Scaffolding Decks

Inspection and Repair Instructions

for the surfaces of stackable combination decks and Robust decks

Date: July 2014





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1. General information:

Plywood is a natural material which, like solid wood, is subject to an aging process. Even additional anti-rot protection and synthetic resin cover coatings cannot provide one hundred percent long-term protection, particularly against extreme dampness taking effect over a lengthy period. Rough use on the site and the mechanical cleaning of wooden decks (e.g. using scrapers) lead to heavier wear and tear. Regular checks on all wooden parts used for scaffolding protection are therefore essential.

The legal position is clear: every company owner is liable for safe scaffolding components.

Annex 2 of the German Ordinance on Industrial Safety and Health (*BetrSichV*) places very clear obligations on the scaffolding construction company:

"The employer shall take precautions to ensure that the equipment is inspected before use for any defects, and to ensure absence of defects during its use where possible. If defects are found that might affect the safety of the employees, such equipment may not be used. If such defects are found during use, equipment may no longer be used."

Consequently:

- Visually check all scaffolding components for any apparent damage prior to installation.
- Scaffolding components must be inspected regularly and kept in order, particularly decks with plywood boards and all scaffolding components and decks subject to a natural aging process. A thorough inspection is recommended at least once a year.
- Damaged components must not be installed!

The present instructions list criteria using which you can assess whether the plywood deck is in proper condition or whether it must be replaced.

2. Types of damage to plywood decks

- 1. **Mechanical damage:** If the plywood is so mechanically damaged that its functionality or loading capacity is impaired, it must be replaced.
- 2. **Deformations:** If the plywood sags more than 2 cm in the transverse direction of the deck (Fig. 1) without being loaded, it must be replaced.



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3. Rotting: Fig. 2 shows a plywood deck rotted through along the longitudinal frame. The plywood must be replaced without delay.



3. Help in diagnosis of rot damage for stackable combination deck



Rot damage in the stackable combination deck (Art. Nos. 3805.xxx, 3806.xxx, 3814.xxx, 3815.xxx) not discernible from above can be ascertained using the following criteria:

- On the end face of the deck there are, in the area of the edging, vertical cracks on the end face of the plywood (Fig. 3).
- In the advanced stage, the plywood is already flaking or partly broken off at this point (Fig. 4).

For checking the end face, use a knife or screwdriver to check whether the wood can be easily broken off or whether the blade penetrates easily into the wood. To get a feeling for this, use a knife to check an undamaged part of the board. The knife can penetrate only the surface here. When checking a plywood board area affected by rot, the blade can penetrate 3 to 4 mm deep into the wood (Fig. 5).

The penetration depth is also still dependent on the moisture content of the wood at the time of inspection.



If the plywood is damaged according to one of the above criteria or in any other way, it must be replaced.



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4. Help in diagnosis of rot damage for Robust deck



Rot damage in the Robust deck (Art. Nos. 3835.xxx, 3836.xxx, 3837.xxx, 3838.xxx) begins first in the area around the rivet.

Unlike in the stackable combination deck, the plywood is not edged at the longitudinal frame. This makes it easier to detect damage. You can detect the start of irreparable damage to the timber substance from the wood splintering around the rivet. At an advanced stage, the plywood has broken away around the rivet (Fig. 6).

We recommend replacement of the board when the plywood has broken away at one or more rivets.

If the plywood is damaged according to the above criterion or in any other way, it must be replaced.



Fig. 6

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5. Repair instructions for replacement of the deck surface of the stackable combination deck with plywood or XTRA-N board



Spare parts needed: see Layher spare parts price list.

Extra equipment needed for repair:

- Punch, dia. 3 mm, for removing the mandrels
- Drill, dia. 5.0 mm
- Drill, dia. 6.2 mm
- Soft-face hammer

Step 1: Remove old plywood

1. At the rivets (11 + 14), remove the mandrels (steel pins inside the rivets) with a **punch**, **dia**. **3 mm** and carefully drill out the rivets using a **drill**, **dia**. **6.2 mm**.

<u>Caution</u>: When doing so, the holes in the frames and in the cap must not be enlarged!



- 2. At both ends of a frame (16), remove the mandrels from the rivets (12) using a **punch, dia. 3 mm** and carefully drill them out using a **drill, dia. 5.0 mm**.
- 3. Push the caps (15) slightly outwards and remove the frame (16) by light hammer blows onto a block.
- 4. Now remove the plywood (10).



Step 2: Fit plywood board or XTRA-N board

- 1. Fit the plywood board or XTRA-N board (10) with light hammer blows from a soft-face hammer.
- 2. Insert and set the rivets (12).
- 3. Check that the outer dimension (outer edge of frame to outer edge of frame) is **610 mm** over the full length at several points.



- 4. Drill through the plastic board through the holes in the frame using a **drill, dia. 6.2 mm** only after making this check.
- 5. Insert and set the rivets (11+14).

Step 3: Install cross rungs

1. If your decks previously did not have cross rungs, these must be retrofitted. To do so, use a **drill dia. 6.2 mm** to drill through frame and board, with the cross rung doubling here as a drilling template.

With length 1.57 m and 2.07 m: one cross rung in centre:



With length 2.57 m and 3.07 m: two cross rungs at the one-third points:

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2. Connect the cross rungs with rivets (14).

<u>Caution:</u> The cross rungs must be contacting the board.







6. Repair instructions for replacement of the deck surface of the stackable combination deck with aluminium profiled boards

Spare parts needed: see Layher spare parts price list.



- Punch, dia. 3 mm, for removing the mandrels
- Drill, dia. 5.0 mm
- Drill, dia. 6.2 mm
- Soft-face hammer

Step 1: Remove old plywood

See page 8, step 1.

Step 2: Fit aluminium profile boards

- 1. Fit aluminium profiled boards into the frame, starting with the start profile, by light blows with a soft-face hammer.
- 2. Connect the first centre profile without any gap to the start profile and fit it in the frame with light hammer blows



- 3. Connect further centre profiles without any gap.
- 4. After the last centre profile, fit the end profile.
- 5. Fit the frame with light hammer blows onto a block.
- 6. Insert and set the steel rivets (12).
- 7. Check the 610 mm dimension several times, also check the diagonal dimension so that rectangularity is assured.



- 8. Drill holes through the aluminium profiled boards using the holes already present in the frame using a **drill, dia. 6.2 mm**.
- 9. Insert and set the rivets (11 + 14).



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7. Repair instructions for replacement of the deck surface of Robust deck with plywood or XTRA-N board



Spare parts needed: see Layher spare parts price list.

Required extra equipment:

- Hammer
- Punch, dia. 3 mm, for removing the mandrels
- Drill, dia. 5.0 mm

Step 1: Remove plywood

- 1. At the rivets (1), remove the mandrels (steel pins inside the rivets) using a punch, dia. 3 mm.
- 2. Carefully drill out the rivets using a drill, dia. 5.0 mm.

Caution: When doing so, the holes in the frames and in the cap must not be enlarged!



3. Remove the plywood (10).

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Step 2a: Install cross rungs

1. If your decks previously did not have cross rungs, these must be retrofitted. The steel cross rungs (2) are placed onto the frame before fitting of the deck board and riveted together with the board:

With length 1.57 m and 2.07 m: one cross rung in centre:



With length 2.57 m and 3.07m: two cross rungs at the one-third points:

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Step 2b: Fit plywood or XTRA-N board

- 1. Place the plastic replacement board on the frame and use a **drill, dia. 5.0 mm** to drill holes in the board, after measuring out, at the places where the rivet holes are.
- 2. Insert and set the rivets (1).



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8. Repair instructions for replacement of the deck surface of Robust deck with aluminium profiled board

Spare parts needed: see Layher spare parts price list.

Required extra equipment:

- Punch, dia. 3 mm, for removing the mandrels
- Drill, dia. 5.0 mm

Step 1: Remove plywood

See page 12, step 1.

Step 2: Fit aluminium profile boards

- 1. Mark the position of the holes already present in the frame on the frame
- 2. Place the aluminium profile board on the frame and drill using a drill with dia. 5.0 mm
- 3. Insert and set the steel rivets (1).

