Machining recommendation

Homapal Magnetic boards

A. Introduction:

The following machining recommendation refers to magnetic boards of the manufacturer Homapal. These boards consist of a carrier board in the form of a flat pressed chipboard with a magnetic decorative layer of iron foil integrated laminate.

B. Processings:

1. Sawblades

Machine: Circular saw bench and sizing saw bench with parallel stop and/ or sliding table, CNC machining centres

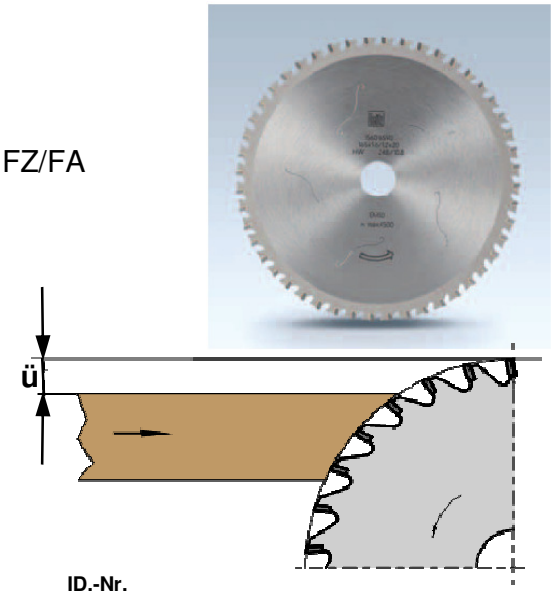
Tool: TC-tipped circular sawblade ‚FerroFix', ID. 2000636, D300x2,2x30, Z80, FZ/FA

Recommended RPM: n = 2.500 – 4.500 U/min

Recommended feed rate: v_f = 6 – 10 m/min (manual feed)

Recommended protrusion: ü = 15 - 25 mm

Notes: For tear free cut on both sides, the bottom side has to be pre scored. For that purpose the sawblade in the first pass is adjusted ca. 1 mm over the table. In the second pass it then is splitted with the recommended adjustment.



Further sawblade dimensions:

D [mm]	SB [mm]	BO [mm]	Z	ZF	ID.-Nr.
250	2,2	30	60	FZ/FA	2000661
300	2,2	30	60	FZ/FA	2000657
300	2,2	30	80	FZ/FA	2000636
305	2,2	25,4	60	FZ/FA	2000320

D [mm]	SB [mm]	BO [mm]	Z	ZF	ID.-Nr.
305	2,2	25,4	80	FZ/FA	2000321
355	2,2	25,4	80	FZ/FA	2000322
400	2,2	30	84	FZ/FA	2000637

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2. Jointing and sizing

Machine: CNC-routers and machining centres

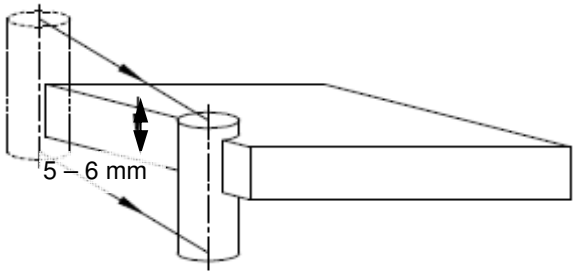
Tool: TC-solid spiral finishing cutter with alternate twist Z2+2, ID. 42537
D = 16 mm, NL = 40 mm, RH, shank 16x50, GL =100 mm

Recommended RPM: n = 14.000 – 18.000 U/min

Recommended feed rate: v_f = 5 – 10 m/min

Cutting direction: against feed (GGL)

Notes: In order to obtain as long performance times as possible, a continuous adjustment of the tool in the Z-axis has to be made during cutting (oscillating). The oscillating dimension should be 5 – 6 mm.
The application of 2 tools is recommendable. 1 tool pre cuts the workpieces (oversize all around ca. 2 mm). Following the 2nd tool makes the contour.



Further tool dimensions:

D [mm]	GL [mm]	NL [mm]	S [mm]	DRI	ID.-Nr.
12	70	25	12x40	RL	042536
16	100	40	16x50	RL	042537
18	100	50	18x50	RL	042538

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3. Boring

Machine: Automatic boring machine, CNC-machining centres, vertical boring machine

Tool: TC dowel drill Z2 with special ground

Recommended RPM: n = 4.500 U/min

Recommended feed rate: v_f = 1 – 1,5 m/min (drilling feed rate 0,5 m/min)

Notes: The drilling feed rate is adjusted up to ca. 2 mm drilling depth. Then it can be bored with the stated drilling feed rate down to the final drilling depth. Throughholes can be produced by drilling a little bit deeper than to the middle of the board with the mentioned drills from both sides of the board.

Dimensions of the boring bits:

D [mm]	GL [mm]	NL [mm]	S [mm]	ID.-Nr. LL	ID.-Nr. RL
5	70	35	10x30	130068510	130068509
6	70	35	10x30	130068512	130068511
8	70	35	10x30	130068514	130068513
10	70	35	10x30	130068516	130068515

C. Final notes:

Automatic machining of the magnetic boards can produce sparks. This has to be considered referring the exhaustion of the chips. The machine operators have to wear corresponding protective clothing and safety glasses.

All data referring the application parameters can differ from practice in single cases.