MACHINING INFORMATION

MANUFACTURER: EGGER
MATERIAL: PERFECTSENSE TEXTURE / PERFECTSENSE FEELWOOD

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

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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

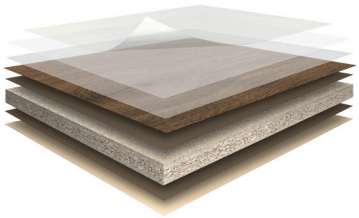
DP = diamond (former name: DIA); **HW** = carbide; **HR** = hollow back; **L-S** = slow, fast; **L-S-L** = slow, fast, slow; **vc** = cutting speed; **fz** = tooth feed; **vf** = feed rate

1. GENERAL INFORMATION

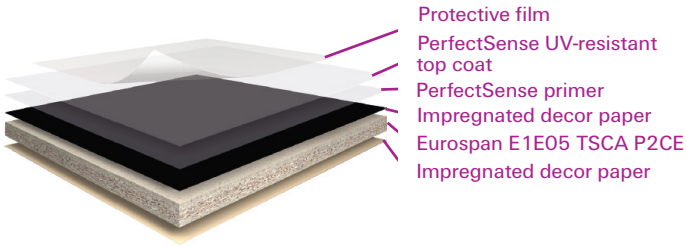
PerfectSense Feelwood combines the features of two premium products: The matte, velvety-warm optics and feel of the PerfectSense surface with the deeply structured Feelwood textures with synchronous pores. For the production of this product a synchronously laminated and sustainable particle board panel undergoes an coating process which is perfectly adapted to the surface and the texture. The coating gives the surface the special anti-fingerprint property which is particularly advantageous with dark decors.

With the **PerfectSense Texture**, we can offer a coated surface suitable for all rooms thanks to the combination of the innovative PerfectSense lacquer finish with a flat, structured and melamine-laminated particle board panel. The matte surface also provides anti-fingerprint properties and is easy to clean. PerfectSense Texture is the ideal complement to the premium variants of the PerfectSense portfolio and can be used for all vertical fields of application e.g. for visible sides, rear walls or core material.

Product structure PerfectSense Feelwood:



Product structure PerfectSense Texture:

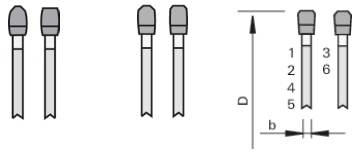


Graphics: FRITZ EGGER GmbH & Co. OG

2. TRIMMING CUT / 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:**



TR-F K TR-F-FA G6

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. For a very good cutting result, the "TR-F K" HW sizing saw blade is best suited. Care must be taken that any deposits adhering to the tooth sides are regularly removed by cleaning. Good cutting results are also possible with the "TR-F-FA" HW sizing saw blades for plastics.

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

Saw blade projection:	ü=20-25 mm
Speed:	n=5,000 rpm
Feed:	vf =5-8 m/min
Cutting speed:	vc=80 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, Q-Cut "TR-F K" HW panel sizing circular saw blade. For PerfectSense Feelwood, a finish cut can also be performed with the Q-Cut "G6" HW panel sizing circular saw blade. If the PerfectSense Texture panels are to be joined subsequently, trimming cut can also be performed with the Q-Cut "G6" HW panel sizing circular 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:	Q-Cut "TR-F K" HW panel sizing saw blades
	Q-Cut "G6" HW panel sizing saw blades
DP saws:	"G6" DP panel sizing saw blades

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

Saw blade projection:	ü=25-30 mm
Speed:	n=3,600 rpm
Feed:	vf=20-35 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-tipped saw blades, the upper value must be selected. A feed per tooth of 0.05 - 0.12 mm should be targeted.

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 or 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 designed to suit the respective feed during processing.

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

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

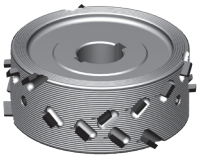
PowerTec airFace

The best results with regard to cutting quality are achieved with PowerTec hoggers. If jointing work is required after cutting, UniTec and CompactTec hoggers can also be used.

3. MILLING / EDGING

In general, tools with DP blades should be used for jointing work in the run-through process. For formatting with jointing cutters, tools with a shear angle between 35° and 70° can be used. Very good quality can be achieved with all LEUCO standard jointing cutters!

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 optimal conditions for highest quality and high edge lives during jointing work.



DIAREX airFace
Fügefräser

4. MACHINING ON STATIONARY CNC MACHINES

For dividing cuts, pocket milling and jointing cuts, HW turnover insert tools or, for higher volumes, DP-tipped shank-type cutters with alternating shear angles 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. 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 0.2 – 0.35 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 / 14 - 18
Z=3	12/25	18.000	14-16 / 16 - 18
Z=4	48/60	18.000	20-22 / 20 - 25

In case of higher revolutions per minute, e.g. 24,000, the values (table on p. 5, bottom) increase accordingly by approx. 25%. It is generally recommended to use clamping systems with high concentric accuracy for all milling work (hydro-expansion chucks, TRIBOS or heat-shrinking chuck).

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

5. DRILLING

This surface material is mainly used for furniture fronts and rarely for the furniture body. If it is, however, necessary to drill holes, proceed as follows:

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. VHW Topline can also be used and offer longer edge lives.

Recommended application parameters:
Speed: 4,500 rpm
Feed: 1.5 - 2 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 oder S-S

Hinge holes:
Good to very good results can be achieved with the standard HW 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: 3,500 - 4,500 rpm
Feed: 1.5 - 2 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
- Data required: feed rate = vf [m/min];
  tool speed = n [rpm]; number of teeth = z
- Calculation: fz = (vf * 1000)/(n*z)

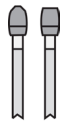
6.3 FEED RATE - VF

- Unit: m/min
- Data required: tooth feed = fz [mm];
  tool speed = n [rpm]; number of teeth = z
- Calculation: vf = (fz * n * z)/1000

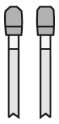
7. LEUCO TOOLS FOR THE MACHINING OF EGGER – PERFECTSENSE TEXTURE / PERFECTSENSE FEELWOOD

7.1 CIRCULAR SAW BLADES FOR SIZING SAWS

Dimension	Designation	Z	Tooth configuration	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. 20 mm	193195
Ø 303 x 3,2 x Ø 30	Sizing saw blade for plastics	84	TR-F-FA	HL Board 06	approx. 20 mm	193109



TR-F K

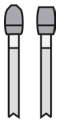


TR-F-FA

- 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 configuration	Cutting material	Projection	Ident-No.
Ø 350 x 4,0 x Ø 30	Q-Cut	72	TR-F K	HL Board 04 plus	18 - 28 mm	192974
Ø 350 x 4,0 x Ø 60	Q-Cut	72	TR-F K	HL Board 04 plus	18 - 28 mm	192975
Ø 380 x 4,0 x Ø 60	Q-Cut	72	TR-F K	HL Board 04 plus	25 - 30 mm	192976
Ø 300 x 4,4 x Ø 60	Q-Cut	72	G6	HL Board 04plus	15 - 25 mm	193137
Ø 320 x 4,4 x Ø 30	Q-Cut	72	G6	HL Board 04plus	15 - 25 mm	193142
Ø 350 x 4,4 x Ø 60	Q-Cut	72	G6	HL Board 04plus	18 - 28 mm	193148

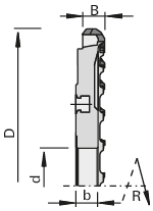


TR-F K

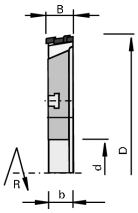
- Additional saws with different diameters, cutting widths, bores, and number of teeth **available upon request.**
- Number of teeth and feed rate depend on cutting height and application for single panels or stack cuts.

7.3 HOGGERS

Designation	Dimension	Z	Cutting material	Ident-No. (L)	Ident-No. (R)
PowerTec airFace	Ø 250 x 9,5 x Ø 60	20+10	DP	186528	186527
PowerTec airFace S	Ø 250 x 9,5 x Ø 60	20+20	DP	186552	186551
UniTec Hoggers CM	Ø 250 x 8,0 x Ø 60	36+18	DP	182031	182030
CompactTec	Ø 250 x 20 x Ø 60	36+6+6	DP	182539	182538



PowerTec airFace

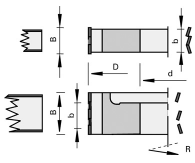


UniTec

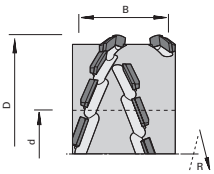
Additional hoggers with other dimensions **available on request.**

7.4 JOINTING CUTTERS

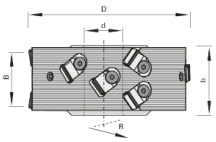
Designation	Dimension	Z	Cutting material	Machine	Shear<	Ident-No. (L)	Ident-No. (R)
DIAMAX airFace	Ø 85 x 43,2 x Ø 30	3+3	DP	OTT	35°	186408	186409
DIAMAX airFace	Ø125 x 43,2 x Ø 30	3+3 sym	DP	HOMAG	35°	186399	186399
SmartJointer airFace	Ø 100 x 43 x Ø 30	3+3	DP	BRANDT	35°	186065	186066
SmartJointer airFace	Ø125 x 63 x Ø 30	3+3	DP	IMA 08.379	43°	186055	186056
DIAREX airFace	Ø125 x 42,8 x Ø 30	3+3 sym	DP	HOMAG	48°	186323	186323
DIAREX airFace	Ø100 x 42,8 x Ø 30	3+3	DP	SCM	48°	186362	186363
p-System	Ø125 x 47,8 x Ø 30	3+3 sym	DP	HOMAG	70°	184071	184071
pSystem	Ø125 x 62,5 x Ø 30	3+3	DP	IMA 08.379	70°	184989	184990



DIAREX/
DIAMAX airFace



p-System
jointing cutters

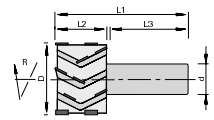


SmartJointer
airFace

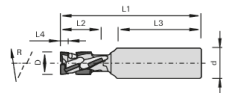
Jointing cutters for further machine brands with different diameters, cutting widths, bores and number of cutting edges **available upon request.**

7.5 CNC SHANK-TYPE CUTTERS

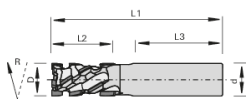
Dimension	Designation	Z	Cutting material	L/R	Ident-No.
Ø 20 x 28 x Ø 25	DIAREX high-performance cutter	2+2	DP	R	186151
Ø 25 x 28 x Ø 25	High-performance cutter, negative	3+3	DP	R	186120
Ø 25 x 26,5 x Ø 25	p-system shank-type cutter	2+2	DP	R	184382
Ø 60 x 38 x Ø 25	p-system shank-type jointing cutter	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



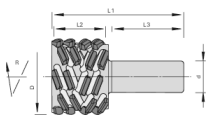
DP High-performance
trimming cutter



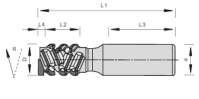
DP Nesting cutter,
negative / positive



DP DIAREX high-
performance cutter



p-system shank-type
jointing cutter



p-system
shank-type cutter

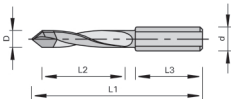
Further shank-type cutters with other dimensions are **available upon request.**

7.6 THROUGH-HOLE, DOWEL AND HINGE HOLE BITS

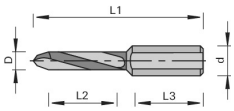
Dimension	Designation	Cutting material	Ident-No. (L)	Ident-No. (R)
Ø 5 x 35/70 x Ø 10	Through-hole bit with back-guide	HW	176255	176254
Ø 8 x 35/70 x Ø 10	Through-hole bit with back-guide	HW	176257	176256
Ø 5 x 35/70 x Ø 10	topline through-hole bit	VHW	185742	185741
Ø 8 x 35/70 x Ø 10	topline through-hole bit	VHW	185744	185743

Dimension	Designation	Cutting material	Ident-No. (L)	Ident-No. (R)
Ø 5 x 43/70 x Ø 10	Dowel bit with back-guide	HW	167203	167194
Ø 8 x 43/70 x Ø 10	Dowel bit with back-guide	HW	167205	167196
Ø 5 x 30/70 x Ø 10	topline dowel bit	VHW	185760	185759
Ø 8 x 30/70 x Ø 10	topline dowel bit	VHW	185764	185763

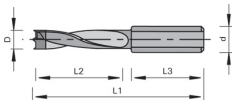
Dimension	Designation	Cutting material	Ident-No. (L)	Ident-No. (R)
Ø 35 x 30/70 x Ø 10	Standard cylinder boring bit	HW	178982	172254
Ø 35 x 30/70 x Ø 10	Cylinder boring bit Z=2+4	DP	On request	186783



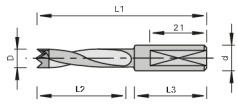
Through-hole bit with back-guide



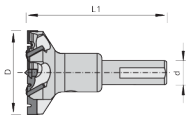
topline through-hole bit



Dowel bit with back-guide



topline dowel bit



Cylinder boring bit Z=2+4

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

→ **Couldn't find the tool type or tool dimensions 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 Texture and PerfectSense Feelwood lacquered panels in the LEUCO online catalog.

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

EASY & QUICK

1. www.leuco.com/products
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3. "special material manufacturers"
4. "EGGER"
5. PerfectSense Texture / PerfectSense Feelwood lacquered panels

→ Select saw blades, hoggers, cutters, drill 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