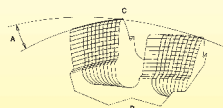


Precision carbide tools



Core competences

Leading producer in Europe of special carbide tools with logarithmic relief grinding

Competent advice and sales team of engineers who are competent in German, French, English and Italian

Integration of newest computer and CAD programmes/software to define profile forms, simulate machining and to develop tools



NEW – separate catalogue

0/1

GLOOR

1

Form milling cutters
Form milling cutters spiral fluted
Worm milling cutters
Bone thread cutter
Gear milling cutters
Prism milling cutters
Radius milling cutters convex
Radius milling cutters concave
Form milling cutters for keys

Cutter
∅ 4 – 200 mm

2

Form end mills
Form end mills spiral fluted
Mini internal whirl thread end mills, Z=1
Mini internal whirl thread end mills, Z=4
Standard thread end mills
Thread shell milling cutters
Radius thread end mills convex/concave

Shank
∅ 1 – 25 mm

3

Involute precision hobs
Cycloidal precision hobs
Precision hobs for special forms
Thread roll dies
Thread milling cutters for spindle automatics
Polygon milling cutters
Polygon special milling cutters

Cutter
∅ 6 – 118 mm

4

Form steel tools
Profiled inserts
Circular form tools
Sets of carbide circular form tools
Circular form shank tools
Special carbide tools with shank
One tooth special tools
Special front turning tools

∅ 5 – 20 mm
∅ 5 – 150 mm
∅ 15 – 30 mm
∅ 1 – 25 mm
∅ 1 – 25 mm
∅ 1 – 20 mm
∅ 1 – 25 mm

5

Slitting saws
3 side milling cutters
Staggered tooth milling cutters
Spiral milling cutters
Collector milling cutters
Square milling cutters
Knurling wheels

∅ 4 – 160 mm

6

One tooth cutters for keys
Milling cutter sets log. r. ground
Slitting saws sets
Prism and angle milling cutters
Pushing tools
Wearing parts and drill bushes

∅ 5 – 200 mm
∅ 1 – 25 mm
∅ 0,80 – 200 mm

7

Logarithmic relief grinding
Tooling costs

0/2

GLOOR

Info-sheet

Carbide form milling cutters

No. 004 / 0405

Milling cutters made from tungsten carbide, teeth logarithmically relief ground (constant profile)

Dimensions:
Outside diameter
∅ 4-200 mm
max width
80 mm

Number of teeth possible:
1-200
dependent on the outside
diameter and profile

Normally these Formcutters are made with straight fluted teeth, but on request GLOOR can also manufacture these cutters helical fluted with logarithmic relief grinding.

Our own special production process allows us to provide even the most complicated profile forms with logarithmic relief grinding.

Normally the profiles are logarithmically relief ground in the radial direction of the cutter. In the case of one sided profiles, we are able, on request, to grind logarithmically in the radial as well as in the slight axial direction of the cutter at the same time (keeping a constant profile).

Prices
on request

Extra charge for coating
see Chapter 8



1/1

GLOOR

Info-sheet

Carbide worm milling cutters

No. 001 / 0405

Milling cutters made from tungsten carbide, teeth logarithmically relief ground (constant profile)
Bore without keyway



Article number	Cutter (mm)											
	∅ D	B	∅ d	Z								
001 030020812	30/35	2	8	12								
001 030030812	30/35	3	8	12								
001 030040812	30/35	4	8	12								
001 040021015	40	2	8/10	15								
001 040031015	40	3	8/10	15								
001 040041015	40	4	8/10	15								
001 040051015	40	5	8/10	15								
001 045021020	45	2	10	20								
001 045031020	45	3	10	20								
001 050041320	50	4	13	20								
001 053021220	53	2	12	20								
001 053041220	53	4	12/16	20								
001 053061220	53	6	12/16	20								
001 053081220	53	8	12/16	20								
001 063041230	63	4	12/16/22	20/30*								
001 063051230	63	5	12/16/22	20/30*								
001 063061230	63	6	12/16/22	20/30*								
001 063081230	63	8	12/16/22	20/30*								
001 063101230	63	10	12/16/22	20/30*								
001 080052230	80	5	22/32	30								
001 080062230	80	6	22/32	30								
001 080082230	80	8	22/32	30								
001 080102230	80	10	22/32	30								
001 080122230	80	12	22/32	30								
001 100062240	100	6	22/32	40								
001 100082240	100	8	22/32	40								
001 100102240	100	10	22/32	40								
001 125103240	125	10	32/40	40								
* As per pitch and size of the profile												
020 000000000												

∅ D Outside diameter
B Width
∅ d Bore
Z Number of teeth

1/2

GLOOR

Info-sheet

No. 002 / 0405

**Carbide bone
thread milling
cutters**

Milling cutters made from tungsten
carbide, teeth logarithmically
relief ground
(constant profile)
Bore without keyway



Article number	Cutter (mm)													
	∅ D	B	∅ d	Z										
002 030020812	30/35	2	8	12										
002 030030812	30/35	3	8	12										
002 030040812	30/35	4	8	12										
002 040021015	40	2	8/10	15										
002 040031015	40	3	8/10	15										
002 040041015	40	4	8/10	15										
002 040051015	40	5	8/10	15										
002 045021020	45	2	10	20										
002 045031020	45	3	10	20										
002 050041320	50	4	13	20										
002 050041340	50	4	13	40										
002 053041220	53	4	12/16	20										
002 053041240	53	4	12/16	40										
002 053061220	53	6	12/16	20										
002 053081220	53	8	12/16	20										
002 063041230	63	4	12/16/22	20/30*										
002 063051230	63	5	12/16/22	20/30*										
002 063061230	63	6	12/16/22	20/30*										
002 063081230	63	8	12/16/22	20/30*										
002 063101230	63	10	12/16/22	20/30*										
002 080052230	80	5	22/32	30										
002 080062230	80	6	22/32	30										
002 080082230	80	8	22/32	30										
002 080102230	80	10	22/32	30										
002 080122230	80	12	22/32	30										
002 100062240	100	6	22/32	40										
002 100082240	100	8	22/32	40										
002 100102240	100	10	22/32	40										
002 125103240	125	10	32/40	40										
	* As per pitch and size of the profile													
020 000000000														

∅ D Outside diameter
B Width
∅ d Bore
Z Number of teeth

1/3

GLOOR

Info-sheet

No. 003 / 0405

**Carbide
gear milling cutters**

Gear cutters made from tungsten
carbide, 12 teeth logarithmically relief
ground (constant profile), for the
cutting of pinions and wheels in the
watch and light mechanics industries



Article number	Cutter (mm)												
	∅ D	B	∅ d										
003 081700350	8	1,70	3,50										
003 102000430	10/12	2,00	4,30										
003 123000500	10/12	3,00	5,00										
003 142000500	14/16	2,00	5,00										
003 163000500	14/16	3,00	5,00										
003 203000500	20	3,00	5,00										
003 204000500	20	4,00	5,00										
003 253000800	25	3,00	8,00										
003 254000800	25	4,00	8,00										
020 000000000													

Info-sheet

No. 009 / 0405

**Carbide prism
milling cutters**

Milling cutter logarithmically
relief ground = very precise and
constant profile, easy regrinding,
large pitch teeth



Dimensions:
Outside diameter ∅ 4–200 mm
max. width 50 mm

Number of teeth possible:
1–120
dependent on the outside diameter
and profile (angle)

Prices:

- Angle 180°–80°
– same as Article 005
- Angle 79°–60°
– same as Article 006
- Angle < 60°
– Prices on request

1/4

GLOOR

Info-sheet

No. 005 / 0405

**Carbide radius
cutters
convex**


Typ I (Ø 8–30 mm)
Carbide radius cutters convex,
profile logarithmically
relief ground, width
hollow-ground

sheet 1

Article number	Cutter (mm) Ø D ±0,20	B ±0,01	Ø d H6	Z																
005 010020315	8/10	0,20	3	12/15																
005 010050315	8/10	0,50	3	12/15																
005 010100315	8/10	1,00	3	12/15																
005 010150315	8/10	1,50	3	12/15																
005 010200308	8/10	2,00	3	8																
005 010300308	8/10	3,00	3	8																
005 010400308	8/10	4,00	3	8																
005 015020520	12/15	0,20	5	20																
005 015050520	12/15	0,50	5	20																
005 015100520	12/15	1,00	5	20																
005 015150512	12/15	1,50	5	12																
005 015200512	12/15	2,00	5	12																
005 015300510	12/15	3,00	5	10																
005 015400510	12/15	4,00	5	10																
005 015500510	12/15	5,00	5	10																
005 020020524	20	0,20	5	24																
005 020050524	20	0,50	5	24																
005 020100524	20	1,00	5	24																
005 020150520	20	1,50	5	20																
005 020200520	20	2,00	5	20																
005 020300515	20	3,00	5	15																
005 020400515	20	4,00	5	15																
005 020500515	20	5,00	5	15																
005 020600512	20	6,00	5	12																
005 025020830	25	0,20	8	30																
005 025050830	25	0,50	8	30																
005 025100830	25	1,00	8	30																
005 025150820	25	1,50	8	20																
005 025200820	25	2,00	8	20																
005 025300820	25	3,00	8	20																
005 025400815	25	4,00	8	15																
005 025500815	25	5,00	8	15																
005 025600815	25	6,00	8	15																
005 030020830	30	0,20	8	30																
005 030050830	30	0,50	8	30																
005 030100830	30	1,00	8	30																
005 030150824	30	1,50	8	24																
005 030200824	30	2,00	8	24																
005 030300815	30	3,00	8	15																
005 030400815	30	4,00	8	15																
005 030500815	30	5,00	8	15																
005 030600815	30	6,00	8	15																

≥ Ø 30 mm see reverse

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GLOOR

Info-sheet

No. 005 / 0405

**Carbide radius
cutters
convex**


Typ I (Ø 40–100 mm)
Carbide radius cutters convex,
profile logarithmically
relief ground, width
hollow-ground

sheet 2

Article number	Cutter (mm) Ø D ±0,30	B ±0,01	Ø d H6	Z																
005 040021040	40	0,20	10	40																
005 040051040	40	0,50	10	40																
005 040101040	40	1,00	10	40																
005 040151030	40	1,50	10	30																
005 040201030	40	2,00	10	30																
005 040301024	40	3,00	10	24																
005 040401024	40	4,00	10	24																
005 040501024	40	5,00	10	24																
005 040601024	40	6,00	10	24																
005 050021350	50	0,20	13	50																
005 050051350	50	0,50	13	50																
005 050101350	50	1,00	13	50																
005 050151340	50	1,50	13	40																
005 050201340	50	2,00	13	40																
005 050301330	50	3,00	13	30																
005 050401330	50	4,00	13	30																
005 050501330	50	5,00	13	30																
005 050601330	50	6,00	13	30																
005 063051660	63	0,50	16	60																
005 063101660	63	1,00	16	60																
005 063151640	63	1,50	16	40																
005 063201640	63	2,00	16	40																
005 063301640	63	3,00	16	40																
005 063401630	63	4,00	16	30																
005 063501630	63	5,00	16	30																
005 063601630	63	6,00	16	30																
005 080052280	80	0,50	22	80																
005 080102280	80	1,00	22	80																
005 080152260	80	1,50	22	60																
005 080202260	80	2,00	22	60																
005 080302240	80	3,00	22	40																
005 080402240	80	4,00	22	40																
005 080502240	80	5,00	22	40																
005 080602240	80	6,00	22	40																
005 100052280	100	0,50	22	80																
005 100102280	100	1,00	22	80																
005 100152280	100	1,50	22	80																
005 100202260	100	2,00	22	60																
005 100302260	100	3,00	22	60																
005 100402250	100	4,00	22	50																
005 100502250	100	5,00	22	50																
005 100602250	100	6,00	22	50																

Other dimensions are
available on request

Extra charge for coating
see Chapter 8

≥ Ø 40 mm see front

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GLOOR

Info-sheet

No. 006 / 0405

Carbide radius
cutters
concave

Typ II (Ø 8-30 mm)
Carbide radius cutters concave,
profile logarithmically
relief ground, width surface
ground



sheet 1

Article number	Cutter													
	Ø D ±0,20	B ±0,01	Ø d H 6	Z										
006 010100315	8/10	1,00	3	12/15										
006 010150315	8/10	1,50	3	12/15										
006 010200308	8/10	2,00	3	8										
006 010300308	8/10	3,00	3	8										
006 010400308	8/10	4,00	3	8										
006 010500308	8/10	5,00	3	8										
006 015100520	12/15	1,00	5	20										
006 015100512	12/15	1,50	5	12										
006 015200512	12/15	2,00	5	12										
006 015300510	12/15	3,00	5	10										
006 015400510	12/15	4,00	5	10										
006 015500510	12/15	5,00	5	10										
006 015600510	12/15	6,00	5	10										
006 020100524	20	1,00	5	24										
006 020150520	20	1,50	5	20										
006 020200520	20	2,00	5	20										
006 020300515	20	3,00	5	15										
006 020400515	20	4,00	5	15										
006 020500515	20	5,00	5	15										
006 020600512	20	6,00	5	12										
006 020800512	20	8,00	5	12										
006 025100830	25	1,00	8	30										
006 025150820	25	1,50	8	20										
006 025200820	25	2,00	8	20										
006 025300820	25	3,00	8	20										
006 025400815	25	4,00	8	15										
006 025500815	25	5,00	8	15										
006 025600815	25	6,00	8	15										
006 025800812	25	8,00	8	12										
006 030100830	30	1,00	8	30										
006 030150824	30	1,50	8	24										
006 030200824	30	2,00	8	24										
006 030300824	30	3,00	8	24										
006 030400815	30	4,00	8	15										
006 030500815	30	5,00	8	15										
006 030600815	30	6,00	8	15										
006 030800815	30	8,00	8	15										
006 030100812	30	10,00	8	12										

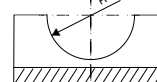
≥ Ø 30 mm see reverse

1/7

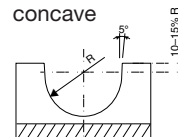
GLOOR
Carbide radius
cutters
concave

No. 006 / 0405

Typ II



Typ IIa



sheet 2

Article number	Cutter (mm)													
	Ø D ± 0.30	B ± 0.01	Ø d H 6	Z										
006 040101040	40	1,00	10	40										
006 040151030	40	1,50	10	30										
006 040201030	40	2,00	10	30										
006 040301030	40	3,00	10	30										
006 040401024	40	4,00	10	24										
006 040501024	40	5,00	10	24										
006 040601024	40	6,00	10	24										
006 040801020	40	8,00	10	20										
006 040101020	40	10,00	10	20										
006 040121015	40	12,00	10	15										
006 050151340	50	1,50	13	40										
006 050201340	50	2,00	13	40										
006 050301330	50	3,00	13	30										
006 050401330	50	4,00	13	30										
006 050501330	50	5,00	13	30										
006 050601330	50	6,00	13	30										
006 050801324	50	8,00	13	24										
006 050101320	50	10,00	13	20										
006 050121320	50	12,00	13	20										
006 063151640	63	1,50	16	40										
006 063201640	63	2,00	16	40										
006 063301640	63	3,00	16	40										
006 063401630	63	4,00	16	30										
006 063501630	63	5,00	16	30										
006 063601630	63	6,00	16	30										
006 063801630	63	8,00	16	30										
006 063101630	63	10,00	16	30										
006 063121624	63	12,00	16	24										
006 080152260	80	1,50	22	60										
006 080202260	80	2,00	22	60										
006 080302240	80	3,00	22	40										
006 080402240	80	4,00	22	40										
006 080502240	80	5,00	22	40										
006 080602240	80	6,00	22	40										
006 080802240	80	8,00	22	40										
006 080102230	80	10,00	22	30										
006 080122230	80	12,00	22	30										
006 100152280	100	1,50	22	80										
006 100202280	100	2,00	22	60										
006 100302280	100	3,00	22	60										
006 100402250	100	4,00	22	50										
006 100502250	100	5,00	22	50										
006 100602250	100	6,00	22	50										
006 100802250	100	8,00	22	50										
006 100102240	100	10,00	22	40										
006 100122230	100	12,00	22	30										

Other dimensions
are available on request

≥ Ø 40 mm see front

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GLOOR

Info-sheet

**Carbide form
milling cutters
for keys**

Milling cutters made from tungsten carbide, teeth logarithmically relief ground (constant profile)

Execution for normal and high cutting speeds

Can be completed for standard machines (Ø 35 / Ø 38 / Ø 38 / Ø 40 / Ø 42 / Ø 50 mm) or as requested by customer.

Outside diameter:
Ø 4–200 mm
Maximum width 80 mm

Number of teeth possible:
1–200
dependent on the outside diameter and depth of profile

Prices
on request

No. 007 / 0405



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GLOOR

Info-sheet

**Carbide prism
milling cutters
for keys**

Milling cutters made from tungsten carbide, teeth logarithmically relief ground (constant profile)

Execution for normal and high cutting speeds

Can be completed for standard machines (Ø 60 / Ø 70 / Ø 80 / Ø 100 / Ø 130 / Ø 150 mm) or as requested by customer.

Outside diameter:
Ø 4–200 mm
Maximum width 80 mm

Number of teeth possible:
1–120
dependent on the outside diameter and depth of the profile

Prices
on request

No. 012 / 0405



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GLOOR

Info-sheet

Carbide form end mills

No. 034 / 0405

Form end mills made from tungsten carbide, teeth logarithmically relief ground (constant profile)

Dimensions:
Shank
Ø 1-25 mm or
morse taper
1-4

Number of teeth possible:
1-40
dependent on the outside diameter
and profile

Normally these Formcutters are made with straight fluted teeth, but on request GLOOR can also manufacture these cutters helical fluted with logarithmic relief grinding.

Our own special production process allows us to provide even the most complicated profile forms with logarithmic relief grinding.

Normally the profiles are logarithmically relief ground in the radial direction of the cutter. In the case of one sided profiles, we are able, on request, to grind logarithmically in the radial as well as in the slight axial direction of the cutter at the same time (keeping a constant profile).

Prices
on request

Extra charge for coating
see Chapter 8



2/1

Table Index

0405

Thread end mills

End mill	Art. No.	Used for	Sheet
Mini internal whirl thread end mills	057	High speed cutting for titanium and stainless steel	2/3
Mini thread end mills, Z= 2, 3 and 4	056 054 059	End mills for gold, titanium and stainless steel	2/4-2/6
Info sheet thread end mills			2/7-2/8
Standard thread end mills ISO 60°	035	Standard end mills, cutting length 1,5 x Ø end mill	2/9
Standard thread end mills UN 60°	036		2/10
Thread end mills ISO 60°	030	Standard end mills, cutting length 1 + 2 x Ø end mill	2/11-2/12
Thread end mills UN 60°	031		2/13-2/14
Thread end mills G 55°	039		2/15
Thread end mills BSW 55°	032		2/16
Thread end mills Pg 80°	033		2/17
Thread end mills NPT 60° (1:16)	038	Standard end mills for tapered threads	2/18
Thread shell milling cutters	013	For ISO, UN and other standards threads	2/19

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GLOOR
GLOOR

Info-sheet

No. 057 / 0405

**Carbide mini
internal whirl
thread end mills
(M1–M2) Z = 1**


Carbide mini thread end mills for the cutting of very small internal threads in titanium and/or stainless steel.

The thread is completed in one cycle for the entire finished depth of the thread. The rotation speed of the end mill must be very high. (High frequency spindle)

**Standard program for
ISO 60° internal threads**

Shank $\varnothing$ 3 mm, total length 32 mm. 1 tooth right hand logarithmically relief ground.

No.	Thread	Pitch	drilling $\varnothing$	Thread depth	Bulk discount: (Delivery in one shipment)	
01	M 1,40	0,30 mm	1,10	3,00 mm	5 pcs	Netto
02	M 1,40	0,30 mm	1,10	4,00 mm	10 pcs	J. 5 %
03	M 1,60	0,35 mm	1,25	4,00 mm	25 pcs	J. 10 %
04	M 1,60	0,35 mm	1,25	5,00 mm	50 pcs	J. 15 %
05	M 1,80	0,35 mm	1,45	3,50 mm	100 pcs	J. 20 %
06	M 1,80	0,35 mm	1,45	5,00 mm	250 pcs	J. 25 %
07	M 2,00	0,40 mm	1,60	4,00 mm		
08	M 2,00	0,40 mm	1,60	6,00 mm		

Standard values for rotation speeds and feeds in the processing of titanium and stainless steel using our mini internal whirl thread end mills.
(High frequency spindle)

Thread	r/min	Feed/tooth
M 1,00	60'000	0,007 mm
M 1,20	51'000	0,009 mm
M 1,40	45'000	0,011 mm
M 1,60	35'000	0,017 mm
M 1,80	31'000	0,022 mm
M 2,00	28'000	0,027 mm

Special executions

Information needed for the completion of end mills as per your needs.
(Prices on request)

Thread $\varnothing$, pitch and standard (norm) of the thread.
Depth of thread, including information on pilot-drill (drawing of part or a sketch).

Drilling diameter, that is $\varnothing$ at which part is pilot drilled (prior to the milling of the thread).
Rotating direction: Right or left-hand end mill

Coolant information:
Either you should use thin-bodied cutting oil, special emulsion or compressed air.
For more information please contact our customer service personnel.

Info-sheet

No. 056 / 0405

**Carbide mini
thread end mills,
Z = 2
(M1,40–M3)**


Carbide mini thread end mills for the cutting of very small internal threads in titanium, stainless steels, etc... For production on conventional machines. (Rotation speed of the end mill between 6000 and 8000 r/min.) or with high frequency spindle. The thread is completed in one cycle for the entire finished depth of thread.

**Standard program for ISO
60° internal threads**

Shank $\varnothing$ 3 mm, total length 32 mm. 2 teeth right hand logarithmically relief ground.

No.	Thread	Pitch	drilling $\varnothing$	Thread depth	Bulk discount: (Delivery in one shipment)	
01	M 1,40	0,30 mm	1,10 mm	4,00 mm	5 pcs	Netto
02	M 1,60	0,35 mm	1,25 mm	5,00 mm	10 pcs	J. 5 %
03	M 1,80	0,35 mm	1,45 mm	5,00 mm	25 pcs	J. 10 %
04	M 2,00	0,40 mm	1,60 mm	5,00 mm	50 pcs	J. 15 %
05	M 2,00	0,40 mm	1,60 mm	7,00 mm	100 pcs	J. 20 %
06	M 2,50	0,45 mm	2,05 mm	5,00 mm	250 pcs	J. 25 %
07	M 2,50	0,45 mm	2,05 mm	8,00 mm		
08	M 3,00	0,50 mm	2,50 mm	6,00 mm		
09	M 3,00	0,50 mm	2,50 mm	9,00 mm		

Standard values for rotation speeds and feeds in the processing of titanium and stainless steel using our mini internal whirl thread end mills.
(With high frequency spindle)

Thread	r/min	Feed/tooth
M 1,00	60'000	0,007 mm
M 1,20	51'000	0,009 mm
M 1,40	45'000	0,011 mm
M 1,60	35'000	0,017 mm
M 1,80	31'000	0,022 mm
M 2,00	28'000	0,027 mm
M 2,50	22'000	0,030 mm
M 3,00	19'000	0,035 mm

Special executions

Information needed for the completion of end mills as per your needs.
(Prices on request)

Thread $\varnothing$, pitch and standard (norm) of the thread.
Depth of thread, including information on pilot-drill (drawing of part or a sketch).

Drilling diameter, that is $\varnothing$ at which part is pilot drilled (prior to the milling of the thread).
Rotating direction: Right or left-hand end mill

Coolant information:
Either you should use thin-bodied cutting oil, special emulsion or compressed air.
For more information please contact our customer service personnel.

Info-sheet

No. 059 / 0405

**Carbide mini
thread end mills,
Z = 3
(M1,40–M4)**


Carbide mini thread end mills for the cutting of very small internal threads in titanium, stainless steels, etc... For production on conventional machines. (Rotation speed of the end mill between 6000 and 8000 r/min.) or with high frequency spindle. The thread is completed in one cycle for the entire finished depth of thread.

**Standard program for ISO
60° internal threads**

Shank $\varnothing$ 3 mm, total length
32 mm, 3 teeth right hand
logarithmically relief ground.

No.	Thread	Pitch	drilling $\varnothing$	Thread depth	at CHF/pc	Bulk discount: (Delivery in one shipment)	
01	M 1,40	0,30 mm	1,10	4,00 mm		5 pcs	Netto
02	M 1,60	0,35 mm	1,25	5,00 mm		10 pcs	J. 5 %
03	M 1,80	0,35 mm	1,45	5,00 mm		25 pcs	J. 10 %
04	M 2,00	0,40 mm	1,60	6,00 mm		50 pcs	J. 15 %
05	M 2,50	0,45 mm	2,05	7,00 mm		100 pcs	J. 20 %
06	M 3,00	0,50 mm	2,50	8,00 mm		250 pcs	J. 25 %
07	M 3,50	0,60 mm	2,90	9,00 mm			
08	M 4,00	0,70 mm	3,30	10,00 mm			

Standard values for rotation speeds and feeds in the processing of titanium and stainless steel using our mini internal whirl thread end mills. (With high frequency spindle)

Thread	r/min	Feed/tooth
M 1,00	60'000	0,007 mm
M 1,20	51'000	0,009 mm
M 1,40	45'000	0,011 mm
M 1,60	35'000	0,017 mm
M 1,80	31'000	0,022 mm
M 2,00	28'000	0,027 mm
M 2,50	22'000	0,030 mm
M 3,00	19'000	0,035 mm
M 3,50	16'000	0,040 mm
M 4,00	14'000	0,045 mm

Special executions

Information needed for the completion of end mills as per your needs. (Prices on request)

Thread $\varnothing$, pitch and standard (norm) of the thread.
Depth of thread, including information on pilot-drill (drawing of part or a sketch).

Drilling diameter, that is $\varnothing$ at which part is pilot drilled (prior to the milling of the thread).

Rotating direction: Right or left-hand end mill

Coolant information:
Either you should use thin-bodied cutting oil, special emulsion or compressed air.
For more information please contact our customer service personnel.

GLOOR

Info-sheet

No. 054 / 0405

**Carbide mini
thread end mills,
Z = 4
(M1,40–M4)**


Carbide mini thread end mills for the cutting of very small internal threads in titanium, stainless steels, etc... For production on conventional machines. (Rotation speed of the end mill between 6000 and 8000 r/min.) or with high frequency spindle. The thread is completed in one cycle for the entire finished depth of thread.

**Standard program for
ISO 60° internal threads**

Shank $\varnothing$ 3 mm, total length
32 mm, 4 teeth right hand
logarithmically relief ground.

No.	Thread	Pitch	drilling $\varnothing$	Thread depth	at CHF/pc	Bulk discount: (Delivery in one shipment)	
01	M 1,40	0,30 mm	1,10	4,00 mm		5 pcs	Netto
02	M 1,60	0,35 mm	1,25	5,00 mm		10 pcs	J. 5 %
03	M 1,80	0,35 mm	1,45	5,00 mm		25 pcs	J. 10 %
04	M 2,00	0,40 mm	1,60	6,00 mm		50 pcs	J. 15 %
05	M 2,50	0,45 mm	2,05	7,00 mm		100 pcs	J. 20 %
06	M 3,00	0,50 mm	2,50	8,00 mm		250 pcs	J. 25 %
07	M 3,50	0,60 mm	2,90	9,00 mm			
08	M 4,00	0,70 mm	3,30	10,00 mm			

Standard values for rotation speeds and feeds in the processing of titanium and stainless steel using our mini internal whirl thread end mills. (With high frequency spindle)

Thread	r/min	Feed/tooth
M 1,00	60'000	0,007 mm
M 1,20	51'000	0,009 mm
M 1,40	45'000	0,011 mm
M 1,60	35'000	0,017 mm
M 1,80	31'000	0,022 mm
M 2,00	28'000	0,027 mm
M 2,50	22'000	0,030 mm
M 3,00	19'000	0,035 mm
M 3,50	16'000	0,040 mm
M 4,00	14'000	0,045 mm

Special executions

Information needed for the completion of end mills as per your needs. (Prices on request)

Thread $\varnothing$, pitch and standard (norm) of the thread.
Depth of thread, including information on pilot-drill (drawing of part or a sketch).

Drilling diameter, that is $\varnothing$ at which part is pilot drilled (prior to the milling of the thread).

Rotating direction: Right or left-hand end mill

Coolant information:
Either you should use thin-bodied cutting oil, special emulsion or compressed air.
For more information please contact our customer service personnel.

GLOOR

Info-sheet

No. 030-039 / 0405

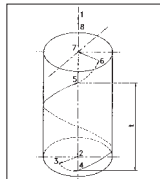
Carbide thread
end mills

Sheet 1

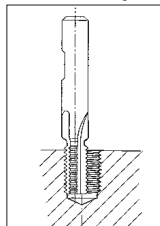
Advantages of using thread
end mills:

- Thread finished in one revolution
- No problems with blind hole threads
- Standard and fine threads with same end mill
- No difficulties with burs
- Right and left hand threads with same end mill
- Internal and external thread milling
- Low power needed by thread milling
- High thread quality
- Dimension of thread easily adjustable
- Standard ISO 60° / UN 60° / BSW 55° / G 55° / PG 80° / NPT 60°
- Standard program from M3 (Ø 2,10 mm)
- Special program from M1 (Ø 0,70 mm)
- Metric and inch shanks available
- End mills with logarithmically relief grounded

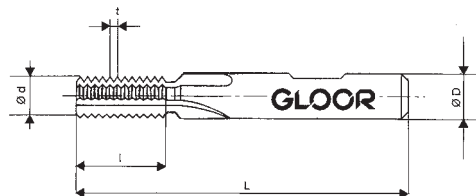
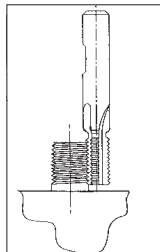
Working cycle



Internal thread milling



External thread milling



t Pitch
 Ø d Cutter diameter
 l Cutting length
 Ø D Shank diameter
 L Total length
 Z Number of teeth

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GLOOR

Info-sheet

sheet 2

No. 030-039 / 0405

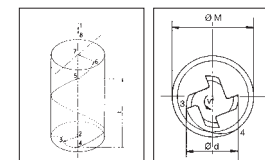
● Procedure
(Example for internal threading):

- Choose GLOOR thread end mill from price list
 - Drilling of the bore with an additional allowance of 0,05 to 0,10 mm in radius (0,10 to 0,20 mm in diameter). The inside diameter of the thread is slightly topped in this procedure.
- 1 Positioning of the mill
 - 2 Axial approach (quick) of the mill
 - 3 Radial movement to start position (with corrector hold)
 - 4 Helical approach interpolation
 - 5 Helical interpolation of the pitch value
 - 6 Helical clearance interpolation
 - 7 Movement toward the centre
 - 8 Axial return to start position (at high speed)

● Example of program

```

N 10 G 90 G 00 G 80 X 0 Y 0 Z+... M 03 M 08 T...
N 20 G 00 Z... F... S...
N 30 G 01 G 42 X... Y...
N 40 G 03 X... Y... Z... L... J...
N 50 G 03 X... Y... Z... L... J...
N 60 G 03 X... Y... Z... L... J...
N 70 G 90 G 40 G 01 X 0 Y 0
N 80 G 00 Z 5
  
```



The feed of the thread mill is calculated according to the following formula:

n = RPM (min.⁻¹)
 V = Cutting speed (m/min.)
 $Ød$ = Tool diameter (mm)
 M = Nominal diameter (mm)
 f_z = Feed per tooth (mm)
 Z = Number of teeth
 V_f = Feed speed of the thread mill (mm/min.)

$$V_f = \frac{n \cdot f_z \cdot Z \cdot (M - Ød)}{M}$$

When the work is done on a machining center having the option advance constant: $V_f = n \cdot f_z \cdot Z$

● Index for working, cutting
speeds and feeds

Material	Cutting speed V (m/min.)	Feed per tooth f_z (mm/Z)	Lubrication
steels	75 – 250	0,005–0,01 x Ø d	cutting or soluble oil
stainless steels	55 – 200	0,002–0,05 x Ø d	cutting or soluble oil
cast iron	60 – 200	0,005–0,01 x Ø d	
titanium	20 – 60	0,002–0,005 x Ø d	dry or compressed air
bronze	160 – 400	0,005–0,01 x Ø d	soluble oil
copper	90 – 400	0,005–0,012 x Ø d	dry or compressed air
brass	150 – 400	0,005–0,012 x Ø d	cutting or soluble oil
aluminium	200 – 400	0,007–0,012 x Ø d	dry or soluble oil
zinc	250 – 500	0,009–0,008 x Ø d	soluble oil or petroleum
plastic	50–1000	0,007–0,015 x Ø d	soluble oil or kerosene
magnesium	200 – 500	0,002–0,007 x Ø d	compressed air dry or mineral oil

P.S.: The above given values can vary considerably depending on the type/condition of the machine used and the tautness of the workpiece.

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GLOOR

Info-sheet

No. 035 / 0405

**Carbide thread
end mills
Standard
ISO 60°**


**Cutting length (l) =
1,5 x end mill diameter (Ø d)**

Carbide thread end mills with
cylindrical shank and WELDON
flat as per DIN 6535, teeth loga-
rithmically relief ground, right hand
cutting.

These thread end mills are made
for metric ISO internal threads but can
also be used (with certain restrictions)
for external threads.

Article number	Thread			Cutter (mm)						
	No.	M	t (mm)	Ø d	l	Ø D	L	Z		
035	1	M 3	0,50	2,00	3,00	4	54	2		
	2	M 4	0,70	2,60	4,00	6	54	3		
	3	M 5	0,80	3,60	5,40	6	54	3		
	4	M 6	1,00	4,40	6,60	6	60	3		
	5	M 8	1,25	5,80	9,00	6	60	3		
	6	M 10	1,50	7,80	12,00	8	60	4		
	7	M 12	1,75	9,00	13,50	10	75	4		
	8	M 14	2,00	10,80	16,00	12	80	4		
	8	M 16	2,00	10,80	16,00	12	80	4		
	9	M 18	2,50	14,80	22,00	16	100	6		
	9	M 20	2,50	14,80	22,00	16	100	6		
	9	M 22	2,50	14,80	22,00	16	100	6		
	10	M 24	3,00	19,80	30,00	20	100	6		
	10	M 27	3,00	19,80	30,00	20	100	6		
These end mills can be delivered ex stock or at short notice.										

t Pitch
Ø d Cutter diameter
l Cutting length
Ø D Shank diameter
L Total length
Z Number of teeth

Info-sheet

No. 036 / 0405

**Carbide thread
end mills
Standard
UN 60°**


**Cutting length (l) =
1,5 x end mill diameter (Ø d)**

Carbide thread end mills with
cylindrical shank and WELDON
flat as per DIN 6535, teeth loga-
rithmically relief ground, right hand
cutting.

These thread end mills are made
for UNC, UNF and UNEF internal
threads but can also be used
(with certain restrictions)
for external threads.

Article number	Thread			Cutter (mm)						
	No.	UN (TPI)	t (mm)	Ø d	l	Ø D	L	Z		
036	1	48	0,529	2,00	3,00	4	54	2		
	2	44	0,577	2,10	3,20	4	54	2		
	3	40	0,635	2,10	3,20	4	54	2		
	4	36	0,705	3,10	4,70	4	54	2		
	5	32	0,794	3,10	4,70	4	54	2		
	6	28	0,907	3,60	5,40	6	60	3		
	7	24	1,058	4,00	6,00	6	60	3		
	8	20	1,270	4,00	6,00	6	60	3		
	9	18	1,411	5,00	7,50	6	60	3		
	10	16	1,587	5,80	9,00	6	60	3		
	11	14	1,814	7,80	12,00	8	60	4		
	12	13	1,954	7,80	12,00	8	60	4		
	13	12	2,117	9,80	15,00	10	75	4		
	14	11	2,310	9,80	15,00	10	75	4		
	15	10	2,540	11,80	18,00	12	80	4		
	16	9	2,822	15,80	24,00	16	100	6		
	17	8	3,175	15,80	24,00	16	100	6		
These end mills can be delivered ex stock or at short notice.										

t Pitch
Ø d Cutter diameter
l Cutting length
Ø D Shank diameter
L Total length
Z Number of teeth

Info-sheet

No. 030 / 0405

**Carbide thread
end mills
ISO 60°**

For standard and fine pitch threads
Short-cutting length 1x Ø end mill
Long-cutting length 2x Ø end mill

Carbide thread end mills with
cylindrical shank and WELDON
flat as per DIN 6535, teeth loga-
rithmically relief ground, right hand
cutting.

These thread end mills are made
for metric ISO internal threads but can
also be used (with certain restrictions)
for external threads.



sheet 1

Article number	Thread			Cutter (mm)											
	No.	t (mm)	M/MF	Ø d	l	Ø D	L	Z							
030	1	0,35	MF 3	2,20	2,50	6	54	2							
	2	0,35	MF 3	2,20	5,00	6	54	2							
	3	0,50	M 3	2,10	2,50	6	54	2							
	4	0,50	M 3	2,10	5,00	6	54	2							
	5	0,50	MF 4	3,00	3,00	6	54	3							
	6	0,50	MF 4	3,00	6,00	6	54	3							
	7	0,50	MF 5	4,00	4,00	6	54	3							
	8	0,50	MF 5	4,00	8,00	6	54	3							
	9	0,70	M 4	2,80	3,00	6	54	3							
	10	0,70	M 4	2,80	6,00	6	54	3							
	11	0,75	MF 6	4,50	4,50	6	60	3							
	12	0,75	MF 6	4,50	9,00	6	60	3							
	13	0,75	MF 8	5,80	6,00	6	60	3							
	14	0,75	MF 8	5,80	12,00	6	60	3							
	15	0,80	M 5	3,60	4,00	6	54	3							
	16	0,80	M 5	3,60	8,00	6	54	3							
	17	1,00	M 6	4,40	4,00	6	60	3							
	18	1,00	M 6	4,40	9,00	6	60	3							
	19	1,00	MF 8	5,80	6,00	6	60	3							
	20	1,00	MF 8	5,80	12,00	6	60	3							
	21	1,00	MF 10	7,80	8,00	8	60	4							
	22	1,00	MF 10	7,80	16,00	8	60	4							
	23	1,00	MF 12	9,80	10,00	10	75	4							
	24	1,00	MF 12	9,80	20,00	10	75	4							
	25	1,00	MF 24	19,80	20,00	20	100	6							
	26	1,00	MF 24	19,80	40,00	20	100	6							
These end mills can be delivered ex stock or at short notice.															

pitch ≥ 1,25 mm, see sheet 2

t Pitch
Ø d Cutter diameter
l Cutting length
Ø D Shank diameter
L Total length
Z Number of teeth

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GLOOR

Info-sheet

No. 030 / 0405

**Carbide thread
end mills
ISO 60°**

For standard and fine pitch threads
Short-cutting length 1x Ø end mill
Long-cutting length 2x Ø end mill

Carbide thread end mills with
cylindrical shank and WELDON
flat as per DIN 6535, teeth loga-
rithmically relief ground, right hand
cutting.

These thread end mills are made
for metric ISO internal threads but can
also be used (with certain restrictions)
for external threads.



sheet 2

Article number	Thread			Cutter (mm)											
	No.	t (mm)	M/MF	Ø d	l	Ø D	L	Z							
030	27	1,25	M 8	5,80	6,00	6	60	3							
	28	1,25	M 8	5,80	12,00	6	60	3							
	29	1,25	MF 12	9,80	10,00	10	75	4							
	30	1,25	MF 12	9,80	20,00	10	75	4							
	31	1,50	M 10	7,80	8,00	8	60	4							
	32	1,50	M 10	7,80	16,00	8	60	4							
	33	1,50	MF 12	9,80	10,00	10	75	4							
	34	1,50	MF 12	9,80	20,00	10	75	4							
	35	1,50	MF 16	11,80	12,00	12	75	4							
	36	1,50	MF 16	11,80	24,00	12	80	4							
	37	1,50	MF 24	19,80	20,00	20	100	6							
	38	1,50	MF 24	19,80	40,00	20	100	6							
	39	1,75	M 12	8,80	9,00	10	75	4							
	40	1,75	M 12	8,80	18,00	10	75	4							
	41	2,00	M 14	10,80	12,00	12	75	4							
	42	2,00	M 14	10,80	24,00	12	80	4							
	43	2,00	M 16	11,80	12,00	12	75	4							
	44	2,00	M 16	11,80	24,00	12	80	4							
	45	2,00	MF 24	19,80	20,00	20	100	6							
	46	2,00	MF 24	19,80	40,00	20	100	6							
	47	2,50	M 20	15,80	16,00	16	80	6							
	48	2,50	M 20	15,80	32,00	16	100	6							
	49	3,00	M 24	19,00	20,00	20	100	6							
	50	3,00	M 24	19,00	40,00	20	100	6							
These end mills can be delivered ex stock or at short notice.															

pitch ≥ 1,25 mm, see sheet 1

t Pitch
Ø d Cutter diameter
l Cutting length
Ø D Shank diameter
L Total length
Z Number of teeth

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GLOOR

Info-sheet

No. 031 / 0405

**Carbide thread
end mills
UN 60°**

For standard and fine pitch threads
Short-cutting length 1x Ø end mill
Long-cutting length 2x Ø end mill

Carbide thread end mills with
cylindrical shank and WELDON
flat as per DIN 6535, teeth loga-
rithmically relief ground, right hand
cutting.

These thread end mills are made
for UNC, UNF and UNEF internal
threads but can also be used (with
certain restrictions) for external
threads.



sheet 1

Article number	No.	Thread t (mm)	UNC UNF UNEF	Cutter (mm)										
				Ø d	l	Ø D	L	Z						
031	1	0,453	UNF 56	1,80	2,00	6	54	2						
	2	0,453	UNF 56	1,80	4,00	6	54	2						
	3	0,529	UNF 48	2,00	2,00	6	54	2						
	4	0,529	UNF 48	2,00	4,00	6	54	2						
	5	0,577	UNF 44	2,20	2,50	6	54	2						
	6	0,577	UNF 44	2,20	5,00	6	54	2						
	7	0,635	UNC 40	1,80	2,00	6	54	2						
	8	0,635	UNC 40	1,80	4,00	6	54	2						
	9	0,635	UNF 40	2,40	2,50	6	54	2						
	10	0,635	UNF 40	2,40	5,00	6	54	2						
	11	0,705	UNF 36	3,10	3,00	6	54	3						
	12	0,705	UNF 36	3,10	6,00	6	54	3						
	13	0,794	UNC 32	2,20	2,50	6	54	2						
	14	0,794	UNC 32	2,20	5,00	6	54	2						
	15	0,794	UNF 32	3,50	4,00	6	54	3						
	16	0,794	UNF 32	3,50	8,00	6	54	3						
	17	0,794	UNEF32	5,80	6,00	6	60	3						
	18	0,794	(5/16")	5,80	12,00	6	60	3						
	19	0,907	UNF 28	4,00	4,00	6	54	3						
	20	0,907	UNF 28	4,00	8,00	6	54	3						
	21	0,907	UNEF28	7,80	8,00	8	60	4						
	22	0,907	UNEF28	7,80	16,00	8	60	4						
	23	1,058	UNC 24	3,20	3,00	6	54	3						
	24	1,058	UNC 24	3,20	6,00	6	54	3						
	25	1,058	UNF 24	5,80	6,00	6	54	3						
	26	1,058	UNF 24	5,80	12,00	6	54	3						
	27	1,058	UNEF24	11,80	12,00	12	75	4						
	28	1,058	(9/16")	11,80	24,00	12	80	4						
	29	1,270	UNC 20	4,50	4,50	6	54	3						
	30	1,270	UNC 20	4,50	9,00	6	54	3						
	31	1,270	UNF 20	7,80	8,00	8	60	4						
	32	1,270	UNF 20	7,80	16,00	8	60	4						
	33	1,270	UNEF20	15,80	16,00	16	80	6						
	34	1,270	(3/4")	15,80	32,00	16	100	6						

Extra charge for coating
see Chapter 6

pitch ≥ UNC20, see sheet 2

t Pitch
Ø d Cutter diameter
l Cutting length
Ø D Shank diameter
L Total length
Z Number of teeth

2/13

GLOOR

Info-sheet

No. 031 / 0405

**Carbide thread
end mills
UN 60°**

For standard and fine pitch threads
Short-cutting length 1x Ø end mill
Long-cutting length 2x Ø end mill

Carbide thread end mills with
cylindrical shank and WELDON
flat as per DIN 6535, teeth loga-
rithmically relief ground, right hand
cutting.

These thread end mills are made
for UNC, UNF and UNEF internal
threads but can also be used (with
certain restrictions) for external
threads.



sheet 2

Article number	No.	Thread t (mm)	UNC UNF UNEF	Cutter (mm)										
				Ø d	l	Ø D	L	Z						
031	35	1,411	UNC 18	5,80	6,00	6	60	3						
	36	1,411	UNC 18	5,80	12,00	6	60	3						
	37	1,411	UNF 18	9,80	10,00	10	75	4						
	38	1,411	UNF 18	9,80	20,00	10	75	4						
	39	1,411	UNEF18	19,80	20,00	20	100	6						
	40	1,411	UNEF18	19,80	40,00	20	100	6						
	41	1,588	UNC 16	6,80	7,00	8	60	4						
	42	1,588	UNC 16	6,80	14,00	8	60	4						
	43	1,588	UNF 16	15,80	16,00	16	80	6						
	44	1,588	UNF 16	15,80	32,00	16	100	6						
	45	1,814	UNC 14	7,80	8,00	8	60	4						
	46	1,814	UNC 14	7,80	16,00	8	60	4						
	47	1,814	UNF 14	15,80	16,00	16	80	6						
	48	1,814	UNF 14	15,80	32,00	16	100	6						
	49	1,954	UNC 13	7,80	8,00	8	60	4						
	50	1,954	UNC 13	7,80	16,00	8	60	4						
	51	2,117	UNC 12	9,80	10,00	10	75	4						
	52	2,117	UNC 12	9,80	20,00	10	75	4						
	53	2,117	UNF 12	19,80	20,00	20	100	6						
	54	2,117	UNF 12	19,80	40,00	20	100	6						
	55	2,309	UNC 11	11,80	12,00	12	75	4						
	56	2,309	UNC 11	11,80	24,00	12	80	4						
	57	2,540	UNC 10	13,80	14,00	14	80	6						
	58	2,540	UNC 10	13,80	28,00	14	100	6						
	59	2,822	UNC 9	15,80	16,00	16	100	6						
	60	2,822	UNC 9	15,80	32,00	16	100	6						
	61	3,175	UNC 8	19,80	20,00	20	100	6						
	62	3,175	UNC 8	19,80	40,00	20	100	6						

These end mills can be delivered
ex stock or at short notice.

pitch ≥ UNC20, see sheet 1

t Pitch
Ø d Cutter diameter
l Cutting length
Ø D Shank diameter
L Total length
Z Number of teeth

2/14

GLOOR

Info-sheet

No. 039 / 0405

**Carbide thread
end mills
G 55°**


For standard and fine pitch threads
Short-cutting length 1x Ø end mill
Long-cutting length 2x Ø end mill

Carbide thread end mills with
cylindrical shank and WELDON
flat as per DIN 6535, teeth loga-
rithmically relief ground, right hand
cutting.

These thread end mills are made
for Withworth pipe internal and
external threads.

Article number	Thread		Cutter (mm)													
	No.	t (mm)	G	Ø d	l	Ø D	L	Z								
039	1	0,907	1/8"/28	5,80	6,00	6	60	3								
	2	0,907	1/8"/28	5,80	12,00	6	60	3								
	3	1,337	1/4"/19	9,80	10,00	10	75	4								
	4	1,337	1/4"/19	9,80	20,00	10	75	4								
	5	1,814	1/2"/14	15,80	16,00	16	80	6								
	6	1,814	1/2"/14	15,80	32,00	16	100	6								
	7	1,814	3/4"/14	19,80	20,00	20	100	6								
	8	1,814	3/4"/14	19,80	40,00	20	100	6								
	9	2,309	1"/11	19,80	20,00	20	100	6								
	10	2,309	1"/11	19,80	40,00	20	100	6								
These end mills can be delivered ex stock or at short notice.																

t Pitch
Ø d Cutter diameter
l Cutting length
Ø D Shank diameter
L Total length
Z Number of teeth

2/15

GLOOR

Info-sheet

No. 032 / 0405

**Carbide thread
end mills
BSW 55°**


For standard and fine pitch threads
Short-cutting length 1x Ø end mill
Long-cutting length 2x Ø end mill

Carbide thread end mills with
cylindrical shank and WELDON
flat as per DIN 6535, teeth loga-
rithmically relief ground, right hand
cutting.

These thread end mills are made
for Withworth internal and
external threads.

Article number	Thread		Cutter (mm)													
	No.	t (mm)	W	Ø d	l	Ø D	L	Z								
032	1	0,635	1/8"/40	2,00	2,00	6	54	3								
	2	0,635	1/8"/40	2,00	4,00	6	54	3								
	3	0,793	5/32"/32	2,50	2,50	6	54	3								
	4	0,793	5/32"/32	2,50	5,00	6	54	3								
	5	1,058	3/16"/24	3,00	3,00	6	54	3								
	6	1,058	3/16"/24	3,00	6,00	6	54	3								
	7	1,270	1/4"/20	4,50	4,50	6	54	3								
	8	1,270	1/4"/20	4,50	9,00	6	54	3								
	9	1,411	5/16"/18	4,80	5,00	6	60	3								
	10	1,411	5/16"/18	4,80	10,00	6	60	3								
	11	1,588	3/8"/16	6,80	7,00	8	60	4								
	12	1,588	3/8"/16	6,80	14,00	8	60	4								
	13	1,814	7/16"/14	7,80	8,00	8	60	4								
	14	1,814	7/16"/14	7,80	16,00	8	60	4								
	15	2,117	1/2"/12	8,80	9,00	10	75	4								
	16	2,117	1/2"/12	8,80	18,00	10	75	4								
	17	2,309	5/8"/11	11,80	12,00	12	75	4								
	18	2,309	5/8"/11	11,80	24,00	12	80	4								
	19	2,540	3/4"/10	13,80	14,00	14	80	6								
	20	2,540	3/4"/10	13,80	28,00	14	100	6								
	21	2,822	7/8"/9	15,80	16,00	16	80	6								
	22	2,822	7/8"/9	15,80	32,00	16	100	6								
	23	3,175	1"/8	19,80	20,00	20	100	6								
	24	3,175	1"/8	19,80	40,00	20	100	6								

t Pitch
Ø d Cutter diameter
l Cutting length
Ø D Shank diameter
L Total length
Z Number of teeth

2/16

GLOOR

Info-sheet

No. 033 / 0405

**Carbide thread
end mills
Pg 80°**


Short-cutting length 1x Ø end mill
Long-cutting length 2x Ø end mill

Carbide thread end mills with cylindrical shank and WELDON flat as per DIN 6535, teeth logarithmically relief ground, right hand cutting.

These thread end mills are made for steel conduit internal and external threads.

Article number	Thread			Cutter (mm)													
	No.	t (mm)	Pg	Ø d	l	Ø D	L	Z									
033	1	1,270	7/20	9,80	10,00	10	75	4									
	2	1,270	7/20	9,80	20,00	10	75	4									
	3	1,411	9/18	11,80	12,00	12	75	4									
	4	1,411	9/18	11,80	24,00	12	80	4									
	5	1,411	13,5/18	15,80	16,00	16	80	6									
	6	1,411	13,5/18	15,80	32,00	16	100	6									
	7	1,588	21/16	19,80	20,00	20	100	6									
	8	1,588	21/16	19,80	40,00	20	100	6									
These end mills can be delivered ex stock or at short notice.																	

t Pitch
 Ø d Cutter diameter
 l Cutting length
 Ø D Shank diameter
 L Total length
 Z Number of teeth

2/17

GLOOR

Info-sheet

No. 038 / 0405

**Carbide thread
end mills
NPT 60° (1:16)**


Carbide thread end mills with cylindrical shank and WELDON flat as per DIN 6535, teeth logarithmically relief ground, right hand cutting.

These thread end mills are made for internal and external American taperpipe threads.

Article number	Thread			Cutter (mm)													
	No.	t (mm)	NPT	Ø d	l	Ø D	L	Z									
038	1	0,941	1/16"/27	5,80	10,00	8	60	3									
	2	1,411	1/4"/18	9,80	15,00	12	75	4									
	3	1,814	1/2"/14	13,80	20,00	16	80	4									
	4	2,208	1"/11,5	15,80	25,00	20	100	6									

t Pitch
 Ø d Cutter diameter (front)
 l Cutting length
 Ø D Shank diameter
 L Total length
 Z Number of teeth

We also manufacture other thread end mills with shank as per your requirements or drawings.

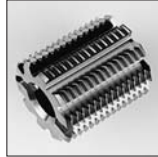
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GLOOR

Info-sheet

Carbide thread shell milling cutters

No. 013 / 0405



Form end mills made from tungsten carbide, teeth logarithmically relief ground (constant profile)

With lateral (ground)
driving keyway.

Dimensions:
Outside diameter
Ø 12-160 mm
max width 80 mm

Number of teeth possible:
4-40
dependent on the outside diameter
and profile depth.

Normally these thread milling cutters are made with straight fluted teeth, but on request GLOOR can also manufacture these cutters helical fluted with logarithmic relief grinding.

Prices
on request

Extra charge for coating
see part 8

Notes:

This image shows a single sheet of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There are approximately 20 lines visible. The paper has a slightly textured appearance and is set against a dark background.



Info-sheet
Carbide radius
end mills
convex

No. 050 / 0405



End mills made from tungsten
carbide, teeth logarithmically
relief ground
(constant profile)

Dimensions:
Shank
∅ 1–25 mm

Number of teeth possible:
1–40
dependent on the outside diameter
and radius

Prices
on request

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GLOOR



Info-sheet
Carbide radius
end mills
concave

No. 052 / 0405



End mills made from tungsten
carbide, teeth logarithmically
relief ground
(constant profile)

Dimensions:
Shank
∅ 1–25 mm

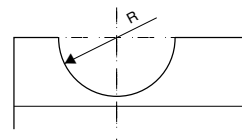
Number of teeth possible:
1–40
dependent on the outside diameter
and radius

Prices
on request

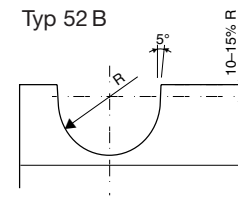
No. 053 / 0405



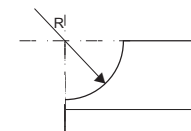
Typ 52 A



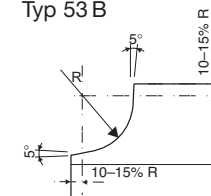
Typ 52 B



Typ 53 A



Typ 53 B



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GLOOR

Info-sheet

No. 040 / 0405

**Precision
carbide hobs
involute**


Hob with 12 or 15 teeth
logarithmically relief ground
(constant profile), single start,
right hand, class AA/DIN3968,
or 7/DIN 58413

Article number	Hob (mm) ∅ D	B	∅ d	Modul															
040 010030450	10	3	4,50	0,08-0,15															
040 010040450	10	4	4,50	0,08-0,15															
040 010050450	10	5	4,50	0,10-0,20															
040 012040500	12	4	5,00	0,10-0,20															
040 012050500	12	5	5,00	0,10-0,30															
040 012060500	12	6	5,00	0,10-0,30															
040 018050815	16/18	5	8,00	0,10-0,50															
040 018080815	16/18	8	8,00	0,20-0,50															
040 018100815	16/18	10	8,00	0,25-0,60															
040 018120815	16/18	12	8,00	0,30-0,70															
040 024050815	24	5	8,00	0,10-0,70															
040 024080815	24	8	8,00	0,20-0,70															
040 024100815	24	10	8,00	0,25-1,00															
040 024120815	24	12	8,00	0,30-1,00															
040 024150815	24	15	8,00	0,40-1,00															
040 024200815	24	20	8/10	0,50-1,00															
040 024250815	24	25	8/10	0,70-1,00															
040 032080815	32	8	8/10	0,15-1,00															
040 032101015	32	10	8/10	0,20-1,25															
040 032151015	32	15	10/13	0,40-1,25															
040 032201015	32	20	10/13	0,50-1,25															
040 032251015	32	25	10/13	0,70-1,25															
The hob width is limited to 20 profile pitches																			

∅ D Outside diameter
∅ d Bore
B Width

3/1

GLOOR

Info-sheet

No. 041 / 0405

**Precision
carbide hobs
cycloidal**


Hob with 12 or 15 teeth
logarithmically relief ground
(constant profile), single start,
right hand, class A/DIN 3968,
or 9/DIN 58413

Article number	Cutter (mm) ∅ D	B	∅ d	Modul															
041 008030350	6/8	3	3,5	0,07-0,15															
041 008040350	6/8	4	3,5	0,07-0,15															
041 008050350	6/8	5	3,5	0,08-0,15															
041 012030450	10/12	3	3,5/4,5	0,07-0,20															
041 012040450	10/12	4	3,5/4,5	0,07-0,20															
041 012050450	10/12	5	3,5/4,5	0,08-0,30															
041 012060450	10/12	6	3,5/4,5	0,10-0,30															
041 018050815	16/18	5	5	0,10-0,50															
041 018080815	16/18	8	8	0,20-0,50															
041 018100815	16/18	10	8	0,25-0,60															
041 018120815	16/18	12	8	0,30-0,80															
041 024050815	24	5	8	0,10-0,70															
041 024080815	24	8	8	0,20-0,70															
041 024100815	24	10	8	0,25-1,00															
041 024120815	24	12	8	0,30-1,00															
041 024150815	24	15	8	0,40-1,00															
041 024200815	24	20	8/10	0,50-1,00															
041 032080815	32	8	8/10	0,15-1,25															
041 032101015	32	10	8/10	0,20-1,25															
041 032151015	32	15	8/10	0,40-1,25															
The hob width is limited to 20 profile pitches																			

∅ D Outside diameter
B Width
∅ d Bore

3/2

GLOOR

Info-sheet
Precision
carbide hobs
for special forms

No. 044 / 0405



Hob with 12 or 15 teeth
logarithmically relief ground
(constant profile), single start,
right hand, class A/DIN 3968,
or 9/DIN 58413

Article number	Cutter (mm) ∅ D	B	∅ d	Modul															
044 008030350	6/8	3	3,5	0,07-0,15															
044 008040350	6/8	4	3,5	0,07-0,15															
044 008050350	6/8	5	3,5	0,08-0,15															
044 012030450	10/12	3	3,5/4,5	0,07-0,20															
044 012040450	10/12	4	3,5/4,5	0,07-0,20															
044 012050450	10/12	5	3,5/4,5	0,08-0,30															
044 012060450	10/12	6	3,5/4,5	0,10-0,30															
044 018050815	16/18	5	5	0,10-0,50															
044 018080815	16/18	8	8	0,20-0,50															
044 018100815	16/18	10	8	0,25-0,60															
044 018120815	16/18	12	8	0,30-0,80															
044 024050815	24	5	8	0,10-0,70															
044 024080815	24	8	8	0,20-0,70															
044 024100815	24	10	8	0,25-1,00															
044 024120815	24	12	8	0,30-1,00															
044 024150815	24	15	8	0,40-1,00															
044 024200815	24	20	8/10	0,50-1,00															
044 032080815	32	8	8/10	0,15-1,25															
044 032101015	32	10	8/10	0,20-1,25															
044 032151015	32	15	8/10	0,40-1,25															
The hob width is limited to 20 profile pitches.																			
046 000000000																			

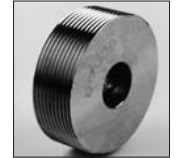
∅ D Outside diameter
B Width
∅ d Bore

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GLOOR

Info-sheet
Carbide
thread roll
dies

No. 325 / 0405



Thread roll dies
made out of tungsten carbide
single start right hand

Article number	Roll (mm) ∅ D	B	∅ d	t (mm)															
325 080303000	8	3	3																
325 080404000	8	4	4																
325 100304000	10	3	4																
325 100404000	10	4	4																
325 150405000	15	4	5																
325 150405000	15	5	5																
325 160505000	16	5	5																
325 200506000	20	5	6																
325 200806000	20	8	6																
325 250606000	25	6	6																
325 250808000	25	8	8																
325 280808000	28	8	8																
325 301010000	30	10	10																
046 000000000																			

∅ D Outside diameter
B Width
∅ d Bore
t pitch

3/4

GLOOR

Carbide thread milling cutters for spindle automatics



Keyway made by EDM

[illegible]

Ø D Outside diameter
 B Width
 Ø d Bore
 Z Number of teeth

Notes:

[illegible]

Info-sheet
Polygone
milling cutters

No. 150 / 0405



Polygone milling cutters
made out of monobloc
carbide
Model for multiple edge
rotation with pre and finished
swing angle.

Standard cutters with 1, 2, 3, 4 or
6 teeth or as requested for
special applications

Dimensions:

Cutter $\varnothing$ 10-100 mm

Prices
on request

3/7

GLOOR
Info-sheet
Polygone
special
milling cutters

No. 152 / 0405



Polygone milling cutters
made out of monobloc
carbide
Model and number of teeth as per
part to be manufactured

Dimensions:

Cutters $\varnothing$ 10-100 mm

Prices
on request



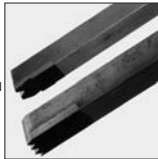
3/8

GLOOR

Info-sheet
Form steel tools

No. 072 / 0405

Profiled form steel tools for automated spindle or other machines; constant profile or specially ground according to customer needs



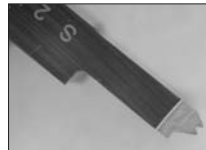
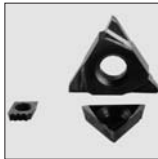
Dimensions:
 □ 5–20 mm
 max. width
 20 mm

Prices
 on request

Info-sheet
Profiled carbide inserts

No. 075 / 0405

Profiled inserts made out of standard or special carbide inserts.



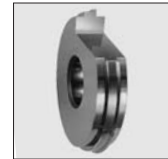
Prices
 on request

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GLOOR
Info-sheet
Carbide circular form tools

No. 062 / 0405

Circular form tools made out of tungsten carbide constant profile



Dimensions:

Outside diameter
 ∅ 5–150 mm

Width
 max. 50 mm

Bore
 ∅ 2–100 mm

Prices
 on request


Info-sheet
Carbide circular form shank tools

No. 063 / 0405

Circular form shank tools made out of tungsten carbide constant profile



Dimensions:

Shank
 ∅ 1–25 mm

Prices
 on request



4/2

GLOOR

Info-sheet
Sets of carbide
circular form tools
for MZ machines

No. 061 / 0405



Typ I for MZ Typ M 600
1 set=4 pieces
($\varnothing$ 28,25 mm)

Quantity			
1			
2			
3			
5			
10			
20			

Typ II for MZ Typ M 621
1 set=3 pieces
($\varnothing$ 30 mm)

1			
2			
3			
5			
10			
20			

Typ III for MZ Typ M 605
1 set=3 pieces
($\varnothing$ 25 mm)

1			
2			
3			
5			
10			
20			

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GLOOR

Info-sheet
Sets of carbide
circular form tools
for Tornos
machines

No. 0610 / 0405



1 set=3 pieces
($\varnothing$ 15x4x $\varnothing$ 5 mm)
1 tooth

Quantity			
1			
2			
3			
5			
10			
20			

	Other dimensions and type are available on request
--	--

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GLOOR

Info-sheet

No. 305 / 0405

Special carbide tools
with shank

Special carbide tools made out
of tungsten carbide, as per your
request or your drawings

Dimensions:
Shank $\varnothing$ 1-25 mm

Price
according to end result
or as quoted



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GLOOR

Info-sheet

No. 224 / 0405

Carbide
one tooth
special tools

One tooth special tools
made out of tungsten carbide,
as per your request or your

Dimensions:
 $\varnothing$ 1-20 mm

Price
according to end result
or as quoted



Info-sheet

No. 245 / 0405

Special front
turning tools

Special carbide tools for frontal
turning made out of tungsten
carbide, as per your request or
your drawings

Dimension:
Shank $\varnothing$ 1-25 mm

Price
according to end result
or as quoted



Info-sheet

No. 272 / 0405

Carbide
hollow mills

Special carbide tools for frontal
processing made out of tungsten
carbide, as per your request or
your drawings

Dimension:
Shank $\varnothing$ 1-25 mm

Price
according to end result
or as quoted



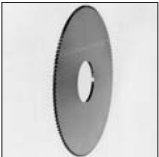
4/6

GLOOR



Info-sheet
Solid carbide
slitting saws

Solid carbide slitting saws,
fine pitch teeth,
teeth DIN 1837,
as per list page 5/3 and 5/4
width hollow ground



Width ± 0,01	(mm)											
	∅ D 15 ∅ d 5	20 5	25 8	30 8	40 10	50 13	63 16	80 22	100 22	125 22	150 32	160 32
0,10												
0,15												
0,20												
0,25												
0,30												
0,40												
0,50												
0,60												
0,70												
0,80												
0,90												
1,00												
1,10												
1,20												
1,30												
1,40												
1,50												
1,60												
1,70												
1,80												
1,90												
2,00												
2,50												
3,00												
3,50												
4,00												
4,50												
5,00												
5,50												
6,00												

∅ D Outside diameter
∅ d Bore

GLOOR



Info-sheet
Solid carbide
slitting saws

Solid carbide slitting saws,
large pitch teeth,
teeth DIN 1838,
as per list page 5/3 and 5/4
width hollow ground



Width ± 0,01	(mm)											
	∅ D 15 ∅ d 5	20 5	25 8	30 8	40 10	50 13	63 16	80 22	100 22	125 22		
0,10												
0,15												
0,20												
0,25												
0,30												
0,40												
0,50												
0,60												
0,70												
0,80												
0,90												
1,00												
1,10												
1,20												
1,30												
1,40												
1,50												
1,60												
1,70												
1,80												
1,90												
2,00												
2,50												
3,00												
3,50												
4,00												
4,50												
5,00												
5,50												
6,00												

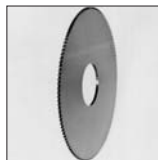
∅ D Outside diameter
∅ d Bore

GLOOR



Info-sheet No. 170 / 171 / 0405

**Solid carbide
slitting saws,
Typ 170
Number of teeth**

 Solid carbide slitting saws,
fine pitch teeth,
teeth DIN 1837, A (sheet 5/4)


Number of teeth													
Width	∅ D ∅ d	15 5	20 5	25 8	30 8	40 10	50 13	63 16	80 22	100 22	125 22	150 32	160 32
0,10–0,40		64	80	80	80	96	120	96	120	—	—	—	—
0,50–0,70		48	60	60	70	80	96	96	120	120	160	—	—
0,80–1,00		40	48	48	60	70	80	96	120	120	160	—	—
1,10–1,20		40	48	48	60	70	80	96	120	120	128	150	160
1,30–1,90		40	40	40	48	60	70	80	96	120	128	150	160
2,00–2,20		40	40	40	48	60	70	80	80	120	100	128	128
2,30–2,90		40	40	40	48	60	70	80	80	120	100	128	128
3,00–4,20		24	35	35	40	48	60	70	80	96	100	128	128
4,30–6,00		24	24	32	32	40	48	60	70	80	100	100	100

**Solid carbide
slitting saws,
Typ 171
Number of teeth**

 Solid carbide slitting saws,
large pitch teeth,
teeth DIN 1838, A (sheet 5/4)


Number of teeth													
Width	∅ D ∅ d	15 5	20 5	25 8	30 8	40 10	50 13	63 16	80 22	100 22	125 22		
0,10–0,40		20	20	20	32	40	48	48	48	—	—		
0,50–0,70		20	20	20	32	40	40	48	48	60	—		
0,80–0,90		20	20	20	24	32	32	40	48	60	80		
1,00–1,20		20	20	20	24	32	32	40	48	60	80		
1,30–2,40		20	20	20	24	32	32	40	48	48	64		
2,50–2,90		20	20	20	24	32	32	40	48	40	48		
3,00–4,20		15	20	20	24	32	32	40	40	40	40		
4,30–6,00		15	15	15	20	24	24	24	32	40	40		

 Other numbers of teeth and outside dia.
are available

 Extra charge for coating
see Chapter 8

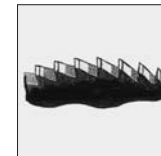
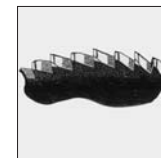
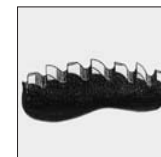
 ∅ D Outside diameter
∅ d Bore

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GLOOR

Info-sheet 0405

**Tooth forms
slitting saws**

 Standard tooth form
as per DIN 1837 and 1838 **A**
(Angle tooth with small
part of cutting angle)

 Alternating ground
(otherwise like A)
AW
 Parabolic tooth
(approximative)
B
 Parabolic tooth
(approximative) and
alternating ground
BW
 Heller teething (HZ)
(approximative
parabolic tooth with rough
and finish cut)
C

5/4

GLOOR

Info-sheet
Carbide slitting
saws with
alternate grinding

No. 185 / 0405



Made from our standard
saws or as per your requirements

Carbide slitting
saws with 3 side
cutting faces

No. 184 / 0405



Made from our standard
saws or as per your requirements

Carbide
staggered tooth
milling cutters

No. 186 / 0405



As per your drawings
or your requirements

Carbide slitting
saws
spiral toothing

No. 174 / 0405



As per your drawings
or your requirements

5/5

GLOOR

Info-sheet
Carbide form
cutters for
collectors

No. 010 / 0405



Milling cutters made
from tungsten carbide,
teeth logarithmically relief
ground (constant profile)

Article number	Cutter (mm) Ø D	B	Ø d	Z							
010 015030506	15	3	5	6							
010 016030506	16	3	5	6							
010 020030708	20	3	7	8							
010 024030710	24	3	7	8/10							
010 025250710	25	2,50	7	8/10							
010 025030710	25	3	7	8/10							
010 027030710	27	3	7	10							
010 028030710	28	3	7	10							
Dimension a (slot width) and b (slot depth) as per your request											
Other dimensions and types are available on request											

Ø D Outside diameter
B Width
Ø d Bore
Z Number of teeth

5/6

GLOOR

Info-sheet

No. 181 / 0405

Carbide
collector cuttersCarbide collector cutter
straight tothing,
(flat profile)

Article number	Cutter (mm) Ø D B Ø d Z				Article number	Cutter (mm) Ø D B Ø d Z			
181 080200308	8	0,20	3	8	181 200200720	20	0,20	7	20
181 080500308	8	0,50	3	8	181 200500720	20	0,50	7	20
181 080700308	8	0,70	3	8	181 200700720	20	0,70	7	20
181 080900308	8	0,90	3	8	181 200900720	20	0,90	7	20
181 081100308	8	1,10	3	8	181 201100720	20	1,10	7	20
181 081300308	8	1,30	3	8	181 201300720	20	1,30	7	20
181 081500308	8	1,50	3	8	181 201500720	20	1,50	7	20
181 082000308	8	2,00	3	8	181 202000720	20	2,00	7	20
181 100200310	10	0,20	3	10	181 202500720	20	2,50	7	20
181 100500310	10	0,50	3	10	181 250200720	25	0,20	7	20
181 100700310	10	0,70	3	10	181 250500720	25	0,50	7	20
181 100900310	10	0,90	3	10	181 250700720	25	0,70	7	20
181 101100310	10	1,10	3	10	181 250900720	25	0,90	7	20
181 101300310	10	1,30	3	10	181 251100720	25	1,10	7	20
181 101500310	10	1,50	3	10	181 251300720	25	1,30	7	20
181 102000310	10	2,00	3	10	181 251500720	25	1,50	7	20
181 120200312	12	0,20	3	12	181 252000720	25	2,00	7	20
181 120500312	12	0,50	3	12	181 252500720	25	2,50	7	20
181 120700312	12	0,70	3	12	181 270500724	27	0,50	7	24
181 120900312	12	0,90	3	12	181 270700724	27	0,70	7	24
181 121100312	12	1,10	3	12	181 270900724	27	0,90	7	24
181 121300312	12	1,30	3	12	181 271100724	27	1,10	7	24
181 121500312	12	1,50	3	12	181 271300724	27	1,30	7	24
181 122000312	12	2,00	3	12	181 271500724	27	1,50	7	24
181 150200515	15	0,20	5	15	181 272000724	27	2,00	7	24
181 150500515	15	0,50	5	15	181 272500724	27	2,50	7	24
181 150700515	15	0,70	5	15					
181 150900515	15	0,90	5	15					
181 151100515	15	1,10	5	15					
181 151300515	15	1,30	5	15					
181 151500515	15	1,50	5	15					
181 152000515	15	2,00	5	15					
Other numbers of teeth and outside diameter available									

Ø D Outside diameter
Ø d Bore
B Width
Z Number of teeth

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GLOOR

Info-sheet

No. 182 / 0405

Carbide
collector cuttersCarbide collector cutters,
straight tothing,
prismatic profile 60° or 90°

Article number	Cutter (mm) Ø D B Ø d Z				Article number	Cutter (mm) Ø D B Ø d Z			
182 080500308	8/10	0,50	3	8	182 120500412	12/15	0,50	4/5	12
182 080100308	8/10	1,00	3	8	182 121000412	12/15	1,00	4/5	12
182 080150308	8/10	1,50	3	8	182 121500412	12/15	1,50	4/5	12
182 080200308	8/10	2,00	3	8	182 122000412	12/15	2,00	4/5	12
182 120500412	12/15	0,50	4/5	12	182 122500412	12/15	2,50*	4/5	12
182 121000412	12/15	1,00	4/5	12	182 200500720	20	0,50	7	20/12
182 121500412	12/15	1,50	4/5	12	182 200700720	20	0,70	7	20/12
182 122000412	12/15	2,00	4/5	12	182 200900720	20	0,90	7	20/12
182 122500412	12/15	2,50*	4/5	12	182 201100720	20	1,10	7	20/12
182 200500720	20	0,50	7	20/12	182 201300720	20	1,30	7	20/12
182 200700720	20	0,70	7	20/12	182 201500720	20	1,50	7	20/12
182 200900720	20	0,90	7	20/12	182 202000720	20	2,00	7	20/12
182 201100720	20	1,10	7	20/12	182 202500720	20	2,50*	7	20/12
182 201300720	20	1,30	7	20/12	182 250500724	25	0,50	7	24/12
182 201500720	20	1,50	7	20/12	182 250700724	25	0,70	7	24/12
182 202000720	20	2,00	7	20/12	182 250900724	25	0,90	7	24/12
182 202500720	20	2,50*	7	20/12	182 251100724	25	1,10	7	24/12
182 250500724	25	0,50	7	24/12	182 251300724	25	1,30	7	24/12
182 250700724	25	0,70	7	24/12	182 251500724	25	1,50	7	24/12
182 250900724	25	0,90	7	24/12	182 252000724	25	2,00	7	24/12
182 251100724	25	1,10	7	24/12	182 252500724	25	2,50*	7	24/12
182 251300724	25	1,30	7	24/12	182 253000724	25	3,00*	7	24/12
182 251500724	25	1,50	7	24/12	182 270500724	27	0,50	7	24/12
182 252000724	25	2,00	7	24/12	182 270700724	27	0,70	7	24/12
182 252500724	25	2,50*	7	24/12	182 270900724	27	0,90	7	24/12
182 253000724	25	3,00*	7	24/12	182 271100724	27	1,10	7	24/12
182 270500724	27	0,50	7	24/12	182 271300724	27	1,30	7	24/12
182 270700724	27	0,70	7	24/12	182 271500724	27	1,50	7	24/12
182 270900724	27	0,90	7	24/12	182 272000724	27	2,00	7	24/12
182 271100724	27	1,10	7	24/12	182 272500724	27	2,50*	7	24/12
182 271300724	27	1,30	7	24/12	182 273000724	27	3,00*	7	24/12
182 271500724	27	1,50	7	24/12	182 274000724	27	4,00*	7	24/12
182 272000724	27	2,00	7	24/12					
182 272500724	27	2,50*	7	24/12					
182 273000724	27	3,00*	7	24/12					
182 274000724	27	4,00*	7	24/12					
Other numbers of teeth and outside diameter available					Only with 90°, with 60° smaller number of teeth				

Ø D Outside diameter
Ø d Bore
B Width
Z Number of teeth

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GLOOR

Info-sheet
Square mills
carbide tipped

No. 176 / 0405



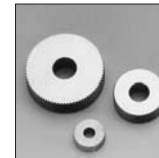
With taper shank 8°

Article number	Cutter (mm)						
	∅ D	∅ d	A	B	Z		
176 163210048	16	7,50	32	10	48		
176 163210060	16	7,50	32	10	60		
176 163210080	16	7,50	32	10	80		
176 203412060	20	9,00	34	12	60		
176 203412080	20	9,00	34	12	80		
176 203412100	20	9,00	34	12	100		
176 253412080	25	10,00	34	12	80		
176 253412100	25	10,00	34	12	100		
176 253412120	25	10,00	34	12	120		

∅ D Cutter diameter
 ∅ d Countersink for screw
 A Total length
 B Cutting length
 Z Number of teeth

Info-sheet
Carbide
knurling wheels
straight
AA type

No. 190 / 0405


 Carbide knurling wheels,
 straight toothing,
 without chanfer

Article number	Knurl (mm)			Pitch		
	∅ D	B	∅ d			
190 008020300	8	2	3	0,20-0,60		
190 008030300	8	3	3	0,20-0,60		
190 008040300	8	4	3	0,20-0,60		
190 010020300	10	2	3/4	0,20-0,80		
190 010030300	10	3	3/4	0,20-0,80		
190 010040300	10	4	3/4	0,20-0,80		
190 010050300	10	5	3/4	0,20-0,80		
190 012030400	12	3	3/4	0,30-1,00		
190 012040400	12	4	4	0,30-1,00		
190 012050400	12	5	4	0,30-1,00		
190 015020400	15	2	4	0,30-1,20		
190 015040400	15	4	4	0,30-1,20		
190 015050400	15	5	5	0,30-1,20		
190 020040500	20	4	5	0,40-1,50		
190 020050500	20	5	5	0,40-1,50		
190 020060600	20	6	6	0,40-1,50		
190 020080600	20	8	6	0,40-1,50		
					Other dimensions and pitches are available on request	

∅ D Outside diameter
 ∅ d Bore
 B Width

Info-sheet
Carbide spiral
knurling wheels

No. 191 / 0405

BL/BR type

Carbide knurling wheels,
 spiral toothing 15°/30°/45°
 right or left hand,
 without chanfer



Article number	Knurl (mm) ∅ D	B	∅ d	Pitch		
191 008020300	8	2	3	0,20-0,60		
191 008030300	8	3	3	0,20-0,60		
191 008040300	8	4	3	0,20-0,60		
191 008925400	8,90	2,50	4	0,20-0,60		
191 010020300	10	2	3/4	0,20-0,80		
191 010030300	10	3	3/4	0,20-0,80		
191 010040300	10	4	3/4	0,20-0,80		
191 010050300	10	5	3/4	0,20-0,80		
191 012030400	12	3	3/4	0,30-1,00		
191 012040400	12	4	4	0,30-1,00		
191 012050400	12	5	4	0,30-1,00		
191 015020400	15	2	4	0,30-1,20		
191 015040400	15	4	4	0,30-1,20		
191 015050400	15	5	5	0,30-1,20		
191 020040500	20	4	5	0,40-1,50		
191 020050500	20	5	5	0,40-1,50		
191 020060600	20	6	6	0,40-1,50		
191 020080600	20	8	6	0,40-1,50		
Other dimensions, spiral and pitches are available on request						

∅ D Outside diameter
 ∅ d Bore
 B Width

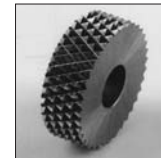
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GLOOR
Info-sheet
Carbide crossed
knurling wheels

No. 192 / 0405

GE type

Carbide knurling wheels,
 crossed toothing 30°/45°,
 without chanfer



Article number	Knurl (mm) ∅ D	B	∅ d	Pitch		
192 008020300	8	2	3	0,20-0,60		
192 008030300	8	3	3	0,20-0,60		
192 008040300	8	4	3	0,20-0,60		
192 010020300	10	2	3/4	0,20-0,80		
192 010030300	10	3	3/4	0,20-0,80		
192 010040300	10	4	3/4	0,20-0,80		
192 010050300	10	5	3/4	0,20-0,80		
192 012030400	12	3	3/4	0,30-1,00		
192 012040400	12	4	4	0,30-1,00		
192 012050400	12	5	4	0,30-1,00		
192 015020400	15	2	4	0,30-1,20		
192 015040400	15	4	4	0,30-1,20		
192 015050400	15	5	5	0,30-1,20		
192 020040500	20	4	5	0,40-1,50		
192 020050500	20	5	5	0,40-1,50		
192 020060600	20	6	6	0,40-1,50		
192 020080600	20	8	6	0,40-1,50		
Other dimensions, spiral and pitches are available on request						

∅ D Outside diameter
 ∅ d Bore
 B Width

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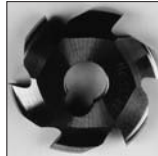
GLOOR

**Info-sheet
Carbide special
milling cutters**

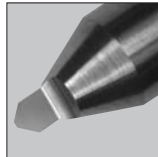
No. 300 / 0405



Ø 5-200 mm

As per your requirements
or drawings
**Carbide one tooth
cutters for keys**

No. 214 / 0405



Ø 1-20 mm

As per your requirements
or drawings

6/1

GLOOR
**Info-sheet
Carbide milling
cutter sets**

No. 014 / 0405



Milling cutter sets made from
tungsten carbide, teeth logarithmically
relief ground, also possible
in combination
with carbide saws

Dimensions:
Outside diameter
Ø 4-160 mm

Number of teeth possible:
1-120
dependent on the outside diameter
and profile

Prices
on request

**Info-sheet
Carbide milling
cutter sets**

No. 173 / 0405



Milling cutter saw sets made out of
monobloc carbide, composed with
standard size saws, or made to
special size as per your require-
ments or drawings

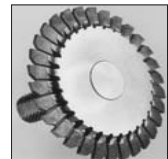
Also available on request are
combinations with formcutters
or 3-side cutting cutters.

Dimensions:
Outside diameter
Ø 4-160 mm

Number of teeth possible:
1-400

Prices
on request

Extra charge for coating
see Chapter 8

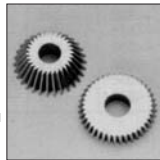


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GLOOR

Info-sheet
Carbide prism
milling cutters

No. 178 / 0405



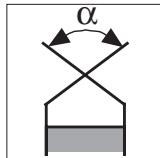
Milling cutter with straight relief grinding = not very precise profile and not constant, regrinding not very easy, large pitch and fine pitch teeth possible

Dimensions:
 $\varnothing$ 5–150 mm

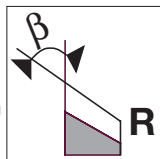
Number of teeth possible:
 2–120

Prices
 on request

Profile angle with
 logarithmical relief grinding,
 see Art. 009, page 1/4


Info-sheet
Carbide angle
milling cutters

No. 175 / 0405



Milling cutter with straight relief grinding = not very precise profile and not constant, regrinding not very easy, large pitch and fine pitch teeth possible

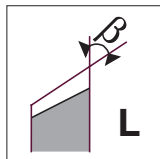
Dimensions:
 $\varnothing$ 5–150 mm

Number of teeth possible:
 2–120

Prices
 on request

Profile angle with
 logarithmical relief grinding,
 see Art. 009, page 1/4

Extra charge for coating
 see Chapter 8



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GLOOR
Info-sheet
Carbide
pushing tools

No. 308 / 0405



As per your requirements
 or drawings

With or without
 airing bore

Prices
 on request


Carbide
wearing parts

No. 330 / 0405



As per your requirements
 or drawings

Prices
 on request

Carbide
drill bushes

No. 310 / 0405



Outside diameter
 $\varnothing$ 0,80–200 mm
 Bore diameter
 $\varnothing$ 0,15–175 mm

Prices
 on request

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GLOOR

Info Sheet 0405

**Logarithmical
relief grinding
(constant profile)**

All GLOOR cutters with logarithmic relief grinding retain a constant profile form until the cutters are completely used up.

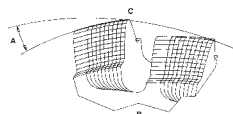
The cutting and rake angles remain absolutely constant even after each regrinding (at the tooth face) which ensures optimum cutting conditions during the entire duration of use. This is particularly true if compared with conventional cutters with straight relief grinding where the cutting angle gets smaller with each regrinding and thus the cutting characteristics deteriorate constantly.

Our own special production process allows us to provide even the most complicated profile forms with logarithmic relief grinding.

Normally the form cutters are made with straight fluted teeth, but on request GLOOR can also manufacture these cutters helical fluted with logarithmic relief grinding.

Normally the profiles are logarithmically relief ground in the radial direction of the cutter.
In the case of one sided profiles, we are able, on request, to grind logarithmically in the radial as well as in the slight axial direction of the cutter at the same time (keeping a constant profile).

Should you require any further information or comparative tests, please feel free to contact our advice and sales personnel.



A = constant clearance angle
B = constant cutting angle
C = resharpener teeth,
the cutting angle and profile
remain constant



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GLOOR

Info Sheet

No 020 / 0405

No 046 / 0405

Tooling cost

For the manufacture of form milling cutters, thread milling cutters and hobs, a one time tooling cost is charged for the initial order.

These costs are incurred by the manufacture of profile and checking charts, CNC programs and grinding of profile wheels, etc. The tooling charges invoiced are only a part of the total tooling cost, the data documents and the CNC programs, etc. remain the property of our company.

The extent of the above mentioned tooling costs is dependent on the kind of tools, the specifications of which you will find on our price lists or on our quotations.

For transmission by disc or e-mail of particulars facts and figures, please contact our technical office.

Please feel free to contact us in case you require more information.

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GLOOR