

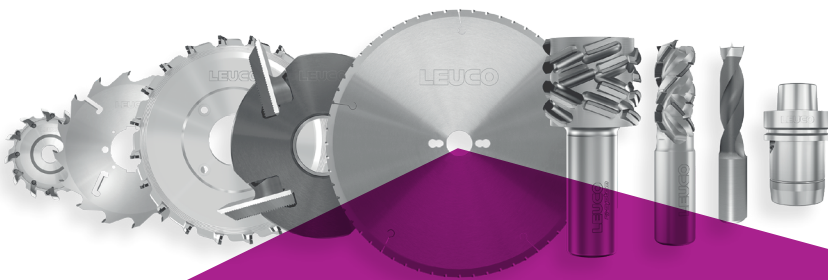
TOOL RECOMMENDATION

Manufacturer

HOMAPAL

Material

**DECOR 641/000 BRUSHED STAINLESS
STEEL**



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Version 12/2024

TOOL RECOMMENDATION



HOMAPAL DECOR 641/000 BRUSHED STAINLESS STEEL

The following tool recommendations are based on a wide variety of test series by LEUCO Ledermann GmbH & Co. KG, with the best machining results in each case.

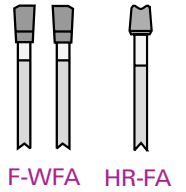
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DEFINITION OF TERMS:

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 rate; **ü** = saw blade projection

1. TRIMMING CUT / SIZING

Various factors are responsible for good cutting results: Decorative side on the inlet side, correct saw blade projection, feed rate, tooth configuration, tooth pitch, rpm and cutting speed. For miter cuts, the cutting edge should be razor-sharp. **Recommended tooth configurations:**



1.2 SIZING SAW

In principle, the panels can be processed with HW and DP saw blades. However, the edge life is very short due to the nature of the material. The best cutting results can be achieved using circular saw blades with HR-FA geometry. Good cutting results can also be achieved using an HW saw blade with F-WFA geometry: the "Unisteel HW metal clipping saw blade". However, you should not expect long edge life before burr formation.

Optimum application data: (for a Ø 350 mm circular saw blade)

Saw blade projection:	$\ddot{u} = 60 \text{ mm}$
Speed:	$n = 2,500 \text{ rpm}$
Feed speed:	$vf = 4-5 \text{ m/min}$
Cutting speed:	$vc = 40-50 \text{ m/s}$

1.3 PANEL SIZING SAW

On panel sizing lines, panels can only be cut economically using DP saw blades. To achieve an almost perfect finish-cut quality, trimming should also be done with the "DIAREX DP 'HR-FA' panel sizing saw blade.

Optimal application data: (for a Ø 350 mm circular saw blade)

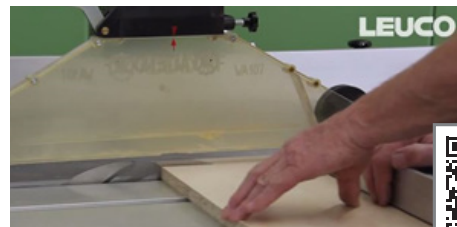
Saw blade projection:	$\ddot{u} = 40 \text{ mm}$
Speed:	$n = 3,600 \text{ rpm}$
Feed:	$vf = 20-35 \text{ m/min}$
Cutting speed:	$vc = 60 \text{ m/s}$

Circular saw blade diameter

D = 350 mm

Saw blade projection

approx. 25 mm



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



2. MILLING / EDGING

Processing is also possible with jointing cutterheads with turnover knives but the running meter performance is not very high. The feed/tooth (fz) to be achieved is 0.6 mm. If possible, the process should be performed in an oscillating manner. The oscillation length should be between 3 and 5 mm. If oscillation is not possible, the Z axis should be adjusted by approx. 0.5 mm when the first burrs occur in order to ensure that another part of the cutting edge comes into contact with the material. Regardless of the procedure, frequent replacement of the HW blades will be necessary due to the wear pattern. On the table shaper, milling must be performed against feed; on through-feed machines, milling with feed is possible to further optimize the edge life. Removal should not exceed 3 mm; 0.5-1 mm is optimal to keep wear at a low level. Through-feed machining of HOMAPAL stainless steel plates using standard DP jointing cutters is not advisable as only slightly longer edge life can be achieved than with TOK tools and the DP cutting edges are badly damaged. Caution: **Flying sparks can also occur when using jointing cutters on through-feed machines.**

3. PROCESSING ON STATIONARY CNC MACHINES

For the milling process, VHW spiral shank-type cutters should be used. Ideally, these cutters should also be provided with a wear-optimizing coating. The best results and edge life can be achieved with LEUCO "TRIO" shank-type cutters. They feature a new, protected tooth geometry and a highly effective coating. Compared to conventional VHS finishing cutters, TRIO cutters achieve several times longer edge lives. If possible, an oscillating milling process should be chosen.

Oscillation between 2 and 6 mm according to the cutter type. If oscillation is not possible, it is recommended that the tool is gradually offset by 0.5 to 1 mm in the Z direction after each milling process.

Recommended application data for jointing cuts:

Speed:	$n = 5,000-6,000$ rpm
Feed rate:	$V_f = 4-8$ m/min (depending on diameter)
Type of application:	Machining with feed if possible!

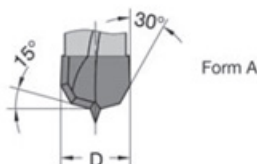
4. DRILLING

Dowel holes:

The best results can be achieved with altered dowel bits with a modified tip. The necessary alteration to "Form A" is possible on HW and VHW dowel bits and is carried out within a few days at LEUCO.

Recommended application parameters:

Speed:	1,200-1,600 rpm
Feed:	0.5-1.0 m/min
Drilling mode:	L-S



Hinge holes:

Good results can be achieved with cylinder boring bits Z=3+3. The drill bits should be provided with additional chip breakers.

Recommended application parameters: (in drilling units)

Speed: $n = 4,500$ rpm

Feed: $n = 0.5-1.0$ m/min

Drilling mode: L-S

Note: Due to the embedded metal foil, there is a risk of flying sparks and therefore the risk of dust explosion during processing (sawing, milling, drilling, etc.). A flying spark detection in the dust extraction is highly recommended.

5. FORMULAS

5.1 CUTTING SPEED - VC

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

5.2 TOOTH FEED - FZ

- I Unit: mm
- I Data required: feed speed = vf [m/min];
tool speed = n [rpm]; number of teeth = z
- I Calculation: $fz = (vf * 1,000) / (n * z)$

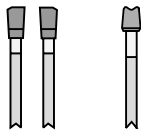
5.3 FEED SPEED - VF

- I Unit: m/min
- I Data required: feed speed = vf [m/min];
tool speed = n [rpm]; number of teeth = z
- I Calculation: $vf = (fz * n * z) / 1,000$

6. LEUCO TOOLS FOR PROCESSING OF HOMAPAL DECOR 641/000 BRUSHED STAINLESS STEEL

6.1 CIRCULAR SAW BLADES FOR SIZING SAWS

Dimension	Designation	Z	Tooth config.	Cutting material	Projection	Ident-No.
Ø 350 x 3,2 x Ø 30	Unisteel metal clipping saw blade	80	F-WFA	HW TCm 13	approx. 60 mm	58165003
Ø 303 x 3,2 x Ø 30	DIAREX sizing saw blade	65	HR-FA	DP	approx. 60 mm	192958



F-WFA HR-FA

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

6.2 CIRCULAR SAW BLADES FOR PANEL SIZING SAWS

Dimension	Designation	Z	Tooth config.	Cutting material	Projection	Ident-No.
Ø 350 x 4,4 x Ø 30	DIAREX panel sizing saw blade	72	HR-FA	DP	approx. 40 mm	192322



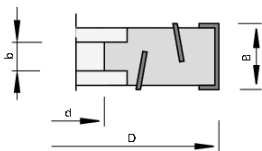
HR-FA

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.

6.3 JOINTING CUTTERS ON TABLE SHAPER

Dimension	Designation	Z	Cutting material	Machine	Shear <	HW spare knives	Ident-No.
Ø 125 x 56 x Ø 30	HW jointing cutterhead	3+3	HW	Table shaper	15°	178288 (6x)	177004



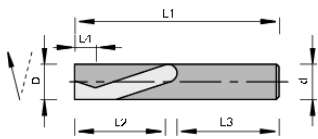
HW jointing cutterhead

Jointing cutters with other diameters, cutting widths, bores and numbers of cutting edges available on request.

6.4 CNC SHANK-TYPE CUTTERS

Dimension	Designation	Z	Cutting material	Ident-No. (R)
Ø 12 x 7/36 x Ø 12	Magnet bond board cutter	2+2	VHW	186242
Ø 18 x 7/36 x Ø 18	Magnet bond board cutter	2+2	VHW	186243
	Alteration: coating			on request
Ø 12 x 30/90 x Ø 12	LEUCO shank-type cutters	2x (3+3)	VHW	on request
Ø 18 x 34/110 x Ø 18	LEUCO shank-type cutters	2x (3+3)	VHW	on request
Ø 20 x 36/110 x Ø 20	LEUCO shank-type cutters	2x (3+3)	VHW	80483300
	Note: TRIO milling cutters cannot be resharpened!			

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



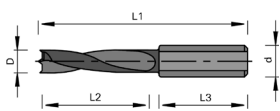
Magnet bond board cutter

6.5 DOWEL AND HINGE HOLE BITS

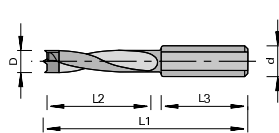
Dimension	Designation	Cutting Material	Ident-No. (L)	Ident-No. (R)
Ø 5 x L1=70 x Ø 10	Standard dowel bit	HW	003231	003230
Ø 8 x L1=70 x Ø 10	Standard dowel bit	HW	003243	003242
Ø 5 x L1=70 x Ø 10	Mosquito dowel bit	VHW	182390	182391
Ø 8 x L1=70 x Ø 10	Mosquito dowel bit	VHW	183151	183150
	Alteration of the above mentioned dowel bits to bits with "Form A" tips	HW/VHW	on request	on request

Dimension	Designation	Cutting Material	Ident-No. (L)	Ident-No. (R)
Ø 35 x L1=70 x Ø 10	Cylinder borings bits with chip breakers (Z=3+3)	HW	on request	80459873
	Alteration: different dimensions according to AD-395356		on request	on request

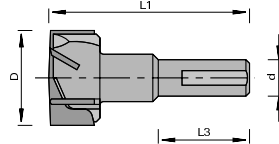
Additional drill bits with other diameters, cutting lengths and shank dimensions are available on request.



Mosquito dowel bit



Standard dowel bit



Cylinder boring bit HW



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

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TIP – LEUCO ONLINE CATALOG

The LEUCO tool recommendations for processing HOMAPAL decor 641/000 brushed stainless steel are listed in the LEUCO online catalog.



Alternative:
Scan the QR code and
learn about the LEUCO
warehouse program.

QUICK &
EASY

- 1 www.leuco.com/products
- 2 Click on "Material" filter
- 3 "Special manufacturer materials"
- 4 „HOMAPAL“
- 5 Decor 641/000 brushed stainless steel

→ Select saw blades, cutters, drill bits



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