

Installation of prefabricated bathroom units and toilets

Pre-conditions

Preparation

Self-inspection

Execution



This **work instruction** is designed for use in detailed planning and preparation of work on construction projects. With thorough planning high levels of personal safety and optimal work apportionment can be achieved at the same time as the work can be organized efficiently and cost effectively.

Explanations

The prefabricated units are complete with installations and surfaces. A temporary metal sheet door is provided with a single padlock.

The units weigh about 1400 kg. They are protected by corrugated paper and plastic during transport.

Safety — Risk assessment

Work activity & Problem	P	C	Risk= P*C	Action
Crush injuries	3	70	210	
Crane Working with the elements/crushing injuries	30	5	150	Education in crane routing/strapping
Falling material / crushing injuries	10	15	150	Helmet compulsory
Fall from ladder, fall injuries	10	15	150	
Cluttered workplace =Twisting or fall injuries	10	15	150	Regular tidying

Probability = P
 Consequence = C
 Risk = P * C

Assessment of probability

P = 0,1	Very unlikely	(<1 times/10 years)
P = 1	Unlikely	(1 times/10 years)
P = 3	Low probability	(1 times/3 years)
P = 10	Relative probability	(1 times/year)
P = 30	Probable	(1 times/month)

Assessment of consequences

C=0,5	Trifle	
C=1	Tiny	(1 - 2 days sick leave)
C=5	Small	(3 - 7 days sick leave)
C=15	Tactile	(8 - 29 - " -)
C=70	Severe	(30-299 - " -)
C=500	Very severe	(>300 - " -)

Text from the Working Environment Authority's brochure Safer Construction Work

Personal Protective Equipment § 71

Safety helmet and protective footwear should be used unless this is clearly unnecessary. Other personal protective equipment such as eye protection, hearing protection and gloves should be worn when required.

Access routes § 63



















For each location where work is performed there shall be a safe means of access such as stairway or gangway. Ladders are not usually suitable as an access.

Access and transportation § 38-41 and 53

Between the various levels will normally be stair or ramp. If the level difference between the two levels is more than ten meters, and this means that workers have to walk a lot up and down stairs access to a lift shall be made available. Transport up to or down from levels more than two meters above ground level or equivalent shall be carried out in such a way that the guardrail or other protective device does not need to be removed.

If this is not possible, transport shall instead be performed using intake bridges, cargo openings in facades, specially designated ramps or specially arranged transport. On the intake bridges there shall normally be a gate or barrier. It is only in certain specified exceptional cases that a guardrail or other protective installations may be removed during such transportations. The Regulations contain detailed provisions for these eventualities.

(See also AFS 2008:13, Appendix 3)

 <p>Hoist Load</p>	 <p>Lower Load</p>	 <p>Hoist Load Slowly</p>	 <p>Lower Load Slowly</p>	 <p>Stop</p>
 <p>Swing Boom in direction indicated</p>		 <p>Lower Boom</p>		 <p>Emergency Stop</p>
 <p>Extend Boom</p>	 <p>Retract Boom</p>	 <p>Raise Boom</p>	 <p>Lower Boom</p>	 <p>Signal not understood</p>
 <p>Open</p>	 <p>Close</p>	 <p>Main Hoist</p>	 <p>Auxiliary Hoist</p>	 <p>Finished</p>

Equipment and materials

Equipment

Unloading

- Forklift or crane

Mounting

- Crane for large level differences.

Equipment for mounting

- Setting out: Tape measure, nail gun and nails or the like, as well as marking colour
- Levelling instruments in connection with the assembly of the underlays when lifting units into place.
- Ladders for both staff engaged in connecting and mounting.

Materials

- Metal/minarit underlays and rubber buffers

Installation of bathroom units

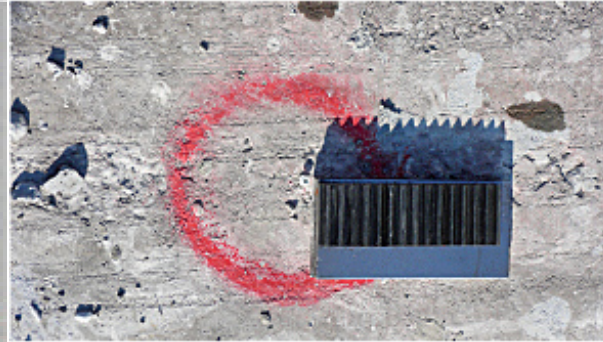
The installation/connection of the units is performed after the building shell has been sealed.

Setting out

The corner units are marked with gunned nails and a red circle.

Blocks of metal/minerit + a rubber buffers are positioned so that the unit's corner comes directly above, it's position measured with a level and adjusted to the correct height.

Base screeding approximately 5-6 cm thick plus + top screeding is added.



The bathroom units are temporarily stored here which requires a larger area. The eyebolts are released, threaded through the plastic and the hoist is connected.

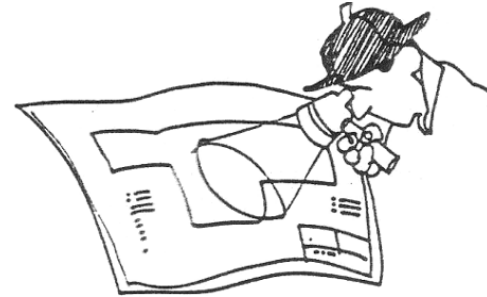


Self-inspection 1(2)
Template & instructions

No	Check	Method or equipment	Frequency	Result	Date Signature	Deviation/Remedy Approval/Non-A
1	Assembly					
2	Insulation					
3	Cover					
4						
5						
6						
7						
8						
9						
10						
11						

Quality criteria for the project and the product

- Study Drawings, Specifications and Inspection planning
- Think through the alternative **methods of production** and handling of materials, tools etc. that can meet the requirements



Pay particular attention to

- The right elements mounted in the right place
- Prepare for the measuring process and possible hole perforations



The drainage pipes should be located above the holes in the floor

Base pads.





Lifting brackets removed.

Here is a wall penetration for a drain
which is protected with plastic foil.



Drainage, water and ventilation are connected.
Electrical connection is in progress.

Note insulation boards between the device
and the screeding.





Electricity,
Hot Water = red,
Cold water = green,
Drainage
and ventilation
has been connected.

Here, the floor has
just been primed
for floating the
next day.

The unit covered with a steel studding and plasterboard.

Note, the floor is here top screeded.





Stud framing for plaster
on the go...



Plasterboard is
mounted





We are looking into a fairly complete bathroom.

The temporary metal door shall be changed to a 'real' door.

