PROCESSING INSTRUCTIONS

MANUFACTURER: RESOPAL®

MATERIAL: **RESOPAL® Traceless** Premium **(TP)**

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PROCESSING INSTRUCTIONS

RESOPAL® Traceless Premium (TP)

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PRODUCT DESCRIPTION RESOPAL® Traceless Premium (TP)

RESOPAL® Traceless is a high-pressure laminated board with an anti-fingerprint, satin-finish, non-reflecting and soft-touch surface, designed for interior decoration. Based on DIN EN 438 Part 3 and 4 **RESOPAL® Traceless** complies with the requirements stipulated therein, however due to the surface material used it is not a high-pressure laminated board according to DIN EN 438.

PROCESSING INSTRUCTIONS

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

DEFINITION OF TERMS

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

DECORS:
0164 Jura Grey, 0188 Cool White, 0901 Black, 9410 Neutral White, 10630 Anthracite, D95 Graphite Grey
(**Picture source:** RESOPAL®)

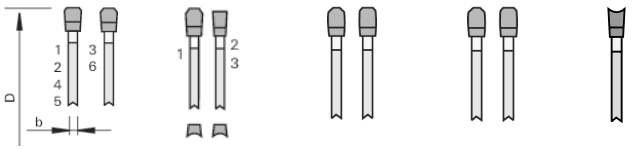
1. GENERAL INFORMATION

Surface material for high quality kitchen and office furniture, walls and doors, furniture and built-in fittings in shopping and leisure facilities, restaurants, administrative buildings, wash room, hospital and laboratory areas. In particular when special demands are made of ruggedness, ease of care and hygiene.

2. TRIMMING CUT / SIZING CUTS

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 speed, tooth configuration, tooth pitch, rpm and trimming speed. Depending on the volume to be cut, carbide-tipped (HW) or diamond-tipped (DP) circular saw blades are used. **Recommended tooth configurations:**



G6 TR-F-F DU TR-F-FA TR-F-FA K HR

2.2 SIZING SAW

HW saw blades with a TR-F-F DU tooth configuration are particularly well-suited for size sawing smaller volumes. Good trimming results can also be achieved with the LEUCO nn-System DP flex sizing circular saw blades with HR tooth configuration.

2.3. PANEL SIZING SAW

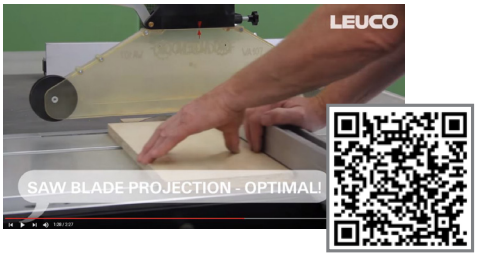
Very good trimming results can be achieved on panel sizing machines with the new panel sizing circular saw blades in the "Q-Cut" range (Q-Cut K). Good results can also be obtained with "Q-Cut G6" range panel sizing circular saw blades.

The recommended feed per tooth (fz) is in the range of 0.07 – 0.08 mm. The maximum feed per tooth is fz =0.096 mm and this should not be exceeded. Here again, tooth engagement occurs on the good side of the panel. Good edges on both sides can only be achieved using a suitable scorer. Very good trimming results can be achieved with a suitable saw blade projection. This 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 - 33 mm

The recommended cutting speed is 60 - 90 m/sec. The upper value should be selected in the case of DP tipped circular saw blades. Try to aim for a feed per tooth of 0.07 - 0.08 mm.

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



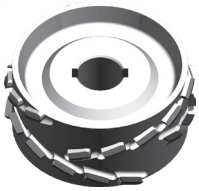
2.4. THROUGH-FEED MACHINES: HOGGERS

Panels have proved to be well-suited for sizing using hoggers on through-feed machines. The PowerTec III LowNoise hogger line achieved a very good result in the double hogging process. The trimming quality of CompactTec and UniTec hoggers was also good, though not very good. An example of the LEUCO "PowerTec III LowNoise" hogger is 185618/185619 – for a 45 m/min feed. The number of hogger teeth should be matched to the respective processing feed.

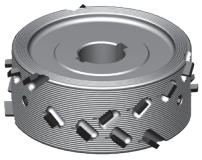
PowerTec III LowNoise

3. MILLING / EDGING

Tools with DP cutters should be used for milling jobs. We recommend tools with an increased shear angle of approx. 43°-70°. Very good jointing cuts could be achieved with the LEUCO DIAREX airFace for instance, and also the LEUCO p-System. Tools with a 35° shear angle also produced good cutting results with a low feed. Jointing in two stages is recommended if a double jointing aggregate is available. The recommendation for an optimum tooth feed is between 0.4 - 0.6 mm. **The general rule applies:** a lower feed per tooth (fz) produces better cutting results.



p-System Jointing cutters



DIAREX airFace

4. PROCESSING ON STATIONARY CNC MACHINES

Tools without a shear angle do not work. Diamond-tipped shank cutters with a shear angle should therefore be used for milling jobs. Shear angle range in this case from min 20° to max 48°.

The recommended feed per tooth (fz) is in the range from 0.2 – 0.27 mm.
Example:

	Z=2 (feed)	Z=3 (feed)
18.000 U/min	7 – 10 m/min	10 – 15 m/min
24.000 U/min	9 – 13 m/min	14 – 20 m/min

5. DRILLING

Dowel and through holes can be made with commonly available HW drill bits. Burring can be reduced or avoided when using standard HW drill bits by optimizing the drill parameters step-by-step. Better results are usually achieved by using VHW dowel and through hole drill bits on account of their higher rigidity. Using drill bits with special geometries to reduce cutting pressure are even more advantageous in terms of quality and longer tool life. This also applies to cylinder drill bits for hinge bores. VHW drilling pins are also very good for grid-pattern drillings < Ø5 mm.

„Mosquito“ HW through hole bits


"Mosquito" HW dowel bits


"Light" cylinder drill bits

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

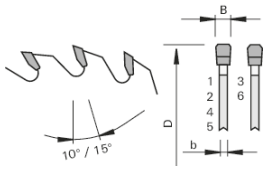
6.3. FEED SPEED – VF

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

7. LEUCO TOOLS FOR PROCESSING

7.1. CIRCULAR SAW BLADES FOR PANEL SIZING SAWS

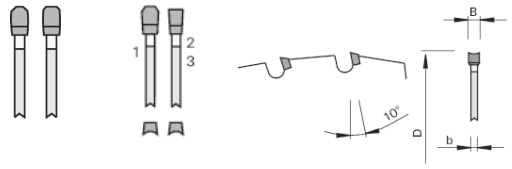
Dimensions	Description	Z	Tooth shape	Cutting material	Projection	Ident-No.
Ø 380 x 4,4 x Ø 60	Q-Cut K	72	TR-F-FA K	HL Board 04+	approx. 20 mm	192976
Ø 450 x 4,8 x Ø 60	Q-Cut G6	72	G6	HL Board 04+	approx. 20 mm	192883



- Additional saws with different diameters, cutting widths, bores, and number of teeth **available upon request.**
- Number of teeth and feed speed depend on cutting height and application for single panels or stack cuts.
- Feed max. 25 m/min

7.2. CIRCULAR SAW BLADES FOR SIZING SAWS

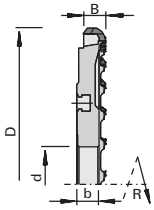
Dimensions	Description	Z	Tooth shape	Cutting material	Projection	Ident-No.
Ø 300 x 3,2 x Ø 30	LowNoise	72	TR-F-FA	HL Board 04+	approx. 20 mm	192787
Ø 303 x 3,2 x Ø 30	LowNoise	60	TR-F-F DU	HL Board 03	approx. 20 mm	193334
Ø 303 x 2,5 x Ø 30	nn-System DP flex	60	HR	DP	approx. 20 mm	192444



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

7.3. HOGGERS

Dimensions	Description	Z	Cutting material	Ident-No. (L)	Ident-No. (R)
Ø 250 x 14,5 x Ø 60	PowerTec III LowNoise	20+20+5	DP	185619	185618
Ø 250 x 14,5 x Ø 60	PowerTec III	20+10+5	DP	183453	183452

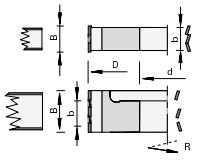


PowerTec III LowNoise

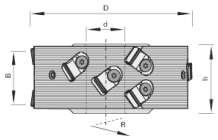
- Additional PowerTec hoggers with other dimensions **available on request.**

7.4. JOINTING CUTTERS

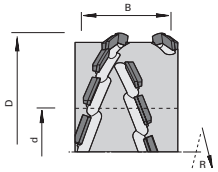
Dimensions	Description	Z	Shear<)	Cutting material	L/R	Ident-No.
Ø 125 x 42,8 x Ø 30 DKW	DIAREX airFace	3+3	48°	DP	L/R	186323
Ø 125 x 48 x Ø 30 DKW	p-System	3+3	70°	DP	L/R	184071
Ø 125 x 43,2 x Ø 30 DKW	DIAMAX airFace	3+3	35°	DP	L/R	186399
Ø 125 x 43 x Ø 30 DKW	SmartJointer airFace	3+3	35°	DP	L/R	186047



DIAREX airFace



SmartJointer airFace

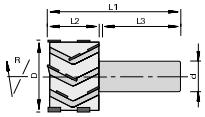


p-System- Jointing cutters

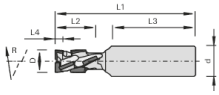
- Additional jointing cutters with different diameters, cutting widths, bores, and numbers of teeth **available upon request.**

7.5. CNC SHANK - TYPE CUTTERS

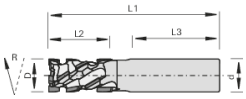
Dimensions	Description	Z	Cutting material	L/R	Ident-No.
Ø 12 x 22 x Ø 16	DP Nesting cutter, negative	2+2	DP	R	186113
Ø 12 x 22 x Ø 16	DP Nesting cutter, positive	3+3	DP	R	185514
Ø 12 x 23 x Ø 16	DP Nesting cutter, negative	3+3	DP	R	185518
Ø 20 x 38 x Ø 20	DIAREX DP highspeed cutter	2+2	DP	R	186153
Ø 18 x 28 x Ø 25	DP highspeed cutter, negative	3+3	DP	R	186118
Ø 25 x 52 x Ø 25	CM DP highspeed cutter, positive	3+3	DP	R	186133
Ø 48 x 22 x Ø 25	DP highspeed trimming cutter	4+2+4	DP	R	186140



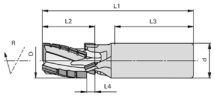
DP highspeed trimming cutter



DP Nesting cutter, negative / positive



DIAREX DP highspeed cutter



CM DP highspeed cutter, positive

I Additional shank-type cutters with other diameters (Ø) and cutting lengths (L2) **available on request.**

7.6. THROUGH HOLE, DOWEL- AND DRILLING PINS AND CYLINDER DRILL BITS

Dimensions	Description	Cutting material	Ident-No. (L)	Ident-No. (R)
Ø 5 L1=70 x Ø 10	Standard through hole drill bits	HW	176505	176504
Ø 8 L1=70 x Ø 10	Standard through hole drill bits	HW	176507	176506
Ø 5 L1=70 x Ø 10	Mosquito through hole drill bits	VHW	183153	183152
Ø 8 L1=70 x Ø 10	Mosquito through hole drill bits	VHW	183157	183156
Ø 5 L1=70 x Ø 10	topline through hole drill bits	VHW	185742	185741
Ø 8 L1=70 x Ø 10	topline through hole drill bits	VHW	185744	185743

Dimensions	Description	Cutting material	Ident-No. (L)	Ident-No. (R)
Ø 5 L1=70 x Ø 10	Mosquito dowel drill bits	VHW	182390	182391
Ø 8 L1=70 x Ø 10	Mosquito dowel drill bits	VHW	183151	183150
Ø 5 L1=70 x Ø 10	topline dowel drill bits	VHW	185760	185759
Ø 8 L1=70 x Ø 10	topline dowel drill bits	VHW	185764	185763
Ø 5 L1=70 x Ø 10	Highspeed dowel drill bits	VHW	185772	185771
Ø 8 L1=70 x Ø 10	Highspeed dowel drill bits	VHW	185776	185775

Dimensions	Description	Cutting material	Ident-No. (L)	Ident-No. (R)
Ø 2,5 L1=57,5 x Ø 10	Standard drilling pins	VHW	188061	188061
Ø 3 L1=57,5 x Ø 10	Standard drilling pins	VHW	183062	183062

Dimensions	Description	Cutting material	Ident-No. (L)	Ident-No. (R)
Ø 15 L1=70 x Ø 10	Standard cylinder drill bits	HW	178978	172250
Ø 35 L1=70 x Ø 10	Standard cylinder drill bits	HW	178982	172254
Ø 15 L1=70 x Ø 10	"Light" cylinder drill bits	HW	184685	184684
Ø 35 L1=70 x Ø 10	"Light" cylinder drill bits	HW	184689	184688

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

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

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TIP – LEUCO ONLINE CATALOG

LEUCO tool recommendations for processing panels are listed in the LEUCO online catalog.

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

QUICK & EASY

1 www.leuco.com/products
2 Click "tool" filter
3 "special manufacturer materials"

→ Select saw blades, hoggers, cutters, drill bits

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