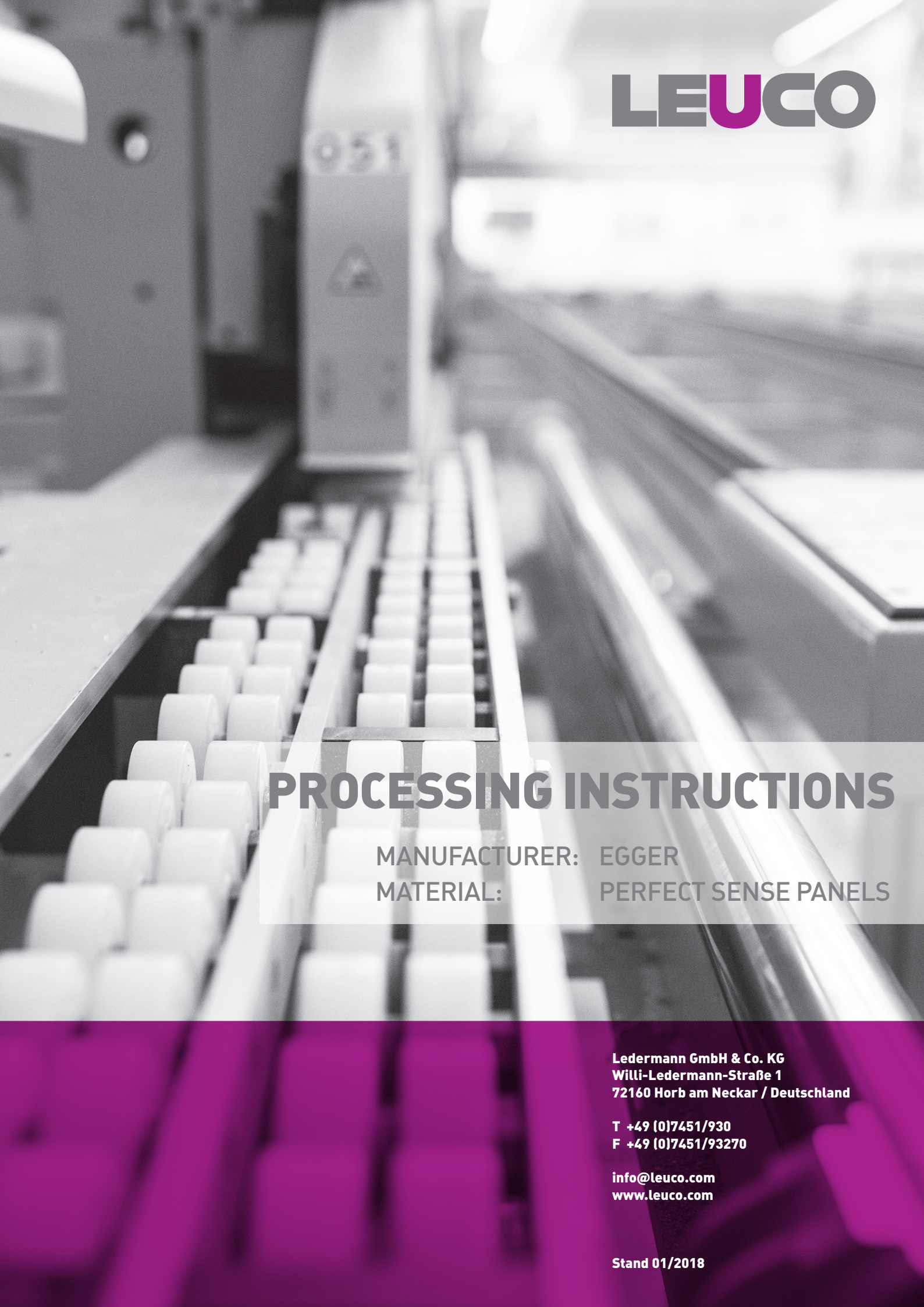


PROCESSING INSTRUCTIONS

MANUFACTURER: EGGER
MATERIAL: PERFECT SENSE PANELS

Ledermann GmbH & Co. KG
Willi-Ledermann-Straße 1
72160 Horb am Neckar / Deutschland

T +49 (0)7451/930
F +49 (0)7451/93270

info@leuco.com
www.leuco.com

Stand 01/2018

PROCESSING INSTRUCTIONS

EGGER PERFECT SENSE PANELS

TABLE OF CONTENTS

PRODUCT DESCRIPTION EGGER PERFECT SENSE PANELS

PerfectSense represents a new category of premium high gloss and matte decorative panels, based on proven EGGER MDF quality, which are used in high quality furniture and interior design.

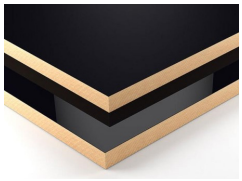
Thanks to an innovative coating based on UV technology, all decor in the EGGER decor system can be offered as PerfectSense matte with anti-fingerprint properties or PerfecSense gloss with special surface stability and depth effect.

PROCESSING INSTRUCTIONS EGGER PERFECT SENSE PANELS

The following processing information is based on a wide variety of test series by LEUCO Ledermann GmbH & Co. KG, with the best processing results in each case.

DEFINITION OF TERMS

DP = DIA; **HW** = carbide; **HR** = hollow back; **L-S** = slow, fast; **L-S-L** = slow, fast, slow; **vc** = cutting speed; **fz** = tooth feed; **vf** = feed speed



EGGER PerfectSense
Material description: Decorative, UV coated wood-based panels Support panel design as EGGER MDF ST E1 CARB. (**image source**: EGGER)

1. GENERAL

When processing Egger PerfectSense, the guideline values from the table should be noted for selection of cutting speed (vc) and tooth feed (fz), according to the process.

Process	Cutting speed vc [m/s]	Tooth feed fz [mm]
Sawing	60 – 90	0,05 – 0,08
Hogging	80	0,15 – 0,3

These parameters are connected with tool diameter (D), number of teeth (Z), RPM (n) and feed speed (vf) during application on the processing machine. The right selection of these factors is responsible for a good processing result.
Tool stress when processing PerfectSense panels is no higher than when processing standard wood-based panels. Carbide-tipped tools can therefore also be used for processing. When using modern automatic processing machines and in the case of large numbers of pieces, however, we recommend the use of diamond-tipped tools, as these provide very good processing quality and long edge life. For optimal edge quality for processing Egger PerfectSense panels, tools with new or refurbished edges are recommended.

2. TRIMMING CUT / SIZE PROCESSING

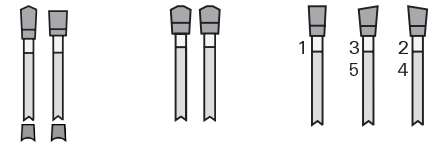
2.1 TRIM-CUTTING PANELS WITH CIRCULAR SAW BLADES

Please note:

- Visible side (decorative side with film) up.
- Ensure correct saw blade projection (see table pg. 4).
- Adjust feed speed, tooth geometry, number of teeth, RPM and cutting speed.
- Use of a scoring saw blade is recommended for clean cuts on the panel underside.
- Number of teeth and feed speed depend on cutting height and application for single panels or stack cuts.

2.2 SIZING SAW

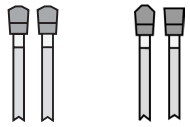
HW or DP saw blades are used depending on quantities. HW saw blades with inverted v - flat - hollow-ground (DA-F DU) or triple chip - flat - chamfer (TR-F-FA) tooth geometry are particularly well suited for sizing saws in smaller cut quantities. Good cutting results are also possible with HW and DP G5 circular saw blades.



DA-F DU TR-F-FA G5

2.3 PANEL SIZING SAW

Exceptional cutting results are achieved on panel sizing systems with a new panel sizing saw blade (192976) from the Q-Cut saw family (Q-Cut K). Equally good results can be achieved with the LEUCO Q-Cut G6 circular saw blades and circular saw blades with tooth geometry triple chip / triple chip (TR-TR), also available in the HW version.

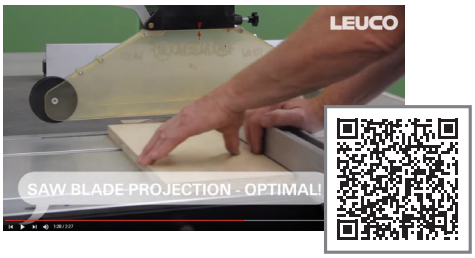


TR-TR TR-F

The engagement likewise occurs on the decorative side of the panel. Good edges on both sides are only achieved using a suitable scoring unit. Very good cutting results are achieved with a suitable saw blade projection. This is diameter-dependent.

Circular saw blade diameter	Saw blade projection
D = 250 mm	15 - 20 mm
D = 300 mm	20 - 30 mm
D = 350 mm	22 - 28 mm
D = 400 mm	25 - 30 mm
D = 450 mm	25 - 33 mm

The recommended cutting speed is 60 - 90 m/sec. In the case of DP- and HW-tipped saw blades, the upper value must be selected. A feed per tooth of 0.05 - 0.12 mm should be targeted.



More info on the optimal saw blade projection can be found on our YouTube channel. >>> Scan QR-Code and view video on YouTube. Or directly at **www.youtube.com/leucotooling** <<<

2.4. THROUGH-FEED MACHINES: HOGGERS

Exceptional results can be achieved in the double hogging process when sizing with hogger tools on through-feed machines. Hoggers with low cutting pressure are recommended here, e.g. the LEUCO „PowerTec III LowNoise“ hogger.

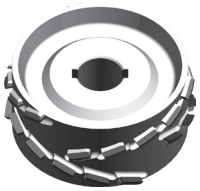
Cutting speed: 80 m/sec.
Tooth feed: 0.2 - 0.3 mm with LEUCO PowerTec hoggers

PowerTec III LowNoise

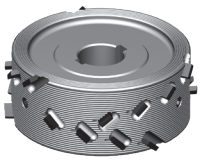
3. MILLING / EDGE PROCESSING

Tools with DP blades must be used for milling work. Edge trimming achieves very good results both with high gloss and matte surfaces with "LEUCO p-System" jointing cutters (shear angle = 70°), as well as with "LEUCO DIAREX" airFace jointing cutters (shear angle = 48°). Exceptional results are achieved with both cutters. Jointing in two stages is recommended when there is a double jointing assembly.

- 1st pass: Material removal according to the allowance minus finish milling width.
- 2nd pass: removal of max. 0.5 mm for finish processing.



p-System jointing cutter



DIAREX airFace jointing cutter

4. PROCESSING ON CNC STATIONARY MACHINES

In addition to DP tools, carbide (HW) tipped tools are also suitable for milling. However, the largest possible diameter should always be chosen (lower risk of vibration).

- The use of tools with very large shear angles is recommended on stationary systems, because there is a good relationship between the performance of the tools and cutting quality.
- For grooving, we recommend using HW grooving tools and turnover knives with 0° shear angle. In DP shank-type cutters with face shear, standard tools can be used. When grooving pockets, always move at low feed speed.
- Clamping elements: Use a highly precise hydro expansion chuck system or shrink fit chuck in order to ensure the tool runs smoothly.
- When milling pockets or openings, the tool should always be designed with cutting edge/plunge tip.
- Tooth feed according to table:

Cutter diameter:	3 - 10 mm	10 - 16 mm	16 - 25 mm	25 - 40 mm	>40 mm
Recommended fz (mm) with particle board & MDF	0,03 - 0,10	0,10 - 0,20	0,20 - 0,30	0,30 - 0,40	0,40 - 0,50

5. DRILLING

Drill bits with low cutting pressure and good chip removal are recommended for drilling processes such as dowels and through-holes. These include drill bits from the LEUCO product families „Mosquito" (through-hole bits, dowel bits) and „Light" cylinder boring bits, as well as boring spikes (D = 3-5 mm).

- Clamping elements: Precise mounting with secure hold.

„Mosquito" through-hole bits HW

„Mosquito" dowel bits HW

„Light" cylinder boring bits

6. FORMULAS

6.1. CUTTING SPEED – VC

- Unit: m/s
- Required data: Diameter = D [mm]; Tool speed = n [1/min]
- Calculation: vc = (D * π * n)/(60 * 1000)

6.2. TOOTH FEED – FZ

- Unit: mm
- Required data: Feed speed = vf [m/min]; Tool speed = n [1/min]; number of teeth = z
- Calculation: fz = (vf * 1000)/(n*z)

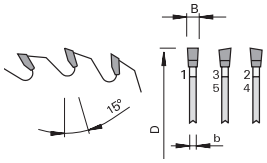
6.3. FEED SPEED – VF

- Unit: m/min
- Required data: Tooth feed = vf [m/min]; Tool speed = n [1/min]; number of teeth = z
- Calculation: vf = (fz * n * z)/1000

7. LEUCO TOOLS FOR PROCESSING EGGER PERFECT SENSE PANELS

7.1 CIRCULAR SAW BLADES FOR SIZING SAWS

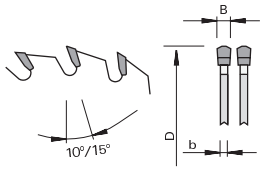
Dimension	Description	Z	Tooth shape	Cutting material	Projection	Ident-No.
Ø 300 x 3,2 (2,2) x Ø 30	Sizing saw blade	96	TR-F-FA	HL Board 04 plus	20 mm	192788
Ø 303 x 3,2 (2,2) x Ø 30	LowNoise	60	TR-F-F DU	HL Board 03		193334
Ø 300 x 3,0 (2,2) x Ø 30	Sizing saw blades HW „G5“	100	G5	HL Board 04 plus	20 mm	192794



- Additional saws with other diameters, cutting edge widths, bores and numbers of teeth **available upon request.**

7.2 CIRCULAR SAW BLADES FOR PANEL SIZING SAWS

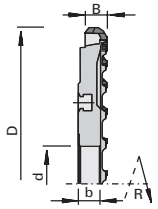
Dimension	Description	Z	Tooth shape	Cutting material	Projection	Ident-No.
Ø 380 x 4,4 /3,2 x Ø 60	Q-Cut K	72	TR-F K	HL Board 06 plus	25-35 mm	192976
Ø 450 x 4,8 /3,5 x Ø 60	Q-Cut „G6“	72	G6	HL Board 04 plus	28-35 mm	192883
Ø 480 x 4,8 /3,5 x Ø 60	Q-Cut „G6“	72	G6	HL Board 04 plus	28-35 mm	192889



- Additional saws with other diameters, cutting edge widths, bores and numbers of teeth **available upon request.**

7.3 HOGGERS

Dimension	Description	Z	Cutting material	Ident-No.(R)	Ident-No.(L)
Ø 250 x 14,5 x 23 x Ø 80	PowerTec III LowNoise	20+20+5	DP	185638	185639

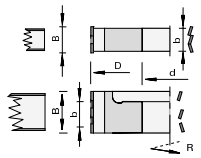


PowerTec III LowNoise

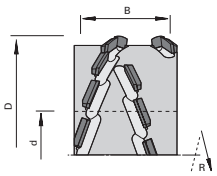
- Additional LEUCO PowerTec hoggers with other dimensions **available upon request.**

7.4 JOINTING CUTTERS

Dimension	Description	Z	Shear <)	Cutting material	Ident-No.
Ø 125 x 42,8 x 40 x Ø 30	DIAREX airFace jointing cutters	3+3	48°	DP	186323
Ø 125 x 47,8 x 40 x Ø 30	p-System jointing cutters MEC	3+3	70°	DP	184071
Ø 125 x 47,8 x 54,8 x Ø 30	p-System jointing cutters MAN	2+2	70°	DP	184333



DIAREX airFace jointing cutter

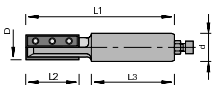


p-System jointing cutter

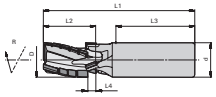
Additional jointing cutters with other diameters, cutting edge widths, bores and numbers of teeth **available upon request.**

7.5 CNC SHANK-TYPE CUTTERS

Dimension	Description	Z	Cutting material	Ident-No. (L)	Ident-No. (R)
Ø 16 x 50 x Ø 25	**Shank-type** cutters with HW turnover knives	2	HW HL Board 05		180805
Ø 25 x 38 x 8 x Ø 25	High-Performance **shank-type** cutters CM	3+3	DP	186132	186131



Shank-type cutters with HW turnover knives

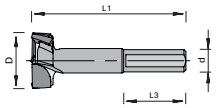


High-Performance **shank-type** cutters CM

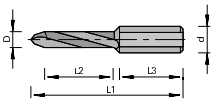
Additional shank-type cutters with other dimensions **available upon request.**

7.6 THROUGH HOLE, DOWEL AND BLIND HOLE BITS

Dimension	Description	Cutting material	Ident-No. (L)	Ident-No. (R)
Ø 35 x L1=70 x Ø 10	"Light" cylinder boring bits	HW	184689	184688
Ø 5 x L1=70 x Ø 10	„Mosquito" through-hole bits	HW	182462	182463
Ø 6 x L1=70 x Ø 10	„Mosquito" dowel bits	HW	181526	181525
Ø 3 x L1=70 x Ø 3	Boring spike	VHW	180943	180943

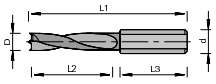


„Light"cylinder boring bits

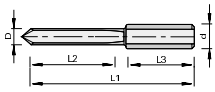


„Mosquito" through-hole bits

Additional drill bits with other diameters, cutting edge widths, and shaft dimensions **available upon request.**



„Mosquito" dowel bits



Boring spike VHW

→ **Couldn‘t find the tool type or tool dimension you want? Please contact LEUCO Sales.**

T +49 (0)7451/93-0
F +49 (0)7451/93-270

info@leuco.com

TIP – LEUCO ONLINE CATALOG

You can find the LEUCO tool recommendations for processing EGGER PerfectSense panels in the LEUCO online catalog.

Alternatively:
Scan QR-Code and learn about the LEUCO stock program.

SIMPLE & QUICK

1. www.leuco.com/products
2. Click „workpiece material“ filter
3. „Special manufacturer materials“
4. „EGGER“
5. „PerfectSense“

→ Select saw blades, hoggers, cutters, boring bits

Ledermann GmbH & Co. KG
Willi-Ledermann-Straße 1
72160 Horb am Neckar / Deutschland

T +49 (0) 74 51/93 0
F +49 (0) 74 51/93 270

info@leuco.com
www.leuco.com