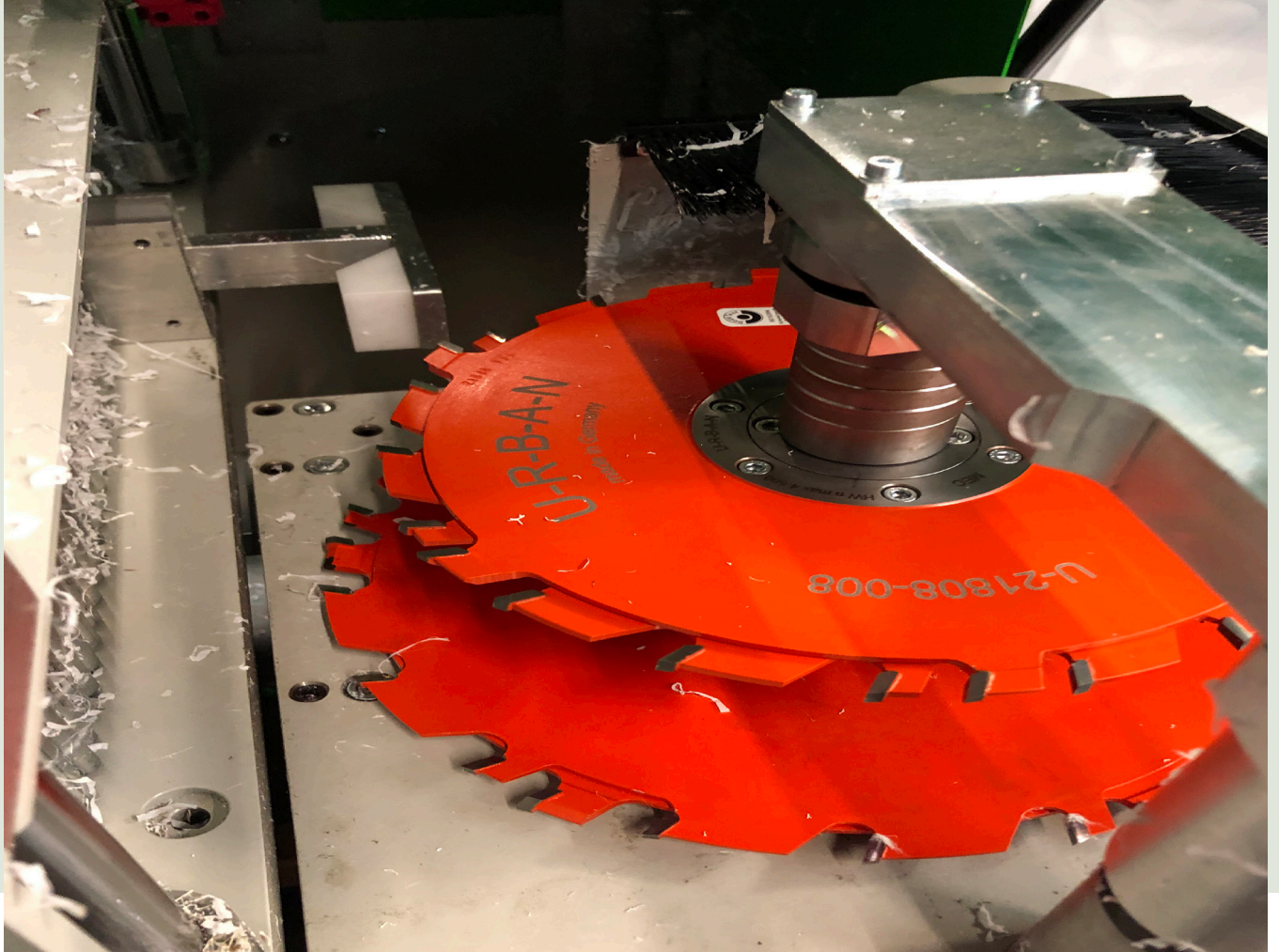




Liniar Timberweld® Guide





About us



Part of the international New York Stock Exchange-listed Quanex Building Products group, Avantek Machinery is focused on providing the latest window fabrication machinery for the fenestration industry.

The company has a reputation for excellence, world class service and investment. Machinery, spares and consumables are available from stock, minimising lead times for manufacturers.

With a dedicated team of experts, Avantek Machinery offers a full and comprehensive product range coupled with invaluable engineer experience, unparalleled service and support and industry experience, resulting in the best possible service for window and door fabricators.



Timberweld AKS4310

Developed in partnership with Liniar, Avantek, URBAN and Timberweld®, the AKS4310 Timberweld® welding machine has been finely-tuned and designed to produce excellent, high-quality results when fabricating the Resurgence window frame.

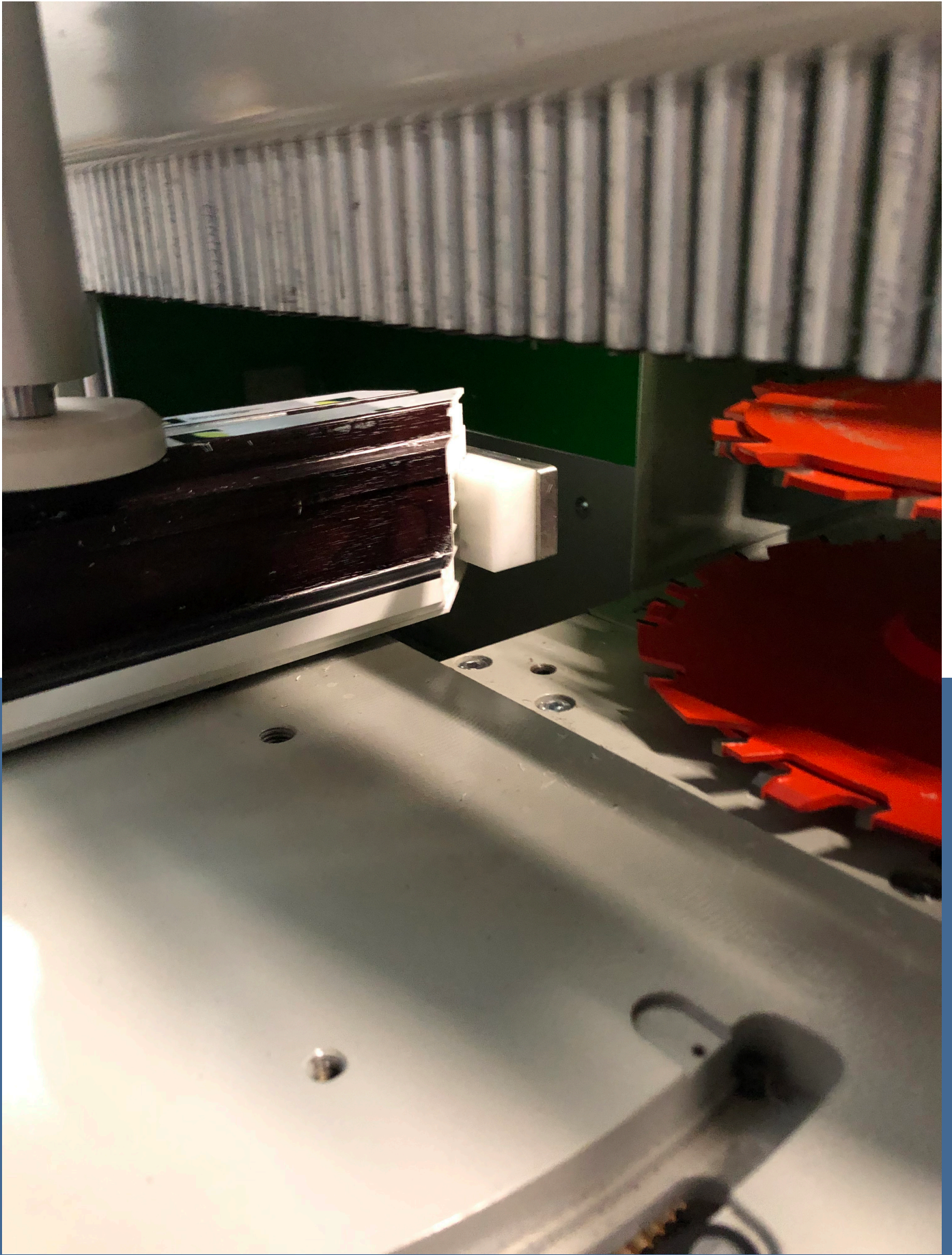
The AKS4310's unique welding process provides a traditional timber joint finish to both the inside and outside of a PVCu frame and sash. This timber replica weld lends an authentic finish whilst surpassing standards for PAS24 security, BS EN 6375 air and water testing, and BS EN 514 weld strength testing.

Follow the instructions within this guide to get the best results when utilising this specialist machinery to fabricate the Resurgence window system from Liniar.

Full Timberweld® process requirements:

- **URBAN AKS4310 Welder** - has variable stops on the welder to allow for fine tuning to maintain a quality finished product everytime and give more control to the fabricator.
- **URBAN AKFU250 90° Milling Machine & URBAN AFKU330 45° Milling Machine**
Only requires two milling machine whereas others require upto four. Uniquely designed milling cutters give an accurate, consistent quality of the finished product. Milling detail helps eliminate the possibility of 'bleed through', so no unsightly witness lines after welding.
- **Timberweld® Licence** - Ask an Avantek team member about the Liniar Exclusive Bundle!





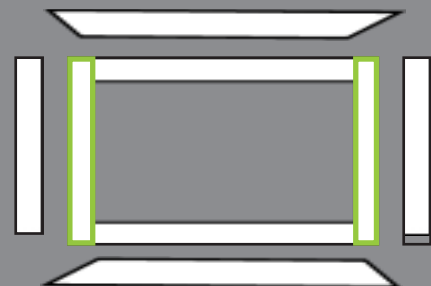


General points to note

- Machine stop dimensions may require adjustment to accommodate tolerances
- Between operations, make sure to blow down machines to clear any swarf
- Cutters may require shimming to accommodate tolerances
- Recommended by not limited to the authentic timber replica look: frame horizontals run through and sash verticals run through



Frame - Horizontals Run Through



Sash - Verticals Run through

AKFU250 90° Milling Machine

Blue button - Clamp on

Green button - Milling operation

Red button - Return cutter to starting position

Blue button - Release clamps

Frame Settings

1 Horizontals - Cutter 010, Depth stop 3mm (Square cut profile)

2 Verticals - Cutter 008, Depth stop 3.8mm (45° cut profile)



Sash Settings

3 Verticals - Cutter 011, Depth stop 40mm (Square cut profile)

4 Horizontal - Cutter 009, Depth stop 14.3mm (45° cut profile)



AKFU330 45° Milling Machine

Blue button - Clamp profile against fence the same side as the cutter

Green button - Start milling operation (cutter stops at opposite end)

Blue button - Release clamps

Turn profile and clamp against the opposite fence

Repeat milling operation

Frame Settings

7 Horizontals - Cutter 006, Dimension setting 81.9mm, Depth stops at 1 and 3
(Square cut profile)

8 Verticals - Cutter 006, Dimension setting 81.9mm, Depth stops at 2 and 3
(45° cut profile)



Sash Settings

Detachable fences must be fitted before clamping sash profile



9 Horizontals - Cutter 007, Dimension setting 71.9mm, Depth stops at 2 and 3 (45° cut profile)

10 Verticals - Cutter 007, Dimension setting 71.9mm, Depth stops at 1 and 3 (Square cut profile)



Milling: Frame - Horizontals

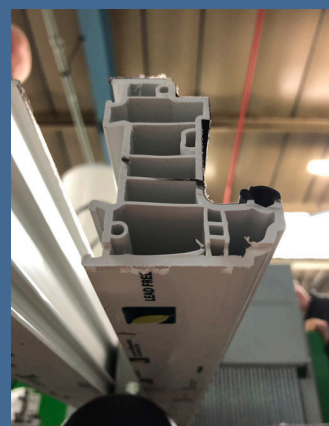
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90° Machine

- 11** Take 2 x Horizontals, square cut and position on either side of the centre fence, push them up to the stop. Clamp and cut the profile. Repeat on opposite end of the profile. See page 8 for machine settings.

45° Machine

- 12** Using the previously milled horizontal sections one length at a time, starting from the same side as the cutter, push up to the stop then clamp and cut. Repeat for opposite end of the profile against the other fence. Repeat on the second length of previously milled profile. See page 10 for machine settings.



Milling: Frame - Verticals

45° Machine

- 13** Take verticals (45° cut), one length at a time, starting from the same side as the cutter, push up to the stop and then clamp and cut. Repeat for opposite end of the profile against the other fence. Repeat on the second length of previously milled profile. See page 10 for machine settings.

90° Machine

- 14** 2 x milled verticals from previous step, clamp and cut, repeat on the end of the profiles, make sure mitres are pointing inwards. See page 8 for machine settings.

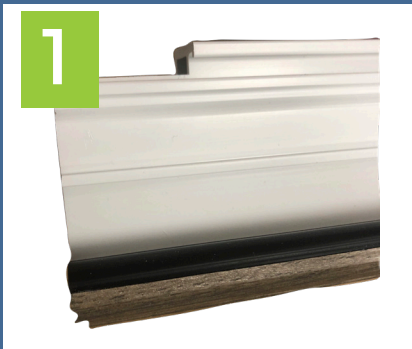


Sash Verticals

90° Machine

1 Take 2x verticals, square cut on either side of the fence bar, push them up to stop. You can clamp and cut the profile. Repeat on the other ends of the profile.

2 Using previously milled vertical sections one length at a time, starting from the opposite side of the cutter, push up to the stop then clamp and cut.

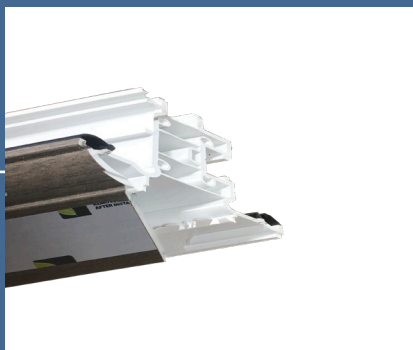


Sash Horizontals

45° Machine

3 Take horizontals, one length at a time, starting from the side opposite the cutter, push up to the stop then clamp and cut.

4 Take 2x horizontals from previous step, clamp and cut, repeat on the other end of the profiles. Make sure mitres are pointing inwards.



AKS4310 Welder

Changing between sash and frame weld settings

Heater plates are to be switched between the welding of sash and frame. The 70mm plates are for the frame and 60mm are for the sash. The height of the plate also needs to be set. To do this you need to turn off HFL (see figure 1) and then turn the height stops on the machine to correct the settings; 1 for frame and 2 for sash, you can then turn HFL back on to position the plate correctly (see figure 2).

Frame settings

Heater plate stop at setting 1 using the 70mm heater plate

Sash settings

Heater plate stop at setting 2 using the 60mm heater plate

Prior to welding colour foil on white sections it is recommended to pen in the milled edge of the external face of frame verticals and sash horizontals.



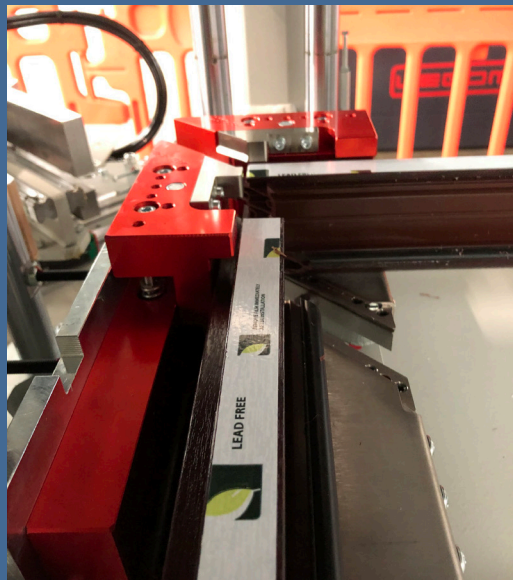
Frame and Sash Weld



Frame - Weld Blocks



Outer Frame in Position



Weld Blocks - Sash Detailed



Sash in Position

Notes

[illegible]

7 great reasons to choose Avantek Machinery

- Machinery available from stock
- Four decades of unparalleled experience
- Competitive prices without compromising quality
- UK - stocked parts - less downtime
- Full planning and consultation service
- Full installation support
- On-site and remote software support

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