Facade rendering of prefabricated façade elements

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.
### Pre-conditions

**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>Overloading, straining</td>
<td>10</td>
<td>70</td>
<td>700</td>
<td>Scaffolding with good workspace</td>
</tr>
<tr>
<td>Rain, wind, cold, heat</td>
<td>90</td>
<td>2</td>
<td>180</td>
<td>Climate Protection to scaffolding</td>
</tr>
<tr>
<td>Fall from ladder</td>
<td>10</td>
<td>15</td>
<td>150</td>
<td></td>
</tr>
<tr>
<td>Cluttered workplace = Twist/fall injuries</td>
<td>10</td>
<td>15</td>
<td>150</td>
<td>Regular tidying</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 days sick leave)
  - C = 70: Severe (30-299 days sick leave)
  - C = 500: Very severe (>300 days sick leave)
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.

Scaffolding
Basic equipment:
- Automatic Mixer with pump, hoses and nozzles
- Water Bucket/Plasterer’s bucket
- Trowels, various sizes
- Spirit level
- Wheelbarrow
- Water Broom
- Wiping board
- Wire brush
- Water hose with spray nozzle

Materials:
- Protective material: Tape and plastic sheeting
- Rendering mortar
- Plaster
- Water
- Reinforcement net

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.
<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>The subsurface is cleaned</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Coverage of wood and sheet metal</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Reparation of subsurface irregularities</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Reinforcement</td>
<td></td>
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</tr>
<tr>
<td>5</td>
<td>Rendering texture and evenness of the color before the position is dismantled.</td>
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</tr>
<tr>
<td>6</td>
<td>Jointing Abutments to windows etc.</td>
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</tr>
<tr>
<td>7</td>
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<td>11</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

- 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
Reparation of subsurface irregularities
Damage, joints and crevices should be repaired the day before the rendering is performed with filling mortar.

Pre-watering
Absorbent surfaces should be pre-watered. Use a hose with a fine spray nozzle.

Rendering Team 1
Thereafter, the first render layer is sprayed onto the subsurface.

Here the rendering is applied to Blähglass which has large pores. This absorbed several times more render.
Direct after application the render is smoothed out.
**Reinforcement**
A reinforcement sheet of glass fiber is placed as a wall paper on the wet render and pressed into the surface with a wide trowel so that the plaster penetrates through the glass fiber sheet.
Rendering Team 2
On top of the reinforced layer the Team sprayed a thin layer, which was then
<table>
<thead>
<tr>
<th>Execution</th>
<th>Rendering</th>
</tr>
</thead>
<tbody>
<tr>
<td>5(5)</td>
<td></td>
</tr>
</tbody>
</table>

**Painting**
In this project the surface was rolled twice.

**Finished rendered facade**
<table>
<thead>
<tr>
<th>Execution</th>
<th>6(5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Work activity</td>
<td></td>
</tr>
</tbody>
</table>