alkus®
PANEL SYSTEM

INSTRUCTIONS
REPAIR

CONTENT

PICTURE CREDITS

> alkus AG or alkus AG / Jens Ellensohn, with the following exceptions:

P. 16

> iStock, PeskyMonkey, edited

REQUIRED TOOLS

for alkus® repair

Frequent site use inevitably lead to damage to the formwork facing. The alkus® "long-life repair" provides for a repair with identical material and without any loss of quality. Please note: This quick user guide contains the most important information and hints on the repair of alkus® panels. The original manufacturers' operating instructions for the welding device, the paint stripper and the drilling device are enclosed. Please make sure to read these instructions before starting operating and to observe the specified instructions for safety and use. This will protect you and avoid damage of the equipment. Only genuine spare parts may be used. When using our products, the federal, state and local codes and regulations must be observed.

No.	Description
1	alkus® repair kit light/PRO
2	alkus® welding device and associated tools
3	alkus® paint stripper and associated tools
4	Spare blades for alkus® paint stripper
5	alkus® battery drill machine and associated tools
6	Claw-hammer
7	Plastic-hammer
8	alkus® cylinder head drill incl. stopper Ø35.5 mm/49.5 mm
9	Spiral drill bit
10	Countersink for rivethole
11	Adjustable collar for countersink
12	alkus® scraper
13	alkus® HM paint scraper
14	Side cutting pliers
15	alkus® repair plugs 35.5
16	alkus® repair plugs 49.5
17	alkus® repair patches 35.5
18	alkus® repair patches 49.5
19	Tool to remove rivets and head for tool to remove rivets
20	alkus® AS-conical tube, Ø 24/29 mm, L=103 mm
21	alkus® alu-cone, Ø 20/22 mm, L=70 mm

Repair
Video: www.youtube.com/alkusAG

ANCHOR HOLE REPAIR

Video: Anchor hole repair - alkus® solid plastic panel

1

For anchor hole repair, you will need the following tools:

> Welding device
> Paint stripper
> Scraper
> Alu-cone
> AS-conical tube
> Paint scraper

2

First, the damaged area has to be cleaned of dirt using the scraper.

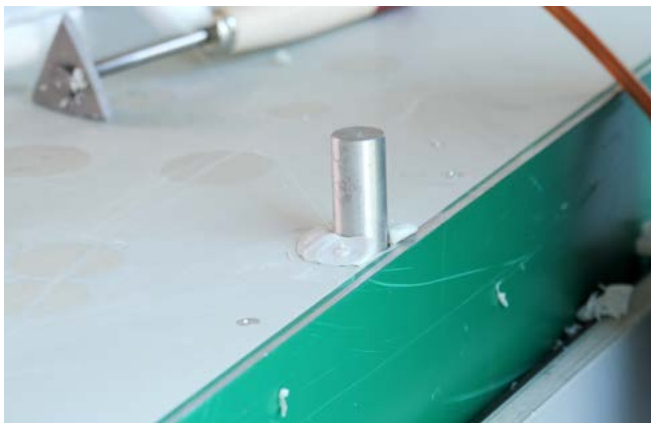
3

Depending on the desired diameter, insert the alu-cone or the AS-conical tube into the anchor hole.

4

In the next step, preheat and weld the anchor hole around the cone using the welding device.

ANCHOR HOLE REPAIR



5

Allow the welded area to cool for approx. 2 minutes.

6

After cooling, remove the cone.

7

Remove the excess material with the paint stripper.

8

In the final step, to achieve a smooth surface strip the repaired area with the scraper and the paint scraper.

ANCHOR HOLE REPAIR

9

In just a few steps, the alkus® solid plastic panel is ready for use again.

HAMMER BLOW REPAIR

Video: Hammer blow repair – alkus® solid plastic panel

1

For hammer blow repair you will need the following tools:

> Welding device
> Paint stripper
> Scraper
> Paint scraper

2

First, the damaged area has to be cleaned of dirt using the scraper.

3

Use the welding device to preheat and weld the pothole.

4

Allow the welded area to cool down for about 1 min.

HAMMER BLOW REPAIR

5

After cooling, remove the excess material with the paint stripper.

6

Finally, strip the repaired area with the paint scraper and scraper to achieve a smooth surface.

7

In just a few minutes, the alkus® solid plastic panel is repaired and ready for use without any loss of quality.

EDGE REPAIR

Video: Edge repair – alkus® solid plastic panel

1

For edge repair you will need the following tools:

> Welding device
> Paint stripper
> Scraper
> Paint scraper

2

Frist, the damaged area has to be cleaned of dirt using the scraper.

3

Place a metal profile flush with the panel height and secure it.

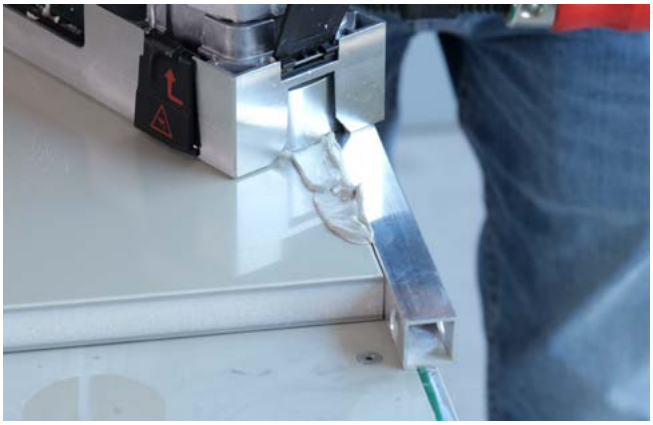
4

Preheat the area to be repaired with the welding device then weld the gap.

EDGE REPAIR

5

Allow welded seam to cool down for 2 min.

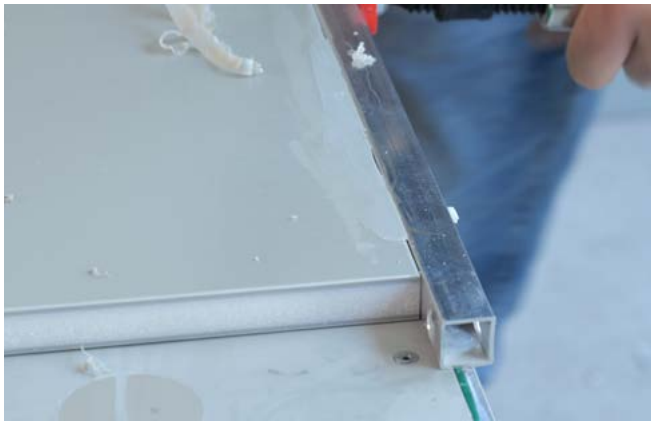


6

After cooling, remove the excess material with the paint stripper.

7

Next, smooth the area with the scraper.



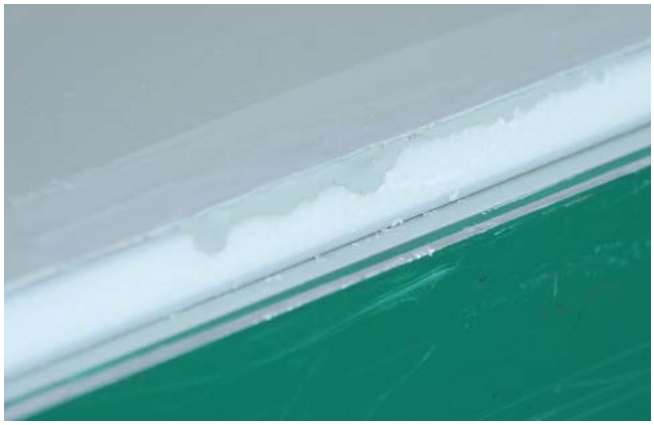
8

Remove the metal profile...

EDGE REPAIR

9

... and strip the repaired area with the paint scraper to achieve a smooth surface.



10

This way, the alkus® solid plastic panel is repaired and ready for use in just a few minutes.

SCRATCH REPAIR

Video: Scratch repair - alkus® solid plastic panel

1

For scratch repair you will need the following tools:

> Welding device
> Paint stripper
> Scraper
> Paint scraper

2

First, clean the scratch from dirt using the scraper.

3

Then, weld the scratch with the welding device after preheating.

4

Allow the welded area to cool for approx. 2 minutes.

SCRATCH REPAIR

5

After cooling down, remove the excess material with the paint stripper.

6

Smooth the repaired area with the paint scraper.

7

The alkus® solid plastic panel is repaired to a seamless state in just a few minutes and ready for use.

HOLE REPAIR WITH PATCHES

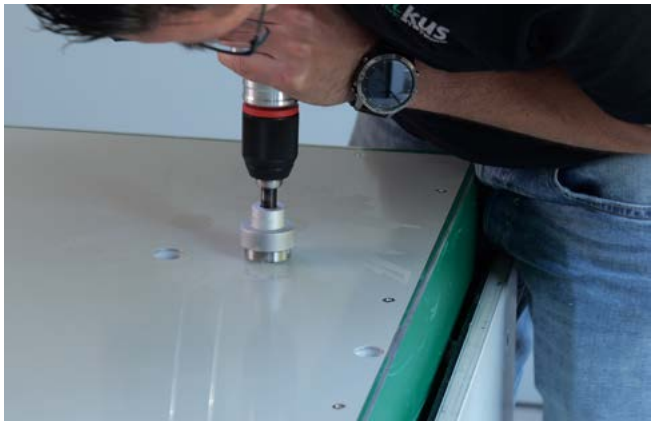
Video: Hole repair with patches 35.5 mm - alkus® solid plastic panel
Video: Hole repair with patches 49.5 mm - alkus® solid plastic panel

Ø 35.5 **Ø 49.5**

1

For hole repair with patches you will need the following tools:

> Battery drill machine incl. battery
> Welding device > Paint stripper
> Plastic-hammer 50 mm
> Cylinder head drill 35.5 mm or 49.5 mm
> Patches 35.5 mm or 49.5 mm
> Centering panel GM > Paint scraper



2

First, drill a hole using the cylinder head drill.

Note the information on the diameter:
35.5 Drilling without a centering panel is possible for holes with a diameter of up to max. 13 mm, with the centering panel up to max. 25 mm.
49.5 Drilling without a centering panel is possible for holes with a diameter of up to max. 22 mm with the centering panel up to max. 40 mm.

3

For assistance during drilling, use the centering panel: it is secured to the alkus® panel with nails.

4

Drill a hole using the battery drill machine.
Drilling depth adjustment:

Drilling depth adjustment:
Without centering panel:
Set the stop flush with the milled notch on the drill bit.
With centering panel:
Adjust the stop backwards by 6 mm.

HOLE REPAIR WITH PATCHES

5

After drilling the hole remove the centering panel.

6

Insert the patch and drive it in with the plastic-hammer into the hole.

7

Subsequently, preheat and weld around the patch using the welding device.

8

Allow the welded area to cool for approx. 2 minutes.

HOLE REPAIR WITH PATCHES

9

After cooling, remove the excess material with the paint stripper.

10

In the final step, to achieve a smooth surface strip the repaired area with the paint scraper.

11

In just a few steps, the alkus® solid plastic panel is ready for use again.

PANEL SECTION REPLACEMENT

Video: Panel section replacement – alkus® solid plastic panel

1

For the panel section replacement you will need the following tools:
> Paint stripper > Welding device > Claw-hammer
> Battery drill machine incl. battery > Scraper
> Paint scraper > Battery rivet gun > Steel rivets
> Spiral drill bit with rivet hole countersink
> Multitool > Hand-held circular saw & guide rail
> Router with chamfer milling cutter
> Tool to remove rivets

2

First, remove all rivets from the panel section designated for replacement.

3

To do so, drill through the rivet head and punch the rivet out of the panel using a rivet removal tool.

4

Cut through the solid plastic panel on the frame web using a circular saw and guide rail.

Attention:
Adjust the cutting depth to match the panel thickness!

PANEL SECTION REPLACEMENT

5

Cut through the panel at the frame carefully using the multitool.

6

After that, remove the damaged panel section from the frame.

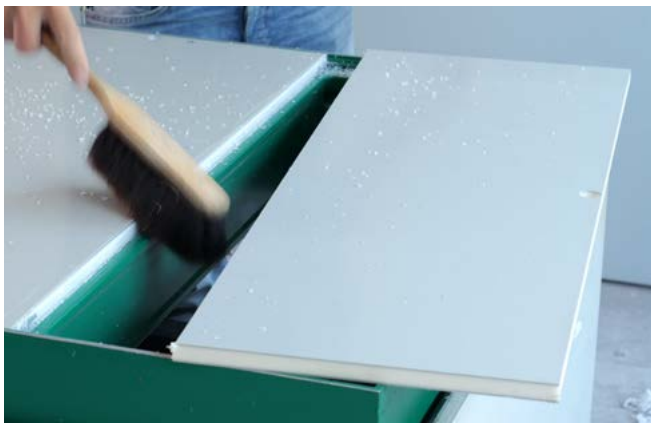
7

Clean the edge of the remaining panel of dirt using the scraper.

8

Then rout a chamfer on both panel sections using the router.

PANEL SECTION REPLACEMENT



9

Before inserting the new alkus® panel section, the frame must be free from dirt and any panel leftovers.

10

Apply silicone along the frame and insert the new panel section.

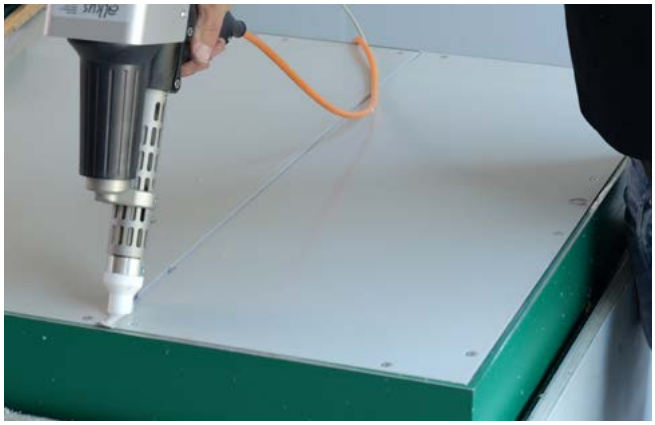
11

Pre-drill holes for the rivets in the new panel section using a battery drill machine.

12

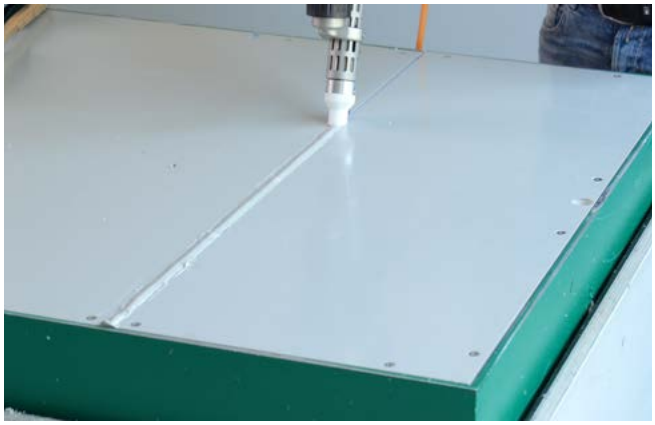
Afterwards, insert the rivets and rivet them in place using the battery rivet gun.

PANEL SECTION REPLACEMENT



13

Next, preheat and weld the panel joint with the welding device.



14

Let welded seam cool down for about 2 min.

15

After cooling, remove the excess material with the paint stripper.

16

In the final step, strip the repaired area with the scraper and the paint scraper to achieve a smooth surface.

PANEL SECTION REPLACEMENT

17

By replacing the panel section, even larger damages in the alkus® solid plastic panel can be easily repaired in just a few steps.

REPAIR: SCREWS AND NAILS

Video: Repair: Holes from screws and nails – alkus® solid plastic panel

1

For the repair of holes from screws and nails you will need the following tools:

> Battery drill machine incl. battery
> Spiral drill bit 4.5 mm
> Welding wire 5 mm
> Chisel
> Claw-hammer
> Paint scraper

2

First, remove the screw or the nail from the alkus® panel.

3

Drill out the holes using a spiral drill bit.

Attention:
The panel must not be drilled all the way through!

4

The welding wire has to be sharpened and cut to size.

REPAIR: SCREWS AND NAILS

5

Next, drive the welding wire into the pre-drilled hole.

6

Trim the excess material to the level of the panel using a chisel

7

Smooth the panel surface with the paint scraper.

8

The alkus® formwork panel repaired in this manner continues to provide surfaces in exposed concrete quality.

HOLE REPAIR WITH PLUGS

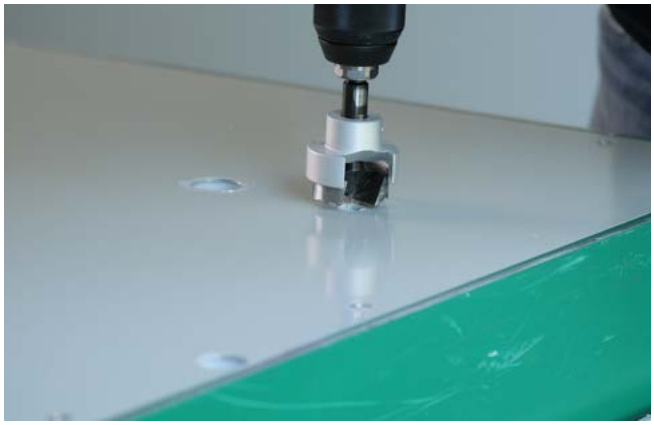
Video: Hole repair with plugs 35.5 mm - alkus® solid plastic panel
Video: Hole repair with plugs 49.5 mm - alkus® solid plastic panel

Ø 35.5 **Ø 49.5**

1

For plug repair, you will need the following tools:

> Battery drill machine incl. battery
> Plastic-hammer 50 mm
> Cylinder head drill 35.5 mm or 49.5 mm
> Centering panel GM
> Plugs 35.5 mm or 49.5 mm
> Paint scraper



2

First, drill a hole using the cylinder head drill.

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35.5 mm Drilling without a centering panel is possible for holes with a diameter of up to max. 13 mm, with the centering panel up to max. 25 mm.
49.5 mm Drilling without a centering panel is possible for holes with a diameter of up to max. 22 mm with the centering panel up to max. 40 mm.

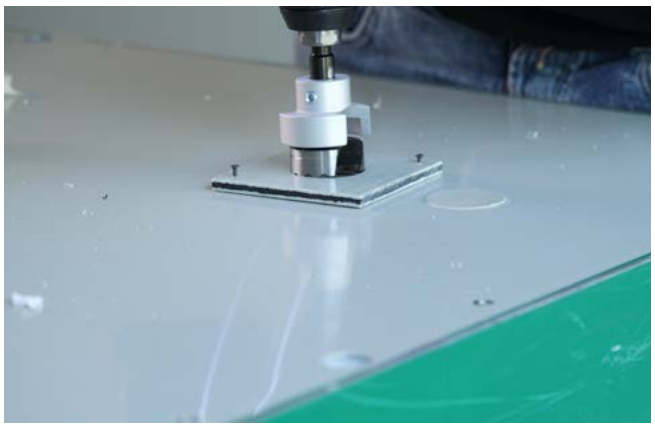
3

Then, insert a plug into the pre-drilled hole and drive it in with the plastic-hammer.

4

For assistance during drilling, use the centering panel: it is secured to the alkus® panel with nails.

HOLE REPAIR WITH PLUGS



5

Pre-drill the hole for the plug and then remove the centering panel.

Drilling depth adjustment:
Without centering panel:
Set the stop flush with the milled notch on the drill bit.
With centering panel:
Adjust the stop backwards by 6 mm.

6

Here again, insert the plug and drive it in with the plastic-hammer.

7

Remove the excess material with the paint scraper. If needed, the paint stripper can be used additionally.

8

In just a few steps, the alkus® solid plastic panel is repaired and ready for use without any loss of quality.

alkus®
PANEL SYSTEM

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