

**Layher AllroundScaffolding®**  
**Layher AllroundTechnology**

The universal system  
for everyday and  
complicated tasks in scaffolding

made of galvanised steel  
or aluminium

General construction approvals  
Z-8.22-64, Z-8.1-64.1 and  
Z-8.1-175

Certification according to  
DIN ISO 9001/EN 29 001  
by TÜV-CERT

This PDF file is only a small extract  
of the complete Allround® System  
Technical Brochure. The whole  
brochure contains 32 pages with  
more hints & tricks for the everyday  
use of the Allround® System.  
Ask your next Layher dealer for  
your personal copy.

**Allround Scaffolding®**

Ingenious. Strong. Limitless.

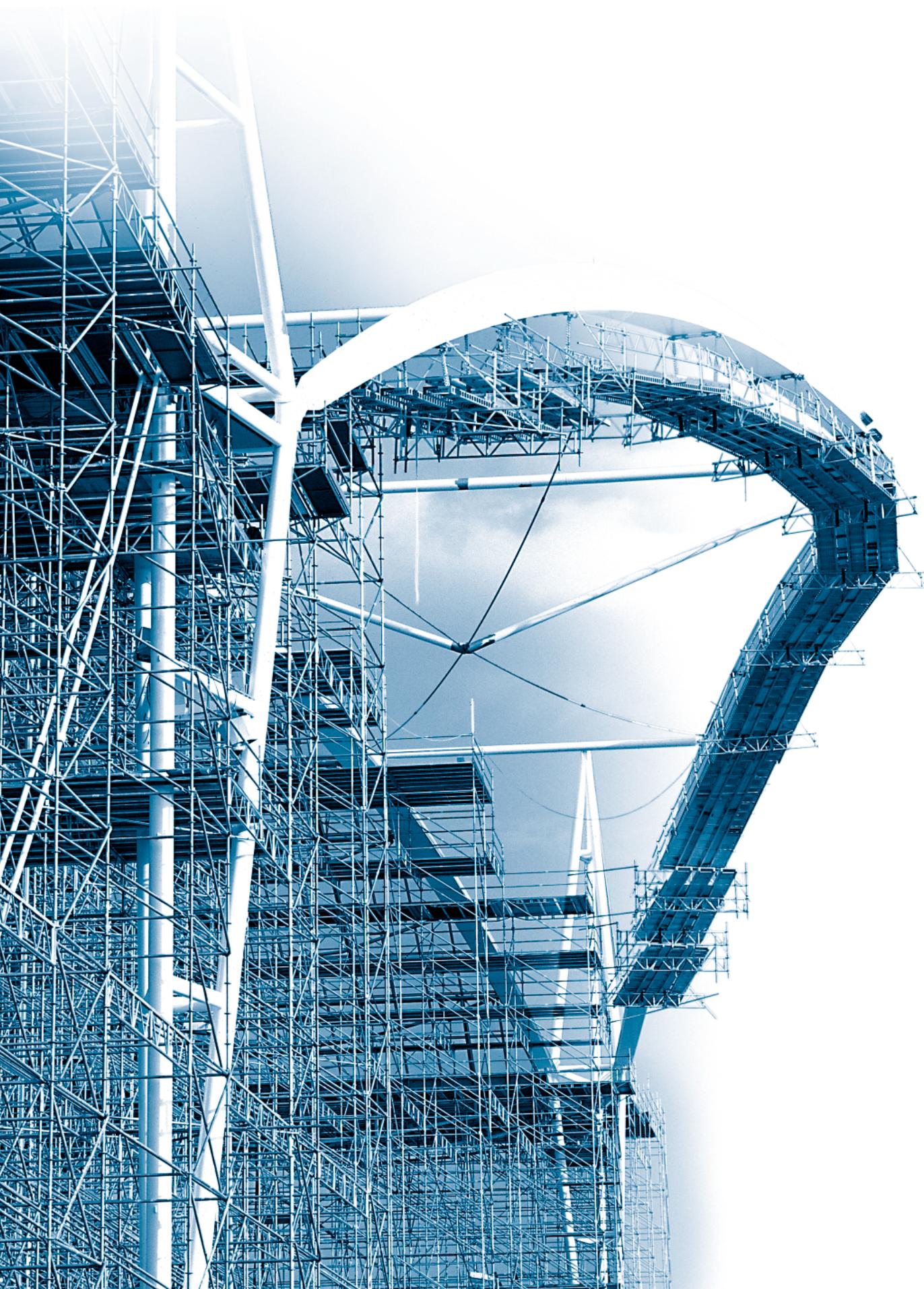


**Layher®** 

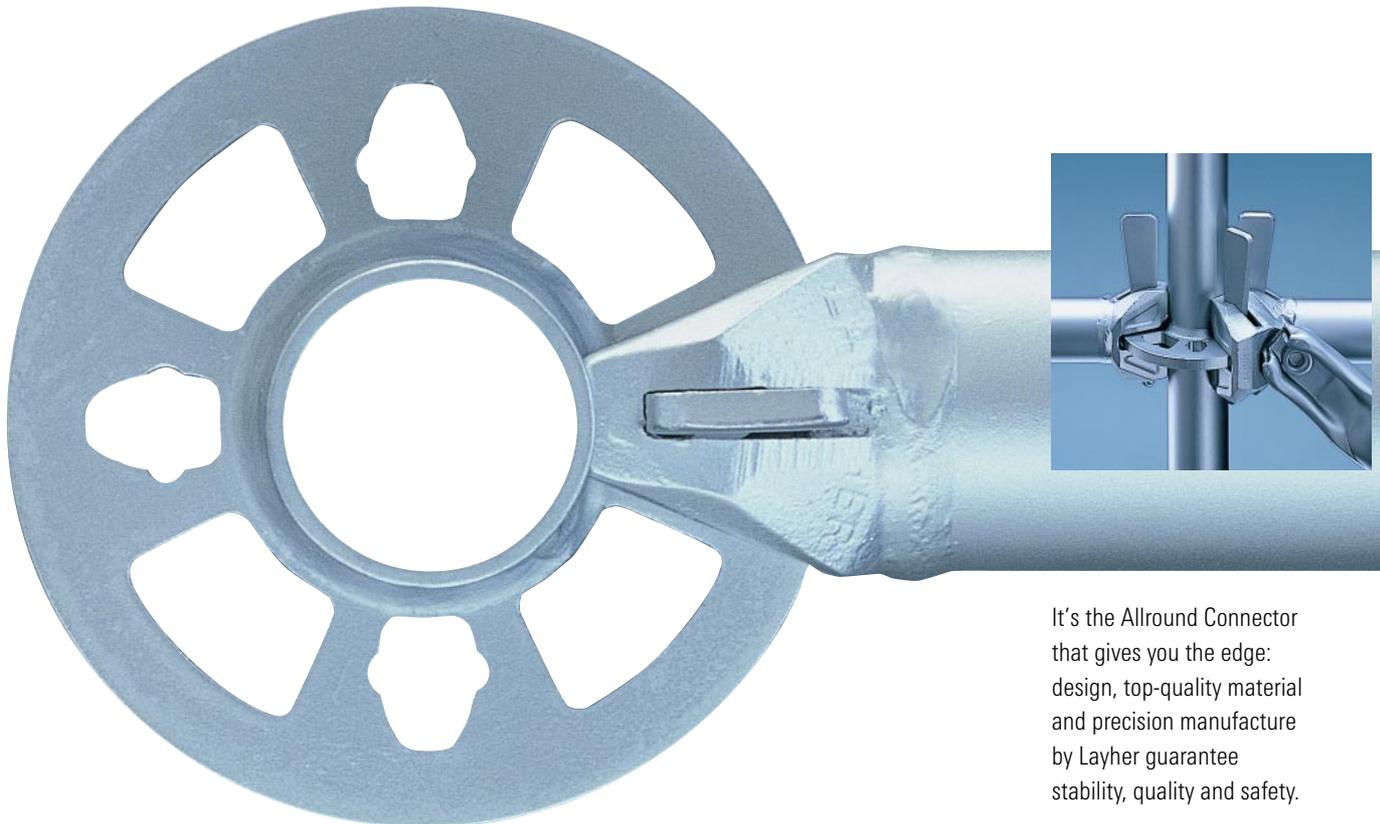
More Possibilities. The Scaffolding System.

More possibilities. Quickly erected with safety.

# Original Layher AllroundScaffolding®



# – and its ingenious Allround technology



It's the Allround Connector that gives you the edge: design, top-quality material and precision manufacture by Layher guarantee stability, quality and safety.

## **The »Original« Layher Allround Scaffolding®**

For demanding and complex scaffolding applications – i. e. wherever conventional scaffolding technology falls short of optimal thus cost effective use, Layher Allround Scaffolding® convincingly comes in with an unmatched range of advantages: unbeatably fast assembly, persuasive economic arguments and an extensive range of series-produced accessories. This and more is available thanks to allround versatility from one system.

Connections in this quick to assemble and spannerless scaffolding system make a unique combination: providing structural strength immediately on assembly and subsequent ultimate force transmission while offering a choice of automatically right-angled or splayed connections with unrivalled safety right from the start.

Layher Allround Scaffolding® has become a by-word on the market for both modular scaffolding and outstanding quality.

Layher Allround Scaffolding® is an investment in a perfected and complete system – in steel or aluminium – with all the necessary approvals, and rapid, safe, highly versatile and continually profitable scaffolding construction.

More possibilities. Unique connection technology.

# The Allround Force Connector makes it possible

For industry, chemical plants, power stations, aircraft hangars, shipyards, theatres and arenas, at any site or facility, the "Original" does full justice to its reputation as an all-rounder.

As work and protective scaffolding at the facade, as birdcage, tower and suspended scaffolding, or as a rolling tower – the right scaffolding at all times and for all jobs and requirements.

For very difficult ground plans and anchoring conditions, for very irregular structures, and for jobs with increased safety requirements.



**Structural assembly from the beginning:** By sliding the wedge head over the rosette and inserting the wedge into one of the holes...

... the component is **immediately secured against any possibility of shifting or dropping out.** That means: safe 1-man-assembly, whatever the height.

**A blow with a hammer on the wedge transforms the connection from structural assembly to force transmitting rigidity.**

The flat rosette without recesses or raised edges prevents clogging with concrete, sprayed foam, dirt etc. that might otherwise hamper assembly.

Certification according to DIN ISO 9001/ EN 29 001 by



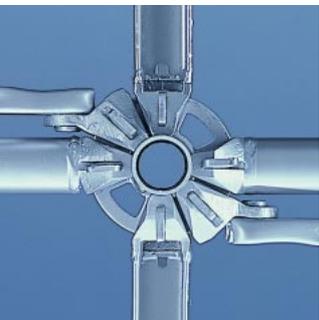
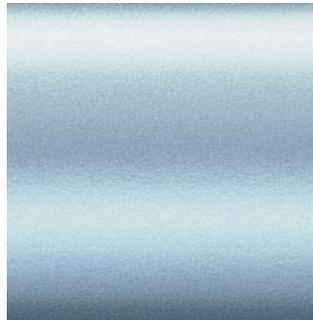
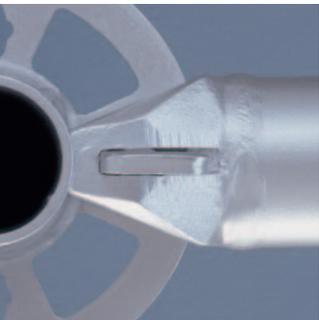
Member of IIOC.

<b>D</b>	<b>F</b>	<b>B</b> <b>NL</b>	<b>I</b>	<b>N</b> <b>S</b>	<b>H</b>
<p>Approval for Allround Connector in steel: Z-8.22.64</p> <p>Approval for regular assembly: Z-8.1-175</p> <p>Approval for Allround Connector in aluminium: Z-8.1-64 [Z-8.1-64.1]</p>	 <p>Approval for Allround Connector and regular assembly: 07 P</p>	 <p>Approval for Allround Connector and regular assembly in steel and aluminium: VGS – L 10</p>	<p>Approval for Allround Connector in steel: 20988/OM-4</p>	<p>Norway: Approval for regular assembly in steel: 75/91</p>  <p>Sweden: Approval for regular assembly in steel: 105 T 793/86</p> 	<p>Approval for Allround Connector in steel: G-215/91</p> <p>Approval for regular assembly in steel: G-215/91</p>

# ible.

The wedge head is precisely matched to the radius of the standard at the front end – so forces are applied to a surface not a line and always centrally into the standard.

What use is a spannerless connection if the time saving is lost by having to measure for right angles?



Built-in assembly speed: the four narrow holes in the perforated rosettes centre the ledgers automatically and securely at right angles – while the four large holes permit the alignment of ledgers and diagonal braces at the required angle.

**The result of superior design:  
up to 8 connections at various angles  
can be made in one plane  
with the structurally ideal Allround Connector.  
The assembly of the system  
is straight-forward.**



**Forget about  
lengthy measuring and levelling,  
forget about  
time-consuming spanner work,  
forget about  
repeated adjustments,  
forget about  
tube/coupling entanglements,  
forget about  
undefined structural  
force situations...**



CZ SQ

Approval for Allround Connector in steel:  
C 1 – R – 024



Approval for regular assembly in steel:  
C 1 – R – 024



PL

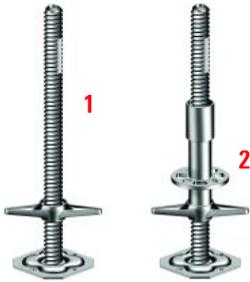


Approval for Allround Connector in steel:  
B/02/033/99

Further approvals and type testing in many other countries, accessible by the user whenever required.

# Standard configuration

The Allround wedge lock system offers an ideal and safe positive connection between standards, ledgers and diagonal braces. The system provides permanent safety for erectors and users alike. By applying a blow with a 500 g hammer, the joint is secured. Standard lift height is 2 m; other heights are possible but may require special components or procedure. Consult Layher for further information.



**(1)** Starting at the highest point place threaded base plates at the required centres. Use soleplates where necessary to distribute the load.

For allowable loads and max. spindle extensions  $h$  (see page 17 and Tab. 20, page 20)



**(2)** Fit a collar over the threaded base plates.



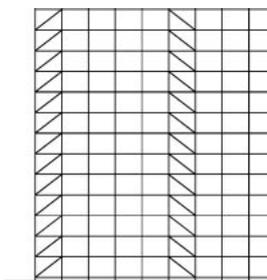
**(3)** Connect collars using ledgers. Use the small holes of the rosette for right-angle connections.

Then, level the base commencing at the highest point of the ground, by adjusting the wing nut.

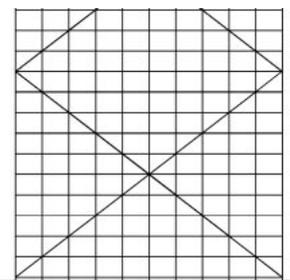


**(6)** Fix diagonal braces. On standard scaffolds, fix them in every 5th bay in tower-like configuration **(6 a)** or in large-area configuration **(6 b)**.

Diagonal braces Allround scaffolding



**(6 a)** Tower-like configuration



**(6 b)** Large area configuration

(drawings do not show anchorages)



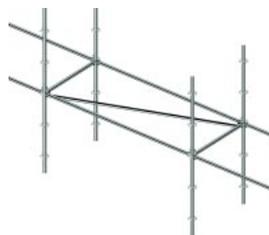
**(4)** Fit standards, then at the next lift height connect one board bearer/ledger and two longitudinal ledgers (when using scaffold boards), or one U-transom and standard decking units with lock against lift-off plates.



Installation of 2nd transverse ledger 0.5 m above the bottom transverse ledger (in the case of facade scaffolding structures with more than 60% of the permissible standard load).



**(7)** All wedge connections must be knocked in with a 500 g hammer until the blow bounces.



For timber plank decking or when no decks are installed, longitudinal ledgers must be installed and, in every fifth bay, horizontal diagonal braces, each level.



**(5)** Select lengths of standards in such a way that the joints occur at either deck level or transom level.

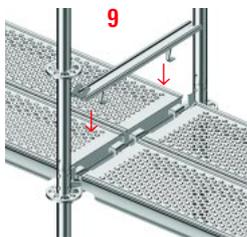


**(8)** To extend scaffold further repeat steps **(4)**, **(5)**, **(6)** and **(7)**.

Timber planks must be laid if required. Insert standard decks as stiffeners every 2 m apart in the upward direction as building work progresses.

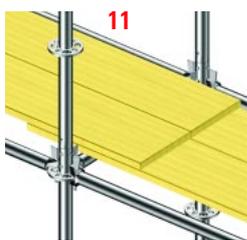
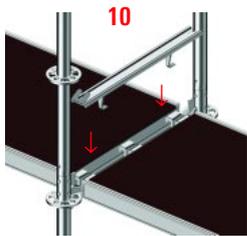
## Scaffold decking

The Layher system allows you to choose between decking elements made of hot-dip galvanized steel, aluminium, solid wood or an aluminium frame with plywood deck, depending on application, load category and your operational requirements. An inherent characteristic of all Layher decking elements is their reinforcing effect within the scaffolding. Longitudinal ledgers are not necessary; see also item (9).



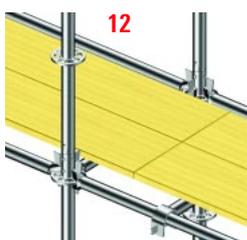
### Standard decking

(9) and (10) Suspend decks in U-transoms and secure them with lock against lift-off. Deck selected depending on loading and standard spacing.



(11) Overlapping on transverse ledgers

Timber deck according to DIN 4420 (see page 20, tab. 21)

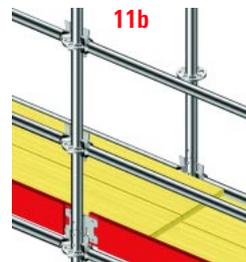


(12) Without height offset, butt-joined on support ledger with due consideration of support points.

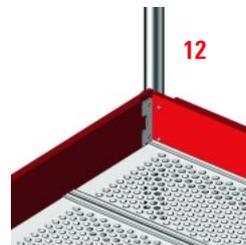
## Three-part lateral protection



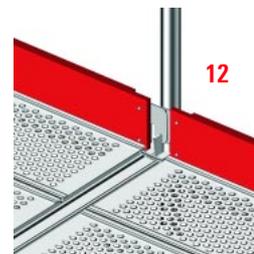
(11 a) Mount one ledger at 0.5 m above deck level as an intermediate hand rail and at 1.0 m as the main guard rail. Attach toe boards to the scaffolding bays and to the ends.



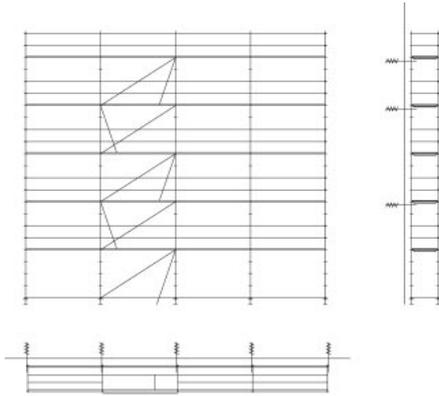
(11 b) When overlapping timber planks are used as decking element and when the guard rail height is less than 95 cm, add an additional ledger at a height of 1.5 m.



(12) Place longitudinal and end toe boards behind the wedges.



# Use as facade scaffold



Horizontal diagonal brace in every 5th bay + longitudinal ledger at deck level only with plank deck. Vertical diagonal braces: during standard assembly as per approval in every 5th scaffolding bay. (Additional diagonal braces in the lower scaffolding storey as per assembly variant)

**Tab. 19 Use as facade scaffold**

Scaffold group DIN 4420 HD 1000	Load bear. cap. (kN/m <sup>2</sup> )	Partial load		Point load [kN]	Mode of application	Width of bay [m]	Length of bay [m]	Bearing ledger or transom	Type of deck
		kN/m <sup>2</sup>	Part. surf. <sup>1)</sup> A <sub>c</sub> m <sup>2</sup>						
1	0.75	Not required		1.5	Inspection jobs with light weight tools, no storage of material.	0.73	3.07	U-transom	All serial decks
								Ledger	Scaffold boards (as per DIN 4420)
2	1.5	Not required		1.5	Inspection jobs with material immediately needed, e.g. painting works, stone facade cleaning, pointing up, plastering etc., no storage of material.	0.73	3.07	U-transom	All serial decks
								Ledger	Scaffold boards (DIN 4420)
3	2.0	Not required		1.5	Inspection jobs with material immediately needed, e.g. painting works, stone facade cleaning, pointing up, plastering etc., no storage of material.	0.73	3.07	U-transom	All serial decks
								Ledger	Scaffold boards (DIN 4420)
4	3.0	2.0	0.4 · A <sup>2)</sup>	3.0	Bricklaying, erection of precast concrete parts, plastering etc.	1.09	3.07	U-transom, reinforced	Steel decks or*
						1.40	2.57	U-transom, reinforced	
						1.40	3.07	U-bridging ledger	
						1.09	2.07	Ledger	Scaffold boards (as per DIN 4420)
						1.57	2.57	Ledger, reinforced	
1.57	3.07	U-bridging ledger	Steel decks						
5	4.5	7.50	0.4 · A	3.0	Heavy bricklaying or stone masonry works. Storage of larger quantities of building material.	1.09	2.07	U-transom, reinforced	Steel decks or*
						1.40	1.57	U-transom, reinforced	
						1.57	2.07	U-bridging ledger	Steel decks
						1.57	2.57	U-bridging ledger	
6	6.0	10.00	0.5 · A	3.0	Heavy bricklaying or stone masonry works. Storage of larger quantities of building material.	1.09	1.57	U-transom, reinforced	Steel decks or*
						1.09	2.07	U-transom, reinforced	Steel decks
						1.40	1.57	U-bridging ledger, 1.57 m	Steel decks, 1.40 m
						1.57	1.57	U-bridging ledger	Steel decks or*

<sup>1)</sup>A<sub>c</sub> = partial surface, <sup>2)</sup>A = decking surface

\*Selection of the platform according to Tab. 18 »Platforms«, page 19

## Information on load-bearing capacity

Select the Layher scaffolding decks on the basis of the required scaffolding group and scaffolding width from Table 18 (standard decks); for wooden planks see table 21. If scaffolding planks are used in brick guard structures and for double decks, the information in Table 10 shall apply, DIN 4420, Pt. 1

**Tab. 21 Permissible span in m for scaffolding decks made of wooden planks or boards (as per Tab. 8, DIN 4420, Pt. 1)**

Scaffold group	Board or plank width (cm)	Board or plank thickness in cm				
		3.0	3.5	4.0	4.5	5.0
1, 2, 3	20	1.25	1.50	1.75	2.25	2.50
	24 and 28	1.25	1.75	2.25	2.50	2.75
4	20	1.25	1.50	1.75	2.25	2.50
	24 and 28	1.25	1.75	2.00	2.25	2.50
5	20, 24, 28	1.25	1.25	1.50	1.75	2.00
6	20, 24, 28	1.00	1.25	1.25	1.50	1.75

**Tab. 20 Admissible load of spindles (threaded base jacks)**

Type of spindle	Standard type spindle 60			Heavy duty type spindle 80			Threaded swivel base plate 60		
Ref. No.	4001.060			4002.080			4003.000		
Min. height [cm]	4			4			12		
Spindle extensions h [cm]	20	30	40	20	30	40	25	30	40
Permissible max. load* [kN]	38	28	21	45	33	24	45	38	28

\* Higher working loads are possible depending on the applications, but must however be verified. The specified loads were ascertained on the assumption of 5% horizontal components.

Spindle adjustment h: Adjustable base plate 60 and adjustable base plate 80; see page 17  
Dimensions between surface of base plate and top edge of wing nut

# Allround Scaffolding® in allround application

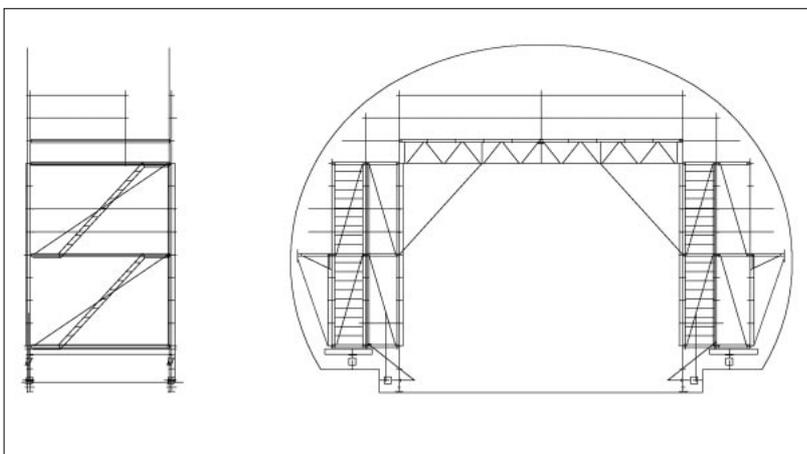
Universal scaffolding for any loading capacity required.



Facade scaffolding for heavily structured facades

The Layher Allround Scaffolding® reduces assembly times, labour costs and increases safety when erecting scaffolds around church steeples, monuments and restaurants in high places, for scaffolds at or in boiler plants, tanks and pipe lines, for scaffolds across working places, and supply lines, around machines, at or under bridges – scaffolds on construction sites or mobile scaffolds in tunnels. Simply each and every job can be carried out safer and quicker with Allround Scaffolding® thus saving costs.

The building industry is presenting increased demands for load-bearing capacity and assembly variability in scaffolding. This is where Allround® Scaffolding is now setting new standards: a single system, as bricklayer's scaffolding, work scaffolding, safety scaffolding or falsework, with 73 cm, 109 cm or 140 cm bay width, with selectable storey heights and live loads of up to 6 kN/m<sup>2</sup> depending on the bay width. Or assembled as scaffolding for formwork or support: with Allround® scaffoldings you're prepared for anything.



Mobile tunnel scaffolding



Falsework in industrial construction, bridge-building and solid construction

# As a basic system for versatile use

Stairway towers – rolling towers –  
protective cladding.



The high degree of variability and rigidity of Allround Scaffolding® means that a wide variety of applications can be catered for, thanks to the use of a few additional parts. The use of stringers and guardrails allows the construction of stairways towers on sites as well as stairways for public access areas. Rolling towers can be built in all sizes and heights. Allround Scaffolding® in conjunction with the Protect System allows weatherproof coverings to be provided, including complete facades for the purpose of asbestos removal.

