds, is one of the listed landmarks of the German capital.

The refurbishment of the Berlin Radio Tower was a challenge in several respects: Neither the original blueprints of the almost 100-year-old tower existed nor could the scaffolding construction be connected to the tower in order to provide structural support. This particular challenge could only be solved with the help of comprehensive BIM planning.

The basis of the complex scaffolding planning was a 3D building model. Due to the lack of as-built plans for the almost 100-year-old radio tower, PERI carried out 3D laser scanning at the beginning of the planning phase. With the help of software, the resulting point cloud could be converted into a CAD-compatible 3D model. On this basis, PERI project engineers were able to easily adapt their scaffolding solution to exactly match the complex structural geometry of the radio tower. In addition to the 3D planning in PERI CAD, services such as planning coordination, automated collision checks and safety check lists were also part of the PERI BIM solution.

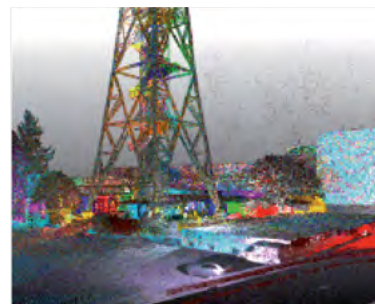
A 48-m-high PERI UP Working Scaffold was used to carry out the refurbishment work safely. The scaffolding construction was planned and executed in a completely freestanding manner – without requiring any anchoring and clamps to be attached to the radio tower construction. For this, the PERI UP scaffolding construction was ballasted accordingly on a base area of 28.50 m by 28.50 m. Water tanks with a total weight of 120 t supported on VARIOKIT girder grids provided the required stability. Within the scaffolding itself, the horizontal wind loads could be reliably transferred by means of DW 15 tie rod bracing which was installed in addition to the vertical diagonal bracing. Stairway access to the individual working levels was also integrated into the scaffolding construction.

Step by step – How PERI makes building refurbishment BIM-compatible

Laser scanning



Point cloud



Berlin Radio Tower, Germany

BIM-supported building refurbishment: Berlin landmark with freestanding scaffolding



The old paintwork had to be removed and new corrosion prevention added, while the steel structure had to be completely re-painted.



The PERI scaffolding solution for scaffolding the complex truss construction was based on PERI UP and VARIOKIT – two systems combined with each other.

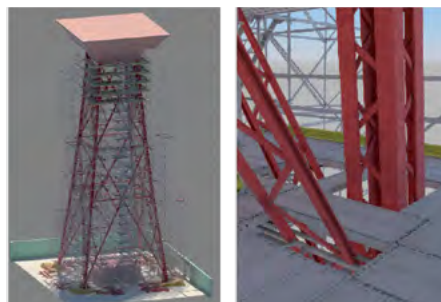


Well combined: VARIOKIT system components were used to distribute the load from the offset verticals and as an integrated support grid for the water tank ballasting.

3D model



PERI CAD 3D planning



Scaffolding company

OHV Gerüstbau GmbH, Werneuchen

Field service

PERI Germany, Berlin office;

PERI Competence Center Scaffolding and

Competence Centre BIM, Weissenhorn,

Germany

The PERI UP Scaffolding Kit – the ideal solution for every user

PERI will support you in all matters – with an innovative scaffolding system, trendsetting planning tools and access to experts and personal contacts. It makes no odds whether it relates to logistics, planning, engineering or access to our logistics network. Topics such as financing or the right choice of materials go hand in hand with training for your staff and planning support for your projects.

Technological change

Need help switching over to our system?

We would be happy to advise you and help you make the technological change. In addition, we can support you with financing if required, take on usable second-hand materials at attractive rates when you change technology, or conduct training courses for your employees.

Newcomers to scaffolding construction

Want to get off to a flying start in scaffolding construction?

Starting a business can involve many uncertainties and challenges that are difficult to plan for. This makes it all the more important to have a versatile scaffolding system and an experienced scaffolding specialist who can provide you with the best possible support. With PERI, you will have the right partner at your side.

Rental scaffolding opens up more possibilities

Looking for greater versatility without the investment costs?

The option of renting scaffolding not only allows you to cover peaks in demand, but also to reduce the variety of items in your warehouse. In addition, rental scaffolding allows you to undertake larger projects or special projects without having to buy materials outright. This allows you to tap into new customer groups or areas of application with less risk.

Comprehensive engineering and service portfolio

The focus of all PERI activities is on having a collaborative partnership with customers and ensuring that we provide cost-effective project solutions – constructive, close cooperation throughout the entire project is a matter of course to us.

New construction, renovation, refurbishment or maintenance

From scaffolding for traditional facades to complex systems – PERI not only offers you materials, but also a competitive solution that enables you to implement your construction project successfully.

From small businesses to international corporations

The PERI UP Scaffolding Kit is used on a wide range of construction sites worldwide. The numerous benefits of PERI systems are enjoyed by global players and family-run small businesses alike. We are proud to be able to support our customers in this way and always look forward to working on these shared challenges.

Experts Training

Five
Low
New
Contact
Rent
Materials
e
Advanced training





Formwork Scaffolding Engineering www.peri.com

