

Technical Description

for

PORTABLE CABIN, SANITARY CABIN and CORRIDOR CABIN

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1 General information

The following description refers to the specification and design of the new portable, sanitary and corridor cabins.

Our cabins match the ISO-norm dimensions and have therefore many advantages of that system. They consist of a robust frame construction and interchangeable wall panels.

The design of the CTX standard portable cabin is marked with¹, the design of the standard sanitary unit with².

All design options not marked with¹ or ² only will be delivered after these have been mentioned in the written agreement.

1.1 Dimensions (mm) and weights (kg):

Type	External			Internal			Weight (approx. specifications)		
	Length	Width	Height	Length	Width	Height	BM	BU	SU
10'	2,989	2,435	2,591	2,795	2,240	2,340	1,300	1,200	1,450
			2,800			2,540			
			2,960			2,700			
16'	4,885	2,435	2,591	4,690	2,240	2,340	1,600	1,550	
			2,800			2,540			
			2,960			2,700			
20'	6,055	2,435	2,591	5,860	2,240	2,340	1,950	1,750	2,450
			2,800			2,540			
			2,960			2,700			
24'	7,335	2,435	2,591	7,140	2,240	2,340	2,300	2,050	
			2,800			2,540			
			2,960			2,700			
30'	9,120	2,435	2,591	8,925	2,240	2,340	2,550	2,450	
			2,800			2,540			
			2,960			2,700			

* The mentioned dimensions and weights are valid for standard configuration (see 1.3.) and can vary depending on configuration and equipment.

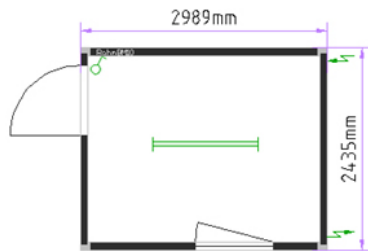
1.2 Abbreviations

The following abbreviations are used in the document:

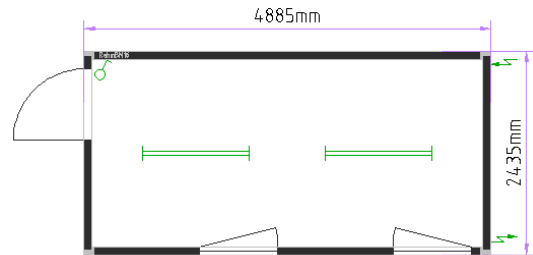
Portable cabin with mineral wool insulation	BM
Portable cabin with PU foam insulation	BU
Sanitary cabin with mineral wool insulation	SA
Sanitary cabin with PU foam insulation	SU
Mineral wool	MW
Polyisocyanurate	PIR
Polyurethane foam	PU
Rock wool	SW
Internal height	RIH
External cabin height	CAH
Transpack (BM/BU in a package)	TP
Toughened safety glass	ESG
Laminated safety glass	VSG
Heat-strengthened glass	TVG

1.3 Standard configuration

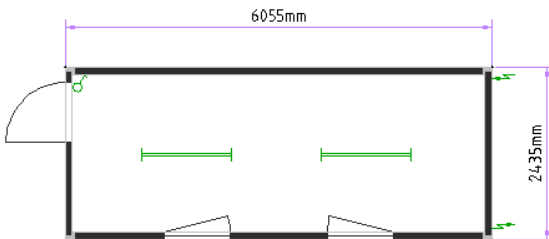
Portable cabin 10'



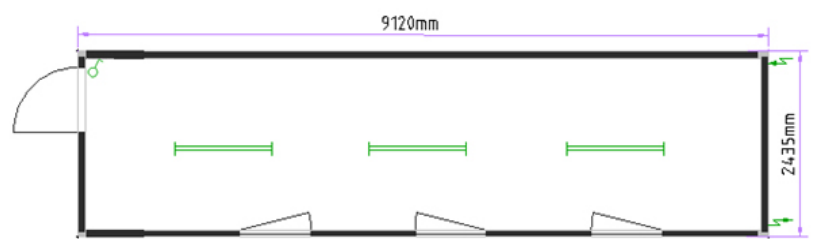
Portable cabin 16'



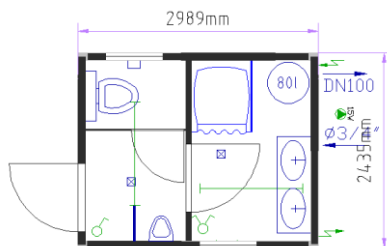
Portable cabin 20'



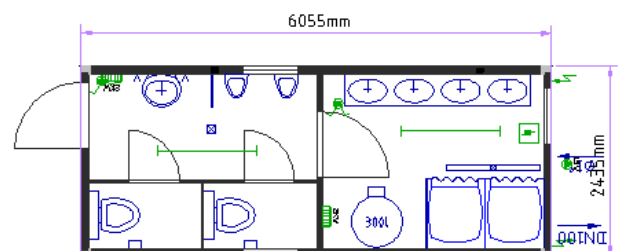
Portable cabin 30'



Sanitary cabin 10'



Sanitary cabin 20'



Standard configuration: ¹ Portable cabin, ² Sanitary cabin

1.4 Insulation

Component	Insulating material	Thickness	U-value (W/m ² K)*
Roof			
	MW ^{1/2}	100	0.36
	MW	140	0.23
	PU	100	0.20
	PU	140	0.15
Wall element			
	MW ¹	60	0.57
	MW	100	0.35
	PU ²	60	0.38
	SW	60	0.61
	SW	110	0.34
	110 PIR	110	0.20
	110 PU	110	0.24
Floor			
	MW ^{1/2}	60	0.55
	MW	100	0.36
	PU	100	0.20
Window			
	standard insulated window glass ^{1/2}	4/16/4 mm	2.90
	window glass insulated with gas filling	4/16/4 mm	1.10
	triple glazing	4/8/4/8/4 mm	0.70
External door			
1000	polystyrene	40 mm	1.80
875	polystyrene	40 mm	1.90

* The U-values apply to the stated insulation thickness in the space between the timber frames in a half-timbered construction (within the panel).

Other insulation designs and calculations in accordance with EN ISO 6946 are available on request!

1.5 Load bearing capacity

1.5.1. Standard load bearing capacity^{1/2}

floor load:

ground floor: max. load capacity 2.0 kN/m² (200 kg/m²)
 top floors: max. load capacity 1.5 kN/m² (150 kg/m²)

snow load:

with max. 2-storey installation $S_k = 1.50 \text{ kN/m}^2$ (150 kg/m²)

*Shape parameters $\mu = 0.8$ ($s = \mu_1 * s_k = 1.2 \text{ kN/m}^2$ (120 kg/m²))*

with 3-storey installation $S_k = 1.25 \text{ kN/m}^2$ (125 kg/m²)

characteristic snow load on the ground $s_k = 1.25 \text{ kN/m}^2$ (125 kg/m²)

*Shape parameters $\mu = 0.8$ ($s = \mu_1 * s_k = 1.0 \text{ kN/m}^2$ (100 kg/m²))*

wind force V_{ref} : with max. 2-storey installation

$V_{ref} = 27 \text{ m/s}$, [97.2 km/h] terrain category III

with 3-storey installation

$V_{ref} = 25 \text{ m/s}$, [90 km/h] terrain category III

1.5.2. Optional load bearing capacity (except CAH 2.591m and 30')

floor load:

ground floor: max. load capacity 4.0 kN/m² (400 kg/m²)
 top floors: max. load capacity 3.0 kN/m² (300 kg/m²)

snow load: characteristic snow load on the ground $s_k = 2.5 \text{ kN/m}^2$ (250 kg/m²)

*Shape parameters $\mu = 0.8$ ($s = \mu_1 * s_k = 2.0 \text{ kN/m}^2$ (200 kg/m²))*

wind force V_{ref} : $V_{ref} = 25 \text{ m/s}$, [90 km/h] terrain category III

1.5.3. Optional load capacities for corridor cabins (except CAH 2.591m and 30')

floor load:

ground floor: max. load capacity 5.0 kN/m² (500 kg/m²)
 top floors: max. load capacity 5.0 kN/m² (500 kg/m²)

snow load: characteristic snow load on the ground $s_k = 2.5 \text{ kN/m}^2$ (250 kg/m²)

*Shape parameters $\mu = 0.8$ ($s = \mu_1 * s_k = 2.0 \text{ kN/m}^2$ (200 kg/m²))*

wind force V_{ref} : $V_{ref} = 25 \text{ m/s}$, [90 km/h] terrain category III

For wind speeds over 90 km/h [25 m/s], additional safeguards must be put in place for the cabins (bracing, screwing, etc.). These measures must be assessed by authorised professionals while taking into consideration the local norms and conditions.

The load capacities are only valid in accordance with the cabin configuration options (see 6.1./6.2.).

Other optional load bearings or site-specific earthquake safety measures are available on request.

1.6 Basic principles of the static calculations

exposed side	EN 1990 (Eurocode 0, basic principles)
	EN 1991-1-3 (Eurocode 1, snow)
	EN 1991-1-4 (Eurocode 1, wind)
non-exposed side	EN 1993-1-1 (Eurocode 3, steel)
	EN 1995-1-1 (Eurocode 5, wood)

1.7 Sound insulation

Sound insulation values on request.

2 Container design

2.1 Frame construction

	standard cabin ^{1/2}	portable and sanitary cabins (optional load bearing capacity 1.5.2.)	corridor cabin (optional load bearing capacity 1.5.3.)
floor frame	from cold rolled, welded steel profiles, four container corners welded		
longitudinal floor frame	3 mm (S 235)	4 mm (S 355)	
short end floor frame	3 mm (S 235)		
floor cross beam	made of Omega profiles, s = 2.5 mm (S 235)		
fork lift pockets	two fork lift pockets on the long side (except type 30')		
	inside clearance of fork lift pockets: 352 x 85 mm		
	fork lift pocket distance in centre: 2.055 mm ^{1/2} optional: 1,660 mm / 950 mm / without fork lift pockets		
corner posts	made from cold-rolled, welded steel profiles bolted to a floor and roof frame		
	4 mm (S 275)	5 mm (S 355)	
roof frame	from cold rolled, welded steel profiles, four container corners welded		
longitudinal roof frame	3 mm (S 235)	4 mm (S 355)	
short end roof frame	2.5 or 3 mm (S 235)		
roof cross members made of wood	---		
cover	galvanised steel plate with double rabbet, thickness 0.6 mm		

2.2 Floor

insulation:

insulating material: **MW**^{1/2}

fire behaviour A1 (non-flammable) according to EN 13501-1

PU

fire behaviour E in accordance with EN 13501-1

insulation thickness: 60 mm^{1/2} / 100 mm

subfloor: **MW1 / 2**

0.6 mm thick, galvanised steel sheets (with PU-foam insulation: aluminium COVER) Various steel sheets according to production.

floor:

floor plates: **chipboard**¹ thickness 22 mm

E1 in accordance to EN 312:2003,

fire behaviour D-s2, d0 respectively D_{fl}-s1 in accordance to EN13 501-1

plywood board thickness 21 mm
E1 in accordance to EN 717-2 and
fire behaviour D-s2, d0 respectively D_{fl}-s1 in accordance to EN 13501-1

cement-bound chipboard² thickness 20 mm
E1 in accordance to EN 717-1
fire behaviour B-s1, d0 in accordance with EN 13986:2004

floor cover: **vinyl floor cover**¹ thickness 1.5 mm
fire behaviour B_{fl}-s1 in accordance to EN13 501-1
European classification: EN 685; stress class 23 - 31
welded seams

vinyl floor cover thickness 2.0 mm
fire behaviour B_{fl}-s1 in accordance to EN13 501-1
European classification: EN 685; stress class 34 - 43
welded seams

pvc knob floor² thickness 1.1 + 0.2 mm
fire behaviour B_{fl}-s1 in accordance to EN13 501-1
European classification: EN 685; stress class 22
welded, in the sanitary parts or pulled up on request
aluminium checker plate thickness 2 + 0.5 mm

2.3 Roof

insulation:

insulating material: **MW**^{1/2}
fire behaviour A1 (non-flammable) in accordance to EN 13501-1

PU
fire behaviour E in accordance with EN 13501-1

insulation thickness: 100 mm^{1/2} / 140 mm

ceiling sheeting:

coated chipboard¹
10 mm thick, white,
E1 in accordance to EN 312,
flame behaviour D-s2, d0 according to EN 13501-1

plasterboard with coated steel plate²
10mm thick, colour: white (similar RAL 9010)
flame behaviour A2-s1,d0 according to EN 13501-1

CEE connectors:

externally sunk into short sided container frame

2.4 Wall panels

wall thickness 60² / 70¹ / 110 mm (depending on insulating material)

- available items:
- full
 - door
 - window
 - air conditioning
 - sanitary window
 - half
 - double (only with windows or doors)
 - fixed glazing

external cladding: corrugated, galvanised and coated steel sheet, thickness 0.6 mm

insulating material: **MW**¹
 flame behaviour according to EN 13501-1, A1 – non-flammable

PU²
 flame behaviour B-s3, d0 according to EN 13501-1

PIR
 Fire performance B-s2, d0 according to EN 13501-1

SW
 Fire performance SIST according to EN 13501-1, A1 - non-flammable

insulation thickness: 60 mm^{1/2} / 100 mm / 110 mm

internal cladding: **coated chipboard**¹
 thickness 10 mm, light oak¹ / white.
 E1 in accordance to EN 312,
 fire behaviour D-s2, d0 respectively Dfl-s1 in accordance to EN13 501-1

plasterboard with coated steel plate
 thickness 10 mm, colour: white (similar RAL 9010)
 flame behaviour A2-s1,d0 s1 in accordance to EN 13501-1

galvanised steel sheet²
 thickness 0.5 mm, light oak / white²

Wall panels - design combinations:

insulating material	panel thickness	external cladding	insulation thickness	internal cladding
MW	70 / 110	steel sheet	60 / 100	- double-sided coated chipboard - plasterboard with coated steel plate
PU	60		60	steel sheet
PIR	110		110	steel sheet
SW	60 / 110		60 / 110	steel sheet

2.5 Partition walls

available items: - full panel
 - door panel
 - window panel

wooden construction¹: total thickness 60 mm

frame: wooden frame, thickness 40 mm

cladding on both sides: double-sided coated chipboard
 10 mm thick, light oak / white
 E1 in accordance to EN 312,
 fire behaviour D-s2, d0 Dfl-s1 in accordance to EN13 501-1

sheet metal design²: total thickness 60 mm

frame: wooden frame with cardboard comb, thickness 60 mm

cladding on both sides: laminated steel plate, thickness 0.5 mm, colour: white (similar RAL 9010)

PU specification: total thickness 45 mm (only CAH 2.591 mm)

cladding on both sides: galvanised steel sheet, thickness 0.5 mm, light oak

insulation: PU
 fire behaviour B-s3, d0 in accordance to EN 13501-1

PIR version: total thickness 110 mm

cladding on both sides: galvanised steel sheet; 0.5 mm thick, colour: white (similar RAL 9010)
 insulation: PIR, fire performance B-s2, d0 according to EN 13501-1

2.6 Doors

- design according to DIN regulations
- right or left hand hinged
- inward or outward opening
- steel frame with triangular wrap-around sealing
- door blade with galvanised steel sheets on both sides

Dimensions:	nominal dimension	clear opening
	625 x 2,000 mm (only as internal and/or WC door)	561 x 1,940 mm
	875 x 2,000 mm ^{1/2}	811 x 1,940 mm
	1,000 x 2,000 mm	936 x 1,940 mm
	2,000 x 2,000 mm inactive leaf with concealed frame joint	1,936 x 1,940 mm
	875 x 2,125 mm	811 x 2,065 mm
	1,000 x 2,125 mm	936 x 2,065 mm
	2,000 x 2,125 mm inactive leaf with concealed frame joint	1,936 x 2,065 mm

- Optional:
- anti-panic push bar (according to EN 1125)
 - door grille with security fittings (for modular dimensions 875 x 2,000 mm)
 - twin frame
 - door closer
 - insulated glazing: W x H = 238 x 1,108 mm (ESG)
550 x 1,108 mm (ESG)
550 x 450 mm (ESG)

2.7 Windows

designwindow:

- pvc frame with insulated glazing and integrated pvc roller shutters; colour: white
- roller shutter housing with belt take-up reel and forced ventilations: housing height 145 mm, lamella colour light grey
- one hand tilt & turn mechanism

ATTENTION: The built-in insulation glass is only suitable for use at altitudes up to 1,100 m above sea level. Above 1,100 m sea level windows with a pressure compensating valve need to be used.

	<i>window options:</i>	<i>external dimension</i>
standard window:	office window ¹	945 x 1,200 mm
	sanitary window ² (opaque windows)	652 x 714 mm
optional windows:	fixed glazing (ESG)	945 x 1,345 mm
	fixed glazing (ESG) *	945 x 2,040 mm (CAH 2,591 mm)
	fixed glazing (ESG) *	945 x 2,250 mm (CAH 2,800 mm und 2,960 mm)
	fixed glazing (ESG)	1,970 x 1,345 mm
	fixed glazing with sliding part (ESG)	945 x 1,200 mm
	double sliding window	1,970 x 1,200 mm
	double window	1,970 x 1,200 mm
	windows with pass-through / speak-through	945 x 1,200 mm
	nursery window	945 x 1,555 mm

window parapet:

(vertical distance between floor level and the upper edge of the lower profile of the window frame)

office window (CAH 2,591 mm)	870 mm ¹
office window (CAH 2,800 mm, 2,960 mm)	1,030 mm
Optional CAH 2,800 and 2,960 mm)	870 mm
sanitary window	1,525 mm
nursery window	624 mm

- Optional:
- Window grille (office and sanitary windows)
 - ventilation slider inside roller shutter housing
 - security glazing with office windows
 - foamed aluminium roller shutters with chain tension cords and roller shutter rails
 - insulated roller shutter box
 - ESG / VSG / TVG

3 Electrical installation

Specification: concealed cabling
IP20¹/IP44²

plug insert according to country standards (VDE, CH, GB, FR, CZ/SK, DK, IT)
country specific design / variations possible

3.1 Technical data

	basis VDE (= OEVE, SKAN, NO, CZ/SK, IT) ^{1/2}	FR	GB	CH, DK
connection:	recessed CEE external plug and socket connections			
voltage:	230V/3 poles/ 32 A ^{1/2}			
	400V/5 poles/ 32 A ^{1/2}			
frequency:	50 Hz			
protection:	residual current operated device 40 A/0,03 A ^{1/2} , 4 poles (400 V)			
	residual current operated device 63 A/0,03 A, 2 poles (230 V) ^{1/2}			
distribution board:	distribution box, surface mounted type, single/twin row ¹ distribution box, surface mounted type, single/twin row wet room ²			
cable:	(N)YM-J / H05 VV-F	RO2V	(N)YM-J / H05 VV-F	
electrical circuits:	light	circuit breaker 10 A, 2 poles (3x1,5 mm ²) ^{1/2}		
	heating	circuit breaker 13 A, 2 poles (3x1,5 mm ²) ^{1/2}		
	socket	circuit breaker 13 A 2 poles (3x2,5 mm ²) ^{1/2}		circuit breaker 10A 2 poles (3x1,5 mm ²)
socket:	2 earthed twin wall sockets ¹ (portable cabin 20')			
	3 single sockets ² (sanitary cabin 20')			
lighting:	light switch ^{1/2}			
	2 twin batten fluorescent light tubes with plastic covering 2 x 36 W ¹ (portable cabin 20')			
	2 single light with trough and fluorescent tube 1 x 36 W ² (sanitary cabin 20')			

Optional: - Category 2 light fittings 2 x 36 W / 2 x 58 W
- light with bulb 25 W
- spur

according to following CENELEC regulations:

- HD 60364-1:2008
- HD 60364-4-441:2007
- HD 60364-7-717:2004
- HD 60364-7-701:2007
- HD 384.4.482 S1:1997
- HD 384.7.711 S1:2003

earthing: universally usable grounding terminal:

On both short sides in the floor frame of each corner a drill hole with a diameter of 9.4 mm is prepared for the fixture of the grounding terminal.

- The fitting of the grounding terminal is undertaken with a screw M10 with a self-cutting screw thread. The positioning of the screw is carried out in the factory on a suitable spot of the cabin.
- A grounding terminal and a four-wire connector are delivered with the container and need to be fitted by the customer on site.
- The protective earthing of the container must be carried out by the customer at the installation site.

Wiring: - Fixed cabling depending on the panel configuration and the user^{1/2}
- Flexible cable system with plug contact and cables in full length^{1/2}

Safety advice: The cabins can be linked electrically at the external CEE plugs and sockets. For the decision how many units to connect electrically the expected constant current in the link circuits has to be considered. The commissioning has to be carried out by an approved electrician.

The manual for the assembly, start up, utilisation and maintenance of the electrical installations is delivered in the fuse box and needs to be followed!

Before connecting the cabin to the supplying low voltage grid all appliances (consumer loads) need to be switched off and earthing needs to be ensured (earthing feed cable and earthing connecting lines between the cabins need to be checked on potential equity and low Ohm level).

Attention: The supply- and connection cables are made for an operating voltage of max. 32 Ampere. These aren't secured with a overcurrent protection device. The connection of the cabins to the external electrical power supply only may be undertaken by an authorised specialist company.

Before using the cabin (modular building) for the first time the effectiveness of the protection measures for the fault protection need to be checked by an authorised specialist company.




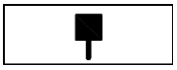
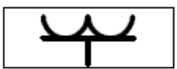
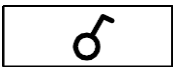
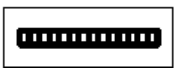

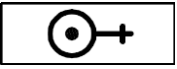
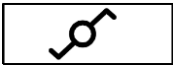
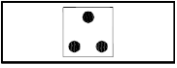
Attention: The commissioning of the boilers and/or under table units is only permitted when they are filled!

Cleaning with a high-pressure cleaner is FORBIDDEN.

The electrical equipment of the cabin may not be cleaned by a direct water jet under any circumstances.

- If the containers are delivered into areas with increased lightning activity further measurements have to be taken under account to prevent overvoltage depending on the country specific rules.
- In case machines or appliances with high starting current peaks are used (according to the manual of the respective appliances) adequate RCD/MCB must be used.
- The electric fittings of the cabins are designed for minimal vibration exposure. When higher loads are given, appropriate measures must be taken according to the national technical regulations (and/or checks of the plug or screw contacts).
- The cabins are designed for areas with little seismic activity. If the cabins are used in areas with higher seismic activity, the country's national regulations are valid and the equipment needs to be adjusted accordingly
- The choice of the external linking cables of the cabins has to suit the country's national technical regulations.
- The cabins have to be secured against thermal overload with a type gL fuse or gG with max. IN = 32A.

3.2 Labelling of the electric (symbols)

	general light		ventilator
	single socket		spur
	double socket		single light switch
	heater, general		series switch
	boiler, general		dual switch
	mini kitchen		

3.3 Heating and air conditioning

Individual heating through frost heaters, thermostatically controlled electric convectors and/or fan heaters with safety switch for overheating.

Mechanical ventilation options with electrical ventilators or on your request also available with window air conditioning units.

Regular ventilation of the rooms must be provided. A relative humidity of 60 % should not be exceeded in order to avoid condensation!

		output:
Description: (amount depends on container type)	ventilator ²	170 m ³ /h
	hygrostatic ventilator	170 m ³ /h
	gas heating	2 kW
	air conditioning	2,6 kW
	convector heater ¹	2 kW
	fan heater ²	2 kW
	frost heater	0,5 kW

All safety distances and instructions issued by the supplier for the equipment must be adhered to!

The appropriate manuals and instructions are sent with the cabins

Safety distance for heaters				
frost protection		fan heater	convector heater	gas module
top	250 mm	200 mm	250 mm	250 mm
below	300 mm	100 mm	100 mm	heat protection plate up to 300 mm (on the floor in front of the equipment)
right	250 mm	100 mm	100 mm	enough distance for servicing
left	250 mm	100 mm	100 mm	200 mm
in front		500 mm (to the air grill)	500 mm	500 mm
behind	33 mm (to 90°C)	26 mm	22 mm	

Further information regarding the instructions are available from the supplier!

4 Miscellaneous

4.1 Transport height

The portable cabins can also be delivered flatpacked.
Standard packet height 648 mm. Four cabins stacked on top of each other have the same external dimensions as a fully assembled cabin.

TP package height (only for portable cabins and depending on equipment):

- 864 mm - standard with CAH 2,800 mm and 2,960 mm	6 pieces / truck
- 648 mm - standard with CAH 2,591	8 pieces / truck
- 515 mm - depending on layout	10 pieces / truck

4.2 Construction / Assembly / Statics / Servicing

General information:

Each individual cabin must be placed on foundations provided on site (e.g. wood, concrete) with at least 4 points of support for 10' cabins, 6 points of support for 16' or 20' cabins (attachment 6.3) and 8 points of support for 24' and 30' cabins (attachment 6.5). The dimensions of the foundation has to be adapted to local circumstances, norms and frost line, under consideration of the local soil condition and the maximum possible loads. The levelness of the foundation is a precondition for a smooth assembly and the failure-free standing of the entire construction. Should the load points not be horizontally aligned, these must be highlighted in the width of the profile. The design of the foundations must ensure a free flow of rain water. During set up or placement of the cabin (constructions), maximum permitted loads and regional conditions (e.g. snow loads) must be taken into account. After removing the transport covers, the holes in the floor frame must be sealed with silicone. Packaging and transport covers must be disposed of by the customer.

Possible combinations of several cabins:

Individual cabins can be selectively configured next to, behind, or on top of each other, while bearing in mind the structural indications and the max. permitted loads. For one-level (ground level) constructions, the cabins may be placed arbitrarily and without restriction regarding quantity. For two- and three-storey buildings, the combination possibilities presented in appendix 6.1/ (10', 16' and 20' cabins) or in 6.3/ (24' and 30' cabins) must be followed.

In case the cabins are linked in other combinations than presented in appendix 6.1/ (10', 16' and 20' cabin) or appendix 6.3 / 6.4 (24' and 30' cabin), we can give no statement about the max. permitted wind load. We categorically recommend keeping a distance from such a practice or to carry out additional anchorings (boltings, supports etc.) with the approval of authorised experts.

The containers must be stacked exactly on top of each other. You must use the special CTX stacking cones and steel brackets provided.

The container roof is not suitable for storage of goods and materials.

The CONTAINEX assembly instructions and the service notes must be adhered to and can be sent upon request. Handling and installation instructions are enclosed in the cabin and must be observed.

Sanitary fittings:

After connecting with the water supply the entire water circulation should be checked once more on water tightness (possible loosening during transport).

CONTAINEX denies any warranty for damages, which may result from placement contrary to the principles. Liability for consequential damages is excluded on principle.

4.3 Handling

- with fork lift
- with crane: angle between lifting rope and horizontal line must be at least 60 °

Due to construction and design, handling with spreader is not allowed.
(Appendix 6.7)!

4.4 Certification

Germanischer Lloyd 'type test' (except 24' and 30' portable cabin)
CE mark, ETA approval

4.5 Paint

Paint system with high weather and aging durability, suitable for city and industry atmosphere.

wall panels: 25 µm coating thickness

frame: 15-40 µm grounding
40-60 µm top coat

The painting of above mentioned parts is carried out with different types of production. These achieve shades similar to RAL. We do not accept liability for colour variations in comparison with the RAL tones.

5 Equipment options for sanitary cabins and fixtures in portable cabins

- handicapped accessible fixtures	- water installation (water supply and drain)
- floor drainage channel / gully	- metal mirror
- floor cover pulled up	- mini kitchen
- boiler: 15L / 80L / 150L / 300 L	- paper towel dispenser
- pressure-reducing valve	- sanitary connections sunk in panel
- shower cubicle with folding door	- intermediate panel
- shower cubicle with curtain	- soap dispenser
- single lever tap for hand wash basin, mini kitchen, shower	- stop & go fixtures for hand wash basins and shower
- wet room electrics (FR - electric)	- telephone duct
- GRP (Glass Fibre Reinforced Plastic) wash trough with 2 single basins l = 1,200mm	- urinal
- GRP (Glass Fibre Reinforced Plastic) wash trough with 4 single basins l = 2,400mm	- canopy roof large / small
- electrical hand dryer	- additional water supply
- ceramic hand wash basin	- WC cabin
- WC	- undersink water heater 5L
- coat hook	
- All fire protection components available on request according to EN13501	

5.1 Water Installation

supply supply using ½", ¾" or 1" pipe, sideways through cabin wall

internal: PP-R piping (in accordance with EN ISO 15874)

operating pressure max. permitted operating / connection pressure - 4 bar

warm water preparation: by using electric boilers, depending on the cabin type (80, 150 or 300² liters)

ATTENTION:

The boilers with 80/150/300 l capacity are suitable for a max. operating pressure of 6 bar. A higher water pressure is reduced with an appropriate pressure reducing valve!

discharge: The waste water is combined via plastic pipes DN 50, DN 100 and DN 125 (external diameter Ø 50, 110 and 125mm) in the container, and passes laterally through the cabin wall.

The customer must drain any sewage into an approved sewage network in accordance with local regulations for water and faecal drains.

NOTE: Should the cabin not be used at temperatures below +3°C, the entire piping system must be emptied including the boiler (risk of frost!). If residual water is left over (eg. drainage water, etc.) an anti-freeze agent must be used to prevent damage from water freezing. The shut-off valve on the water conduit must always stay open.

Further technical information upon request.

Regulatory and legal requirements regarding storage, installation and use of cabins must be observed by the customer.

The suitability of the cabin (modularsystem) and any supplied accessories (e.g. stairs, air conditioning etc.) for the planned application must be checked by the customer.

Subject to technical alterations.

This document is a translation of the German version and is subject to translation and spelling errors. If in doubt, the German version must be consulted.

6 Appendix

6.1 Arrangement options for 10', 16' and 20' containers, max. CAH 2.96m

Number of cabins (SxLxH): Short side (S) x Long side (L) x Height (H)

1- storey		<p>The cabins can be linked at will or positioned individually, without restriction to the size of rooms.</p>
2- storey	<p>Single line modular buildings (quantity of long sides = 1)</p> <p>2x1x2 3x1x2 4x1x2</p>	<p>The illustrated two-storey modular buildings can be linked at will or positioned individually.. The bracing outer walls must not be removed (maximum room size therefore 4x1 cabins)..</p> <p>Position of the required bracing outer walls (bracing outer walls shown with dashed lines; inside rooms blank)</p> <p>2x1 3x1 4x1</p>
	<p>Multiple rows modular buildings (quantity of long sides ≥ 2)</p>	<p>From a minimum size of 2x2x2 cabins an extension of the building in all directions is possible, without restriction to the size of rooms..</p>
3- storey	<p>4x1x3¹ 4x2x3</p> <p>3x1x3</p>	<p>The illustrated three-storey modular buildings can be linked at will or positioned individually. The bracing outer walls must not be removed (maximum room size therefore 4x2 cabins).</p> <p>Position of the required bracing outer walls (bracing outer walls shown with dashed lines; inside rooms blank)</p> <p>3x1 4x1 4x2</p>

Load capacities in accordance with 1.5.

¹ maximum of 3x1x3 where there are optional load capacities

6.2 Arrangement options for 24' and 30'¹ containers, max. external height 2.96 m

Number of cabins (SxLxH): Short side (S) x Long side (L) x Height (H)

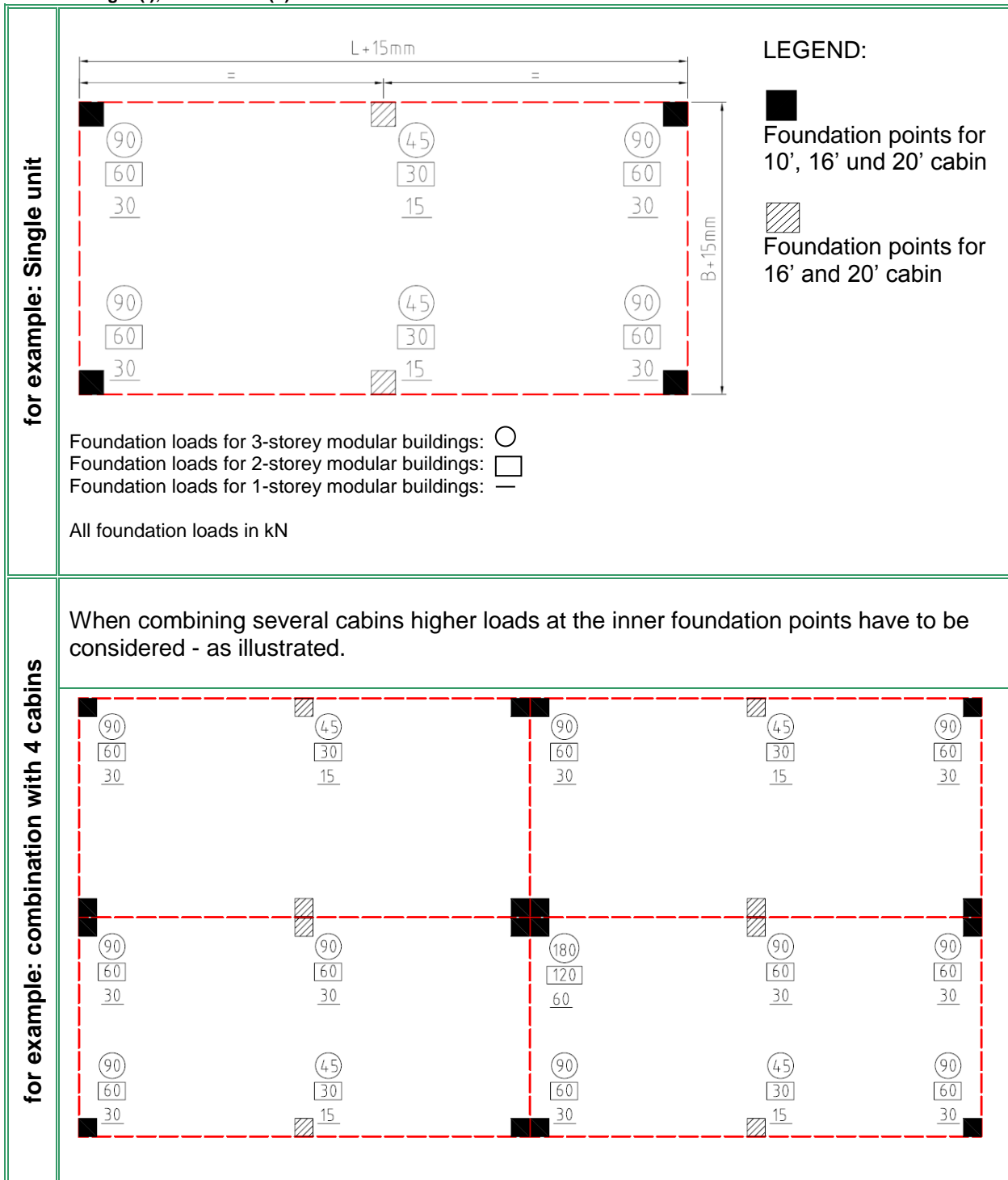
<p>1- storey</p>		<p>The cabins can be linked at will or positioned individually, without restriction to the size of rooms.</p>	<p>Load capacities in accordance with 1.5.</p>
<p>Single line modular buildings (quantity of long sides = 1)</p>		<p>The illustrated two-storey modular buildings can be linked at will or positioned individually. The bracing outer walls must not be removed (maximum room size therefore 3x1 cabins).</p> <p>Position of the required bracing outer walls (bracing outer walls shown with dashed lines; inside rooms blank)</p>	
<p>Multiple rows modular buildings (quantity of long sides ≥ 2)</p>		<p>From a minimum size of 2x2x2 cabins an extension of the building in all directions is possible, without restriction to the size of rooms.</p>	
<p>2- storey</p>		<p>From a minimum size of 3x3x2 cabins an extension of the building in all directions is possible, without restriction to the size of rooms.</p>	
<p>3- storey</p>		<p>The illustrated three-storey modular buildings can be linked at will or positioned individually. The bracing outer walls must not be removed (maximum room size therefore 3x2 cabins).</p> <p>Position of the required bracing outer walls (bracing outer walls shown with dashed lines; inside rooms blank)</p>	

¹ except 30' BM with optional load capacities

6.3 Standard foundation plan for 10', 16' und 20' cabin (load capacities in accordance with 1.5.1.)

Each individual cabin must be placed on foundations provided on site with at least 4 points of support for 10' cabins, 6 points of support for 16' or 20' cabins. The smallest foundation size is 20 x 20 cm, but dimensions of the foundation have to be adapted to local circumstances, norms and frost line, under consideration of the local soil condition and the maximum possible loads. These measures have to be undertaken by the buyer/hirer.

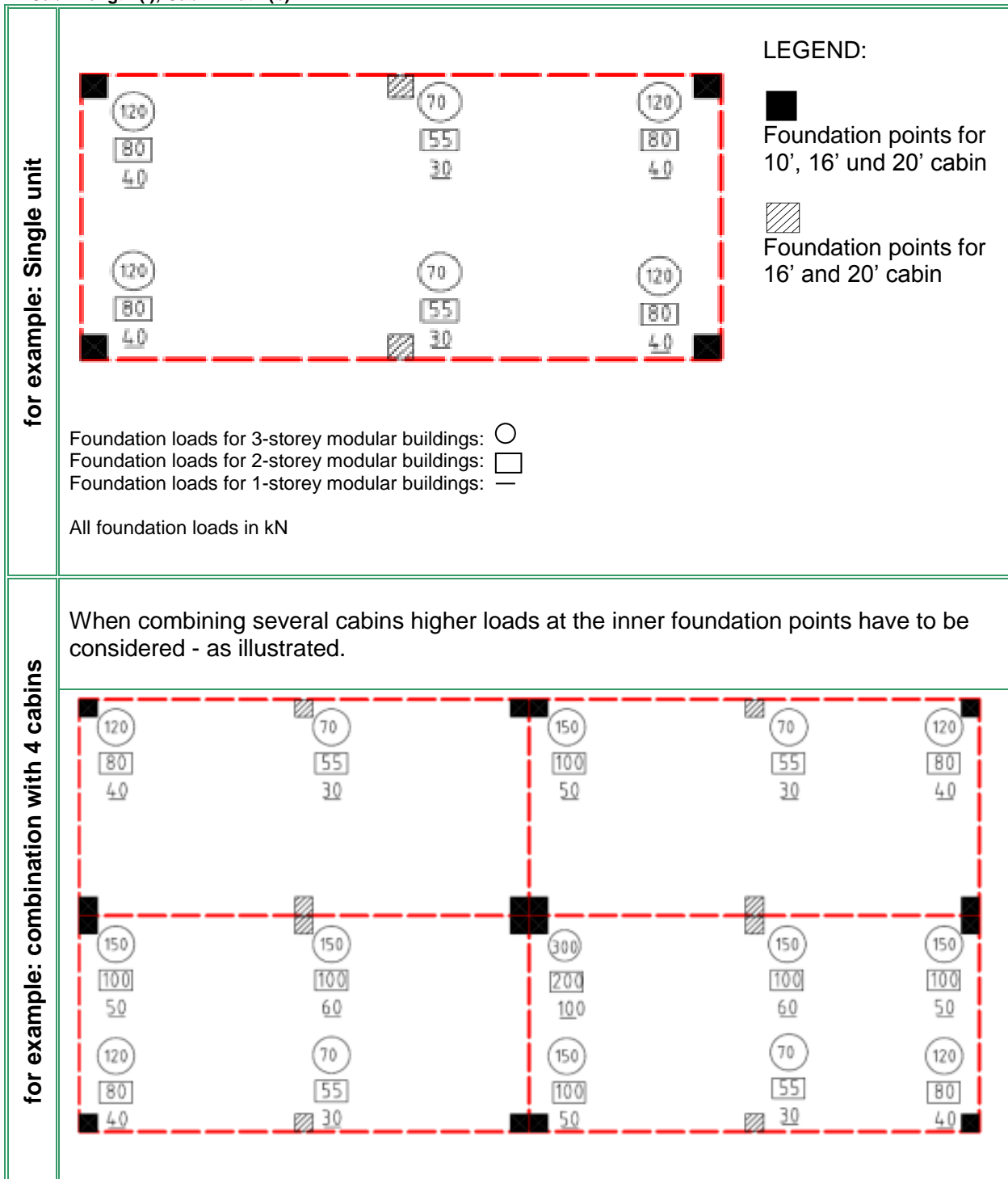
Cabin length (l); Cabin width (b)



6.4. General foundation plan for 10', 16' and 20' containers with optional load capacities (in accordance with 1.5.2.)

Each individual cabin must be placed on foundations provided on site with at least 4 points of support for 10' cabins, 6 points of support for 16' or 20' cabins. The smallest foundation size is 20 x 20 cm, but dimensions of the foundation have to be adapted to local circumstances, norms and frost line, under consideration of the local soil condition and the maximum possible loads. These measures have to be undertaken by the buyer/hirer.

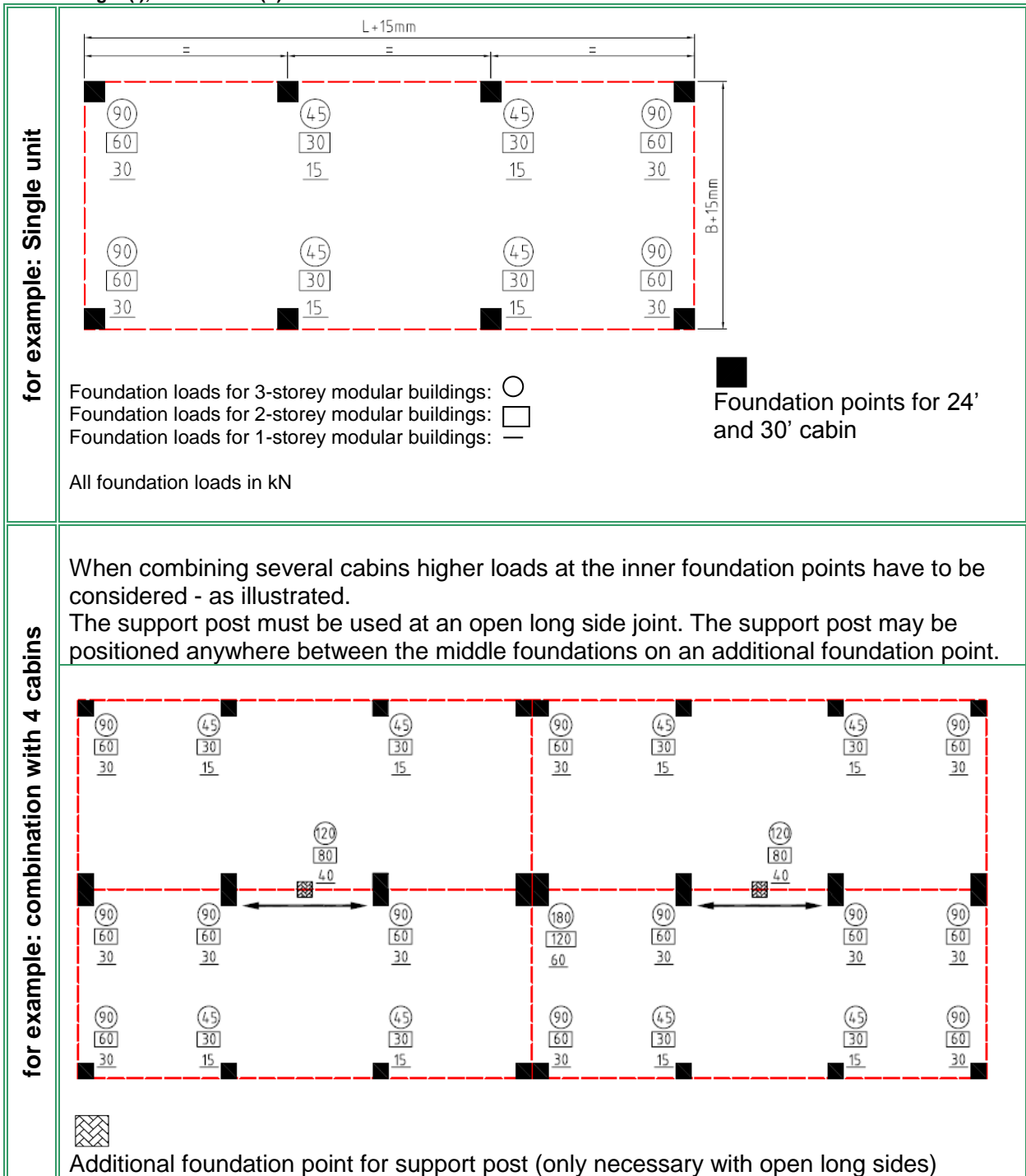
Cabin length (l); Cabin width (b)



6.5. General foundation plan for 24' and 30' containers (in accordance with 1.5.1.)

Each individual cabin must be placed on foundations provided on site with at least 8 points of support. The smallest foundation size is 20 x 20 cm, but dimensions of the foundation have to be adapted to local circumstances, norms and frost line, under consideration of the local soil condition and the maximum possible loads. These measures have to be undertaken by the buyer/hirer.

Cabin length (l); Cabin width (b)



6.6. Transport

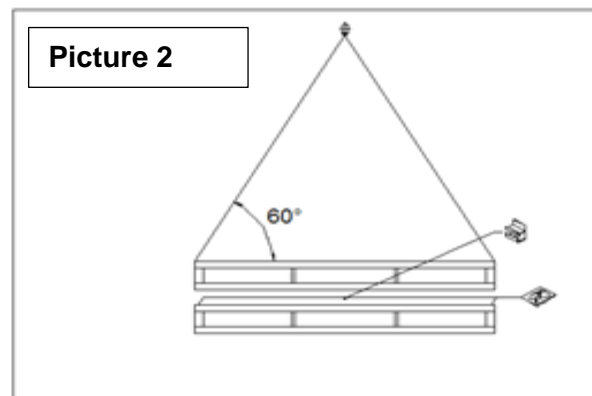
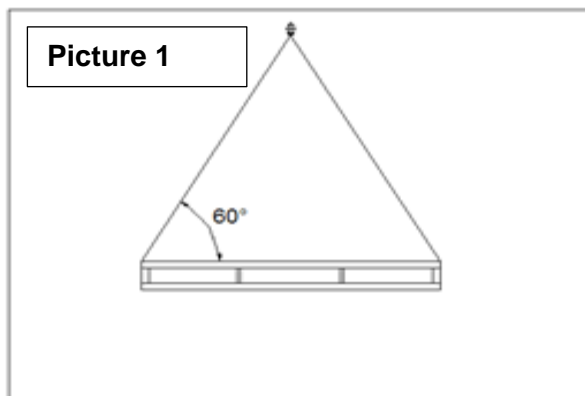
Containers must be transported on suitable trucks. The local laws for load securing must be adhered to. The containers are not suitable for rail transport. The containers must be transported empty.

6.7. Handling instructions for 10', 16', 20', 24' and 30' containers (assembled or packed)

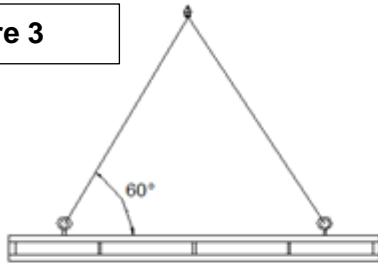
1. The 10ft, 16ft and 20ft cabins and/or packets can be lifted with a forklift (length of fork minimum 2450 mm, width a minimum of 200 mm) or by crane. The ropes need to be fastened to the upper cabin corners. The angle between the rope/chain and the horizontal line must be a minimum of 60° (picture 1).
2. The 24ft as well as 30ft cabins or packages can only be loaded with a crane. The ropes/chains must be fastened on the crane hooks screwed to the top frame. The angle between the rope/chain and the horizontal line must be a minimum of 60° (picture 3).
Due to the construction and design, handling with a spreader is not possible! The cabins may not be handled when loaded.
3. Only single packets of the Transpack cabins are allowed to be lifted.
4. Between the individual packages four stacking cones (in the corners of the container) and two steel brackets per 10ft, 16ft and 20ft (one on each side) and four steel brackets for 24ft and 30ft (two of the steel brackets on each side) must be used.
5. Do not place any extra weight on the top packet!
6. You must only stack max. 5 packets on top of each other.

Possible packet heights:

- 864 mm - Standard with external cabin height 2,800 mm and 2,960 mm
- 648 mm - Standard with external cabin height 2,591 mm
- 515 mm - depending on layout



Picture 3



Picture 4

