PROCESSING INSTRUCTIONS

MANUFACTURER: EGGER

MATERIAL: PerfectSense®
PREMIUM GLOSS / PREMIUM MATT

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Version 03/2021

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EGGER PerfectSense®
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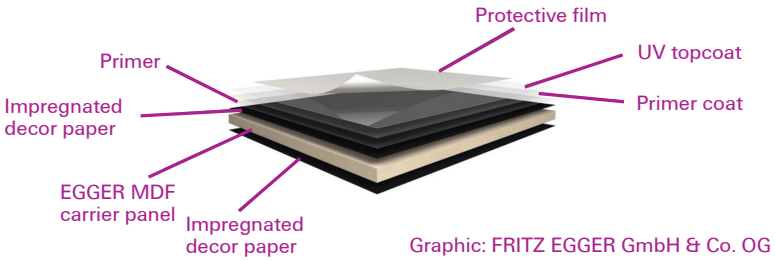
PRODUCT DESCRIPTION EGGER PerfectSense® PREMIUM GLOSS / PREMIUM MATT

During production of PerfectSense® lacquered panels with either the Premium Gloss or Premium Matt, surface finish, an MDF carrier panel coated with melamine resin undergoes an innovative UV-based coating process. **Product structure:**



Graphic: FRITZ EGGER GmbH & Co. OG

PROCESSING INFORMATION EGGER PerfectSense® PREMIUM GLOSS / PREMIUM MATT

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

1. GENERAL INFORMATION

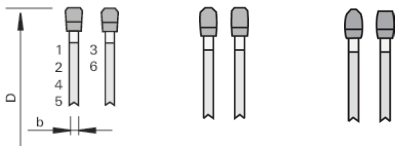
The surfaces, which are finished with multiple coats of lacquer, are ideal for use in the upscale furniture segment and lend interior furnishings an exclusive, refined character. The high-quality PerfectSense® lacquered panels with either the matte or high-gloss surface impress with their visual perfection as well as their high durability and resistance.

Thus, the pleasantly matte, velvety-warm feel of PerfectSense® in Premium Matt (PM) with fingerprint-resistant finish can also be used for horizontal applications and is an ideal complement to impact-resistant PerfectSense® Topmatt work surfaces. PerfectSense® in Premium Gloss (PG) impresses not only with its mirror gloss and attractive depth effect, but also with improved surface properties that allow horizontal use in areas subject to little wear (e.g. sideboards).

2. TRIMMING / SIZING

2.1 PANEL TRIMMING WITH CIRCULAR SAW BLADES

Various factors are responsible for good trimming results:
Good side facing up, correct saw blade projection, feed rate, tooth configuration, tooth pitch, rpm and trimming speed. Depending on the volume to be cut, tungsten-carbide-tipped (HW) or diamond-tipped (DP) circular saw blades are used. **Recommended tooth configurations:**



G6 TR-F-FA TR-F K

2.2 SIZING SAW

In general, the panels can be processed with all HW panel sizing saw blades available on the market. However, there are major differences in the cutting quality. Circular saw blades with convex flanks are particularly well-suited for an optimum cutting result with no chipping: Sizing saw blades HW "TR-F K" Anti-Fingerprint.

The sizing saw blades HW - solid Surface "TR-F-FA" can also achieve an acceptable cutting result.

Optimum application data: (for a Ø 300 mm circular saw blade)

Saw blade projection:	ü=20-25 mm
Speed:	n=5,000 rpm
Feed = Manual:	vf =5-8 m/min
Cutting speed:	vc=75 m/s

These circular saw blades should also be used for trimming cuts on CNC machines.

2.3 PANEL SIZING SAW

On panel sizing saws, the panels can be cut with HW and DP circular saw blades. For optimum finish-cut quality, the trimming cut should be made with an HW circular saw blade with convex flanks. The G6 in the HW and DP versions is recommended as the trimming saw blade. For higher volumes, it is recommended to use a DP circular saw blade for the trimming cut. Here, however, it is not possible to achieve finish-cut quality.

HW saws:	Panel sizing saw blades HW - Q-Cut "TR-F K"
DP saws:	Panel sizing saw blades DP - "G6"

Optimum application data: (for a Ø 450 mm circular saw blade)

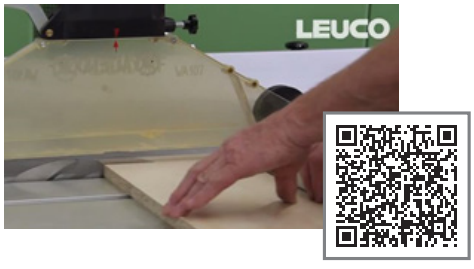
Saw blade projection:	ü=15-30 mm
Speed:	n=3,600-4,200 rpm
Feed:	vf=20-25 m/min
Cutting speed:	vc=80-90 m/s

It is also important to ensure the correct saw blade projection which has an impact on the cutting quality and depends on the diameter.

Circular saw blade diameter	Saw blade projection
D = 250 mm	approx. 15 - 20 mm
D = 300 mm	approx. 15 - 25 mm
D = 350 mm	approx. 18 - 28 mm
D = 400 mm	approx. 25 - 30 mm
D = 450 mm	approx. 25 - 30 mm

The recommended cutting speed is 60 - 90 m/sec. In the case of DP and HW-tippedsaw blades, the upper value must be selected. Try to aim for a feed per tooth of 0.05 - 0.12 mm.

Please refer to our YouTube channel for more information about the optimum saw blade projection. >>> Scan the QR-Code and watch the video on YouTube Alternatively, go to **www.youtube.com/leucotooling** <<<



2.4 THROUGH-FEED MACHINES: HOGGERS

Industrial sizing on through-feed machines is done using diamond-tipped tools. When sizing with hogger tools, outstanding results are achieved in the double hogging process. For this purpose, we recommend hoggers with low cutting pressure, such as the LEUCO PowerTec hogger. The number of hogger teeth should be matched to the respective machining feed.

The following application parameters have been used for testing all hoggers:

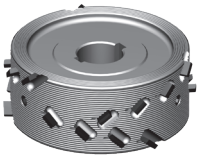
Speed: n = 6,000/min
Feed: vf = 30 m/s

PowerTec airFace

The best results with regard to cutting quality are achieved with PowerTec hoggers. The material, however, can also be processed well with UniTec hoggers.

3. MILLING / EDGING

In general, tools with DP blades should be used for jointing work in the run-through process. When sizing with jointing cutters, very good results can be achieved with tools that have a shear angle of between 35° and 70°. The best results in terms of quality are achieved with jointing cutters with a 48° shear angle. When using two double jointer units, jointing in two steps is recommended: use the first jointer unit for the main material removal (roughing) and the second jointer unit for finishing. In addition to the use of precise hydro and HSK clamping units, this procedure creates the optimum conditions for the highest quality and high edge lives during jointing work. The optimum feed/tooth (fz) is 0.7-0.9 mm.



DIAREX airFace
jointing cutters

4. MACHINING ON STATIONARY CNC MACHINES

For dividing cuts, pocket milling and jointing cuts, DP-tipped shank-type cutters with alternating shear angles in the range of 35°-70° can be used. The application data and the selection of the tool depend on the requirements regarding the cutting quality and the processing in general. When high volumes need to be cut, LEUCO CM high-performance shank-type cutters Z=3+3 (approx. 43-48°) are highly recommended, as are Z=2+2 and 3+3 nesting cutters with a high-strength base body. DP nesting cutters Z=2+2 or even DIAREX Z=2+2 are suitable for moderate volumes and feed rates. LEUCO p-System tools with very high shear angles can also be used, but are only necessary if processing against an already existing edge is required. The optimum feed per tooth fz (mm) is 0.23-0.33 mm.

Example: Reference values for the feed per tooth fz = 0.3 at 18,000 rpm.

Number of cutting edges (Z)	Diameter (mm)	Speed (rpm)	Feed rate vf (m/min)
Z=2	12/20/25	18.000	10-12
Z=3	12/25	18.000	14-16
Z=4	48/60	18.000	20-22

In case of higher revolutions per minute, e.g. 24,000, the values (table on p. 5, bottom) increase accordingly by approx. 25%.

Dividing cut: Lower value ranges, depending on the machining situation, the values must be further reduced if necessary.
Jointing cut: Higher value ranges.

It is generally recommended to use clamping systems with high concentric accuracy for all milling work (hydro-expansion chucks, TRIBOS or heat-shrinking chuck).

5. DRILLING

Through holes:
Very good drilling quality at the entry and exit side are also achieved with standard HW through-hole bits. VHW through-hole bits, e.g. LEUCO types Mosquito and topline, can also be used and offer longer edge lives.

Recommended application parameters:
Speed: 6,000 rpm
Feed: 1.5-2.0 m/min
Drilling mode: L-S-L

Dowel holes:
Using the standard HW-tipped dowel bits, the results are very good.

Recommended application parameters (in drilling units):
Speed: 4,500 rpm
Feed: 1.5 - 2 m/min
Drilling mode: L-S or S-S

Hinge holes:
Good to very good results can be achieved with the standard or the LEUCO „Light" cylinder boring bits. In case of high production volumes, the use of DP cylinder boring bits with very long edge lives is recommended.

Recommended application parameters:
Speed: 4,000-4,500 rpm
Feed: 1.5-2.0 m/min
Drilling mode: L-S

6. FORMULAS

6.1 CUTTING SPEED - VC

- Unit: m/s
- Data required: diameter = D [mm]; tool speed = n [rpm]
- Calculation: vc = (D * π * n)/(60 * 1000)

6.2 TOOTH FEED - FZ

- Unit: mm
- Required data: feed rate = vf [m/min]; tool speed = n [rpm]; no. of teeth = z
- Calculation: fz = (vf * 1000)/(n*z)

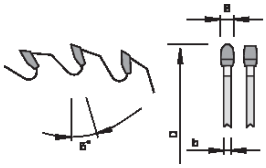
6.3 FEED SPEED - VF

- Unit: m/min
- Required data: tooth feed = fz [mm]; Tool speed = n [1/min]; no. of teeth = z
- Calculation: vf = (fz * n * z)/1000

7. LEUCO TOOLS FOR PROCESSING EGGER PerfectSense® PREMIUM GLOSS / PREMIUM MATT

7.1 CIRCULAR SAW BLADES FOR SIZING SAWS

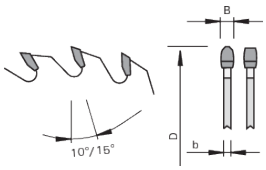
Dimension	Designation	Z	Tooth config.	Cutting material	Projection	Ident-No.
Ø 300 x 3,2 x Ø 30	Sizing saw blade Anti-Fingerprint	84	TR-F K	HL Board 04 plus	approx. 25 mm	193195
Ø 303 x 3,2 x Ø 30	Sizing saw blade solid Surface	84	TR-F-FA	HL Board 06 plus	approx. 25 mm	193133



- Additional saws with different diameters, cutting widths, bores and number of teeth **available upon request.**

7.2 CIRCULAR SAW BLADES FOR PANEL SIZING SAWS

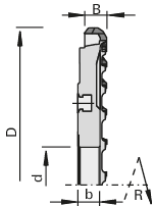
Dimension	Designation	Z	Tooth config.	Cutting material	Projection	Ident-No.
Ø 350 x 4,0 x Ø 30	Q-Cut	72	TR-F K	HL Board 04 plus	approx. 25 mm	192974
Ø 350 x 4,4 x Ø 60	Q-Cut	72	TR-F K	HL Board 04 plus	approx. 25 mm	192975
Ø 380 x 4,0 x Ø 60	Q-Cut	72	TR-F K	HL Board 04 plus	approx. 25 mm	192976
Ø 450 x 4,0 x Ø 60	Q-Cut	72	TR-F K	HL Board 04 plus	approx. 25 mm	192978



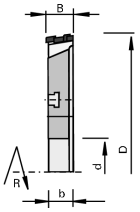
- Additional saws with different diameters, cutting widths, bores and number of teeth **available upon request.**
- Number of teeth and feed rate depend on cutting height and application for single panels or stack cuts.

7.3 HOGGERS

Dimension	Designation	Z	Cutting material	Ident-No.(L)	Ident-No.(R)
Ø 250 x 9,5 x Ø 60	PowerTec airFace	20+10	DP	186528	186527
Ø 250 x 9,5 x Ø 60	PowerTec airFace S	20+20	DP	186552	186551
Ø 250 x 8,0 x Ø 60	UniTec Hoggers CM	36+18	DP	182030	182031



PowerTec airFace

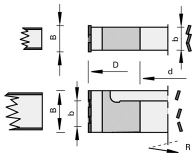


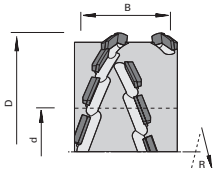
UniTec Hoggers

Additional hoggers with other dimensions **available on request.**

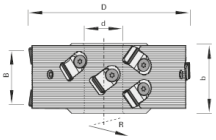
7.4 JOINTING CUTTERS

Dimension	Designation	Z	Cutting material	Machine	Shear <)	Ident-No. (L)	Ident-No. (R)
Ø 125 x 42,8 x Ø 30	DIAREX airFace	3+3	DP	Homag	48°	186323	186323
Ø 100 x 42,8 x Ø 30	DIAREX airFace	3+3	DP	SCM	48°	186362	186363
Ø 125 x 47,8 x Ø 30	p-System	3+3	DP	Homag	70°	184071	184071
Ø 125 x 62,5 x Ø 30	p-System	3+3	DP	IMA 08.379	70°	184989	184990
Ø 85 x 43,2 x Ø 30	DIAMAX airFace	3+3	DP	OTT	35°	186408	186409
Ø 125 x 43,2 x Ø 30	DIAMAX airFace	3+3	DP	Homag	35°	186399	186399
Ø 100 x 43 x Ø 30	SmartJointer airFace	3+3	DP	Brandt	35°	186065	186066
Ø 125 x 63 x Ø 30	SmartJointer airFace	3+3	DP	IMA 08.379	43°	186055	186056


DIAREX/
DIAMAX airFace



p-System
jointing cutters

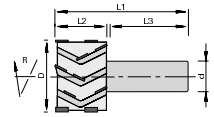


SmartJointer
airFace

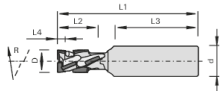
Additional jointing cutters with different diameters, cutting widths, bores, and numbers of teeth **available upon request.**

7.5 CNC SHANK-TYPE CUTTERS

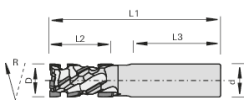
Dimension	Designation	Z	Cutting material	L/R	Ident-No.
Ø 20 x 28 x Ø 25	DIAREX high-performance cutter	2+2	DP	R	186151
Ø 25 x 28 x Ø 25	High-performance cutter, negative	3+3	DP	R	186120
Ø 25 x 26,5 x Ø 25	p-System shank-type cutter	2+2	DP	R	184382
Ø 60 x 38 x Ø 25	p-System shank-type jointing cutter	4+4	DP	R	184084
Ø 48 x 28 x Ø 25	High-performance trimming cutter	4+2+4	DP	R	186142
Ø 12 x 22 x Ø 16	Nesting cutter, positive	2+2	DP	R	187075
Ø 12 x 23 x Ø 16	Nesting cutter, negative	3+3	DP	R	185518



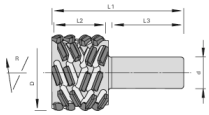
High-performance
trimming cutter DP



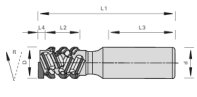
Nesting cutter DP,
negative / positive



DIAREX high-performance cutter DP



p-System shank-
type jointing cutter



p-System shank-
type cutter

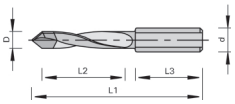
Further shank-type cutters with other dimensions are **available upon request.**

7.6 THROUGH-HOLE, DOWEL AND HINGE HOLE BITS

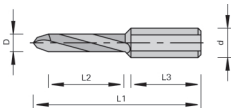
Dimension	Designation	Cutting material	Ident-No. (L)	Ident-No. (R)
Ø 5 L1=70 x Ø 10	Through-hole bit with back-guide	HW	176255	176254
Ø 8 L1=70 x Ø 10	Through-hole bit with back-guide	HW	176257	176256
Ø 5 L1=70 x Ø 10	Mosquito through-hole bit	VHW	183153	183152
Ø 8 L1=70 x Ø 10	Mosquito through-hole bit	VHW	183157	183156
Ø 5 L1=70 x Ø 10	topline through-hole bit	VHW	185742	185741
Ø 8 L1=70 x Ø 10	topline through-hole bit	VHW	185744	185743

Dimension	Designation	Cutting material	Ident-No. (L)	Ident-No. (R)
Ø 5 L1=70 x Ø 10	Dowel bit with back-guide	HW	167203	167194
Ø 8 L1=70 x Ø 10	Dowel bit with back-guide	HW	167205	167196
Ø 5 L1=70 x Ø 10	topline dowel bit	VHW	185760	185759
Ø 8 L1=70 x Ø 10	topline dowel bit	VHW	185764	185763

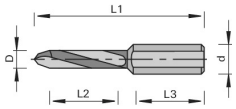
Dimension	Designation	Cutting material	Ident-No. (L)	Ident-No. (R)
Ø 35 L1=70 x Ø 10	Standard cylinder boring bit	HW	178982	172254
Ø 15 L1=70 x Ø 10	"Light" cylinder boring bits	HW	184685	184684
Ø 35 L1=70 x Ø 10	"Light" cylinder boring bits	HW	184689	184688
Ø 35 L1=70 x Ø 10	Cylinder boring bit Z=2+4	DP	on request	186783



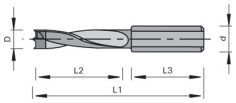
Through-hole bit with back-guide



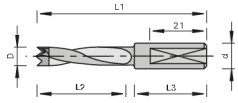
Mosquito through-hole bit



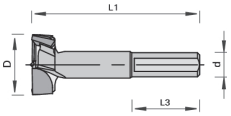
topline through-hole bit



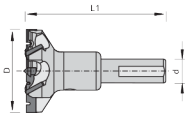
Dowel bit with back-guide



topline dowel bit



"Light" cylinder boring bits



Cylinder boring bit Z=2+4

I Additional drill bits with other dimensions, cutting lengths and shank dimensions are **available upon request.**

→ **Couldn't find the tool type or tool dimensions you want? Please contact LEUCO Sales.**

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TIP – LEUCO ONLINE CATALOG

You can find the LEUCO tool recommendations for processing EGGER PerfectSense® Premium Gloss / Premium Matt panels in the LEUCO online catalog.

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

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1. www.leuco.com/products
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→ Select saw blades, hoggers, cutters, drill bits

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