

# Interior products

You can prolong the life and quality appearance of Trespa Athlon and TopLab<sup>PLUS</sup> by following these processing and simple servicing instructions.

These processing instructions have been prepared in collaboration with our partner Leuco.

The protective film applied to the TopLab<sup>PLUS</sup> Panel should be removed after installation. If the film is burnt or melted away during sawing or cutting operations, it must only be detached near the edge of the panel.

## Sawing

### Panel cutting saw

Diameter	No. teeth <sup>1</sup>	Feed /Tooth	RPM	Cutting width	Projection
300 mm	60	0.08 mm	4,500	3.2 mm	30 mm
350 mm	72	0.08 mm	4,000	4.4 mm	35 mm
400 mm	72	0.08 mm	3,500	4.4 mm	40 mm
450 mm	72	0.08 mm	3,000	4.8 mm	50 mm

### Final trimming saw

Diameter	Teeth	RPM	Blade thickness	Projection
300 mm	72	6,000	3.4 mm	30 mm
350 mm	84	5,000	4.0 mm	35 mm
400 mm	96	4,000	4.8 mm	40 mm

### Hand-operated circular saw

Diameter	Teeth	RPM	Blade thickness	Projection
150 mm	36	4,000	2.5 mm	15 mm
200 mm	46	4,000	3.0 mm	20 mm

**Feed:** 10 – 35 m/min.

**Inner contour:** First drill pivot holes for the inside corners of larger holes using a 6-mm drill.

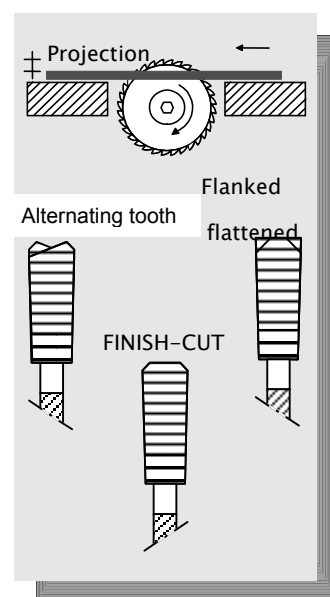
**Tooth engagement:** On the décor side of the panel, when this side only is to be visible.

**Edges of cut:** The best results are obtained with a mechanical feed and the FINISH-CUT saw. Good edges on both sides can only be obtained by using a fine pre-cutting tool. Any sharp edges can be removed with sandpaper.

**Cutting angle:** The best results are obtained with a cutting angle of 45°.

### Problem solving

Problem	Indication	Cause	Remedy
Material burnt	■ Smoke and noise coming from the saw	■ Feed rate too low	■ Increase feed rate
	■ Dark discolouration of the core material	■ Incorrect or no saw guide	■ Improve saw guidance
		■ Saw blunt	■ Sharpen saw
		■ Too many teeth	■ Fit saw with correct number of teeth



<sup>1</sup> Depending on stack height

<b>Problem</b>	<b>Indication</b>	<b>Cause</b>	<b>Remedy</b>
<i>Cut edge breaking away</i>	<ul style="list-style-type: none"> <li>■ Visual inspection of the edge</li> </ul>	<ul style="list-style-type: none"> <li>■ Saw blunt or incorrectly ground/sharpened</li> <li>■ Saw 'clogged' with material</li> <li>■ Feed rate too high</li> <li>■ Saw blade set at incorrect height</li> </ul>	<ul style="list-style-type: none"> <li>■ Inspect saw and sharpen / grind</li> <li>■ Reduce feed rate</li> <li>■ Set saw to correct height</li> </ul>
<i>Low saw blade life</i>	Registration of operating hours / metres cut	<ul style="list-style-type: none"> <li>■ Saw incorrectly sharpened/ground</li> <li>■ Feed or RPM too high</li> <li>■ Incorrect blade height adjustment</li> <li>■ Incorrect tooth form</li> <li>■ Incorrect tooth geometry</li> <li>■ Cutting material unsuitable</li> </ul>	<ul style="list-style-type: none"> <li>■ Sharpen saw</li> <li>■ Reduce RPM or feed rate</li> <li>■ Set saw at correct height</li> <li>■ Use suitable saw (See Table 1 for recommended values)</li> <li>■ Use high-quality tools</li> </ul>
<i>Scratches on the décor surface</i>	<ul style="list-style-type: none"> <li>■ Visual inspection of the surface</li> </ul>	<ul style="list-style-type: none"> <li>■ Panel has been slid over a rough surface</li> </ul>	<ul style="list-style-type: none"> <li>■ Use a suitable underlay surface when feeding the panel</li> <li>■ Use stationary machine with moving workpiece table</li> </ul>

## Milling cutters

### **CNC milling cutter<sup>2</sup>**

Chucking equipment: Modern collet chuck, hydro-chucking system or contracting chuck.

Tool: Carbide or diamond-tipped cutter without inclined shaft. Diameter as large as possible. When routing prior to forming pockets or making recesses the tool should have a bore cutter.

Cutting speed: up to 40 m/sec.

Tooth feed: 0.1 – 0.15 mm, preferably in reverse rotation.

Clamping: with minimal vibration, secure cut-off parts from falling.

Chip formation: The optimum chip is in the form of a large flake and without discolouration.

### **Bench mill<sup>2</sup>**

Tool: Carbide or diamond-tipped cutter without inclined shaft. Diameter as large as possible.

Cutting speed: up to 40 m/sec.

Tooth feed: 0.1 – 0.15 mm, only in reverse rotation.

Clamping: with minimal vibration.

Chip formation: The optimum chip is in the form of a large flake and without discolouration. (see above).

### **Hand-held router<sup>2</sup>**

Tool: Carbide-tipped cutter with straight shaft. Diameter as large as possible.

Cutting speed: up to 40 m/sec.

Tooth feed: 0.1 – 0.15 mm, only in reverse rotation

Clamping: with minimal vibration

Chip formation: The optimum chip is in the form of a large flake and without discolouration.



<sup>2</sup> The precise feed and rpm settings depend on the tool diameter and maximum machine power.

### Problem solving

Problem	Indication	Cause	Remedy
Material burnt	<ul style="list-style-type: none"> <li>Smoke and smell coming from the saw</li> <li>Dark discolouration of the core material</li> </ul>	<ul style="list-style-type: none"> <li>Feed rate too low</li> <li>Cutter blunt</li> <li>Too many teeth</li> </ul>	<ul style="list-style-type: none"> <li>Increase feed rate</li> <li>Sharpen cutter</li> <li>Reduce number of teeth</li> <li>Reduce RPM</li> </ul>
Cut edge breaking away	<ul style="list-style-type: none"> <li>Visual inspection of the cut edges</li> </ul>	<ul style="list-style-type: none"> <li>Cutter blunt</li> <li>Feed rate too high</li> <li>Poor support/clamping of the panel</li> <li>Vibration</li> </ul>	<ul style="list-style-type: none"> <li>Sharpen cutter</li> <li>Correct feed</li> <li>Stabilise the panel</li> <li>Check tool guidance</li> </ul>
Low cutter life	<ul style="list-style-type: none"> <li>Registration of cutting/operating hours or metres cut</li> </ul>	<ul style="list-style-type: none"> <li>Cutter incorrectly ground</li> <li>Incorrect RPM</li> <li>Incorrect feed</li> <li>Unsuitable cutting material</li> </ul>	<ul style="list-style-type: none"> <li>Grind/sharpen the cutter</li> <li>Reduce the RPM</li> <li>Reduce the feed rate</li> <li>Use high-quality tools</li> </ul>
Scratches on the decorative surface	<ul style="list-style-type: none"> <li>From inspection of the surface</li> </ul>	<ul style="list-style-type: none"> <li>Feeding the plate over a rough surface</li> </ul>	<ul style="list-style-type: none"> <li>Use a protective underlay panel when feeding the panel</li> <li>Operate with the machine stationary and the workpiece moving</li> </ul>

### Drilling

#### Clamping:

Zero-play clamping with secure retention

#### Tool:

Carbide or HSS drill, tip angle 60 - 80°, with back clearance grind.

#### Cutting speed:

up to 2 m/sec.

#### Feed:

See Table.

#### Clamping:

with minimal vibration. The panels must be drilled on a stable supporting surface.

**Chip formation:** The optimum chip is granular and without lumps. If several holes are drilled quickly one after the other the holes must be cleared of chips between each operation if the drilling depth is greater than 10 mm.

#### Example:

Through holes in a 25 mm TopLab panel

Diameter	RPM	Feed	Chip removal
5 mm	6,000	2.5 m/min	3x
8 mm	4,500	4 m/min	2x
10 mm	3,500	5 m/min	1x
25 mm (Z=3)	3,000	2.5 m/min	2x
35 mm (Z=2)	3,000	2.5 m/min	1x

#### Example:

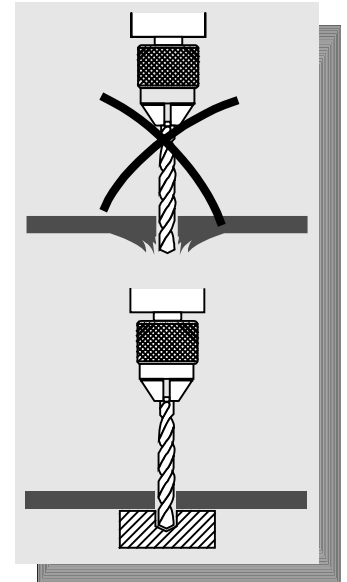
Blind holes 16 mm deep, in a 25 mm TopLab panel

Diameter	RPM	Feed	Chip removal
8 mm	4,500	2.5 m/min	1x
25 mm (Z=3)	3,000	2.5 m/min	1x

Large openings, e.g. when equipment has to be integrated or flush-mounted in a panel, must be cut using a cylindrical head borer without a centring pin.

### Problem solving

Problem	Indication	Cause	Remedy
Material burnt	<ul style="list-style-type: none"> <li>Smoke and smell coming from the drill</li> <li>Dark discolouration of the core material</li> </ul>	<ul style="list-style-type: none"> <li>Incorrect feed</li> <li>Drill blunt</li> <li>Incorrect drill</li> </ul>	<ul style="list-style-type: none"> <li>Correct feed</li> <li>Sharpen drill</li> <li>Use drill with correct geometry</li> </ul>



<b>Problem</b>	<b>Indication</b>	<b>Cause</b>	<b>Remedy</b>
<i>Surface torn at the exit of the hole</i>	<ul style="list-style-type: none"> <li>■ <i>Visual inspection</i></li> </ul>	<ul style="list-style-type: none"> <li>■ <i>Drill blunt</i></li> <li>■ <i>Incorrect feed</i></li> <li>■ <i>Poor panel clamping</i></li> <li>■ <i>Freehand drilling</i></li> </ul>	<ul style="list-style-type: none"> <li>■ <i>Correct feed rate</i></li> <li>■ <i>Sharpen drill</i></li> <li>■ <i>Use drill with right geometry</i></li> <li>■ <i>Use (hardwood) support panel</i></li> <li>■ <i>Use drill support</i></li> </ul>
<i>Low tool life</i>	<ul style="list-style-type: none"> <li>■ <i>Determined from drilling hours</i></li> </ul>	<ul style="list-style-type: none"> <li>■ <i>Drill incorrectly ground</i></li> <li>■ <i>Incorrect RPM or feed</i></li> <li>■ <i>Incorrect drill</i></li> <li>■ <i>Incorrect cutting material</i></li> </ul>	<ul style="list-style-type: none"> <li>■ <i>Sharpen cutter</i></li> <li>■ <i>Correct RPM or feed</i></li> <li>■ <i>Use drill with correct geometry</i></li> <li>■ <i>HM instead of HSS</i></li> </ul>
<i>Scratches on the decorative surface</i>	<ul style="list-style-type: none"> <li>■ <i>From inspection of the surface</i></li> </ul>	<ul style="list-style-type: none"> <li>■ <i>Feeding the plate over a rough surface</i></li> </ul>	<ul style="list-style-type: none"> <li>■ <i>Use a protective underlay panel when feeding the panel</i></li> <li>■ <i>Operate with the machine stationary and the workpiece moving</i></li> </ul>

## Life

The life of the tools and the operating results naturally depend on a number of factors, e.g. the material, the tool and the machine. The values listed above are always only guideline figures and no rights can be derived from them.

## Contacts

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The best characteristics in one panel

