



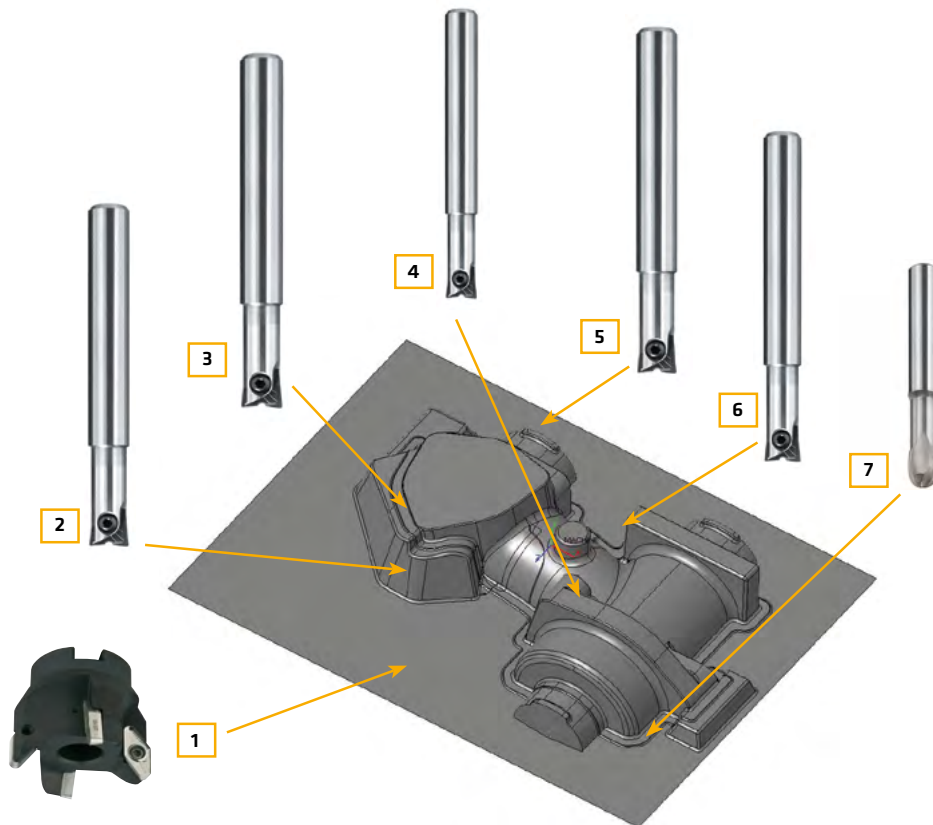
# TOOLING AND COMPOSITES

## MACHINABLE BOARDS

### MILLING PARAMETERS

- Design and Styling Boards
- Model Boards
- Tooling Boards

# MILLING PARAMETERS



The milling parameters for the specific machinable boards types were determined by LMT Kieninger GmbH using the model shown above.

Further information concerning the recommended milling tools can be obtained from the following address:

LMT Kieninger GmbH  
 Vogesenstraße 23  
 77933 Lahr  
 Germany

Tel: +49 (0)7821 943-0  
 Fax: +49 (0)7821 943-213  
 info@kieninger.de  
 www.kieninger.com

## CALCULATION BASIS

### 1. FORM SYMBOLS

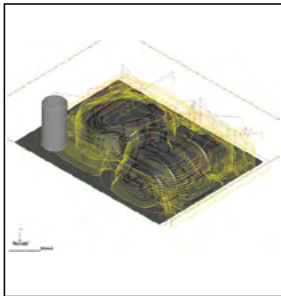
ae:	Cutting Width/Line spacing
D:	Diameter
z:	Feedrate per tooth
Vc:	Cutting speed
ap:	Cutting depth
n:	Revolutions
Vf:	Feed rate
z:	Number of teeth

### 2. CONVERSION FORMS

$V_c = \frac{n \cdot \pi \cdot d}{1000}$	[m/min]
$n = \frac{V_c \cdot 1000}{d \cdot \pi}$	[1/min]
$f_z = \frac{v_f}{z \cdot n}$	[mm]
$V_f = n \cdot f_z \cdot z$	[mm/min]



# MILLING STEPS



## STEP 1

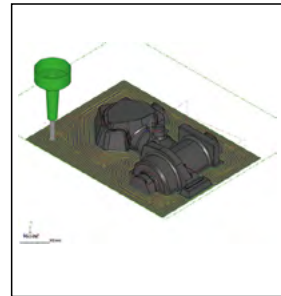
Roughing Z-constant  
cutter head  $\varnothing 42$  r3

Vc: 500 m/min.

fz: 0.5 mm

ap: 5.0 mm

ae: 30 mm



## STEP 5

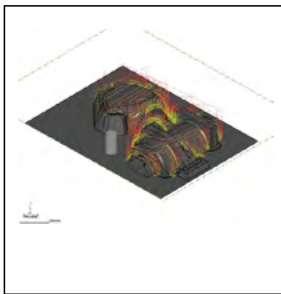
Finishing flat areas  
WPB  $\varnothing 8$  r1

Vc: 400 m/min.

fz: 0.1 mm

ap: 0.3 mm

ae: 4.0 mm



## STEP 2

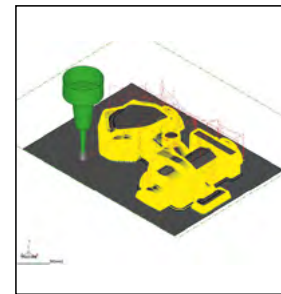
Roughing Z-constant rest  
material WPB  $\varnothing 20$  r4

Vc: 500 m/min.

fz: 0.5 mm

ap: 2.5 mm

ae: 10 mm



## STEP 6

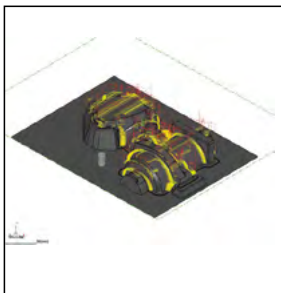
Roughing Z-constant and  
optimizing WPR  $\varnothing 8$  r4

Vc: 400 m/min.

fz: 0.1 mm

ap: 0.15 mm

ae: 0.3 mm



## STEP 3

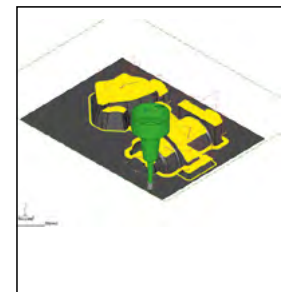
Roughing Z-constant  
rest material WPR  $\varnothing 12$  r6

Vc: 600 m/min.

fz: 0.2 mm

ap: 2.0 mm

ae: 2.0 mm



## STEP 7

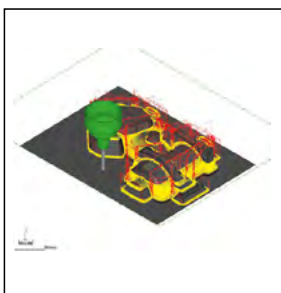
Rest material shapes  
5-axis VHM  $\varnothing 4$  r2

Vc: 200 m/min.

fz: 0.1 mm

ap: 0.1 mm

ae: 0.1 mm



## STEP 4

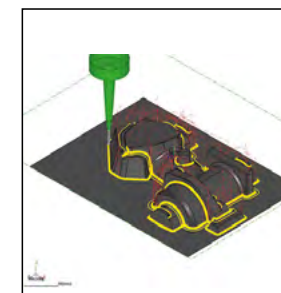
Roughing Z-constant rest  
material WPR  $\varnothing 6$  r3

Vc: 300 m/min.

fz: 0.15 mm

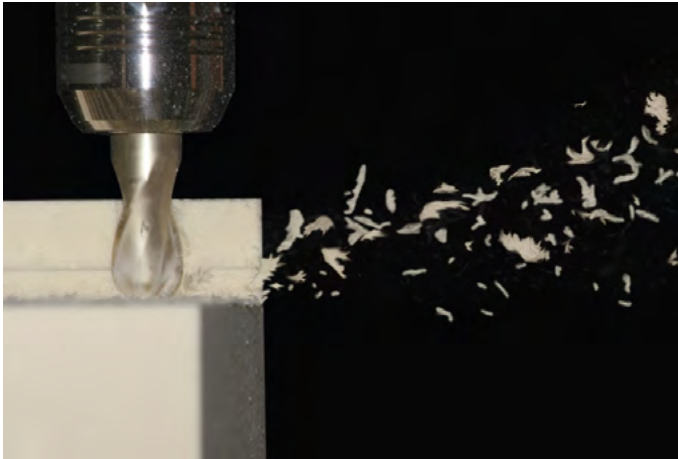
ap: 0.5 mm

ae: 0.5 mm



# SikaBlock® M80/Labelite 8 GY

## Design and styling Board



### MILLING PARAMETERS

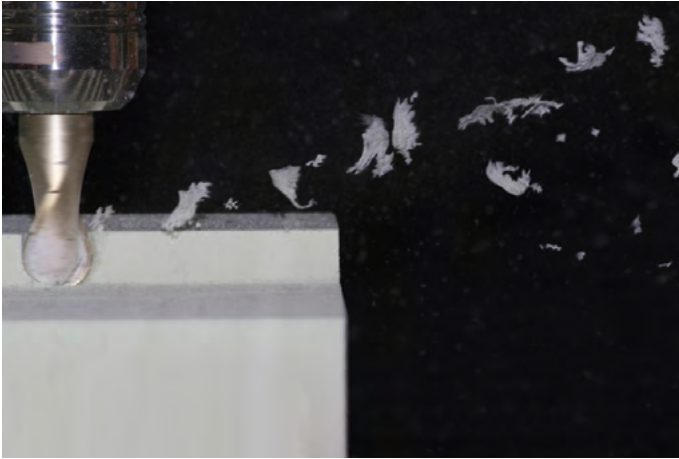
Milling steps	1	2	3	4	5	6	7
Strategy	Roughing Z-constant	Rest material Z-constant	Rest material Z-constant	Rest material Z-constant	Finishing flat areas	Finishing Z-constant	Finishing rest material shapes
Milling tool	Torus cutter	Torus copying cutter	Ball nose copying cutter	Ball nose copying cutter	Torus copying cutter	Ball nose copying cutter	Solid carbide ball nose cutter
Diameter [mm]	42	20	12	6	8	8	4
Number of teeth	3	2	2	2	2	2	2
Radius [mm]	3	4	6	3	1	4	2
Cutting speed (Vc) [m/min]	593	500	600	300	400	400	200
Revolutions [1/min]	4,500	8,000	15,900	16,000	16,000	16,000	16,000
Feedrate per tooth [mm]	1	0.8	0.2	0.2	0.15	0.15	0.15
Feed rate (Vf) [mm/min]	13,500	12,800	6,400	6,400	4,800	4,800	4,800
Cutting depth (ap) [mm]	5	2.5	2	0.5	0.3	0.15	0.1
Cutting Width / Line spacing (ae) [mm]	30	10	2	0.5	4	0.3	0.1

### PROCESSING

- The material must be acclimatised to 18–25 °C prior to machining.
- Machining of the block is easily accomplished by sawing, milling or drilling with machines or by hand.
- Bonding areas must be clean, dry and free of dust and grease or oil.
- For bondings use e. g. Biresin® Foam Adhesive or Labelite Glue (for more information see Product Data Sheet).
- For correction or finishing of surface use Biresin® Spachtel orange (for more information see Product Data Sheet).

# SikaBlock® M150/Labelite 15 IY

## Design and styling Board



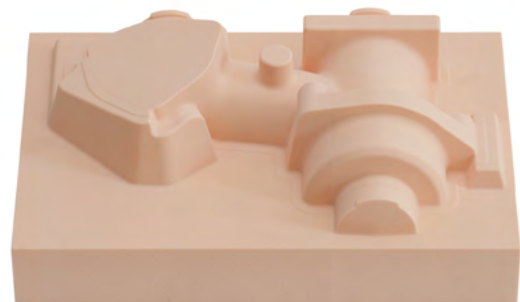
MILLING PARAMETERS							
Milling steps	1	2	3	4	5	6	7
Strategy	Roughing Z-constant	Rest material Z-constant	Rest material Z-constant	Rest material Z-constant	Finishing flat areas	Finishing Z-constant	Finishing rest material shapes
Milling tool	Torus cutter	Torus copying cutter	Ball nose copying cutter	Ball nose copying cutter	Torus copying cutter	Ball nose copying cutter	Solid carbide ball nose cutter
Diameter [mm]	42	20	12	6	8	8	4
Number of teeth	3	2	2	2	2	2	2
Radius [mm]	3	4	6	3	1	4	2
Cutting speed (Vc) [m/min]	593	500	600	300	400	400	200
Revolutions [1/min]	4,500	8,000	15,900	16,000	16,000	16,000	16,000
Feedrate per tooth [mm]	0,74	0.5	0.2	0.2	0.15	0.15	0.15
Feed rate (Vf) [mm/min]	13,500	12,800	6,400	6,400	4,800	4,800	4,800
Cutting depth (ap) [mm]	5	2.5	2	0.5	0.3	0.15	0.1
Cutting Width / Line spacing (ae) [mm]	30	10	2	0.5	4	0.3	0.1

### PROCESSING

- The material must be acclimatised to 18–25 °C prior to machining.
- Machining of the block is easily accomplished by sawing, milling or drilling with machines or by hand.
- Bonding areas must be clean, dry and free of dust and grease or oil.
- For bondings use e.g. Biresin® Foam Adhesive or Labelite Glue (for more information see Product Data Sheet).
- For correction or finishing of surface use Biresin® Spachtel orange (for more information see Product Data Sheet).

# SikaBlock® M330/Labelite 25 YW

## Design and styling Board



### MILLING PARAMETERS

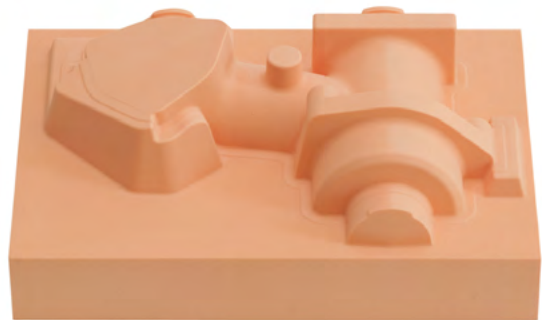
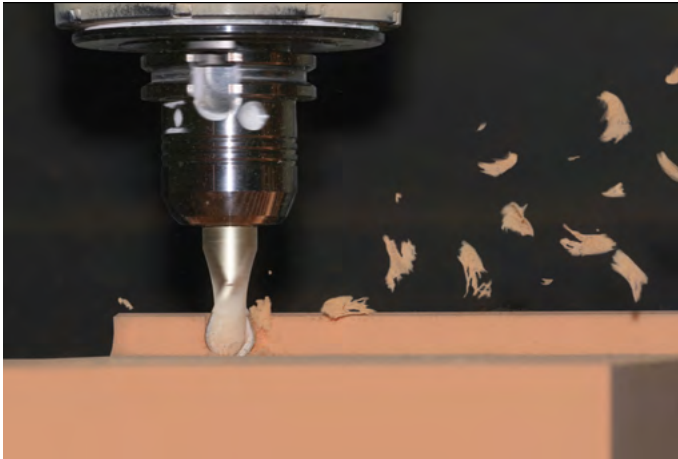
Milling steps	1	2	3	4	5	6	7
Strategy	Roughing Z-constant	Rest material Z-constant	Rest material Z-constant	Rest material Z-constant	Finishing flat areas	Finishing Z-constant	Finishing rest material shapes
Milling tool	Torus cutter	Torus copying cutter	Ball nose copying cutter	Ball nose copying cutter	Torus copying cutter	Ball nose copying cutter	Solid carbide ball nose cutter
Diameter [mm]	42	20	12	6	8	8	4
Number of teeth	3	2	2	2	2	2	2
Radius [mm]	3	4	6	3	1	4	2
Cutting speed (Vc) [m/min]	593	500	600	300	400	400	200
Revolutions [1/min]	4,500	8,000	15,900	16,000	16,000	16,000	16,000
Feedrate per tooth [mm]	0,74	0.5	0.2	0.2	0.15	0.15	0.15
Feed rate (Vf) [mm/min]	10,000	8,000	6,400	6,400	4,800	4,800	4,800
Cutting depth (ap) [mm]	5	2.5	2	0.5	0.3	0.15	0.1
Cutting Width / Line spacing (ae) [mm]	30	10	2	0.5	4	0.3	0.1

### PROCESSING

- The material must be acclimatised to 18–25 °C prior to machining.
- Machining of the block is easily accomplished by sawing, milling or drilling with machines or by hand.
- Bonding areas must be clean, dry and free of dust and grease or oil.
- For bondings use e.g. Biresin® Foam Adhesive or Biresin® Kleber orange or Labelite Glue (for more information see Product Data Sheet).
- For correction or finishing of surface use Biresin® Spachtel orange (for more information see Product Data Sheet).

# SikaBlock® M440/Labelite 35 OE

## Design and styling Board

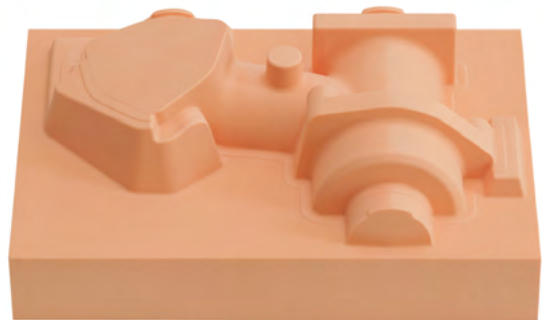
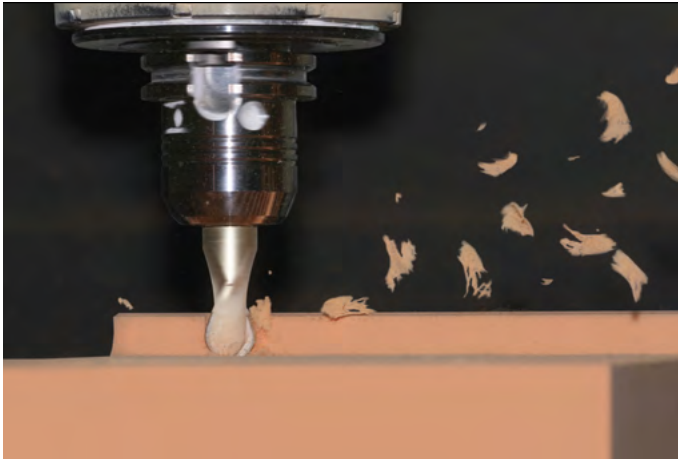


MILLING PARAMETERS							
Milling steps	1	2	3	4	5	6	7
Strategy	Roughing Z-constant	Rest material Z-constant	Rest material Z-constant	Rest material Z-constant	Finishing flat areas	Finishing Z-constant	Finishing rest material shapes
Milling tool	Torus cutter	Torus copying cutter	Ball nose copying cutter	Ball nose copying cutter	Torus copying cutter	Ball nose copying cutter	Solid carbide ball nose cutter
Diameter [mm]	42	20	12	6	8	8	4
Number of teeth	3	2	2	2	2	2	2
Radius [mm]	3	4	6	3	1	4	2
Cutting speed (Vc) [m/min]	593	500	600	300	400	400	200
Revolutions [1/min]	4,500	8,000	15,900	16,000	16,000	16,000	16,000
Feedrate per tooth [mm]	0,74	0.5	0.2	0.2	0.15	0.15	0.15
Feed rate (Vf) [mm/min]	10,000	8,000	6,400	6,400	4,800	4,800	4,800
Cutting depth (ap) [mm]	5	2.5	2	0.5	0.3	0.15	0.1
Cutting Width / Line spacing (ae) [mm]	30	10	2	0.5	4	0.3	0.1

### PROCESSING

- The material must be acclimatised to 18–25 °C prior to machining.
- Machining of the block is easily accomplished by sawing, milling or drilling with machines or by hand.
- Bonding areas must be clean, dry and free of dust and grease or oil.
- For bondings use e.g. Biresin Foam Adhesive or Biresin® Kleber orange or Labelite Glue (for more information see Product Data Sheet).
- For correction or finishing of surface use Biresin® Spachtel orange (for more information see Product Data Sheet).

# SikaBlock® M450/Labelite 45 PK Model Board



MILLING PARAMETERS							
Milling steps	1	2	3	4	5	6	7
Strategy	Roughing Z-constant	Rest material Z-constant	Rest material Z-constant	Rest material Z-constant	Finishing flat areas	Finishing Z-constant	Finishing rest material shapes
Milling tool	Torus cutter	Torus copying cutter	Ball nose copying cutter	Ball nose copying cutter	Torus copying cutter	Ball nose copying cutter	Solid carbide ball nose cutter
Diameter [mm]	42	20	12	6	8	8	4
Number of teeth	3	2	2	2	2	2	2
Radius [mm]	3	4	6	3	1	4	2
Cutting speed (Vc) [m/min]	593	500	600	300	400	400	200
Revolutions [1/min]	4,500	8,000	15,900	16,000	16,000	16,000	16,000
Feedrate per tooth [mm]	0,74	0.5	0.2	0.2	0.15	0.15	0.15
Feed rate (Vf) [mm/min]	10,000	8,000	6,400	6,400	4,800	4,800	4,800
Cutting depth (ap) [mm]	5	2.5	2	0.5	0.3	0.15	0.1
Cutting Width / Line spacing (ae) [mm]	30	10	2	0.5	4	0.3	0.1

## PROCESSING

- The material must be acclimatised to 18–25 °C prior to machining.
- Machining of the block is easily accomplished by sawing, milling or drilling with machines or by hand.
- Bonding areas must be clean, dry and free of dust and grease or oil.
- For bondings use e.g. Biresin® Kleber orange or Labelite Glue (for more information see Product Data Sheet).
- For correction or finishing of surface use Biresin® Spachtel orange (for more information see Product Data Sheet).



# SikaBlock® M600/M680/M700

## Model Board



### MILLING PARAMETERS

Milling steps	1	2	3	4	5	6	7
Strategy	Roughing Z-constant	Rest material Z-constant	Rest material Z-constant	Rest material Z-constant	Finishing flat areas	Finishing Z-constant	Finishing rest material shapes
Milling tool	Torus cutter	Torus copying cutter	Ball nose copying cutter	Ball nose copying cutter	Torus copying cutter	Ball nose copying cutter	Solid carbide ball nose cutter
Diameter [mm]	42	20	12	6	8	8	4
Number of teeth	3	2	2	2	2	2	2
Radius [mm]	3	4	6	3	1	4	2
Cutting speed (Vc) [m/min]	500	500	600	300	400	400	200
Revolutions [1/min]	3,800	8,000	15,900	16,000	16,000	16,000	16,000
Feedrate per tooth [mm]	0,74	0.62	0.2	0.2	0.15	0.15	0.15
Feed rate (Vf) [mm/min]	8,400	10,000	6,400	6,400	4,800	4,800	4,800
Cutting depth (ap) [mm]	5	2.5	2	0.5	0.3	0.15	0.1
Cutting Width / Line spacing (ae) [mm]	30	10	2	0.5	4	0.3	0.1

### PROCESSING

- The material must be acclimatised to 18-25 °C prior to machining.
- Machining of the block is easily accomplished by sawing, milling and so on with high performance tools or by hand.
- Bonding areas must be clean, dry and free of dust and grease or oil.
- For bondings use e.g. Biresin® Kleber braun or Prolab Glue (for more information see Product Data Sheet).
- For correction or finishing of surface use Biresin® Spachtel braun Neu (for more information see Product Data Sheet).

# Prolab 65/65XL

## Model Board



### MILLING PARAMETERS

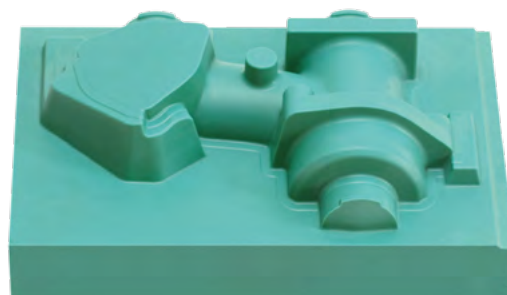
Milling steps	1	2	3	4	5	6	7
Strategy	Roughing Z-constant	Rest material Z-constant	Rest material Z-constant	Rest material Z-constant	Finishing flat areas	Finishing Z-constant	Finishing rest material shapes
Milling tool	Torus cutter	Torus copying cutter	Ball nose copying cutter	Ball nose copying cutter	Torus copying cutter	Ball nose copying cutter	Solid carbide ball nose cutter
Diameter [mm]	42	20	12	6	8	8	4
Number of teeth	3	2	2	2	2	2	2
Radius [mm]	3	4	6	3	1	4	2
Cutting speed (Vc) [m/min]	540	500	600	300	400	400	200
Revolutions [1/min]	4,100	7,957	16,000	16,000	16,000	16,000	16,000
Feedrate per tooth [mm]	0,6	0.5	0.2	0.18	0.13	0.13	0.13
Feed rate (Vf) [mm/min]	7,380	7,957	6,366	5,760	4,160	4,160	4,160
Cutting depth (ap) [mm]	3	2	1	0.3	0.3	0.15	0.1
Cutting Width / Line spacing (ae) [mm]	30	10	2	0.5	4	0.3	0.1

### PROCESSING

- The material must be acclimatised to 18–25 °C prior to machining.
- Machining of the block is easily accomplished by sawing, milling and so on with high performance tools or by hand.
- Bonding areas must be clean, dry and free of dust and grease or oil (cleaning e.g. with Sika® Reinigungsmittel 5).
- For bondings use e.g. Prolab Glue or Biresin® Kleber braun (for more information see Product Data Sheet).
- For correction or finishing of surface use Biresin® Spachtel braun Neu (for more information see Product Data Sheet).

# SikaBlock® M930

## Tooling Board



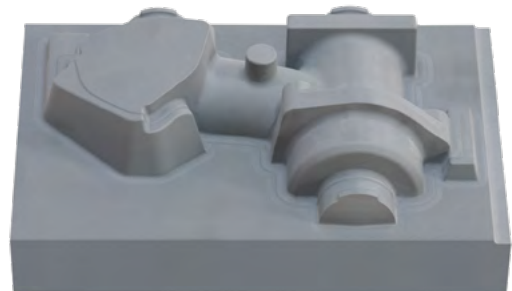
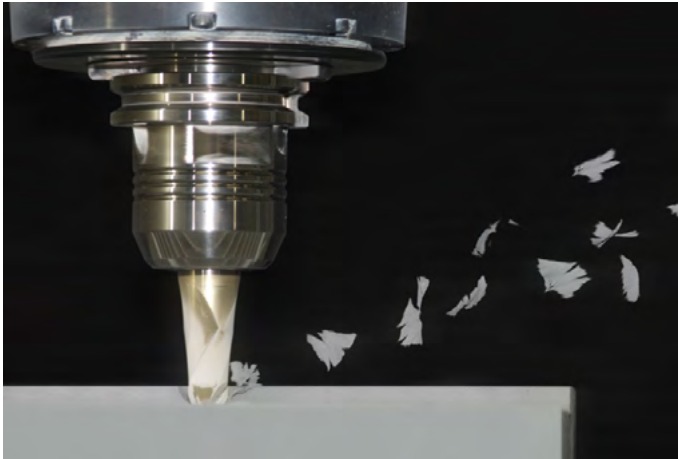
MILLING PARAMETERS							
Milling steps	1	2	3	4	5	6	7
Strategy	Roughing Z-constant	Rest material Z-constant	Rest material Z-constant	Rest material Z-constant	Finishing flat areas	Finishing Z-constant	Finishing rest material shapes
Milling tool	Torus cutter	Torus copying cutter	Ball nose copying cutter	Ball nose copying cutter	Torus copying cutter	Ball nose copying cutter	Solid carbide ball nose cutter
Diameter [mm]	42	20	12	6	8	8	4
Number of teeth	3	2	2	2	2	2	2
Radius [mm]	3	4	6	3	1	4	2
Cutting speed (Vc) [m/min]	650	650	600	250	400	400	200
Revolutions [1/min]	5,000	10,400	15,900	13,300	16,000	16,000	16,000
Feedrate per tooth [mm]	0,42	0,42	0,2	0,2	0,15	0,15	0,15
Feed rate (Vf) [mm/min]	6,300	8,800	6,400	5,300	4,800	4,800	4,800
Cutting depth (ap) [mm]	5	2,5	2	0,5	0,3	0,15	0,1
Cutting Width / Line spacing (ae) [mm]	30	10	2	0,5	4	0,3	0,1

### PROCESSING

- The material must be acclimatised to 18–25 °C prior to machining.
- Machining of the block is easily accomplished by sawing, milling and so on with high performance tools or by hand.
- Bonding areas must be clean, dry and free of dust and grease or oil.
- For bondings use e.g. Biresin® Power Adhesive Thix or Biresin® Kleber grün (for more information see Product Data Sheet).

# Prolab 75

## Tooling Board



MILLING PARAMETERS							
Milling steps	1	2	3	4	5	6	7
Strategy	Roughing Z-constant	Rest material Z-constant	Rest material Z-constant	Rest material Z-constant	Finishing flat areas	Finishing Z-constant	Finishing rest material shapes
Milling tool	Torus cutter	Torus copying cutter	Ball nose copying cutter	Ball nose copying cutter	Torus copying cutter	Ball nose copying cutter	Solid carbide ball nose cutter
Diameter [mm]	42	20	12	6	8	8	4
Number of teeth	3	2	2	2	2	2	2
Radius [mm]	3	4	6	3	1	4	2
Cutting speed (Vc) [m/min]	500	500	600	300	400	400	200
Revolutions [1/min]	3,789	7,957	16,000	16,000	16,000	16,000	16,000
Feedrate per tooth [mm]	0.5	0.5	0.2	0.15	0.12	0.12	0.12
Feed rate (Vf) [mm/min]	5,684	7,957	6,366	4,800	3,840	3,840	3,840
Cutting depth (ap) [mm]	3	2	1	0.3	0.3	0.15	0.1
Cutting Width / Line spacing (ae) [mm]	30	10	2	0.5	4	0.3	0.1

### PROCESSING

- The material must be acclimatised to 18–25 °C prior to machining.
- Machining of the block is easily accomplished by sawing, milling and so on with high performance tools or by hand.
- Bonding areas must be clean, dry and free of dust and grease or oil (cleaning e.g. with Sika® Reinigungsmittel 5).
- For bondings use e.g. Prolab Glue or Biresin® Kleber braun (for more information see Product Data Sheet).

# SikaBlock® M1000/M1050

## Tooling Board

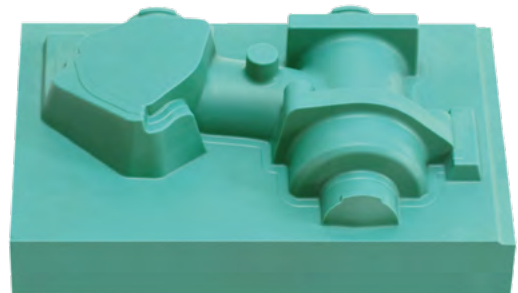


MILLING PARAMETERS							
Milling steps	1	2	3	4	5	6	7
Strategy	Roughing Z-constant	Rest material Z-constant	Rest material Z-constant	Rest material Z-constant	Finishing flat areas	Finishing Z-constant	Finishing rest material shapes
Milling tool	Torus cutter	Torus copying cutter	Ball nose copying cutter	Ball nose copying cutter	Torus copying cutter	Ball nose copying cutter	Solid carbide ball nose cutter
Diameter [mm]	42	20	12	6	8	8	4
Number of teeth	3	2	2	2	2	2	2
Radius [mm]	3	4	6	3	1	4	2
Cutting speed (Vc) [m/min]	650	650	600	250	400	400	200
Revolutions [1/min]	5,000	10,400	15,900	13,300	16,000	16,000	16,000
Feedrate per tooth [mm]	0.42	0.42	0.2	0.2	0.15	0.15	0.15
Feed rate (Vf) [mm/min]	6,300	8,800	6,400	5,300	4,800	4,800	4,800
Cutting depth (ap) [mm]	5	2.5	2	0.5	0.3	0.15	0.1
Cutting Width / Line spacing (ae) [mm]	30	10	2	0.5	4	0.3	0.1

### PROCESSING

- The material must be acclimatised to 18–25 °C prior to machining.
- Machining of the block is easily accomplished by sawing, milling and so on with high performance tools or by hand.
- Bonding areas must be clean, dry and free of dust and grease or oil.
- For bondings use e.g. Biresin® Power Adhesive Thix or H9930 (for more information see Product Data Sheet).

# Lab 973/Lab 975 New Tooling Board



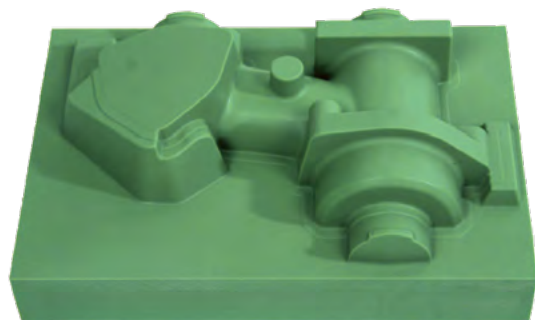
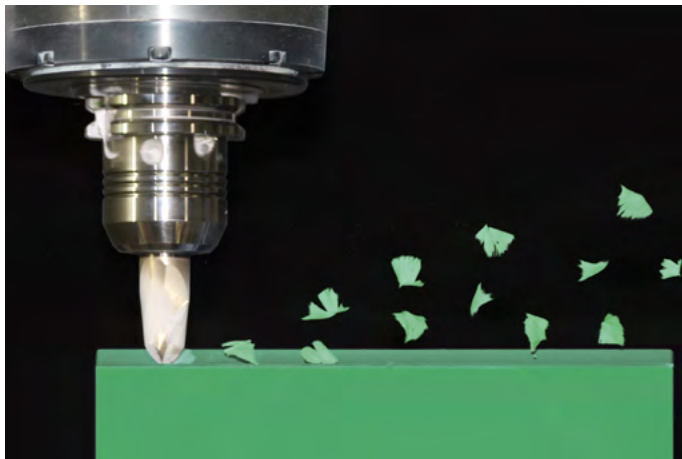
MILLING PARAMETERS							
Milling steps	1	2	3	4	5	6	7
Strategy	Roughing Z-constant	Rest material Z-constant	Rest material Z-constant	Rest material Z-constant	Finishing flat areas	Finishing Z-constant	Finishing rest material shapes
Milling tool	Torus cutter	Torus copying cutter	Ball nose copying cutter	Ball nose copying cutter	Torus copying cutter	Ball nose copying cutter	Solid carbide ball nose cutter
Diameter [mm]	42	20	12	6	8	8	4
Number of teeth	3	2	2	2	2	2	2
Radius [mm]	3	4	6	3	1	4	2
Cutting speed (Vc) [m/min]	540	500	600	300	400	400	200
Revolutions [1/min]	4,100	7,957	16,000	16,000	16,000	16,000	16,000
Feedrate per tooth [mm]	0.6	0.5	0.2	0.18	0.13	0.13	0.13
Feed rate (Vf) [mm/min]	7,380	7,957	6,366	5,760	4,160	4,160	4,160
Cutting depth (ap) [mm]	3	2	1	0.3	0.3	0.15	0.1
Cutting Width / Line spacing (ae) [mm]	30	10	2	0.5	4	0.3	0.1

## PROCESSING

- The material must be acclimatised to 18–25 °C prior to machining.
- Machining of the block is easily accomplished by sawing, milling and so on with high performance tools or by hand.
- Bonding areas must be clean, dry and free of dust and grease or oil (cleaning e.g. with Sika® Reinigungsmittel 5).
- For bondings use e.g. H8973/H8973 (for more information see Product Data Sheet).

# SikaBlock® M935

## Tooling Board



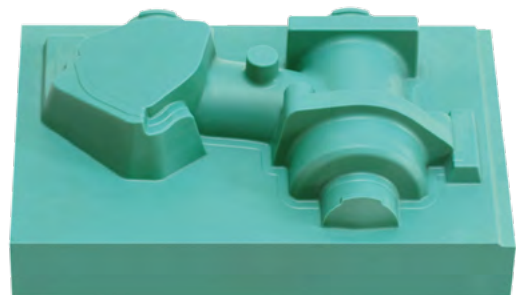
MILLING PARAMETERS							
Milling steps	1	2	3	4	5	6	7
Strategy	Roughing Z-constant	Rest material Z-constant	Rest material Z-constant	Rest material Z-constant	Finishing flat areas	Finishing Z-constant	Finishing rest material shapes
Milling tool	Torus cutter	Torus copying cutter	Ball nose copying cutter	Ball nose copying cutter	Torus copying cutter	Ball nose copying cutter	Solid carbide ball nose cutter
Diameter [mm]	42	20	12	6	8	8	4
Number of teeth	3	2	2	2	2	2	2
Radius [mm]	3	4	6	3	1	4	2
Cutting speed (Vc) [m/min]	500	500	600	300	400	400	200
Revolutions [1/min]	3,800	8,000	16,000	16,000	16,000	16,000	16,000
Feedrate per tooth [mm]	0.5	0.5	0.2	0.15	0.12	0.12	0.12
Feed rate (Vf) [mm/min]	5,700	8,000	6,400	4,800	3,800	3,800	3,800
Cutting depth (ap) [mm]	3	2	1	0.3	0.3	0.3	0.1
Cutting Width / Line spacing (ae) [mm]	30	10	2	0.5	4	0.3	0.1

### PROCESSING

- The material must be acclimatised to 18–25 °C prior to machining.
- Machining of the block is easily accomplished by sawing, milling and so on with high performance tools or by hand.
- Bonding areas must be clean, dry and free of dust and grease or oil (cleaning e.g. with Sika® Reinigungsmittel 5).
- For bondings use e.g. Biresin® Power Adhesive Thix or Biresin® Kleber grün (for more information see Product Data Sheet).

# SikaBlock® M945

## Tooling Board



MILLING PARAMETERS							
Milling steps	1	2	3	4	5	6	7
Strategy	Roughing Z-constant	Rest material Z-constant	Rest material Z-constant	Rest material Z-constant	Finishing flat areas	Finishing Z-constant	Finishing rest material shapes
Milling tool	Torus cutter	Torus copying cutter	Ball nose copying cutter	Ball nose copying cutter	Torus copying cutter	Ball nose copying cutter	Solid carbide ball nose cutter
Diameter [mm]	42	20	12	6	8	8	4
Number of teeth	3	2	2	2	2	2	2
Radius [mm]	3	4	6	3	1	4	2
Cutting speed (Vc) [m/min]	500	500	600	300	400	400	200
Revolutions [1/min]	3,800	8,000	16,000	16,000	16,000	16,000	16,000
Feedrate per tooth [mm]	0.5	0.5	0.2	0.15	0.12	0.12	0.12
Feed rate (Vf) [mm/min]	5,700	8,000	6,400	4,800	3,800	3,800	3,800
Cutting depth (ap) [mm]	3	2	1	0.3	0.3	0.15	0.1
Cutting Width / Line spacing (ae) [mm]	30	10	2	0.5	4	0.3	0.1

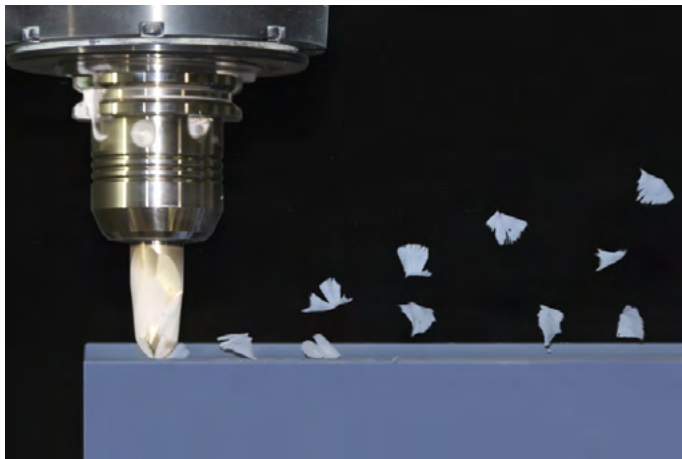
### PROCESSING

- The material must be acclimatised to 18–25 °C prior to machining.
- Machining of the block is easily accomplished by sawing, milling and so on with high performance tools or by hand.
- Bonding areas must be clean, dry and free of dust and grease or oil (cleaning e.g. with Sika® Reinigungsmittel 5).
- For bondings use e.g. Biresin® Power Adhesive Thix or Biresin® Kleber grün (for more information see Product Data Sheet).



# SikaBlock® M960

## Tooling Board



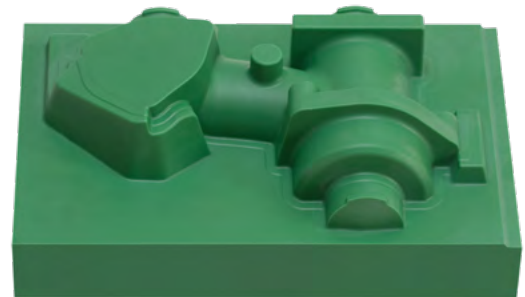
MILLING PARAMETERS							
Milling steps	1	2	3	4	5	6	7
Strategy	Roughing Z-constant	Rest material Z-constant	Rest material Z-constant	Rest material Z-constant	Finishing flat areas	Finishing Z-constant	Finishing rest material shapes
Milling tool	Torus cutter	Torus copying cutter	Ball nose copying cutter	Ball nose copying cutter	Torus copying cutter	Ball nose copying cutter	Solid carbide ball nose cutter
Diameter [mm]	42	20	12	6	8	8	4
Number of teeth	3	2	2	2	2	2	2
Radius [mm]	3	4	6	3	1	4	2
Cutting speed (Vc) [m/min]	500	500	600	250	400	400	200
Revolutions [1/min]	3,800	8,000	15,900	13,300	16,000	16,000	16,000
Feedrate per tooth [mm]	0.5	0.5	0.2	0.2	0.15	0.15	0.15
Feed rate (Vf) [mm/min]	5,700	8,000	6,400	5,300	4,800	4,800	4,800
Cutting depth (ap) [mm]	5	2.5	2	0.5	0.3	0.15	0.1
Cutting Width / Line spacing (ae) [mm]	30	10	2	0.5	4	0.3	0.1

### PROCESSING

- The material must be acclimatised to 18–25 °C prior to machining.
- Machining of the block is easily accomplished by sawing, milling and so on with high performance tools or by hand.
- Bonding areas must be clean, dry and free of dust and grease or oil (cleaning e.g. with Sika® Reinigungsmittel 5).
- For bondings use e.g. Biresin® Power Adhesive Thix or Biresin® Kleber blau (for more information see Product Data Sheet).

# Lab 920

## Tooling Board



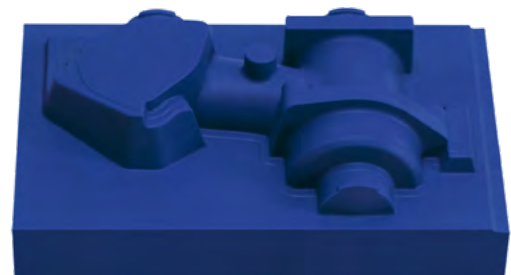
MILLING PARAMETERS							
Milling steps	1	2	3	4	5	6	7
Strategy	Roughing Z-constant	Rest material Z-constant	Rest material Z-constant	Rest material Z-constant	Finishing flat areas	Finishing Z-constant	Finishing rest material shapes
Milling tool	Torus cutter	Torus copying cutter	Ball nose copying cutter	Ball nose copying cutter	Torus copying cutter	Ball nose copying cutter	Solid carbide ball nose cutter
Diameter [mm]	42	20	12	6	8	8	4
Number of teeth	3	2	2	2	2	2	2
Radius [mm]	3	4	6	3	1	4	2
Cutting speed (Vc) [m/min]	500	500	600	300	400	400	200
Revolutions [1/min]	3,789	8,355	16,000	16,000	16,000	16,000	16,000
Feedrate per tooth [mm]	0.5	0.48	0.2	0.15	0.12	0.12	0.12
Feed rate (Vf) [mm/min]	5,684	7,957	6,366	4,800	3,840	3,840	3,840
Cutting depth (ap) [mm]	3	2	1	0.3	0.3	0.15	0.1
Cutting Width / Line spacing (ae) [mm]	30	10	2	0.5	4	0.3	0.1

### PROCESSING

- The material must be acclimatised to 18–25 °C prior to machining.
- Machining of the block is easily accomplished by sawing, milling and so on with high performance tools or by hand.
- Bonding areas must be clean, dry and free of dust and grease or oil (cleaning e.g. with Sika® Reinigungsmittel 5).
- For bondings use e.g. Biresin® Power Adhesive Thix or H9930 (for more information see Product Data Sheet).

# Lab 850

## Tooling Board



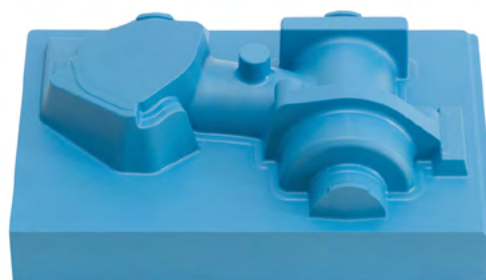
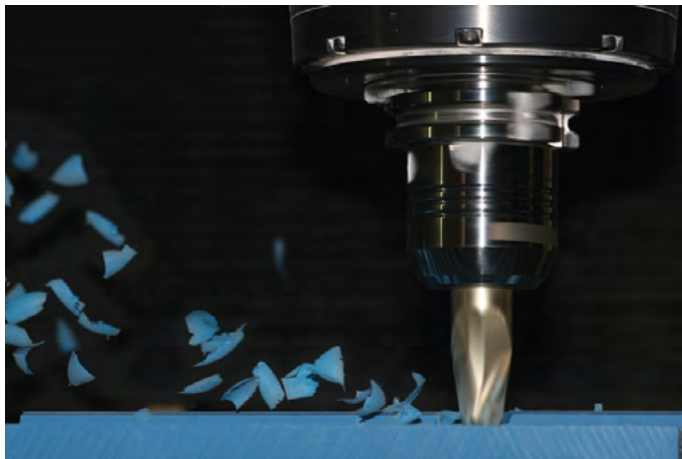
MILLING PARAMETERS							
Milling steps	1	2	3	4	5	6	7
Strategy	Roughing Z-constant	Rest material Z-constant	Rest material Z-constant	Rest material Z-constant	Finishing flat areas	Finishing Z-constant	Finishing rest material shapes
Milling tool	Torus cutter	Torus copying cutter	Ball nose copying cutter	Ball nose copying cutter	Torus copying cutter	Ball nose copying cutter	Solid carbide ball nose cutter
Diameter [mm]	42	20	12	6	8	8	4
Number of teeth	3	2	2	2	2	2	2
Radius [mm]	3	4	6	3	1	4	2
Cutting speed (Vc) [m/min]	500	500	600	300	400	400	200
Revolutions [1/min]	3,789	7,957	16,000	16,000	16,000	16,000	16,000
Feedrate per tooth [mm]	0.4	0.5	0.2	0.15	0.12	0.12	0.1
Feed rate (Vf) [mm/min]	4,547	7,957	6,366	4,800	3,840	3,840	3,200
Cutting depth (ap) [mm]	3	2	1	0.3	0.3	0.15	0.1
Cutting Width / Line spacing (ae) [mm]	30	10	2	0.5	4	0.3	0.1

### PROCESSING

- The material must be acclimatised to 18–25 °C prior to machining.
- Machining of the block is easily accomplished by sawing, milling and so on with high performance tools or by hand.
- Bonding areas must be clean, dry and free of dust and grease or oil (cleaning e.g. with Sika® Reinigungsmittel 5).
- For bondings use e.g. Biresin® Power Adhesive Thix or H9930 (for more information see Product Data Sheet).

# SikaBlock® M980

## Tooling Board



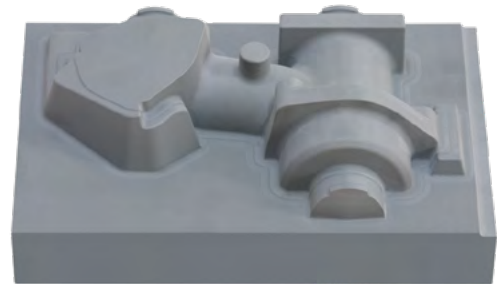
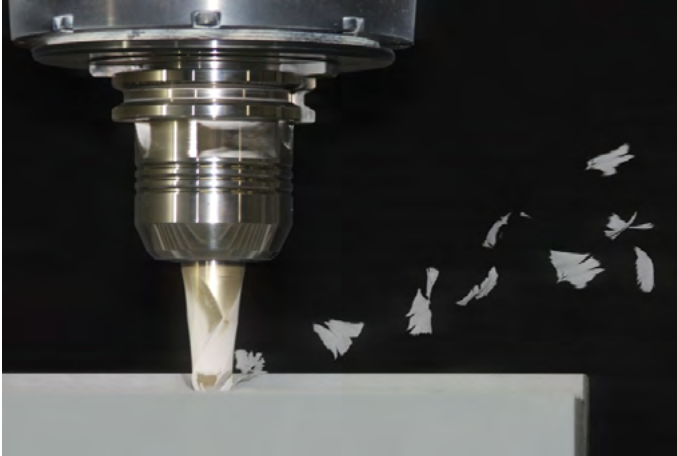
MILLING PARAMETERS							
Milling steps	1	2	3	4	5	6	7
Strategy	Roughing Z-constant	Rest material Z-constant	Rest material Z-constant	Rest material Z-constant	Finishing flat areas	Finishing Z-constant	Finishing rest material shapes
Milling tool	Torus cutter	Torus copying cutter	Ball nose copying cutter	Ball nose copying cutter	Torus copying cutter	Ball nose copying cutter	Solid carbide ball nose cutter
Diameter [mm]	42	20	12	6	8	8	4
Number of teeth	3	2	2	2	2	2	2
Radius [mm]	3	4	6	3	1	4	2
Cutting speed (Vc) [m/min]	500	500	600	300	400	400	200
Revolutions [1/min]	3,800	8,000	15,900	16,000	16,000	16,000	16,000
Feedrate per tooth [mm]	0.5	0.5	0.2	0.15	0.1	0.1	0.1
Feed rate (Vf) [mm/min]	5,700	8,000	6,400	4,800	3,200	3,200	3,200
Cutting depth (ap) [mm]	5	2.5	2	0.5	0.3	0.15	0.1
Cutting Width / Line spacing (ae) [mm]	30	10	2	0.5	4	0.3	0.1

### PROCESSING

- The material must be acclimatised to 18-25 °C prior to machining.
- Machining of the block is easily accomplished by sawing, milling and so on with high performance tools or by hand.
- Bonding areas must be clean, dry and free of dust and grease or oil (cleaning e.g. with Sika® Reinigungsmittel 5).
- For bondings use e.g. Biresin® Power Adhesive Thix or Biresin® Kleber blau (for more information see Product Data Sheet).

# Lab 1000

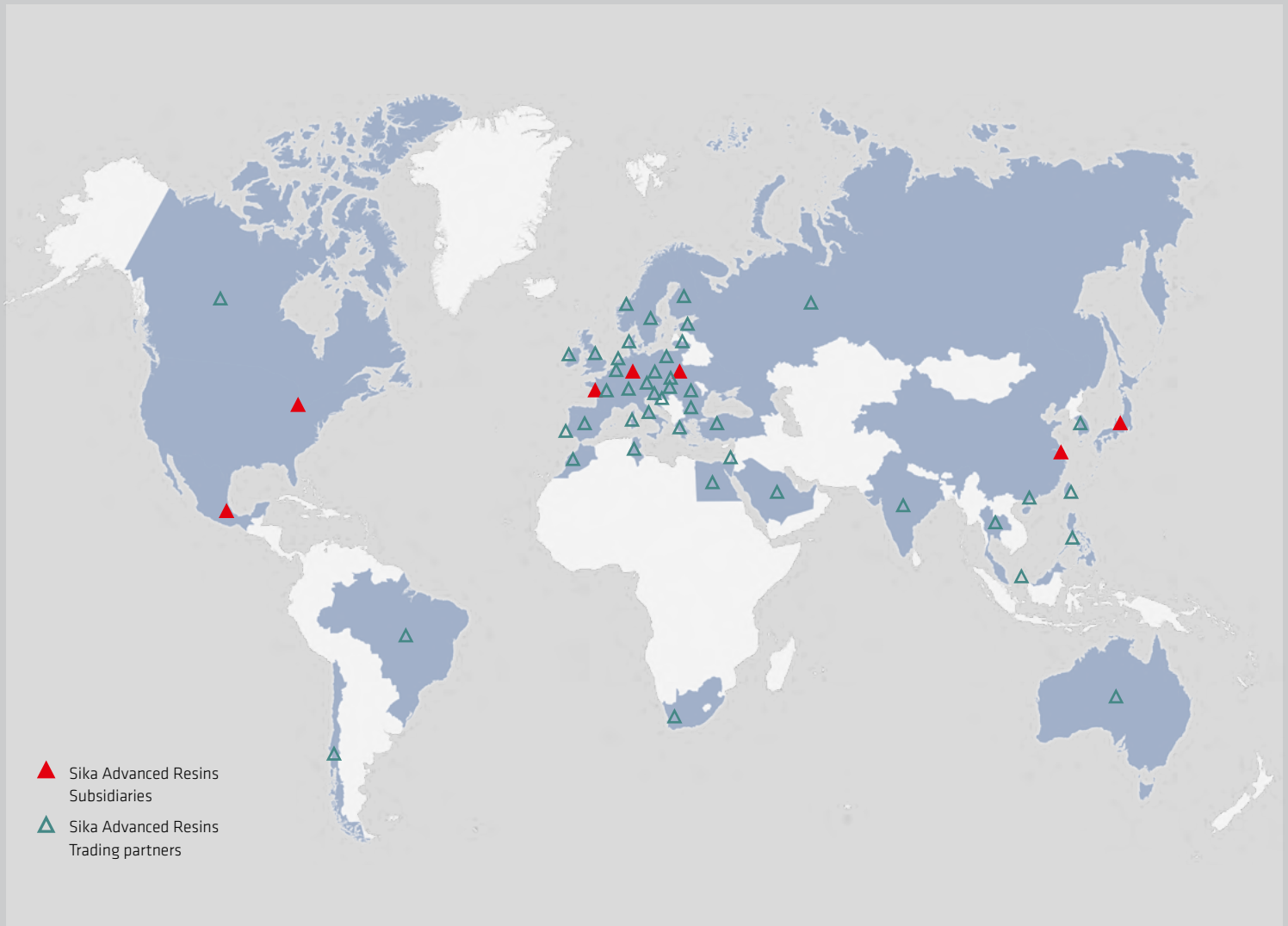
## Tooling Board



MILLING PARAMETERS							
Milling steps	1	2	3	4	5	6	7
Strategy	Roughing Z-constant	Rest material Z-constant	Rest material Z-constant	Rest material Z-constant	Finishing flat areas	Finishing Z-constant	Finishing rest material shapes
Milling tool	Torus cutter	Torus copying cutter	Ball nose copying cutter	Ball nose copying cutter	Torus copying cutter	Ball nose copying cutter	Solid carbide ball nose cutter
Diameter [mm]	42	20	12	6	8	8	4
Number of teeth	3	2	2	2	2	2	2
Radius [mm]	3	4	6	3	1	4	2
Cutting speed (Vc) [m/min]	500	500	600	300	400	400	200
Revolutions [1/min]	3,800	8,000	15,900	16,000	16,000	16,000	16,000
Feedrate per tooth [mm]	0.5	0.5	0.2	0.15	0.1	0.1	0.1
Feed rate (Vf) [mm/min]	5,700	8,000	6,400	4,800	3,200	3,200	3,200
Cutting depth (ap) [mm]	3	2	1	0.3	0.3	0.15	0.1
Cutting Width / Line spacing (ae) [mm]	30	10	2	0.5	4	0.3	0.1

### PROCESSING

- The material must be acclimatised to 18–25 °C prior to machining.
- Machining of the block is easily accomplished by sawing, milling and so on with high performance tools or by hand.
- Bonding areas must be clean, dry and free of dust and grease or oil (cleaning e.g. with Sika® Reinigungsmittel 5).
- For bondings use e.g. Biresin® Power Adhesive Thix or H9930 (for more information see Product Data Sheet).



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