

Processing instructions

EGGER Compact Laminates



Product description EGGER Compact Laminates

EGGER Compact Laminates have a multilayer structure and consist of melamine resin impregnated decorative paper as surface layer and a fibrous and with curable resins impregnated core layer.

Processing instructions Compact Laminates

The following processing instructions are based upon different series of tests and the best results gained from these tests in cooperation with our partner Leitz GmbH & Co. KG



Leitz GmbH & Co. KG
www.leitz.at

Technical notes

When working with Compact Laminates, the following cutting speeds (vc) and feed per tooth (fz) values should be taken into account:

Processing method	Cutting speed (vc)	Feed per tooth (fz)
Sawing	50 – 80 (target 60) m/s	0,02 – 0,05 mm
Milling	30 – 50 m/s	0,3 – 0,5 mm
Drilling	0,5 – 2,0 m/s	0,1 – 0,6 mm

The following formulas are to be used to calculate the cutting speed, feed per tooth and feed rate:

vc - Cutting speed [m/s]

$$vc = D \cdot \pi \cdot n / 60 \cdot 1000$$

D – Tool diameter [mm] n – tool speed [min-1]

fz – Feed per tooth [mm]

$$fz = vf \cdot 1000 / n \cdot z$$

vf – feed rate [m/min]

n – Tool speed [min-1] z – number of teeth

vf – Feed rate [m/min-1]

$$vf = fz \cdot n \cdot z / 1000$$

fz – Feed per tooth [mm]

n – Tool speed [min-1] z – number of teeth

Sawing

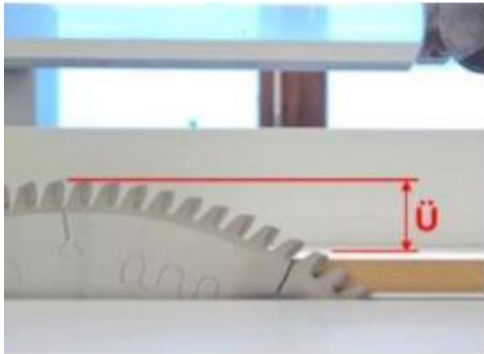
General

Please be aware of:

- Visible side (side with foil) facing upwards
- Choose the correct saw blade projection (see table)
- Adjust RPM and number of teeth according to the required feed rate
- The use of a scoring- circular saw on the underside is recommended in order to achieve cleaner cuts

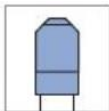
The degree of entry and exit changes according to the saw blade projection and thus the quality of the cut also changes. If the upper edge is unclean, the saw blade should be moved higher. If the lower edge is unclean, the saw blade should be moved down. Dependent upon the diameter (D) of the saw blade, the following table shows the suggested saw blade projections (Ü) for table saws and panel-sizing saws:

Diameter (D) of circular saws [mm]	Projection Ü [mm]
250	approx. 5 - 10
300	
350	
400	
450	

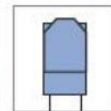


Saw blades with a higher number of teeth are recommended for better cutting quality. The suggested blade speed for disk saws is 60-90m/s.

Recommended saw-tooth shape



TR/TR (trapezoidal/trapezoidal)



FZ / TR (flat tooth/trapezoidal)

For processing **both-sided glued compact laminate panels** a scoring sawblade is needed to avoid outbreaks at the bottom.



Sizing cuts with scoring saw - Excellent DP (FZ/TR)

For table saws and circular sawing machines for sizing, cross cutting and panel sizing with scoring saw.

Technical Information

Stable tool body tooth shape.

Circular sawblade Diamaster PRO

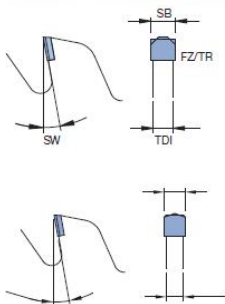
Tip height: 4,5 mm

Number of teeth Z: 60

Exemplary application parameter compact laminate panels:

Diameter $\varnothing = 300$ mm

RPM $n = 3200 - 5100 \text{ min}^{-1}$ ($v_c = 50 - 80 \text{ m/s}$)



Sizing cuts with scoring saw - Premium (FZ/TR)

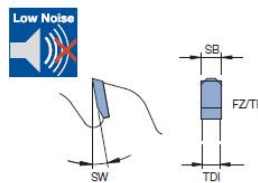
For table saws and circular sawing machines for sizing, cross cutting and panel sizing with/without scoring saw.

Technical Information

If the saw spindle is positioned below the workpiece, the cutting pressure presses the workpiece onto the table.

Circular sawblade AS OptiCut:

Number of teeth Z: 72, 96, 108



Qualitätsmanagement ISO 9001



Sizing cuts – wood derived materials – Excellent DP (FZ/TR)

For panel sizing systems with scoring saw and pressure beam.

Technical Information

Solid tool body tooth shape.

Tool body with vibration damping irregular tooth pitch.

Circular sawblade

Number of teeth Z: 60, 72

Diamaster PLUS design with 6.0 mm tip height.



Portable circular saws – End trimming cut (FZ/TR)

For cross cutting, trimming and cutting to length.

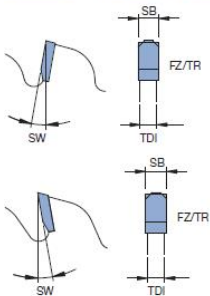
Exemplary application parameter compact laminate panels:

Diameter $\varnothing = 300$ mm

RPM $n = 3200 - 5100 \text{ min}^{-1}$ ($v_c = 50 - 80 \text{ m/s}$)

Circular sawblade

Number of teeth Z: 42, 48, 54, 56, 60, 64, 68, 80, 96



Panel processing



Edge processing – Jointing/milling cutter

For edge processing machines, copy shaping machines etc.

Technical Information

For jointing of workpiece edges with feed and against feed (jump cutting).

Shear angle of 40° enables for complex applications.

Asymmetric tip arrangement.

Jointing/milling cutter Diamaster PLUS:

Number of teeth Z: 4x3, 4x4, 4x6

Exemplary application parameter compact laminate panels:

Diameter $\varnothing = 125$ mm

Number of teeth Z = 4

RPM n = 4500 – 7500min⁻¹ (vc = 30 – 50 m/s)



Jointing, rebating and bevelling – Jointing cutterhead

For spindle moulders and moulders, double end tenoners. Routers with/without CNC control.

Technical Information

For jointing, bevelling, rounding and profiling at the same time.

Cutterhead with tumblade knives and seatings for edging knives.

Exemplary application parameter compact laminate panels:

Diameter $\varnothing = 125$ mm

Number of teeth Z = 2

RPM n = 4500 – 7500min⁻¹ (vc = 30 – 50 m/s)





Longitudinal-, width- and mitre joints – Profile cutterhead

For spindle moulders and moulders.

Technical Information

For glue joints along the grain and mitre joints.

For 45° glue joint profiles along grain with precise positioning. Exact positioning of the material and for producing corner joints.



Exemplary application parameter compact laminate panels:

Diameter $\varnothing = 175$ mm

Number of teeth $Z = 4$

RPM $n = 3000 - 5400\text{min}^{-1}$ ($v_c = 30 - 50$ m/s)

Profile adjustment

Height adjustment by profiling the workpiece flat on the table and vertical against the fence.

Profile height: PH 8,00mm

Correct adjustment, if dimension A is the same as dimension B.

Formula: $A(B) = (HD-PH)/2$

Milling



Portable router – Bevel cutter

For portable routers.

Technical Information

For bevelling workpiece edges.

Ball bearing guide ring is arranged on the bottom to enable the use with template or guided by the workpiece edge.



RPM n = 18000 – 27000min-1



Sizing and grooving - Spiral roughing/finishing router cutter Marathon

For overhead routers with/without CNC control, machining centres, special routers with spindles for mounting shank tools.

Technical Information

Router cutter for sizing and grooving in roughing/finishing quality.



Feed speed: $v_f = 4 - 8\text{m/min}$

RPM n max. = 2400 min-1



Sizing and grooving - Router cutter Diamaster Plus

For overhead routers with/without CNC control, machining centres, special routers with spindles for mounting shank tools.

Technical Information

For sizing and grooving.

For tear free cut edges on both sides. Cutting edges with alternate shear angle and tungsten carbide plunging tip.



Feed speed: $v_f = 2 - 8\text{m/min}$

RPM n = 16000 - 24000 min-1





Sizing and grooving – Router Cutter Diamaster Plus

For overhead routers with/without CNC control, machining centres, special routers with spindles for mounting shank tools.

Technical Information

Router cutter for sizing and grooving with stepless cut.

Negative cutting edge shear angles during grooving for tear free edges and to support the clamping of smaller parts.

RPM n = 12000 - 18000 min-1



Profiling – Diamond tipped profile router with shrink fit arbor

For overhead routers with/without CNC control, machining centres, special routers with spindles for mounting shank tools.

Technical Information

Ramp plunging and axial plunging possible with profile router with shrink fit arbor and plunging tip.

Feed speed: $vf = 4 - 8\text{m/min}$

RPM n = 18000 - 24000 min-1

RPM max: n max. = 30000 min-1



Drilling



Dowel drilling Shank 10 mm HW solid

For point-to-point drilling machines, through feed drilling machines, CNC machining centres, hinge boring machines, multi spindle units.

Technical Information

For drilling blind holes, especially dowel holes in furniture. Suitable for drilling tear free blind holes in visible areas. Spur geometry with high shear cut.

Exemplary application parameter compact laminate panels:

Diameter $\varnothing = 5 \text{ mm}$
 Feed speed $v_f = 1 - 1,5 \text{ m/min}$
 RPM $n = 3000 - 4500 \text{ min}^{-1}$



Twist drills- HW – Solid Z 2

For point-to-point drilling machines, through feed drilling machines, CNC machining centres, hinge boring machines, multi spindle units.

Technical Information

For multi purpose drilling of blind holes and through holes.
 HW-solid, Z2

Exemplary application parameter compact laminate panels:

Diameter $\varnothing = 5 \text{ mm}$
 Feed speed $v_f = 1 - 1,5 \text{ m/min}$
 RPM $n = 3000 - 4500 \text{ min}^{-1}$



Countersinker – Shank 10 mm

For multi spindle units, vertical boring machine, portable drills.

Technical Information

To countersink holes.
 Countersink $90^\circ \text{ Z } 3 \text{ HW solid}$
 RPM $n = 1000 - 2000 \text{ min}^{-1}$



Key to pictograms

MEHR AUS HOLZ.



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