PROCESSING INSTRUCTIONS

MANUFACTURER: PFLEIDERER

MATERIAL: PRIMEBOARD
XTREME MATT **(XT)**
XTREME HIGH GLOSS **(XG)**

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PROCESSING INSTRUCTIONS

PFLEIDERER

PFLEIDERER PRIMEBOARD XTREME MATT **(XT)** & XTREME HIGH GLOSS **(XG)**

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"PFLEIDERER PRIMEBOARD FOR PREMIUM LOOKS IN HIGH GLOSS AND MATT FINISH"

PRODUCT DESCRIPTION FOR PRIMEBOARD XTREME MATT (XT) & XTREME HIGH GLOSS (XG)

Pfleiderer PrimeBoard is a decorative wood-based material with an innovative high-quality multi-layer coating consisting of a PUR HotCoating functional layer and UV-curing acrylic lacquers.

PROCESSING INSTRUCTIONS FOR PRIMEBOARD XTREME MATT (XT) & XTREME HIGH GLOSS (XG)

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

FORMULAS

Cutting speed – vc
- Unit: m/s
- Data required: diameter = D [mm]; tool speed = n [rpm]
- Calculation: vc = (D * π * n)/(60 * 1000)

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

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)

1. GENERAL INFORMATION

Noble but robust: Pfleiderer's PrimeBoard is a wood-based panel that combines an attractive lacquer look with optimal machining capabilities and high strength. Whether PrimeBoard XTreme Matt or PrimeBoard XTreme High Gloss: An innovative multi-layer coating technology ensures high color stability and excellent material properties for easy machining. An optimal color match makes Pfleiderer PrimeBoard versatile and flexible to use and combine.

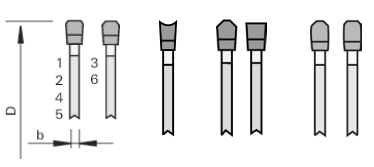
2. TRIMMING CUT / SIZING CUTS

2.1. Trimming cut of PrimeBoard XTreme Matt (XT) with circular saw blades

Various factors are responsible for a good cutting result:

Decorative side up, correct saw blade projection, feed speed, tooth configuration, tooth partition,RPM and cutting speed. Depending on the volume to be cut, carbide-tipped (HW) or diamond-tipped (DP) circular saw blades are used.

Recommended tooth configurations:



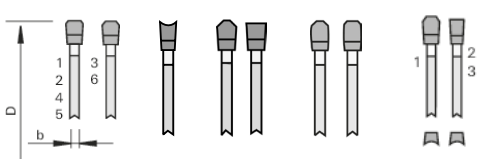
G6 HR TR-F TR-F K

2.1.1. Trimming cut of PrimeBoard XTreme High Gloss (XG) with circular saw blades

Various factors are responsible for a good cutting result:

Decorative side up, correct saw blade projection, feed speed, tooth configuration, tooth partition, RPM and cutting speed. Depending on the volume to be cut, carbide-tipped (HW) or diamond-tipped (DP) circular saw blades are used.

Recommended tooth configurations:



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

2.2. Formatting of PrimeBoard XTreme Matt (XT)

HW saw blades with a TR-F tooth configuration are particularly well suited for formatting of relatively small quantities. Very good trimming results can also be achieved with the LEUCO nn-System DP flex sizing saw blades with HR tooth configuration.

2.2.1. Formatting of PrimeBoard XTreme High Gloss (XG)

HW saw blades with a TR-F-F DU and TR-F tooth configuration are particularly well suited for formatting of relatively small quantities. Very good trimming results can also be achieved with the LEUCO nn-System DP flex sizing saw blades with HR tooth configuration.

2.3. Panel sizing of PrimeBoard XTreme Matt (XT) and PrimeBoard XTreme High Gloss (XG)

Very good cutting results can be achieved on panel sizing machines with the new circular panel sizing saw blades of the "Q-Cut" range (Q-Cut K). Good results can also be obtained with circular panel sizing saw blades of the "Q-Cut G6" range. The recommended feed per tooth (fz) is between 0.07 – 0.08 mm. The maximum feed per tooth is fz = 0.096 mm and 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 cutting results are 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 for PrimeBoard XTreme Matt (XT)

Good results can be achieved in the double hogging process when sizing with hogger tools on through-feed machines. Hoggers with low cutting pressure are recommended here, e.g. the LEUCO "Powertec III LowNoise" hogger or the "PowerTec III" standard hogger. The following application parameters have been used for testing the hoggers:

Rotation speed	n = 6.000/min.
Removal	a = 3 mm
Feed	vf = 30 m/s

2.4.1. Through-feed machines: hoggers for PrimeBoard XTreme High Gloss (XG)

The panel material has proved to be difficult for machining using hoggers on through-feed machines. The best result in a double hogging procedure was achieved with the PowerTec III LowNoise hogger line. All the other hogger types produced visibly lower cutting quality and are therefore not recommended for machining. An example of the LEUCO "PowerTec III LowNoise" hogger is ID 185618/185619 – for a 45 m/min feed. The number of hogger teeth should be matched to the respective machining feed.

PowerTec III LowNoise

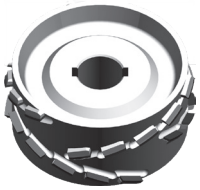
3. MILLING / EDGING

3.1. Milling / edging of PrimeBoard XTreme Matt (XT)

Only tools with a shear angle greater than 43° are recommended for edge jointing. The best results were achieved with a 48° jointing cutter. Good cutting results are also possible with 70° tools. Tools with DP blades should be used for milling work. Jointing in two stages is recommended if a double jointing aggregate is available. A maximum feed per tooth (fz) of 0.92 mm is recommended for PrimeBoard Matt. This value was used for tool testing.

3.2. Milling / edging of PrimeBoard XTreme High Gloss (XG)

Tools with DP blades should be used for milling work. Tools with different shear angles have been tested. Machining turned out to be quite challenging. With all 3 jointing cutter types, the upper panel side presented small fissures in the final result. The best result was achieved with a shear angle of 48°. A reduction of the tooth feed (fz) had only a marginal effect on the machining result.



p-System jointing cutters

DIAREX airFace jointing cutters

SmartJointer airFace

DIAREX airFace jointing cutters

4. MACHINING ON STATIONARY CNC MACHINES

4.1. Machining of PrimeBoard XTreme Matt (XT) on stationary CNC machines

Diamond-tipped shank-type cutters with a shear angle should be used for milling work. Shear angle in this case min. 25°. Tools with greater shear angles are more advantageous.In the ideal case, the recommended feed per tooth (fz) should be around 0.2 mm; however, it should not exceed a value of 0.4 mm. **Example:**

	Z=2 (feed)	Z=3 (feed)
18.000 U/min	7 – 10 m/min	10 – 18 m/min
24.000 U/min	10 –14 m/min	15 – 22 m/min

4.2. Machining of PrimeBoard XTreme High Gloss (XG) on stationary CNC machines

Tools without a shear angle do not work. Diamond-tipped shank-type cutters with an alternating shear angle should therefore be used for milling work. Shear angle range in this case between 25° and 48° max. 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 OF PRIMEBOARD XTREME MATT (XT) & XTREME HIGH GLOSS (XG)

Dowel holes and through holes can be made with commonly available HW drill bits. Better results and higher drilling speeds are usually achieved by using VHW dowel drill bits and through-hole drill bits on account of their higher rigidity. Using drill bits with special geometries to reduce cutting pressure is even more advantageous in terms of quality and longer tool life. This also applies to cylinder boring bits for hinge holes. VHW drill pins of Ø5 mm are also very well suited to produce grid-pattern holes.

"Mosquito" through-hole drill bits

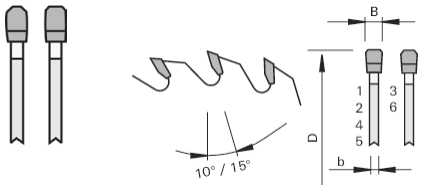
"Mosquito" HW dowel drill bits

"Light" cylinder boring bits

6. LEUCO TOOLS FOR MACHINING OF PRIMEBOARD XTREME MATT (XT) & XTREME HIGH GLOSS (XG)

6.1. Circular saw blades for panel sizing saws

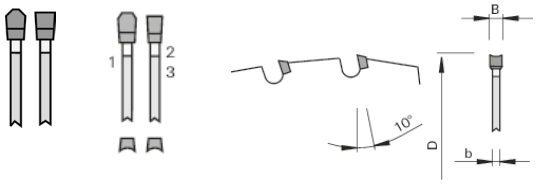
Dimensions	Designation	Z	Tooth shape	Cutting material	Projection	XT/XG	Ident-No.
Ø 380 x 4,0 x Ø 60	Q-Cut K	72	TR-F K	HL Board 04 plus	approx. 20 mm	XT/XG	192976
Ø 450 x 4,8 x Ø 60	Q-Cut G6	72	G6	HL Board 04 plus	approx. 20 mm	XT/XG	192883



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

6.2. Circular saw blades for sizing saws

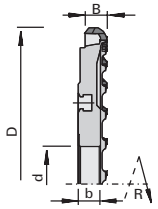
Dimensions	Designation	Z	Tooth shape	Cutting material	Projection	XT/XG	Ident-No.
Ø 250 x 3,2 x Ø 30	LowNoise	80	TR-F-FA	HL Board 04 plus	approx. 20 mm	XG	192786
Ø 303 x 3,2 x Ø 30	LowNoise	60	TR-F-F DU	HL Board 03	approx. 20 mm	XT/XG	189842
Ø 303 x 2,5 x Ø 30	nn-System DP flex	60	HR	DP	approx. 20 mm	XT	192444



- Additional saws with different diameters, cutting widths, bores and numbers 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. Hoggers

Dimensions	Designation	Z	Tooth shape	XT/XG	Ident-No. (L)	Ident-No. (R)
Ø 250 x 14,5 x Ø 60	PowerTec III	20+10+5	DP	XT	183453	183452
Ø 250 x 14,5 x Ø 60	PowerTec III LowNoise	20+20+5	DP	XT/XG	185619	185618

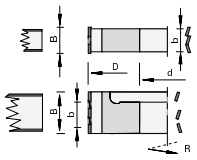


PowerTec III LowNoise

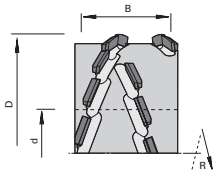
- Additional PowerTec hoggers with other dimensions **available upon request.**

6.4. Jointing cutters

Dimensions	Designation	Z	Shear<)	Tooth shape	L/R	XT/XG	Ident-No.
Ø 125 x 42,8 x Ø 30	DIAREX airFace jointing cutters	3+3	48°	DP	L/R	XT/XG	186323
Ø 125 x 47,8 x Ø 30	p-System jointing cutters	3+3	70°	DP	L/R	XT	184071



DIAREX airFace

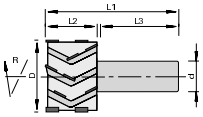


p-System jointing cutters

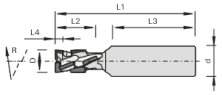
- Additional jointing cutters with different diameters, cutting widths, bores, and numbers of teeth **available upon request.**

6.5. CNC shank-type cutters

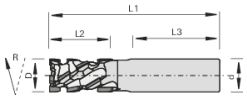
Dimensions	Designation	Z	Cutting material	L/R	XT/XG	Ident-No.
Ø 12 x 22 x Ø 16	DP nesting cutter, negative	2+2	DP	R	XT/XG	186113
Ø 12 x 22 x Ø 16	DP nesting cutter, positive	3+3	DP	R	XT/XG	185514
Ø 12 x 23 x Ø 16	DP nesting cutter, negative	3+3	DP	R	XT/XG	185518
Ø 20 x 38 x Ø 20	DIAREX DP high-performance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



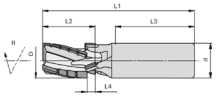
DP high-performance trimming cutter



DP nesting cutter, negative / positive



DIAREX DP high-performance cutter



CM DP high-performance cutter, positive

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

6.6. Through-hole drill bits, dowel drill bits, drill pins and cylinder boring bits

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

Dimensions	Designation	Cutting material	XT/XG	Ident-No. (L)	Ident-No. (R)
Ø 5 L1=70 Ø 10	VHW high-performance drill bit	VHW	XG	185772	185771
Ø 8 L1=70 Ø 10	VHW high-performance drill bit	VHW	XG	185776	185775
Ø 5 L1=70 Ø 10	Mosquito dowel drill bit	VHW	XT/XG	182390	182391
Ø 8 L1=70 Ø 10	Mosquito dowel drill bit	VHW	XT/XG	183151	183150
Ø 5 L1=70 Ø 10	topline dowel drill bit	VHW	XT/XG	185760	185759
Ø 8 L1=70 Ø 10	topline dowel drill bit	VHW	XT/XG	185764	185763

Dimensions	Designation	Cutting material	XT/XG	Ident-No. (L)	Ident-No. (R)
Ø 2,5 L1=57,5 Ø 10	Standard drill pins	VHW	XT/XG	183061	183061
Ø 3 L1=57,5 Ø 10	Standard drill pins	VHW	XT/XG	183062	183062

Dimensions	Designation	Cutting material	XT/XG	Ident-No. (L)	Ident-No. (R)
Ø 15 L1=70 Ø 10	Standard cylinder boring bit	HW	XT/XG	178978	172250
Ø 35 L1=70 Ø 10	Standard cylinder boring bit	HW	XT/XG	178982	172254
Ø 15 L1=70 Ø 10	"Light" cylinder boring bits	HW	XT/XG	184685	184684
Ø 35 L1=70 Ø 10	"Light" cylinder boring bits	HW	XT/XG	184689	184688

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

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

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TIP – LEUCO ONLINE CATALOG

You can find the LEUCO tool recommendations for machining Pfleiderer PrimeBoard XTreme Matt **(XT)** and XTreme High Gloss **(XG)** panels in the LEUCO online catalog.

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

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→ Select saw blades, hoggers, cutters, drill bits

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