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.
Background
The supporting structure was built with shell walls and flat concrete slabs with topping.
The cladding walls were intended to be made of concrete.
Due to the construction period running overtime the purchaser decided to adopt the contractor’s proposal to change to a site-built construction.
Parapets which are to be plastered have been provided with inclined / beveled edges, which means many working hours.

The frames are installed in the following order:
1 - Frame of steel studs
2 - Installation window
3 - External minerit panels
4 - External insulation
5 - Plastering on some parapets or ½- stone masonry
6 - Inside: building paper, insulation, foil and plaster.
### Pre-conditions 2(4)

**Safety — Risk assessment**

<table>
<thead>
<tr>
<th>Work activity &amp; Problem</th>
<th>P</th>
<th>C</th>
<th>Risk = P*C</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Överbelastning, sträckning</td>
<td>10</td>
<td>75</td>
<td>750</td>
<td>Use 'snap studs' or perforated studs</td>
</tr>
<tr>
<td>Tripping injuries</td>
<td>3</td>
<td>150</td>
<td>450</td>
<td></td>
</tr>
<tr>
<td>Handling &amp; Cutting joists</td>
<td>3</td>
<td>70</td>
<td>210</td>
<td>Protective Clothing</td>
</tr>
<tr>
<td>Fall from trestle or ladder</td>
<td>3</td>
<td>70</td>
<td>210</td>
<td>Use trestle with large standing surface</td>
</tr>
</tbody>
</table>

### Assessment of probability

- **Probability = P**
  - 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

- **Consequence = C**
  - 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 " - ")
Pre-conditions 3(4)  
Safety — Protective gear

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

Personal Protective Equipment § 71
Safety helmet and safety shoes should be used unless it is clearly unnecessary. Other personal protective equipment such as eye protection, hearing protection and gloves should be worn when necessary.

On the construction project the issue of First Aid had been resolved in the manner shown in the photo.
Pre-conditions 4\(4\)
Crane directing

(See also AFS 2008:13, Appendix 3)
**Preparation** 1(3)

**Equipment and machinery**

**Machinery, tools:**
- Trestles preferably with wide standing surface
- Alloy Ladder
- Chalk liner and ruler
- Pen

- A drill with cord
- Bolt pistol or pneumatic gun
- Circular saw
- Screw Machine or screwdriver
- Sheet metal clamp – for joining sheet metal studs
- Shears

- Cables, junction box, lamps

- A lockable trolley for tools and equipment reduces unnecessary running around
**Materials**

- Steel studs for exterior wall with wood studs / plywood by windows
- Plates and noggins for fixings
- Plastic foil strip under walls, insulation mat
- Sealing strip of EPDM rubber
- Pistol nails and possibly other nail types
- Plaster screws
- Latex
- Mineral wool in some walls

**Number steel studs in cladding frame**

Do not forget to add for waste- about 10% depending on the nooks and crannies.

Number studs =  
wall length (ml) / 0.45 +1 (for wall studs S450)

**Linear meters of rails and girders**

Linear meter rails respectively floor and ceiling purlins = wall length (ml) x 2

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Meters of wall

0.45
Delivery of steel studs
If steel joists and boards are not delivered flat packed and wrapped before the next floor is laid, the packet can be taken in with a trolley.

Check that the floor can withstand the point loads! (Chipboard flooring has poor bearing capacity for point loads!)

Preparation  2(2)  Deliveries - logistics
### Self-inspection 1(2)

**Template & instructions**

<table>
<thead>
<tr>
<th>No</th>
<th>Check</th>
<th>Method or equipment</th>
<th>Frequency</th>
<th>Result</th>
<th>Date Signature</th>
<th>Deviation/Remedy Approval/Non-A</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Sole plate insulation</td>
<td>Propper insulation</td>
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<tr>
<td>2</td>
<td>Sole plate fixing</td>
<td>Anchoring</td>
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<td>3</td>
<td>Frame studding</td>
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<tr>
<td>4</td>
<td>Noggins</td>
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<tr>
<td>5</td>
<td>Beams</td>
<td>Quality of timber</td>
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<td>6</td>
<td>Rough battens</td>
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<td>7</td>
<td>Door openings</td>
<td>Measurements</td>
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<td>Documenting with photos</td>
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</tbody>
</table>
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**

- Wall studs should be cut shorter than the wall height
- Wall studs shall be jointed in accordance with the supplier’s instructions
- Do not install damaged joists
- Cutting with angle grinder involves "hot work"
The joists are nailed to the floor and screwed to the ceiling.
The vapour barrier is placed and floor joist, 195 mm Thermo, slid into place. Wall bracket is "sealed" at the ends and pushed into place.

Assembling the joists in the ceiling using a bolt gun can cause damage to the shoulder. Other methods such as shooting with compressed air guns should be selected.

Fire hazard "hot work"!
Wood studs for windows
Around window openings are fitted plywood boards for mounting of the window frames.
Execution 3(5)
Mounting stud frame

Sloping parapets - Intended as plastered
A change in material specification resulted in these oblique parapets
Attic boarding
To the left - ready to the attic boarding

Below
The attic boarding is jointed / spliced with long screws that may create problems for those responsible for insulating works.

Waste
Why handle the waste several times?
Deposit it directly in sorting bags
Installation of external walls - coordination!
Stir to radiators come up in the outer walls.
Fixtures can be arranged in different ways.

The electrician will come later.