PROCESSING INSTRUCTIONS

MANUFACTURER: RESOPAL®
MATERIAL: **RESOPAL® Compact Colour**

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 08/2018

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RESOPAL® Compact Colour

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PRODUCT DESCRIPTION RESOPAL® Compact Colour

Compact Colour is a decorative high-pressure compact panel with a homogenously colored core for use in interior design and fulfils the requirements of the "Specifications for laminates with alternative core" according to DIN EN 438 – part 9. The decorative surface and the product core is therefore exclusively based on paper impregnated with melamine resin.

PROCESSING INSTRUCTIONS RESOPAL® Compact Colour

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

DEFINITION OF TERMS

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

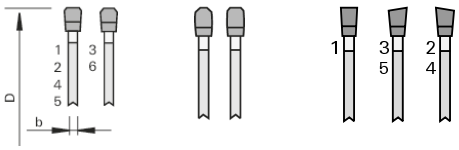
1. GENERAL INFORMATION

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

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-FA G5

2.2 SIZING SAW

For sizing saws, HW circular saw blades with the tooth configuration TR-F-FA are particularly suitable. Optimum application data: **Saw blade projection:** 15 - 20 mm; **Rotations per minute:** n = 5500 - 6000 rpm; **Feed:** manual feed 4 m/min - 6 m/min

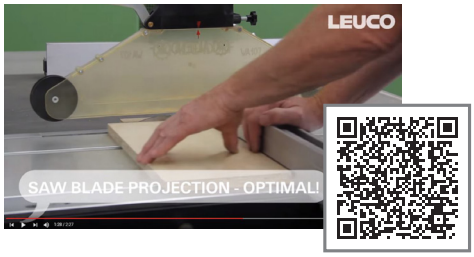
2.3. PANEL SIZING SAW

Excellent cutting results can be achieved on panel sizing machines with the new circular panel sizing saw blades from the "Q-Cut" range (Q-Cut G6). The recommended feed per tooth (fz) is between 0.04 – 0.06 mm. The maximum feed per tooth is fz = 0.07 mm and should not be exceeded. The cutting speed should be vc = 55 - 80 m/s. 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 cutting results are achieved with a suitable saw blade projection. This depends on the diameter.

Circular saw blade diameter	Saw blade projection
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 55 - 80 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** <<<



3. PROCESSING ON CNC STATIONARY MACHINES

Tool selection:

For the milling operation, tungsten carbide tools (turnover knives or VHW spiral shank-type cutters) or diamond-tipped (DP) tools can preferably be used. For small production quantities, HW cutters are adequate. Diamond-tipped tools, ideally with continuous cutting edge with slight shear angles guarantee high processing quality and long edge life.

Edge life can be increased by:

- Best possible workpiece clamping (use of as many suction devices as possible in best possible condition on the console tables, suction devices for aluminum, if necessary)
- Use of the tools in high precision clamping elements (hydro expansion chuck, TRIBOS or heat-shrinking chucks)
- Occasional cleaning of the cutting edge (face and clearance face) e.g. with acetone
- Avoidance of lumpy chips = heat! Speed reduction or higher feed!
- Optional milling strategy in case of frequent dividing cuts/full cuts: use of a roughing cutter followed by a finish cutting step provides a high machining quality and guarantees the highest possible edge life of the finishing tool.

Jointing / Dividing / Rounding:

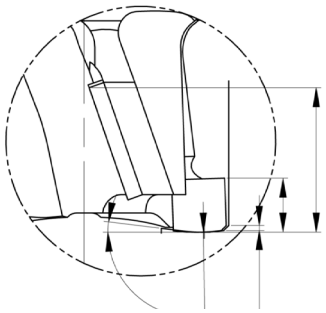
- Machining process: milling against feed
- Speed (n): 16.000 - 18.000 rpm
- Feed per tooth (fz): 0.2 - 0.35 mm
- Feed (Vf): 8 - 12 m/min (cutter Z=2 or Z=3)

Pocket milling:
If tools with normal basic cutting edges are used, the milling paths are more or less visible at the bottom of the pocket.

A visible improvement can be reached with the use of modified DP tools (rounded basic cutting edges) and the milling function "Smoothing" (depending on the machine and software used).

Example:

- Machining process: clockwise milling
- Speed (n): 18.000 rpm
- Feed per tooth (fz): 0.08 - 0.15 mm (basic cutting edges)
- Feed (Vf): 3 m/min (cutter Z=2)
- Setting: Smoothing without ramp factor
- Advance: 5%



4. DRILLING

Using the standard HW drill bits, the results are very good.

Dowel holes
Standard HW dowel bits application data:

- Speed (n): 3.750 – 4.500 rpm
- Feed (Vf): 1 - 2 m/min
- Drilling mode: S - S

Through holes
Standard HW through-hole bits application data:

- Speed (n): 3.750 – 4.500 rpm
- Feed (Vf): 1 - 2 m/min
- Drilling mode: S - S - S

Hinge holes
Standard HW cylinder boring bits application data:

- Speed (n): 4.500 rpm
- Vorschub (Vf): 1,5 - 2 m/min

5. FORMULAS

5.1. CUTTING SPEED – VC

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

5.2. TOOTH FEED – FZ

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

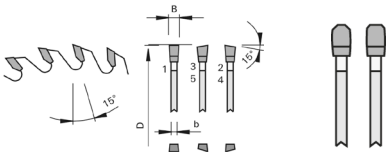
5.3. FEED SPEED – VF

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

6. LEUCO TOOLS FOR PROCESSING RESOPAL® Compact Colour PANELS

6.1. CIRCULAR SAW BLADES FOR SIZING SAWS

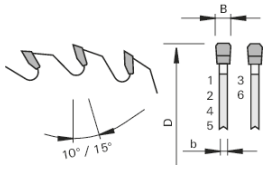
Dimension	Description	Z	Tooth Shape	Cutting Material	Projection	Ident-No.
Ø 300 x 3,2 x Ø 30	Sizing saw blade HW LowNoise	72	TR-F-FA	HL Board 04+	approx. 15-20 mm	192787
Ø 303 x 3,2 x Ø 30	Sizing saw blade DP G5	100	G5	DP	approx. 15-20 mm	189633
Ø 350 x 3,2 x Ø 30	Sizing saw blade DP G5	60	TR-F-FA	DP	approx. 18-28 mm	192961



- 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.

6.2. CIRCULAR SAW BLADES FOR PANEL SIZING SAWS

Dimension	Description	Z	Tooth Shape	Cutting Material	Projection	Ident-No.
Ø 450 x 4,8 x Ø 60	Q-Cut G6	72	G6	HL Board 04+	approx. 25-33 mm	192883
Ø 450 x 4,8 x Ø 60	Panel sizing saw blade DP	72	G6	DP	approx. 25-33 mm	193034

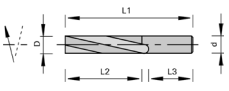


- Additional saws with different diameters, cutting widths, bores, and number of teeth **available upon request.**
- Number of teeth and feed speed depend on cutting height and application for single panels or stack cuts.

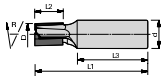
6.3. CNC SHANK-TYPE CUTTERS

Dimension	Description	Z	Cutting Material	Ident-No.
Ø 16 x 35 x Ø 16	VHW finishing cutter positive	3	VHW	178341
Ø 16 x 30 x Ø 25	TOK shank-type cutter	2	HW	180804
Ø 14 x 20 x Ø 16	DP roughing cutter	2+1	DP	186579
Ø 16 x 20 x Ø 20	DP jointing/dividing cutter	2+1	DP	186439
Ø 16 x 20 x Ø 20	DP jointing/dividing cutter mod.	2+1	DP	AD-380807
Ø 16 x 20 x Ø 20	DP jointing/dividing cutter	3+1	DP	186431
Ø 22,3 x 14 x Ø 16	DP rounded profile cutter	3	DP	186578

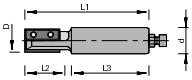
- Further shank-type cutters with other dimensions are **available upon request.**



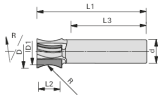
VHW finishing cutter positive



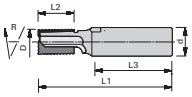
DP jointing/dividing cutter



TOK shank-type cutter



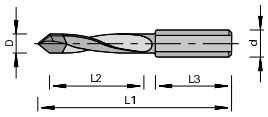
DP rounded profile cutter



DP roughing cutter

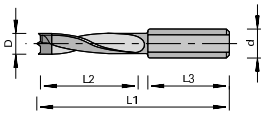
6.4. THROUGH HOLE, DOWEL- AND HINGE DRILL BITS

Dimension	Description	Cutting Material	Ident-No. (L)	Ident-No. (R)
Ø 5 L1=70 x Ø 10	Standard through-hole bit	HW	176255	176254
Ø 8 L1=70 x Ø 10	Standard through-hole bit	HW	176257	176256



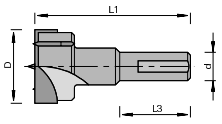
Additional drill bits with other dimensions, cutting lengths and shank dimensions **available on request.**

Dimension	Description	Cutting Material	Ident-No. (L)	Ident-No. (R)
Ø 5 L1=70 x Ø 10	Standard dowel bit	HW	167203	167194
Ø 8 L1=70 x Ø 10	Standard dowel bit	HW	167205	167196
Ø 10 L1=70 x Ø 10	Standard dowel bit	HW	167207	167198



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

Dimension	Description	Cutting Material	Ident-No. (L)	Ident-No. (R)
Ø 15 L1=70 Ø 10	Standard hinge hole bit	VHW	178978	172250
Ø 35 L1=70 Ø 10	Standard hinge hole bit	VHW	178982	172254



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.**

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

info@leuco.com

TIP – LEUCO ONLINE CATALOG

You can find LEUCO tool recommendations for processing RESOPAL® Compact Colour panels in the LEUCO Online Catalog.

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

QUICK & EASY

1. www.leuco.com/products
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→ Select saw blades, 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