

## *Façade render to reinforced insulation on fibre cement boards*

Pre-conditions

Preparation

Self-inspection

Execution



Safety — Risk assessment

Work activity & Problem	P	C	Risk= P*C	Action
Overloading, straining	10	70	700	Scaffold with good workspace
Rain, wind, cold, heat	90	2	180	Climate protection to scaffolding
Fall from ladder	10	15	150	
Cluttered workplace = Twist/fall injuries	10	15	150	Regular tidying
Overloading, straining	10	70	700	Scaffold with good workspace

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*

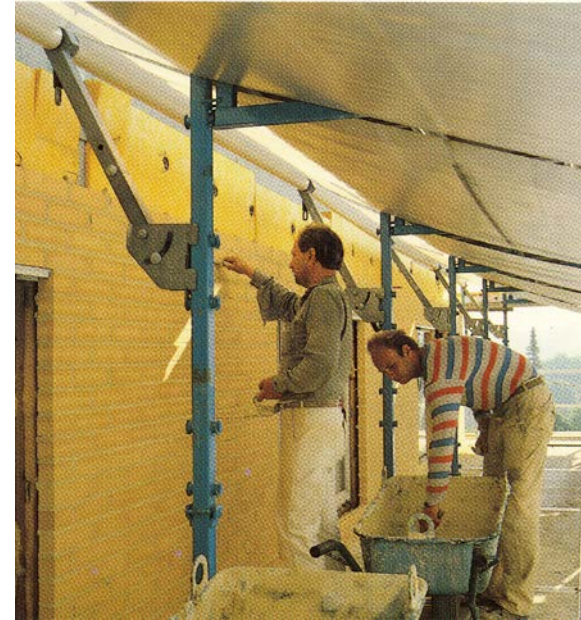
## **Personal Protective Equipment § 71**

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.

## **Climate Protection**

Both the renderer and the render benefit from climate protection. See photo for an example.

**Text and images from SBUF report 89:29**



## Equipment and materials

### Basic equipment:

- Automatic Mixer with pump, hoses and nozzles
- Water Bucket/Plasterer's bucket
- Trowels, various sizes
- Spirit level
- Wheelbarrow
- Water Broom
- Render cleaning board
- Wire brush
- Water Hose

### Materials:

- Protection materials: Tape and plastic sheeting
  - Mortar
  - Render
  - Water
  - Steel mesh/mesh + plastic fastening units
- Read the product sheet for each product before use.*



## Prepare for the rendering work

Cover the frames etc. that shall not be rendered. Repair damage in the undersurface and joint at abutments with other materials and in crevices.

To avoid lines in the facade after scaffolding etc., the scaffolding shall be placed away from the wall so that it is possible to spray freely. To avoid contamination of the render surfaces, the scaffolding should be constantly cleaned.

Protect new render against heavy rain and strong sunlight.

When mixing mortar do not water from the hose that has been in strong sunlight. Always trim the render away from wood surfaces since render and wood have different coefficients of expansion.

## During the cold season

Newly applied render shall not be exposed to frost. When heated, the relative humidity is low and watering is required.

Finished render shall after watered and kept moist for at least 3 days. Otherwise, there is a risk of poor strength. Use a hose with a fine spray nozzle.



## Render Mixing Station- mixer with pump

Hoses shall reach the sites of the rendering.

## Plan for the refuse - rendering and reinforcement =>

Wheelbarrow and a container nearby.

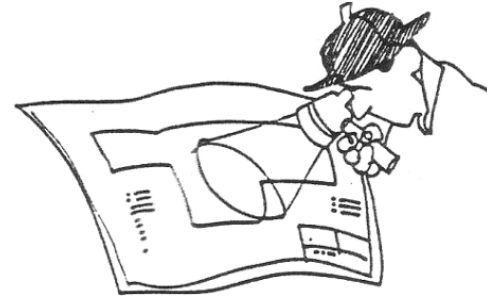


## Template &amp; instructions

No	Check	Method or equipment	Frequency	Result	Date Signature	Deviation/Remedy Approval/Non-A
1	The subsurface is cleaned					
2	Coverage of wood and sheet metal					
3	Reparation of subsurface irregularities					
4	Reinforcement					
5	Rendering texture and evenness of the color before the position is dismantled.					
6	Jointing - Abutments to windows etc.					
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*

- Follow the instructions in the specification and from the supplier
- When working in cold weather, appropriate measures must taken
- The subsurface and reinforcement are crucial to the quality and strength of the finished surface



## Reinforcement

Steel reinforcement is attached with straps to the eyes of the fasteners to which the insulation is attached. They are attached by screwing in the subsurface - in this case fibre cement board/ "minerite".

Insulation –  
see specific work instruction



### First layer

Thereafter, the first render layer is sprayed with a thickness of about 5 -10 mm on the insulation and trowelled smooth.



## Second layer

When the first layer has dried - see picture below - the second layer is sprayed on in the same manner and trowelled smooth. Note the slanting window's parapet.



Afterwards, the render is smoothed out with a waffle iron.



### Work method

The work is performed from the top downwards to prevent damage to finished work. The joint between the first and second layer can be seen in the picture below. The scaffolding is in the middle of the picture.

The third layer is a priming layer and the fourth color layer is the finished surface.

Right finished façade.

