

# There's no bad weather!



## **HAKITEC® 750** Weather Protection and Containment Systems



21<sup>th</sup> November 2013

Bernard Podlinski  
VP Global Business  
HAKI AB



# The HAKI Group

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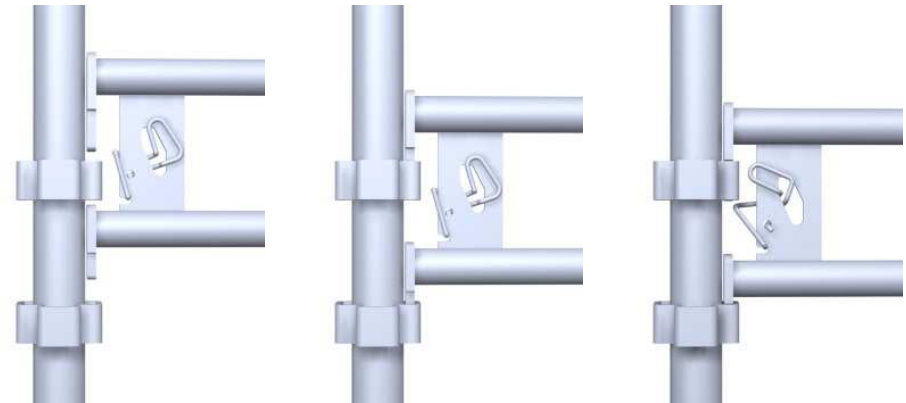
HAKI is a manufacturer of system scaffold and weather protection solutions. HAKI temporary work-places ensure the highest standard in safety whilst increasing productivity.

The unique HAKI “hook-on” product design offers distinct benefits in the most challenging environments:

- Oil & Gas projects (offshore & onshore)
- Processing industries
- Power industries
- Infrastructure projects
- Shipyards & shipbuilding
- Construction

Head-quartered in Sweden, HAKI has branches and partners around the world providing scaffolding solutions for over 50 years.

HAKI is part of the Midway Holding Group whose shares are traded on Nasdaq OMX Stockholm AB Small Cap exchange.

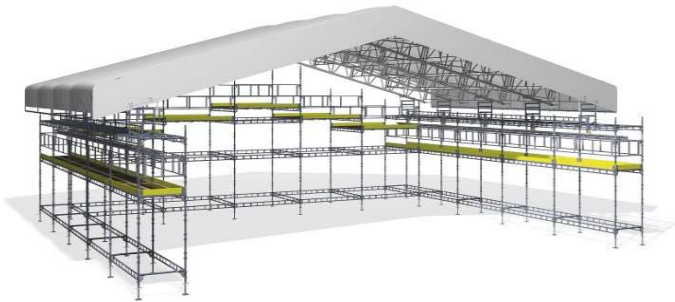


HAKI "hook-on" design concept

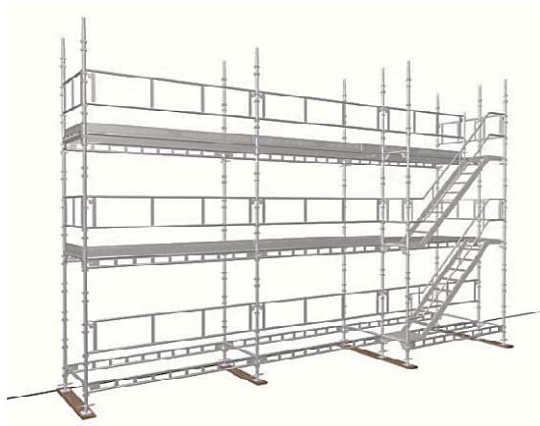


# HAKI Products

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HAKITEC® weather protection



HAKI® Universal scaffolding

- **HAKI® Universal** scaffolding and **HAKITEC®** weather protection are the **safest** systems on the market
- **Adaptable** with maximum utilization of the same 7-10 basic components
- **Productive** with gains against other systems of at least 30%
- **Expert** with training, technical support and project engineered solutions

Decreased total project costs, fewer project delays, more satisfied clients, safer employees, increased profits



# HAKITEC® 750 can be used to:

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Keep bad weather out; or



Keep hazardous materials in



- Safer working environment
- Maintain/improve production programme
- Provide controlled environment for application of special materials
- Reduces risk of damage to valuable materials

# HAKITEC® 750 Applications

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**Temporary Buildings**



**Oil and Gas**



**Shipyards**



**Construction**



**Infrastructure**



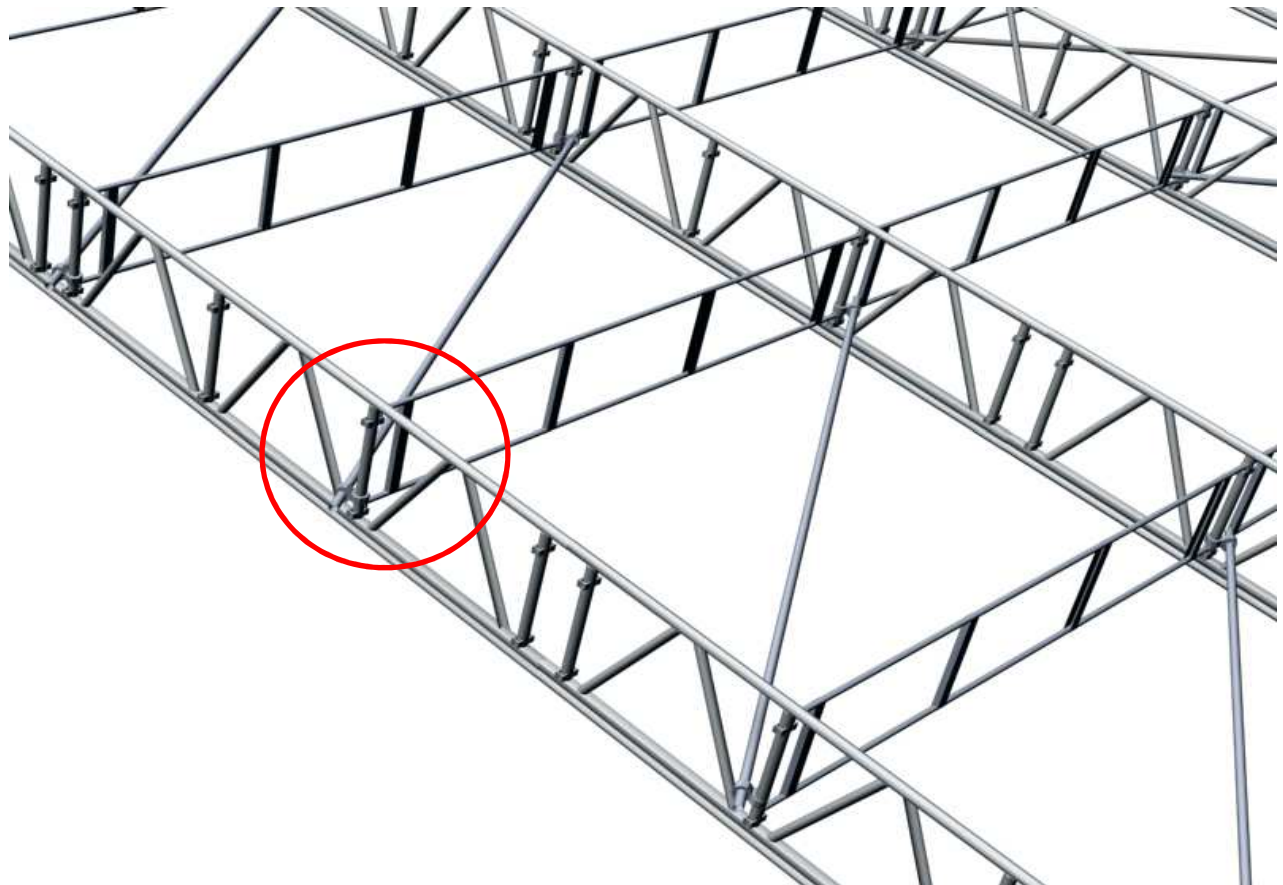
**Aircraft**



# HAKITEC® 750 truss framework is quick to erect

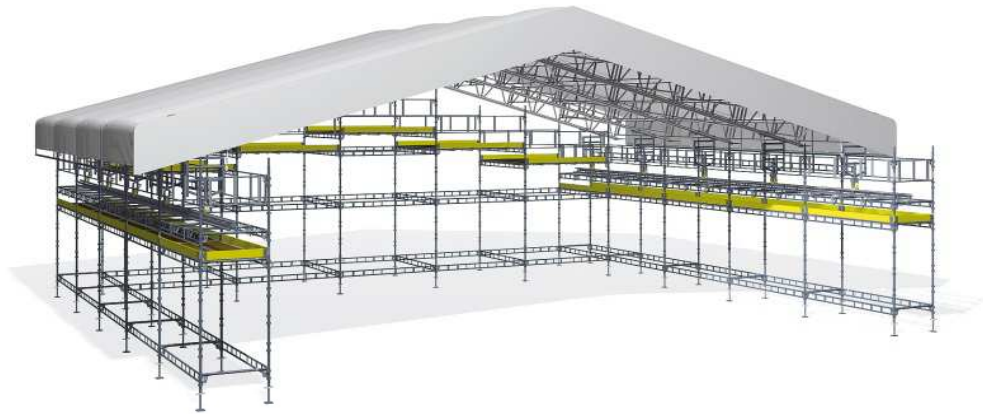
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- The unique HAKITEC® 750 beam design incorporates a lacing & bracing system which facilitates quick and simple erection and dismantling.

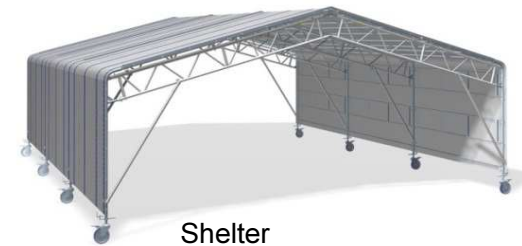


# HAKITEC® 750 product options

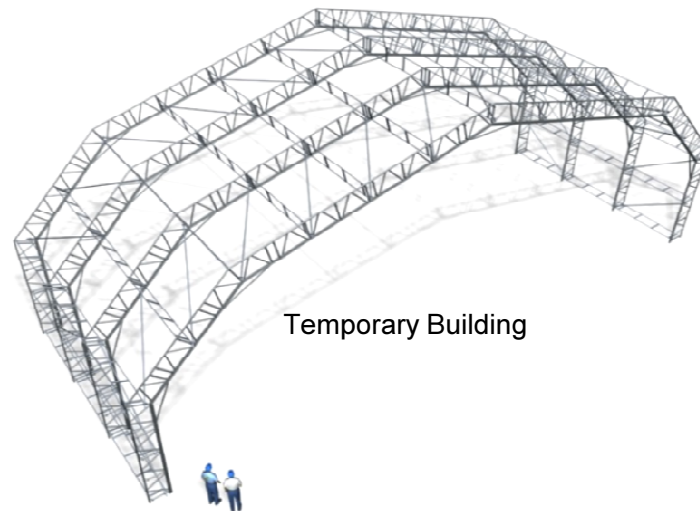
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Temporary roof supported by HAKI  
Universal scaffolding



Shelter



Temporary Building

# HAKITEC® 750 Beam

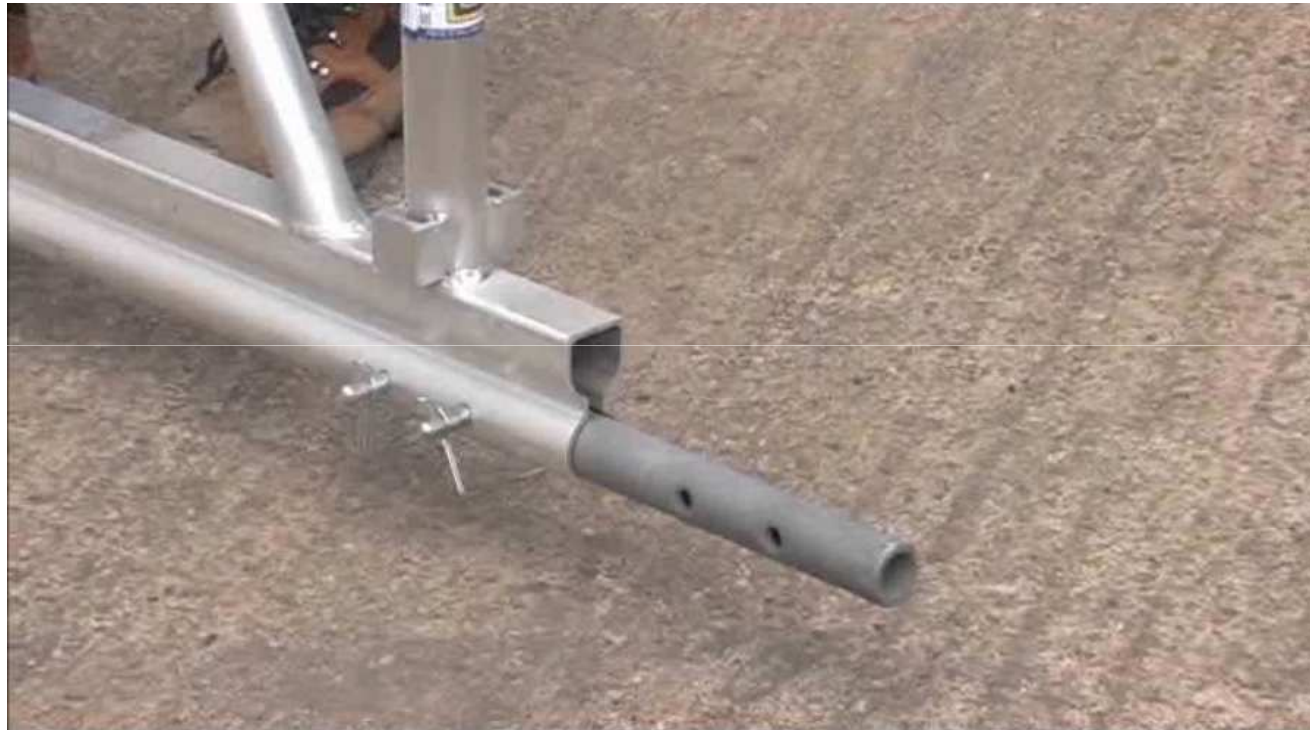
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# HAKITEC® 750 Beam connection

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# HAKITEC® 750 Beam lacing system

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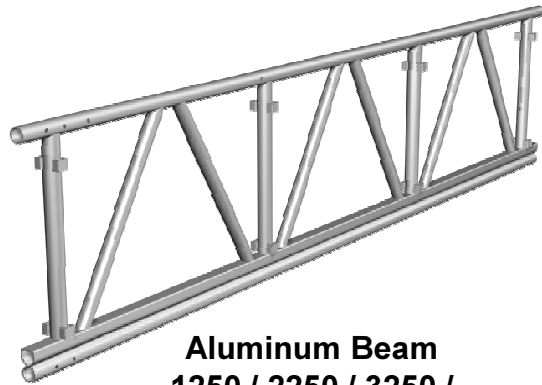
# HAKITEC® 750 Beam bracing system

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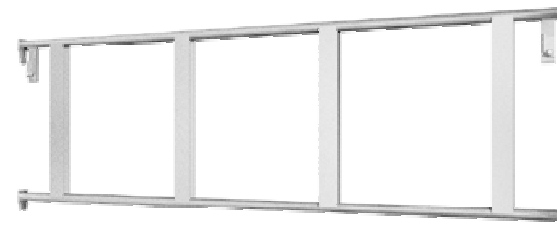


# HAKITEC® 750 Main Components

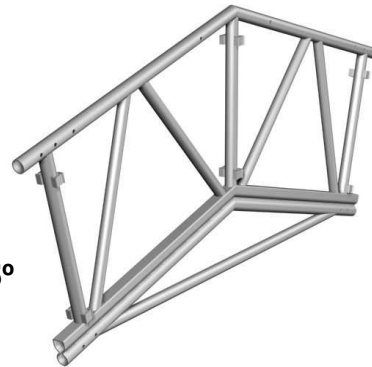
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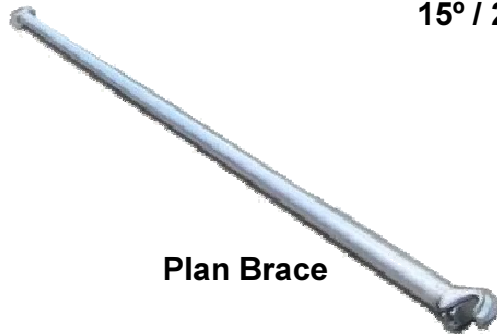
**Aluminum Beam**  
1250 / 2250 / 3250 /  
6250



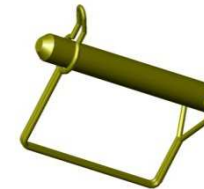
**Lacing Frame**  
300 / 770 / 1250 / 1655 / 2500 / 3050



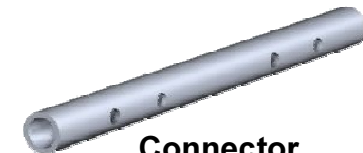
**Angle Frame**  
15° / 22° / 37.5°



**Plan Brace**



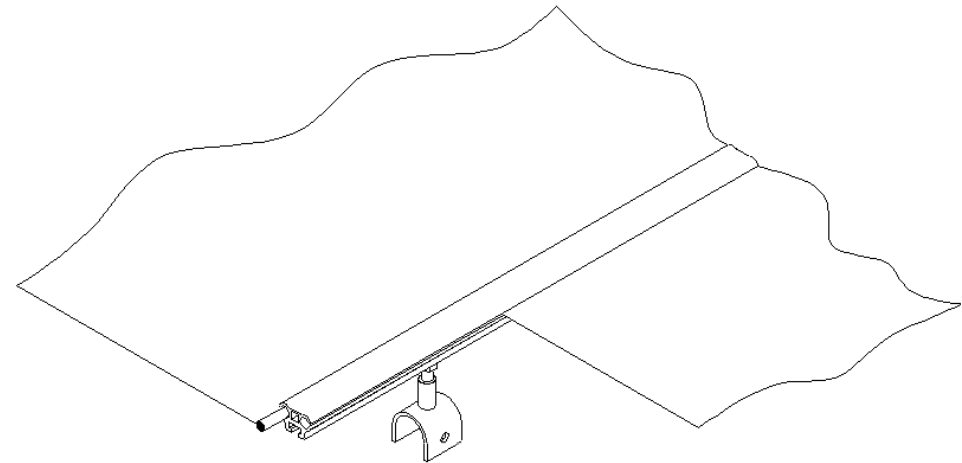
**Spring Pin**



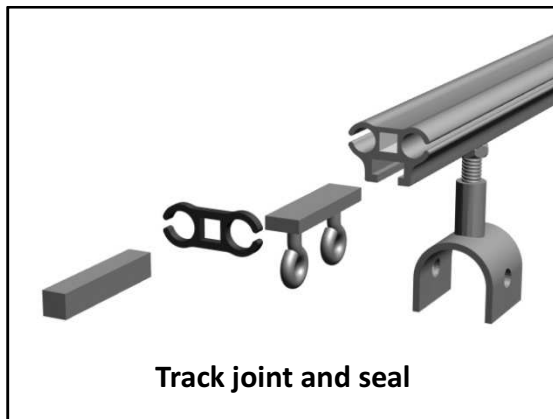
**Connector**

# HAKITEC® 750 sheeting method

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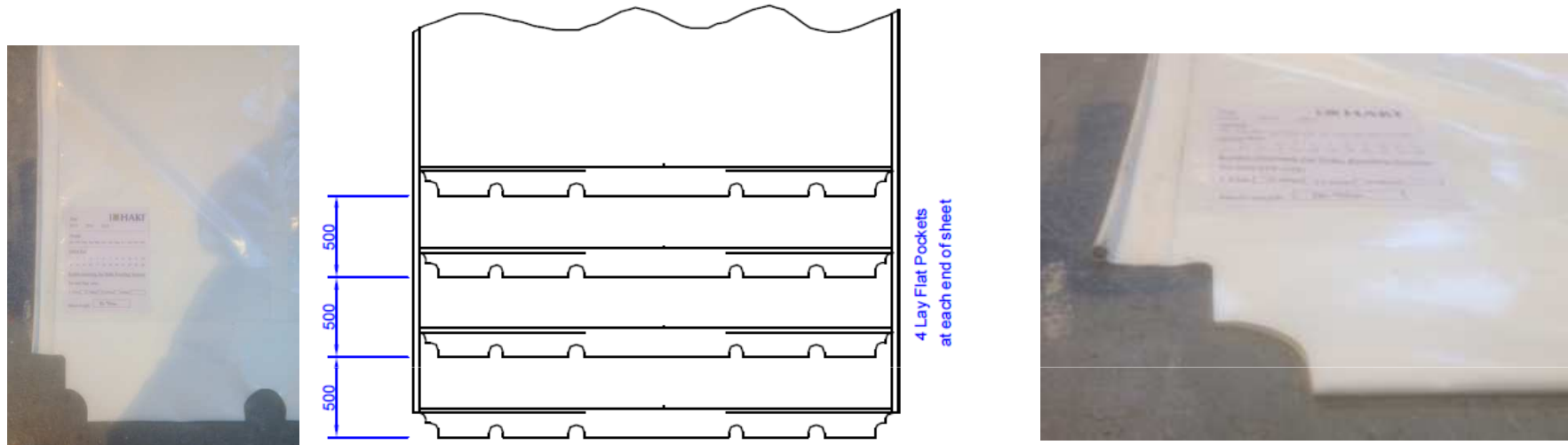


Hakitrak Sheeting



HAKITrak coupler

# HAKITEC® 750 sheeting method



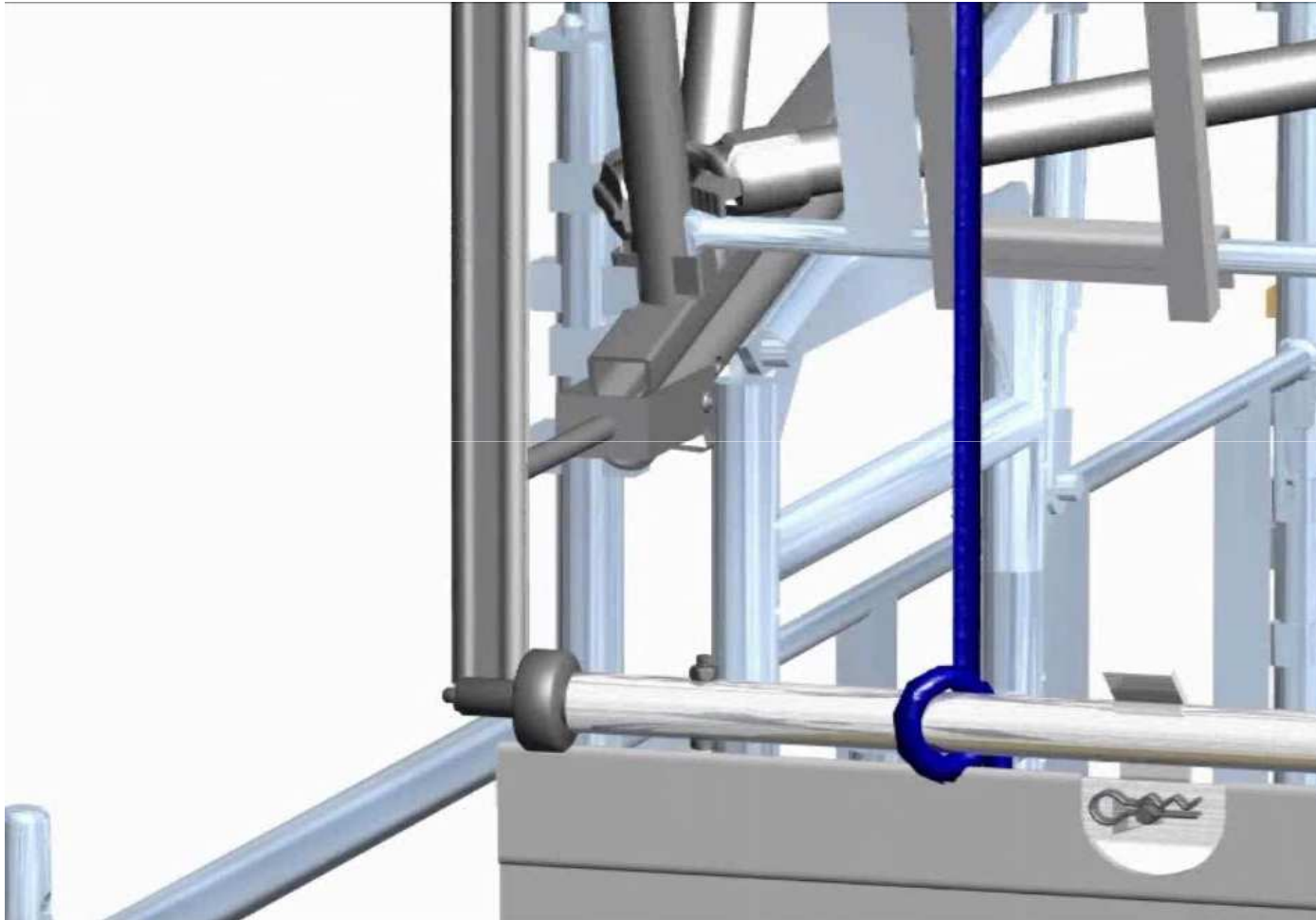
Enlarged Detail  
of Lay-Flat Pocket at Sheet Ends

Base Fabric:	Polyester
Coating:	PVC
Coated weight:	610gms/sq.m
Maximum load:	4.5kN/sq.m
Flame retardant:	BS 5438 2A (no flame or afterglow)



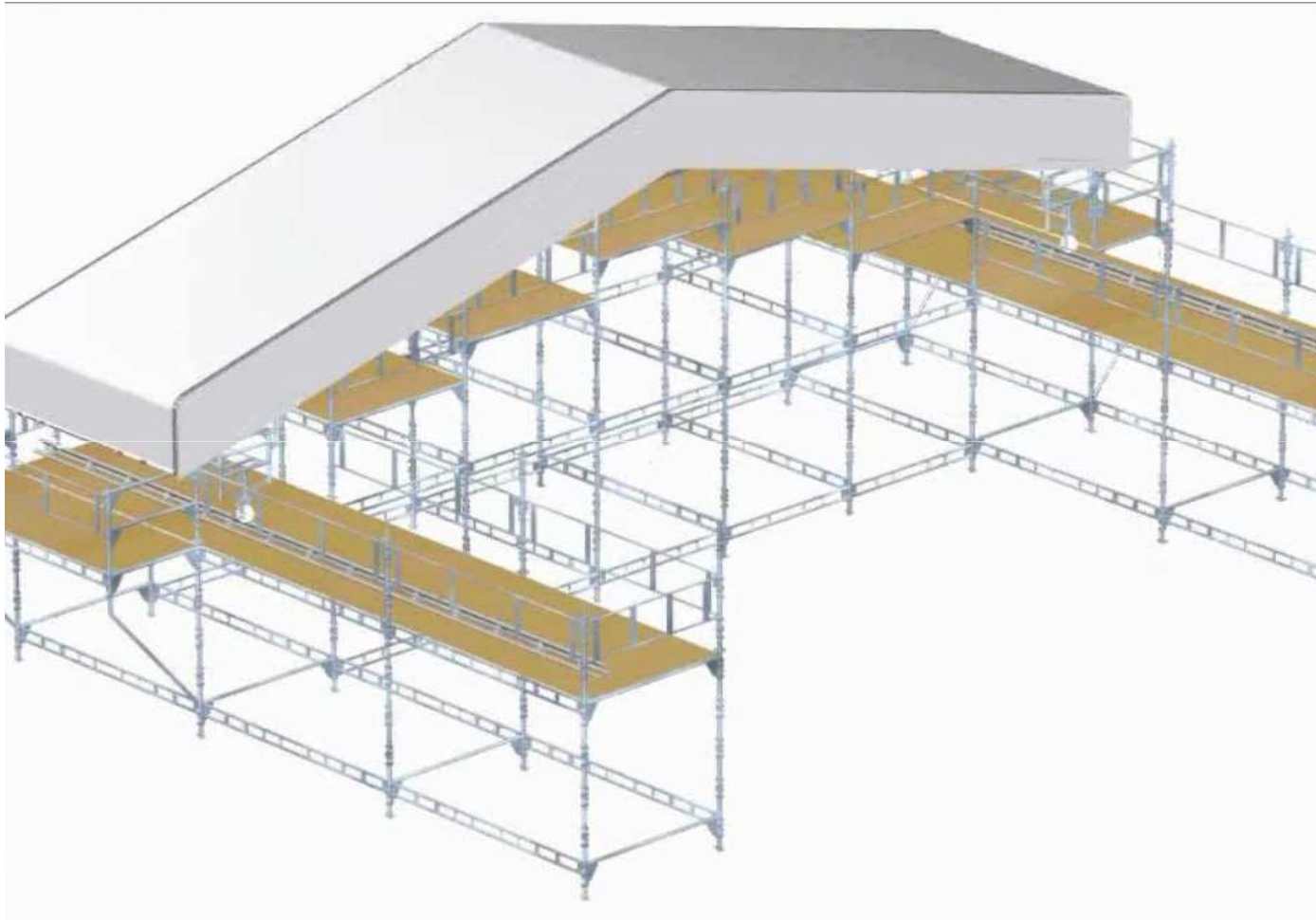
# HAKITEC® 750 sheeting method

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# HAKITEC® 750 rollout method

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# Safe systems of work

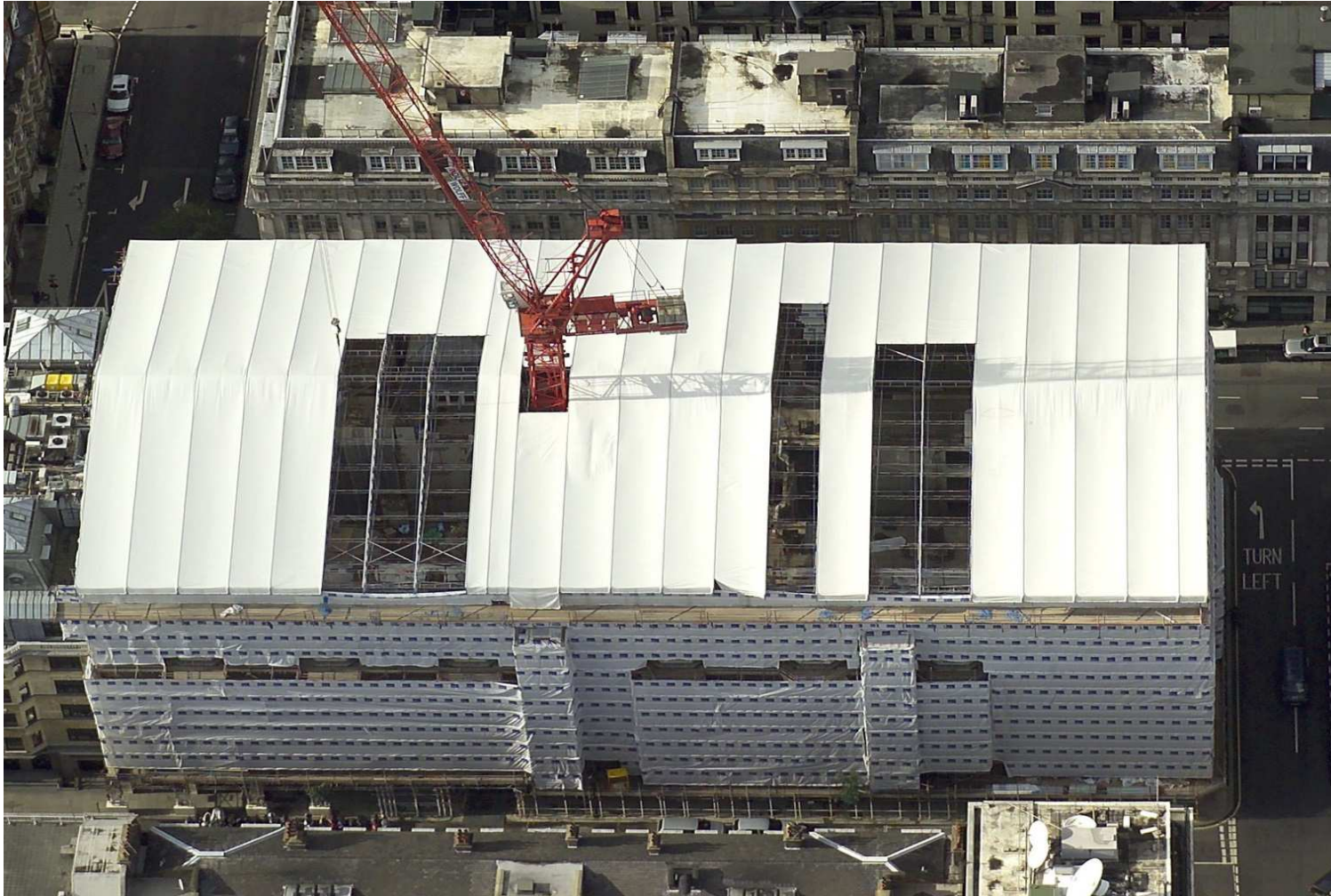
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- ❑ HAKITEC 750 can be erected from a fully guarded platform



# HAKITEC® 750 Temporary Roof

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# HAKITEC® 750 Temporary Buildings

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# HAKITEC® 750 Mobile Temporary Buildings

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# HAKITEC® 750 Crane-lifted Temporary Roof

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Crane lifting must be pre-specified, so that the roof stiffness and lifting frame requirements can be correctly designed.



# HAKITEC® 750 Crane-lifted Temporary Building

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# HAKITEC® 750 Mobile Temporary Roof

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# HAKITEC® 750 Temporary Polygonal Roof

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Polygonal shape reduces the height of the support scaffold and increases the possible roof span.





# HAKITEC® 750 Mobile Temporary Roof

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# HAKITEC® 750 in shipyards

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# HAKITEC® Vertical Containment

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Vertical containment can be applied to any scaffolding system



# HAKITEC® 750 Shelters



# Unusual shapes!

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# HAKITEC® 750 Mobile Temporary Roof

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# HAKISPAN® 750



- **HAKITEC® 750** truss components can also be used for suspended and bridged access.

# HAKISPAN® 750

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- **HAKITEC® 750** truss components can also be used for suspended and bridged access.



# Estimating programme and design support

The image displays two screenshots of the HAKI software interface, showing the design and calculation process for a temporary roof structure.

**Left Screenshot:** Shows the main design window with a truss structure and a calculation pop-up for Wind Loading.

Calculations	
Wind Loading	
Actual Bending in Roofing	22.79 kN.m (41.3)
Actual Shear in Roofing	17.88 kN (30.6)

Below the calculation table, a truss diagram shows dimensions: 1.25m, 2.25m, 6.25m, 6.25m, 6.25m. Wind and snow load values are indicated: 29.1 kN wind, 42.5 kN snow, 16.7 kN wind, 23.4 kN snow. Text below the diagram: Total Bays 4 - Total Length 12.2m, Inside Scaffold Width 32.000m - Overall Scaffold Width 34.500m, HAKI Trak Length 38.5m - Sheet Length 38.2m.

**Right Screenshot:** Shows the same design window with a calculation pop-up for both Wind and Snow Loading.

Calculations				
	Wind Loading		Snow Loading	
Actual Bending in Roofing	22.79 kN.m (41.3)	✓	35.87 kN.m (41.3)	✓
Actual Shear in Roofing	17.88 kN (30.6)	✓	28.25 kN (30.6)	✓
Vertical Load at Side	16.73 kN		23.36 kN	
Horizontal Load at Side	29.12 kN		42.51 kN	
Load in Braces	41.52 kN		69.06 kN	

Below the calculation table, the same truss diagram is shown with dimensions and load values. Text below the diagram: Total Bays 4 - Total Length 12.2m, Inside Scaffold Width 32.000m - Overall Scaffold Width 34.500m, HAKI Trak Length 38.5m - Sheet Length 38.2m. An 'OK' button is visible below the table.

At the bottom right of the right screenshot, a 'Weight' field shows 4070 kgs. A 'Loading NOT OK' button is also present.

# Increased productivity

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- ❑ Production rate of between 6-10m<sup>2</sup> per man hour is regularly achieved with HAKITEC® 750
- ❑ Major productivity improvements come from overall programme benefits

# The advantage of **HAKITEC® 750**

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- ❑ Allows all-year-round and all-day working
- ❑ Unique beam design enables
  - ❑ Large clear spans
  - ❑ Fast erection and dismantling
- ❑ Few components, simple to understand and erect
- ❑ Roll out method of erection – fully guarded platform at all times
- ❑ Crane lift-able
- ❑ Compatible with any scaffold system
- ❑ Versatile design for a range applications, reusable, multifunctional
- ❑ Erection training and guidance on specification, installation and design



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