PERI MULTIFLEX –

the flexible and adaptabele girder slab formwork

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Head, Design Office

23.10.2014

- **overview**

A generals

B Which slab formwork....?

C Reduction of costs

D Economy

E MULTIFLEX - the system

F The loads / calculation

G Application / advantages of the system

H Examples / the solution – MULTIFLEX

I Trainings video

Slab formwork systems

- the slab formwork system determines the progress of a job site decisively !

- Important to choose the right formwork system

Which slab formwork is the right formwork ?

- it depends on the project !

- level of repetitions
- slabs repeated on successive floors ?
- façade sufficiently open for tableforms ?
- level of labour costs ?

➔ **Every job site is an individual case** !

- Safety rules!!!

MULTIFLEX

- **Important things:**
  - The shuttering parts you have to move determine the formwork expenditure
  - The less parts you have and the lighter the weight of the parts - the faster the formwork / shuttering time !
  - That means:

many parts = high labor costs

less parts = less labor costs

Which salb formwork system is the most cost-effective?

- **SKYDECK**

No of parts/m²	weight [kg/m²]	Area [m²] per prop	Time [h/m²]
2,3	28	3,45	0,15 bis 0,30

- **MULTIFLEX**

No of parts/m²	weight [kg/m²]	Area [m²] per prop	Time [h/m²]
3,1	40	2,90	0,25 bis 0,50

- **Table Module**

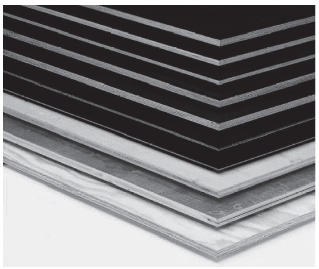
No of parts/m²	weight [kg/m²]	Area [m²] per props	time [h/m²]
0,05	50	5,00	0,10 bis 0,15

- Originally formwork

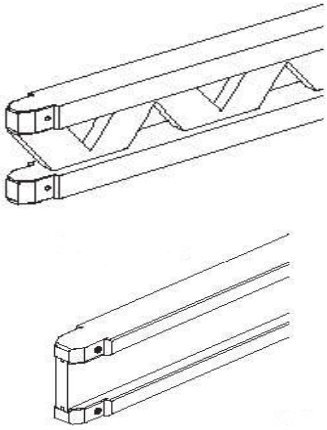
PERI System MULTIFLEX

- System parts and set up
  - plywood
  - secondary girders
  - primary girders
  - cross- and clawhead
  - props
  - tripod

- Single parts

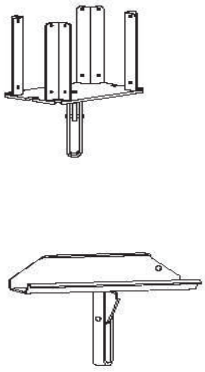


plywood



Formwork girders:

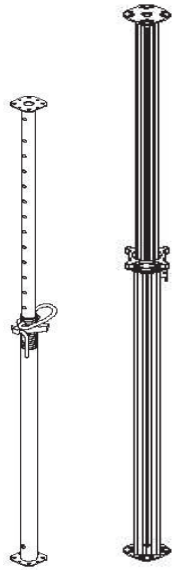
primary and secondary girder
GT24, VT20



crosshead

clawhead

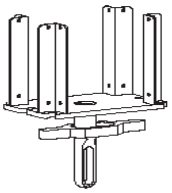
Self-locking coupling !

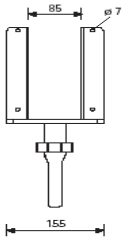


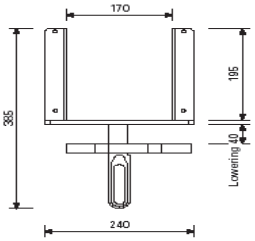
props

Lowering Head 20/24

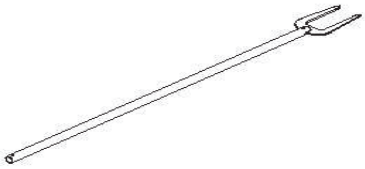
Lowering Head 20/24, galv. Providing stable support for single or twin GT 24 or VT 20K Girders. Girder overlap at both ends of at least 164mm in the case of the GT 24, 15cm with VT 20K. Lowers 40mm.	5,10	028870
Accessories:		
Pin ø 14x107, galv.	0,15	027990
Cotter Pin 4/1, galv.	0,03	018060



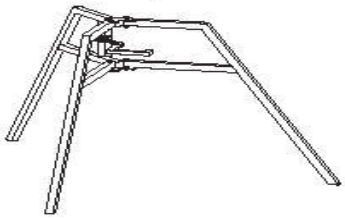




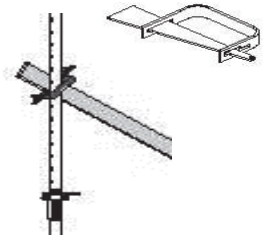
- accessory



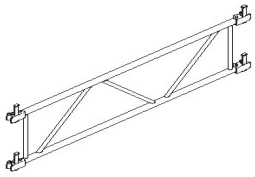
Assembly Bar



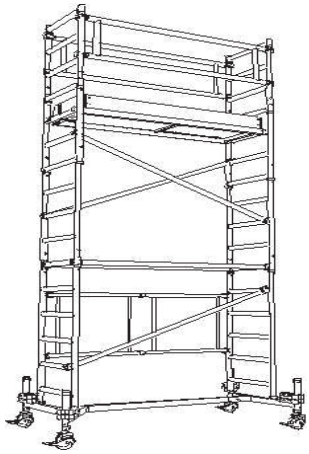
Tripod as assembly aid



accessory to stiffen the system

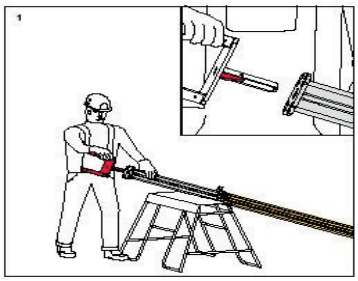


accessory handrail system

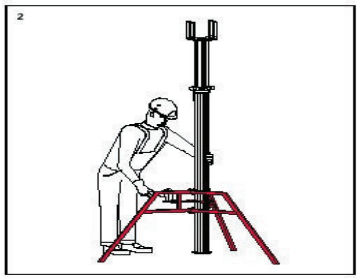


Stripping cart

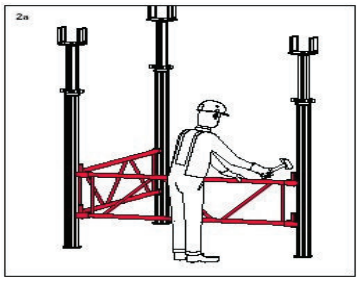
Assembly



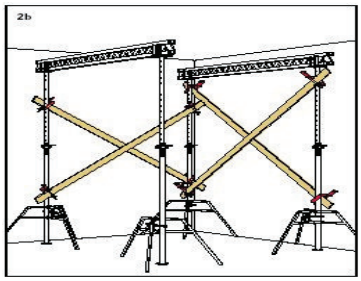
Insert the heads with self-locking coupling



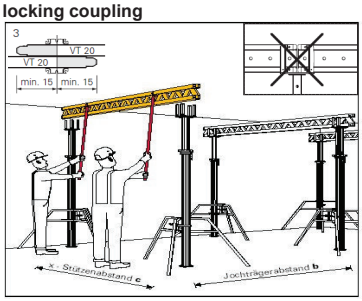
Stabilize the props



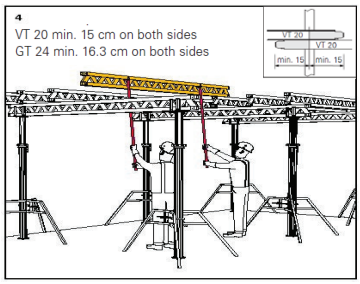
Shuttering heights >3m: brace the props



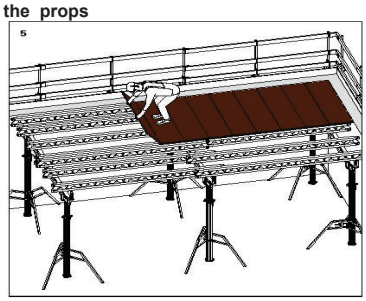
Shuttering heights >3m: brace the props



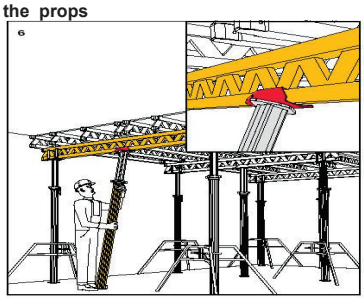
Assemble the primary girders



Assemble the secondary girders

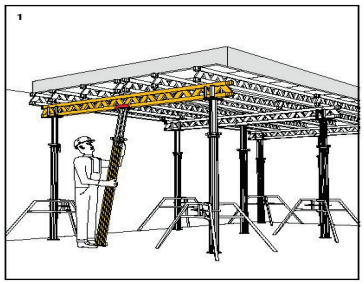


Assemble plywood

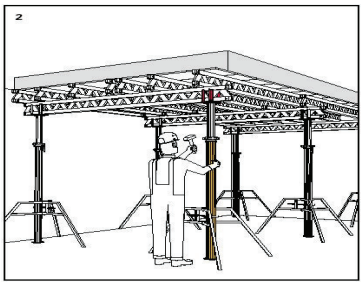


Assemble intermeditate props

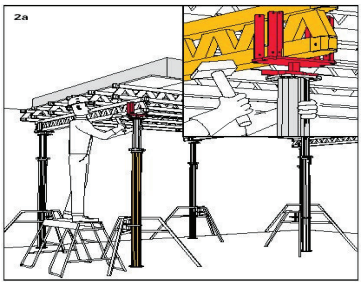
Striking



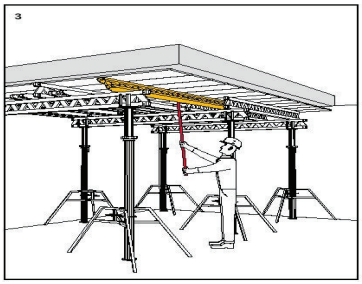
Remove interediate props



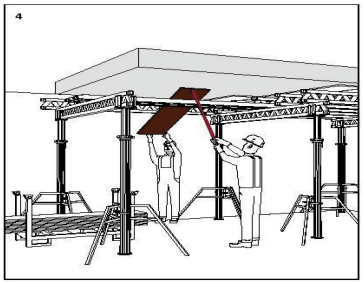
Retract forkhead props



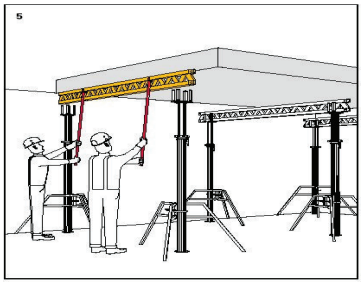
Alternative: with lowering head
the prop is to lower about 40mm!(Hammer)



Tip the secondary girders



Take out the plywood



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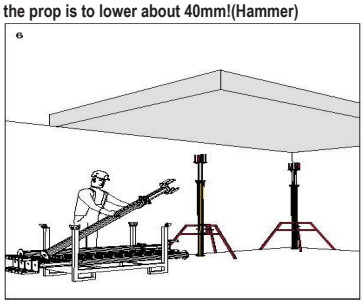
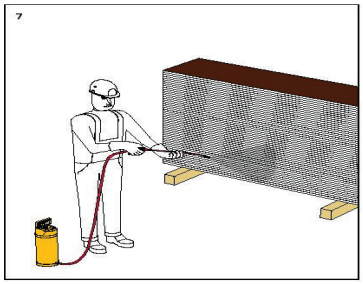


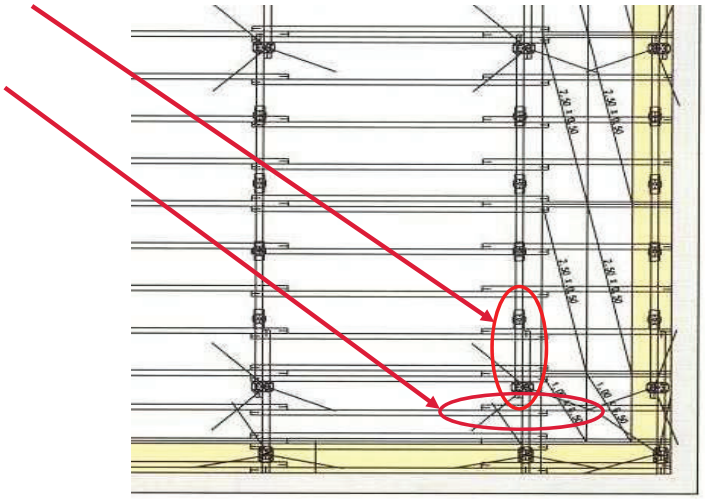
Stack the material into palets



Cleaning and protetion of the material

- **Infillings**
  - In the infill areas MULTIfLEX is simply „overlapping“

  - In longidutinal direction
  - In crossing direction

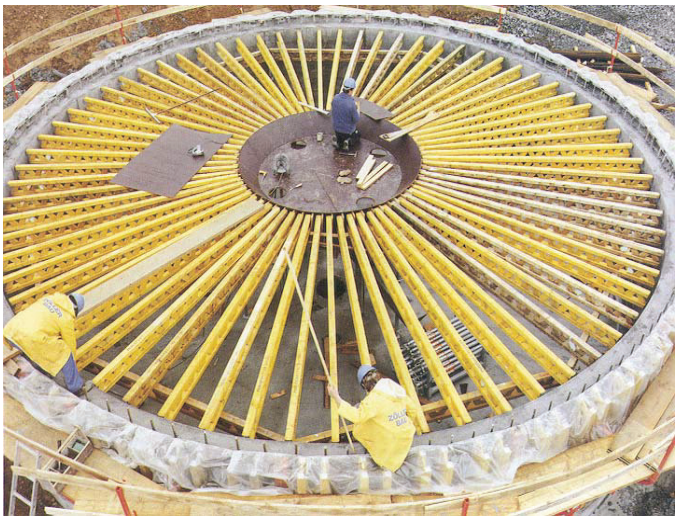


MULTIFLEX advantages

- **Advatages**
  - Adaptation to the ground plan, because girders allow to overlapping
  - always a solution
  - system is optimized statically because of calculation / design
  - spacings depend on the slab thickness
  - free choice of plywood...

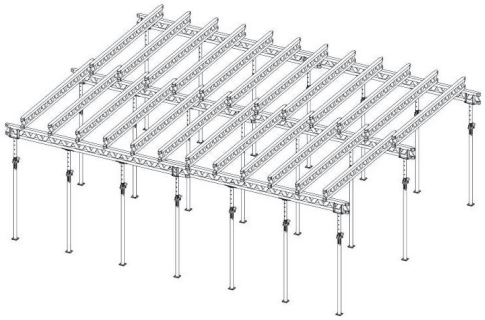
- **And think about:**
  - no forced assembly
  - you can´t control the plywood cut
  - cheap material price

MULTIFLEX pictures from sites



MULTIFLEX

- The flexible formwork system
- For single props / shoring systems

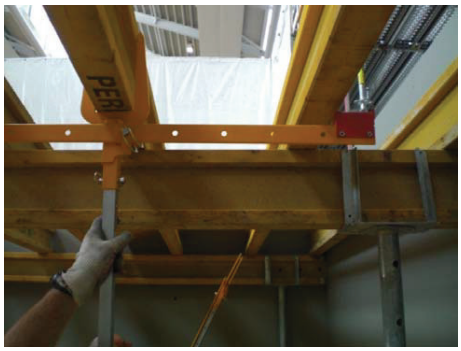


- is „always“ a solution
- for every height
- for every ground plan

PERI MULTIFLEX Plus

- **PERI MULTIFLEX Plus**
  - With Flexclip in 3 versions, for GT24/GT24; GT24/VT20; VT20/VT20
  - The Flexclip; as safety against tilting of the secondary beam

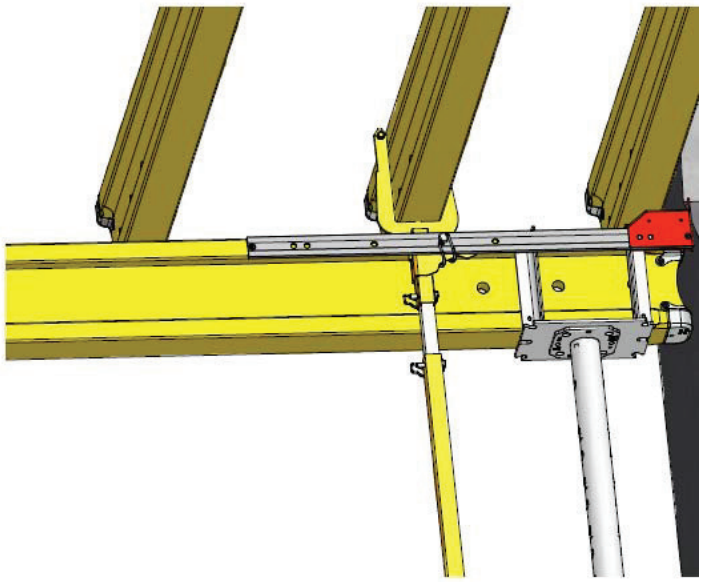
- **PERI MULTIFLEX Plus**
  - With Positioning Tool for safe assembly of the Flexclip from the lower safe standing position
  - The Distance Device MF-Plus allows a simple fixation of the secondary beam from below in a corresponding given distance without taking measurements



PERI MULTIFLEX Plus

- **PERI MULTIFLEX Plus**
  - Distance Device, extendable
  - Given distance of the secondary beam
  - Without taking measurements

- **PERI MULTIFLEX Plus**
  - Fixing the distance via drilling in the Distance Tool
  - Distance Tool with integrated Positioning Tool
  - Assembly of the FLEXCLIP from the safe standing position



PERI MULTIFLEX Plus

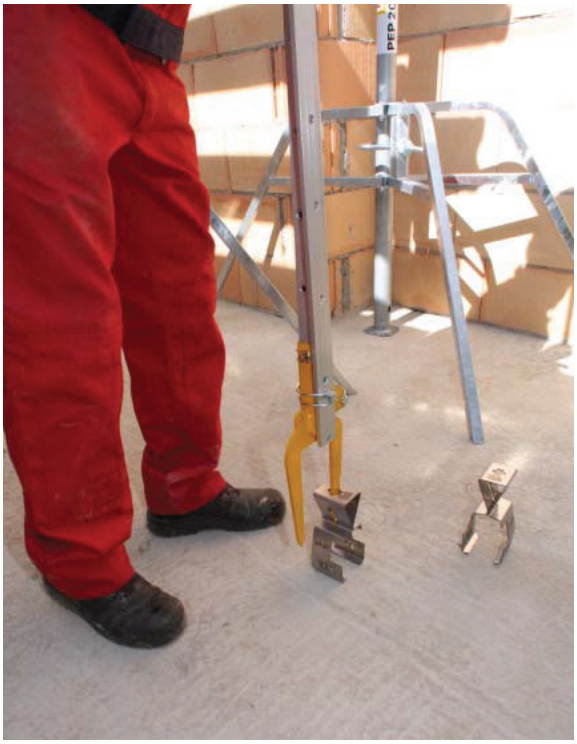
- **Site: Braun in “Schießen”, company Wöhr**
  - To insert secondary beams with Distance Tool
  - No measurement of distances

PERI MULTIFLEX Plus

- **Site: Braun in “Schießen”, company Wöhr**
  - To fix the Flexclip
  - Low clearances

PERI MULTIFLEX Plus

- **Site: Braun in “Schießen”, company Wöhr**
  - To catch the Flexclip with the Fixing tool MF-Plus



PERI MULTIFLEX Plus

- **Site**: **Braun in “Schießen”, company Wöhr**
  - To fix the Flexclip with Distance Device MF-Plus
    integrated fixing tool

PERI MULTIFLEX Plus

- **Site**:
  Braun in “Schießen”, company Wöhr

Thank you for your attention!