



INNOVATIVE CUSTOM ENGINEERING

TOOLS AND INSERTS FOR GROOVING

**ICE is a high-tech engineering group
specializing in tooling and hard
material technologies**

TOOLING FOR THE FUTURE

The ICE Group

For over 5 years, ICE has been a pioneer developing exceptional hard material products for cutting tools and wear protection.

The privately owned company, based in Sussex, Wisconsin, develops and manufactures highly specialized carbide cutting tools, inserts and rods made of hard materials as well as wear parts.

The ICE Group is the market leader in several wear part application areas, and successfully develops new types of cemented carbide, cement and ceramic grades which are used for instance in the wood, metal and stone working industries.

Facts and figures



1 headquarters
Sussex (Wisconsin)



5
production sites



> 25
sales subsidiaries



>60
employees



> 100,000
different products



> 10
patents and
utility models



> 2000
valued customers



> 5
military vets



70 %
of products developed
in the last 3 years

Welcome to ICE

Our dedication is your solution!
For over 5 years, we have been producing unique and consistently innovative hard material solutions for cutting tools, wear protection, as well as wood and stone working. Whether it is highly specialized cut-ting tools, inserts, or rods and preforms made of hard materials, with a total of four top class brands, the ICE GROUP is your partner for exceptional and custom-made hard material solutions which guarantee the economy, consistency and performance of your production.

Ever more powerful machines, facilities and machining methods constantly create new challenges for our development engineers. Our employees are already working today on the solutions of tomorrow.

Hard material for your success
Hard materials in general and hard materials in particular are applied wherever tools or components are exposed to high wear. They improve the quality of the tools and parts, extend the life of the tool and ensure secure processes.

High pressure and temperature, the application of abrasive or aggressive materials, and the machining of hard materials are just some examples of factors that cause wear, and to which our hard materials and hard metals are resistant.

TOOLING SOLUTIONS BY ICE
The competence brand TOOLING SOLUTIONS BY ICE closely collaborates with customers who use our tools in the field. To develop new tools as a partner with our customers gives us some leading edge technologies.

From carbide blanks and semi finished products to coated and packaged inserts or tool holders, e.g. for milling, turning, drilling, parting and grooving – all products satisfy individual customer needs and offer top quality.

The experts at ICE provide their partners with advice so that the right tooling solution can always be optimally positioned in the respective market segment. The products developed here are the benchmark in their industry in terms of both price and performance.

Our product portfolio

Milling

Private label
Tools and inserts
for milling

ICE

Turning

Private label
Inserts for
turning

ICE

Grooving

Private label
Grooving

ICE

Multicut

Private label
Multicut

ICE

CBN/PCD/CVD

Private label
Precision machining
PCBN – PCD – CVD
CO / ALN

ICE

Drilling

Private label
Tools and inserts
for drilling

ICE

Utility
Milling

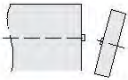
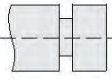
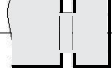
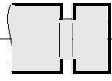
Private label
Tools and inserts
for utility milling

ICE

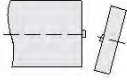
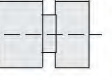
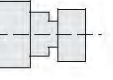
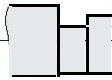
General Overview

Parting, Grooving and Longitudinal Turning

Long size insert – Double sided

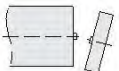
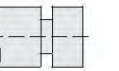
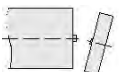
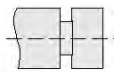
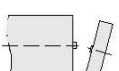
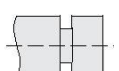
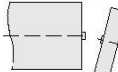
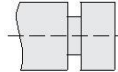
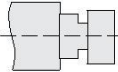
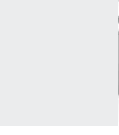
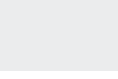
Application	Drawing		Description	Pages
Parting*, Grooving			 	GD... –M1 21 – 36
Parting*, Grooving			 	GD –F1 21 – 36
Parting*, Grooving			 	GD –ST1 38 – 42

* Blades and holders available in each chapter

Application	Drawing		Description	Pages
Parting*, Grooving and Turning			  	GD... –T 46 – 52
Grooving and Turning*			 	GD –M 46 – 52
Available blade			GBL GBR GBN	54
Available tool holders			GMEL GMER	56 – 58

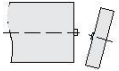
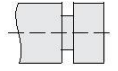
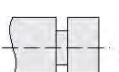
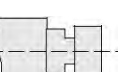
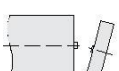
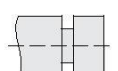
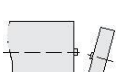
* Blades and holders available in each chapter

Parting, Grooving
Long size insert – Single sided

Application	Drawing	Description	Pages
Parting, Deep Grooving, Grooving*  	  	GO... –M1	60 – 65
Parting*, Grooving,  	 	Parting, Grooving and Turning* GO... –F1	60 – 65
Parting*, Grooving  	 	Parting*, Grooving GO... –ST1	66 – 71
Parting*, Grooving and Turning  	  	Parting, Grooving* GO... –T	66 – 71
Parting ,Grooving*  	 	GO... –LM	72 – 76
Available blade 		GBL GBR GBN	54

* Blades and holders available in each chapter

Parting, Grooving and Longitudinal Turning
Small size insert – Single sided

Application	Drawing	Description	Pages
Parting, Grooving*  	 	GS... –M1	78 – 84
 	  	GS... –M2	86 – 92
 	 	GS... –ST1	94– 97
 	 	GS... –LM	99 – 103

* Blades and holders available in each chapter

New tools with internal cooling system and clamping bloc

Blades and tool holder

Application	Tools	Description	pages
Available blade with cooling		GBN	106 – 109
Available tool holder with cooling		GMER GMEL	108 – 109
Clamping bloc without or with internal cooling system		SCB	110
Technical Information			115 – 120

New tools with internal cooling

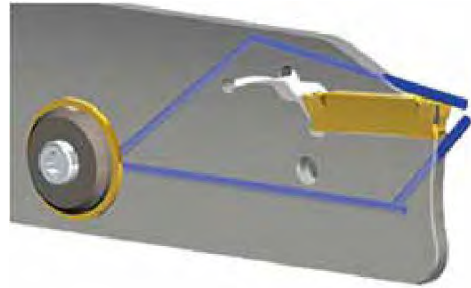
Double Directional Internal Cooling System



▲ ▲ Increased lifetime up to 100 %
▲ ▲ Better chip control

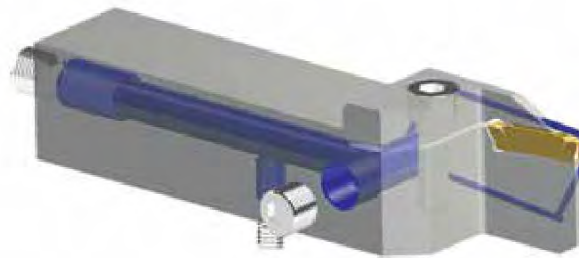


Parting Application



Blades

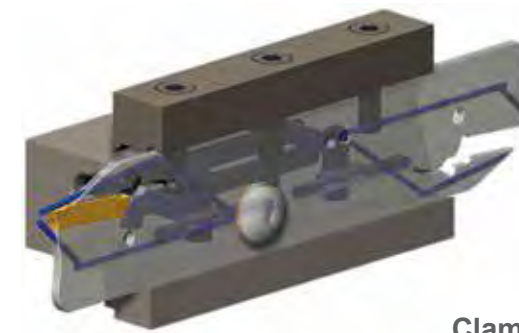
Grooving Application



Tool holder



New clamping bloc Without or with internal coolant system



Clamping bloc

Improved design
Better tool life



Same insert length for all widths



Monobloc holders
Increased Tmax 0.512 in and 0.985 in



New P20 grade ICCP320ST

0.945 in

ICE designation system

Designation system for inserts

GD Double sided

GO One-sided

GS Single sided

GA Axial

R Right

L Left

N Neutral

15 0.059 in

20 0.079 in

30 0.118 in

40 0.157 in

50 0.197 in

60 0.236 in

80 0.315 in

100 0.394 in

00 0°

04 4°

06 6°

15 15°

Insert system

Hand

Insert width

Clearance angle

GD 24 N T - 30 . 02 - 00 - M1

Insert length

24 0.945 in

Insert shape / application

T Trapezoidal

R Radius

S Special

Corner radius

0 00

0.0079 02

0.0118 03

0.0157 04

Chipbreaker

GD/GO

M1

F1

ST1

T

LM

M (Radius)

GS

M1

M2

ST1

LM

Designation system for monobloc tools

GM Monobloc

GMM Monobloc Module

R Right

L Left

N Neutral

GD24

GO24

GS

GA

01 0.059 in

02 0.079 in

03 0.118 in

04 0.157 in

05 0.197 in

06 0.236 in

08 0.315 in

10 0.394 in

Holder angle

00 0°

45 45°

90 90°

T13 0.512 in

T25 0.984 in

Tool group

Tool design

Insert type

Insert width

Cutting depth Tmax

GM E R - 100 - GD24 02 - C - T13 - C

Application

E External

I Internal

A Axial

Tool size

050 .500" x .500"

0625 .625" x .625"

0750 .750" x .750"

100 1.000" x 1.000"

125 1.250" x 1.250"

Tool length

C 5"

D 6"

Coolant

C

Designation system for blades and modules

GB
Blade
GMA
Module Adapter

Tool group

R Right
L Left
N Neutral

Tool design

15 0.059 in
20 0.079 in
30 0.118 in
40 0.157 in
50 0.197 in
60 0.236 in
80 0.315 in
100 0.394 in

Tool width

T13 0.512"
T25 0.985"

Cutting depth
Tmax

GB

E

R

-

26

03

-

GO24

02

T13

-

C

Application
E External
I Internal
A Axial

Tool size
Blades
26 1.024 in
32 1.260 in
Modules
20 0.787 in
25 0.984 in

Insert type
GO24
GD24
GS
GA

Insert width
01 0.059 in
02 0.079 in
03 0.118 in
04 0.157 in
05 0.197 in
06 0.236 in
08 0.315 in
10 0.394 in

Coolant
C

Designation system for clamping blocks

SCB
Split clamping bloc

Tool group

26 1.024 in
32 1.260 in

Tool size

20 0.787 in
29 1.142 in
47 1.850 in

b

SCB

-

GB

26

-

20

20

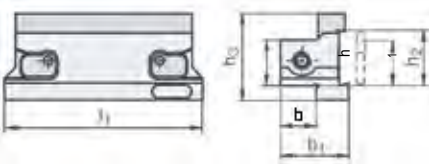
-

C

Application
GB
Blade

h = h1
20 0.787 in
25 0.984 in
32 1.260 in

Coolant
C



Application

P	Steel	M	Stainless steel	K	Cast iron
N	Non-ferrous metals and non-metals	S	Heat-resistant alloys, titanium	H	Hard materials

The easy way to success GD/GO

Material group		Choice chipbreaker		Grades	
		First choice	Higher wear resistance	First choice	Higher toughness
	Steel	M1 – F1	ICCP320ST	ICP1340	ICPP345
		T – M		ICP1340	
	Stainless steel	ST1 – F1 – T		ICP1340	ICPP345
	Cast iron	M1	ICCP320ST	ICP1340	ICPP345
		M		ICP1340	
	Exotic	ST1		ICPP345	

The easy way to success GS

Material group		Choice chipbreaker		Grades	
		First choice	Higher wear resistance	First choice	Higher toughness
	Steel	M1 – M2	ICCP320ST	ICP1340	ICPP345
	Stainless steel	ST1		ICP1340	ICPP345
	Cast iron	M1 – M2		ICP1340	ICPP345
	Non-ferrous metals	LM		H216T	

Products



Long size insert – Double sided GD... –M1, GD... –F1



Overview (GD... –M1, GD... –F1)

Which chipbreaker to use?

M1 – Medium cutting chipbreaker

- ▲▲ Insert with narrow negative chamfer
- ▲▲ Suitable for all steel materials with high strength
- ▲▲ Suitable for all applications
- ▲▲ For steel and grey cast iron

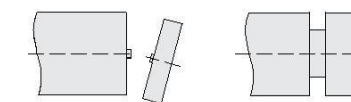


F1 – Very soft cutting chipbreaker

- ▲▲ Excellent cutting chipbreaker with low cutting forces
- ▲▲ For low or medium strength materials
- ▲▲ Particularly suitable for parting off tubes and thin-walled work pieces
- ▲▲ High cutting edge stability
- ▲▲ Excellent chip control also with low feed
- ▲▲ Low built up edge



Application –M1 / – F1



PARTING

GROOVING

Premium grade

ICP1340:

- ▲▲ Excellent suitability for universal application
- ▲▲ High cutting edge stability

ICCP320ST:

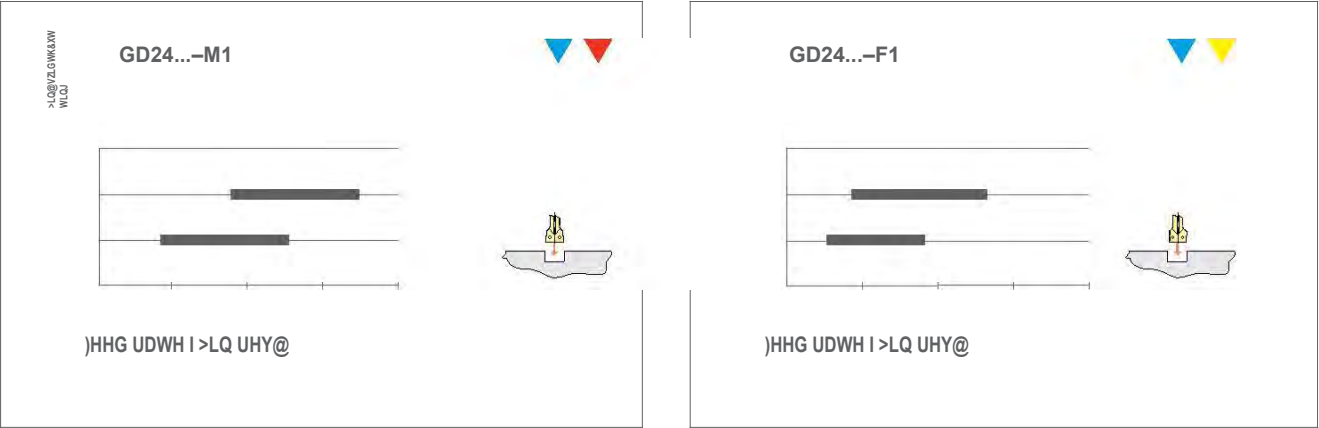
- ▲▲ Excellent wear resistance
- ▲▲ Good resistance to oxidation
- ▲▲ High toughness
- ▲▲ Good heat resistance

ICPP345:

- ▲▲ Ideal for stainless steel
- ▲▲ Excellent toughness
- ▲▲ Good wear resistance
- ▲▲ High application security

Long size – Double sided

Feed rate for parting and grooving (GD24...20... –M1 / –F1)



Hand

GD24... –M1



L N R

Hand

GD24... –F1



L N R

Cutting data

Work piece			ICP1340	Coated carbide ICCP320ST	ICPP345
material	Type of treatment/alloy	Hardness HB	vc [sfm]	vc [sfm]	vc [sfm]
P	Steel	non alloyed steel 0.15% – 0.45% C	260 – 590	360 – 620	260 – 490
		low alloyed steel tempered	200 – 490	360 – 590	230 – 390
		high alloyed steel tempered	350	230 – 520	200 – 330
		corrosion resistant steel annealed	200	390 – 660	300 – 520
M	Stainless steel	annealed ferritic	200	390 – 660	330 – 590
		quenched austenitic	180	330 – 560	260 – 490
		quenched duplex	230 – 260	230 – 360	230 – 360
		hardened martensitic	330	200 – 300	200 – 300
K	Cast iron	grey cast iron	180	300 – 590	–
		spheroidal	160	330 – 520	–
		malleable ferritic	130	260 – 490	–

GD24...20... -M1 / -F1

Insert	Designation	Chipbreaker	Available
	GD24LT-20.015-06-M1 ICCT320ST	... -M1	•
	GD24LT-20.015-06-M1 ICP1340		•
	GD24LT-20.015-06-M1 ICPP345		•
	GD24NT-20.02-00-M1 ICCT320ST		•
	GD24NT-20.02-00-M1 ICP1340		•
	GD24NT-20.02-00-M1 ICPP345		•
	GD24RT-20.015-06-M1 ICCT320ST	...-F1	•
	GD24RT-20.015-06-M1 ICP1340		•
	GD24RT-20.015-06-M1 ICPP345		•
	GD24LT-20.015-06-F1 ICCT320ST		•
	GD24LT-20.015-06-F1 ICP1340		•
	GD24LT-20.015-06-F1 ICPP345		•
	GD24NT-20.02-00-F1 ICCT320ST		•
	GD24NT-20.02-00-F1 ICP1340		•
	GD24NT-20.02-00-F1 ICPP345		•
	GD24RT-20.015-06-F1 ICCT320ST		•
	GD24RT-20.015-06-F1 ICP1340		•
	GD24RT-20.015-06-F1 ICPP345		•

- available from stock

Blades *



Tools



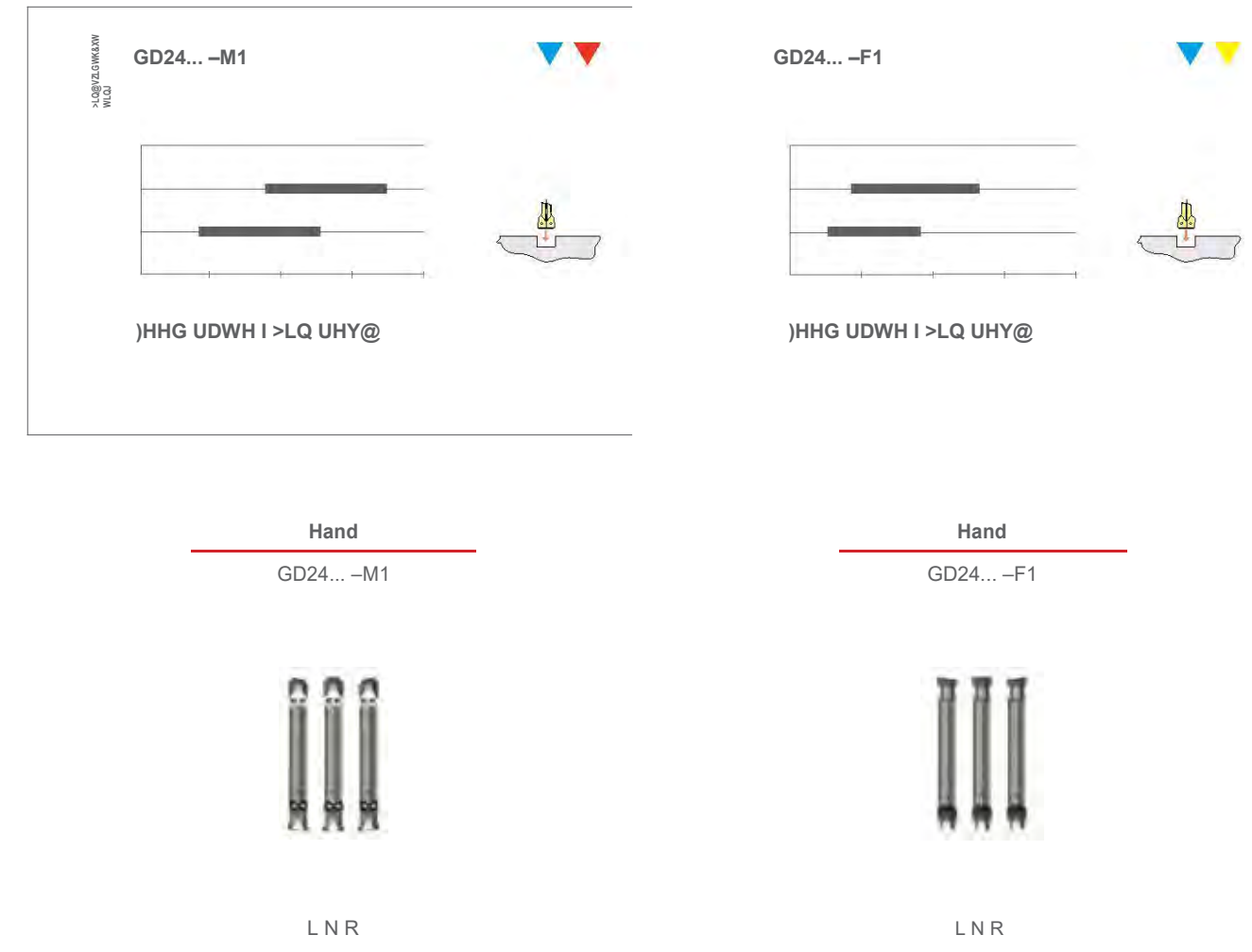
Spare parts



Blades, tools and spare parts, see page 52 – 58

Long size – Double sided

Feed rate for parting and grooving (GD24...30... –M1 / –F1)



Cutting data

Work piece			ICP1340	Coated carbide ICCP320ST	ICPP345
material	Type of treatment/alloy	Hardness HB	vc [sfm]	vc [sfm]	vc [sfm]
P	Steel	non alloyed steel 0.15% – 0.45% C	260 – 590	360 – 620	260 – 490
		low alloyed steel tempered	200 – 490	360 – 590	230 – 390
		high alloyed steel tempered	160 – 390	230 – 520	200 – 330
		corrosion resistant steel annealed	160 – 660	390 – 660	300 – 520
M	Stainless steel	annealed ferritic	160 – 660	390 – 660	330 – 590
		quenched austenitic	160 – 590	330 – 560	260 – 490
		quenched duplex	230 – 260	230 – 360	230 – 360
		hardened martensitic	160 – 260	200 – 300	200 – 300
K	Cast iron	grey cast iron	330 – 660	300 – 590	–
		spheroidal	330 – 590	330 – 520	–
		malleable ferritic	260 – 520	260 – 490	–

GD24...30... –M1 / –F1

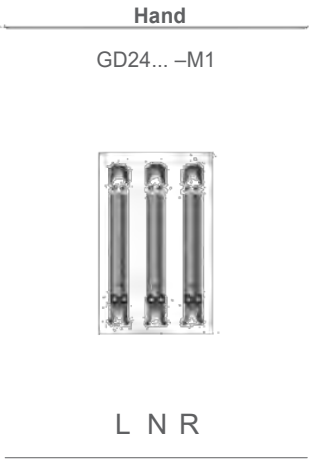
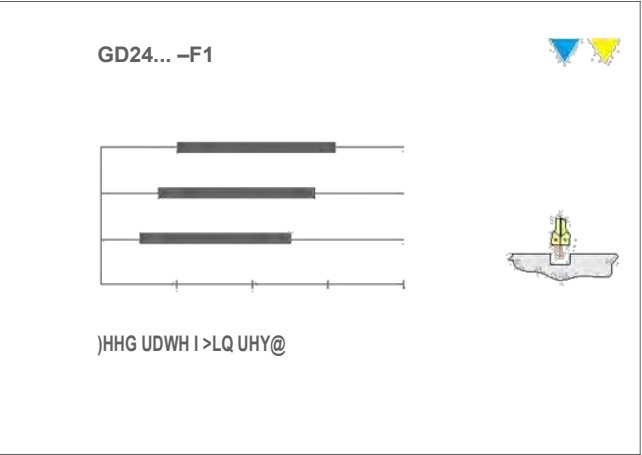
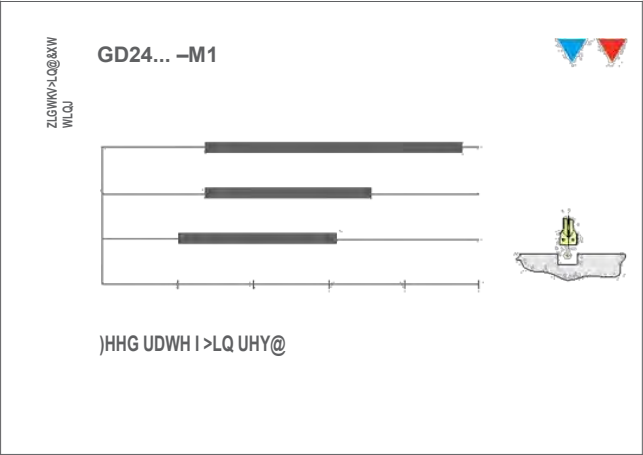
Insert	Designation	Chipbreaker	Available
	GD24LT-30.02-06-M1 ICCP320ST	... –M1	•
	GD24LT-30.02-06-M1 ICP1340		•
	GD24LT-30.02-06-M1 ICPP345		•
	GD24NT-30.02-00-M1 ICCP320ST		•
	GD24NT-30.02-00-M1 ICP1340		•
	GD24NT-30.02-00-M1 ICPP345		•
	GD24RT-30.02-06-M1 ICCP320ST	... –F1	•
	GD24RT-30.02-06-M1 ICP1340		•
	GD24RT-30.02-06-M1 ICPP345		•
	GD24LT-30.02-06-F1 ICCP320ST		•
	GD24LT-30.02-06-F1 ICP1340		•
	GD24LT-30.02-06-F1 ICPP345		•
	GD24NT-30.02-00-F1 ICCP320ST		•
	GD24NT-30.02-00-F1 ICP1340		•
	GD24NT-30.02-00-F1 ICPP345		•
	GD24RT-30.02-06-F1 ICCP320ST		•
	GD24RT-30.02-06-F1 ICP1340		•
	GD24RT-30.02-06-F1 ICPP345		•

Blades *	Tools	Spare parts
		

Blades, tools and spare parts, see page 52 – 58

Long size – Double sided

Feed rate for parting and grooving (GD24...40... –M1 / –F1)



Cutting data

Work piece			ICP1340	Coated carbide ICCP320ST	ICPP345
material	Type of treatment/ally	Hardness HB	vc [sfm]	vc [sfm]	vc [sfm]
P	Steel	non alloyed steel 0.15% – 0.45% C	260 – 590	360 – 620	260 – 490
		low alloyed steel tempered	200 – 490	360 – 590	230 – 390
		high alloyed steel tempered	350	230 – 520	200 – 330
		corrosion resistant steel annealed	160 – 660	390 – 660	300 – 520
M	Stain less steels	annealed ferritic	160 – 660	390 – 660	330 – 590
		quenched austenitic	180	330 – 560	260 – 490
		quenched duplex	230 – 260	230 – 360	230 – 360
		hardened martensitic	330	200 – 300	200 – 300
K	Cast iron	grey cast iron	330 – 660	300 – 590	–
		spheroidal	330 – 590	330 – 520	–
		malleable ferritic	260 – 520	260 – 490	–

GD24... 40... –M1 / –F1

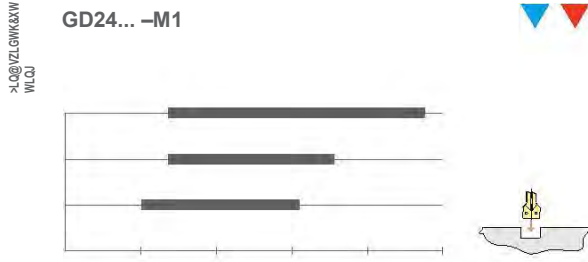
Insert	Designation	Chipbreaker	Available
	GD24LT-40.03-04-M1 ICCP320ST	... –M1	coming soon
	GD24LT-40.03-04-M1 ICP1340		coming soon
	GD24LT-40.03-04-M1 ICPP345		coming soon
	GD24NT-40.03-00-M1 ICCP320ST		•
	GD24NT-40.03-00-M1 ICP1340		•
	GD24NT-40.03-00-M1 ICPP345		•
	GD24RT-40.03-04-M1 ICCP320ST		coming soon
	GD24RT-40.03-04-M1 ICP1340		coming soon
	GD24RT-40.03-04-M1 ICPP345		coming soon
	GD24LT-40.03-04-F1 ICCP320ST	...–F1	coming soon
	GD24LT-40.03-04-F1 ICP1340		coming soon
	GD24LT-40.03-04-F1 ICPP345		coming soon
	GD24NT-40.03-00-F1 ICCP320ST		•
	GD24NT-40.03-00-F1 ICP1340		•
	GD24NT-40.03-00-F1 ICPP345		•
	GD24RT-40.03-04-F1 ICCP320ST		coming soon
	GD24RT-40.03-04-F1 ICP1340		coming soon
	GD24RT-40.03-04-F1 ICPP345		coming soon

Blades *	Tools	Spare parts
		

Blades, tools and spare parts, see page 52 – 58

Long size – Double sided
Feed rate for parting and grooving (GD24...50... –M1 / –F1)

GD24... –M1



)HHG UDWH I >LQ UHY@

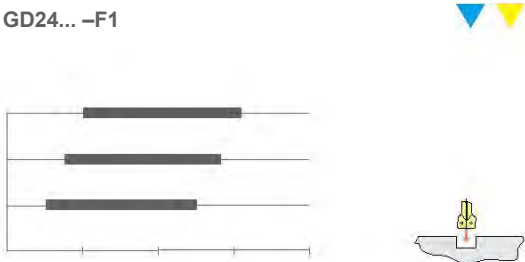
Hand

GD24... –M1



L N R

GD24... –F1



)HHG UDWH I >LQ UHY@

Hand

GD24... –F1



L N R

Cutting data

Work piece			ICP1340	Coated carbide ICCP320ST	ICPP345
material	Type of treatment/alloy	Hardness HB	v _c [sfm]	v _c [sfm]	v _c [sfm]
P	Steel	non alloyed steel 0.15% – 0.45% C	260 – 590	360 – 620	260 – 490
		low alloyed steel tempered	200 – 490	360 – 590	230 – 390
		high alloyed steel tempered	160 – 390	230 – 520	200 – 330
		corrosion resistant steel annealed	160 – 660	390 – 660	300 – 520
M	Stainless steel	annealed ferritic	160 – 660	390 – 660	330 – 590
		quenched austenitic	160 – 590	330 – 560	260 – 490
		quenched duplex	160 – 330	230 – 360	230 – 360
		hardened martensitic	160 – 260	200 – 300	200 – 300
K	Cast iron	grey cast iron	330 – 660	300 – 590	–
		spheroidal	330 – 590	330 – 520	–
		malleable ferritic	260 – 520	260 – 490	–

GD24...50... –M1 / –F1

Insert	Designation	Chipbreaker	Available
	GD24LT-50.04-04-M1 ICP1340		on request
	GD24NT-50.04-00-M1 ICCP320ST	... –M1	•
	GD24NT-50.04-00-M1 ICP1340		•
	GD24NT-50.04-00-M1 ICPP345		•
	GD24RT-50.04-04-M1 ICP1340		on request
	GD24LT-50.04-04-F1 ICP1340		on request
	GD24NT-50.04-00-F1 ICCP320ST	... –F1	•
	GD24NT-50.04-00-F1 ICP1340		•
	GD24NT-50.04-00-F1 ICPP345		•
	GD24RT-50.04-04-F1 ICP1340		on request

Blades *



Tools



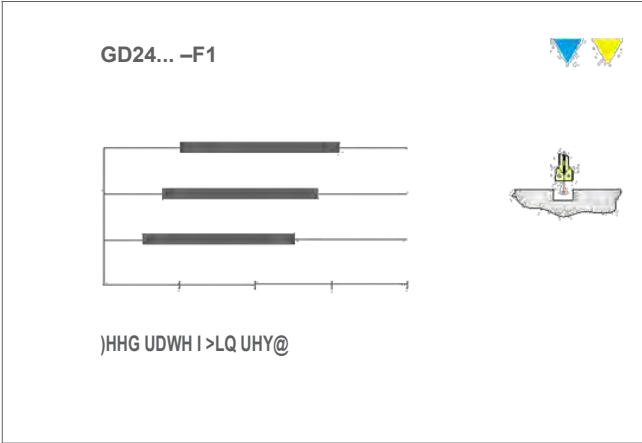
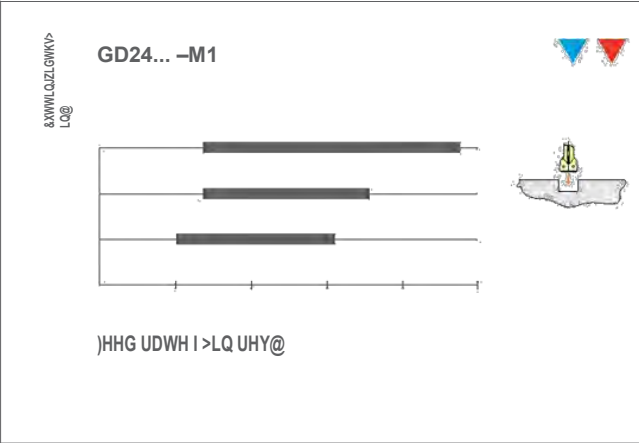
Spare parts



Blades, tools and spare parts, see page 52 – 58

Long size – Double sided

Feed rate for parting and grooving (GD24...60... –M1 / –F1)



Cutting data

Work piece			ICP1340	Coated carbide ICCP320ST	ICPP345
material	Type of treatment/ally	Hardness HB	v _c [sfm]	v _c [sfm]	v _c [sfm]
P	Steel	non alloyed steel 0.15% – 0.45% C	260 – 590	360 – 620	260 – 490
		low alloyed steel tempered	200 – 490	360 – 590	230 – 390
		high alloyed steel tempered	350	230 – 520	200 – 330
		corrosion resistant steel annealed	200	390 – 660	300 – 520
M	Steel	annealed ferritic	200	390 – 660	330 – 590
		quenched austenitic	180	330 – 560	260 – 490
		quenched duplex	230 – 260	230 – 360	230 – 360
		hardened martensitic	330	200 – 300	200 – 300
K	Cast iron	grey cast iron	180	300 – 590	–
		spheroidal	160	330 – 520	–
		malleable ferritic	130	260 – 490	–

GD24...60... –M1 / –F1

Insert	Designation	Chipbreaker	Available
	GD24NT-60.04-00-M1 ICP1340	... –M1	coming soon
	GD24NT-60.04-00-F1 ICP1340	... –F1	coming soon

Blades *	Tools	Spare parts
		

Blades, tools and spare parts, see page 52 – 58

Long size insert – Double sided GD... –ST1



Overview (GD... –ST1)

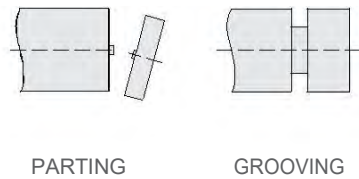
Which chipbreaker to use?

ST1 – Soft cutting chipbreaker

- ▲▲ Especially for stainless steel
- ▲▲ Problem solver for steel machining



Application –ST1



Premium grade

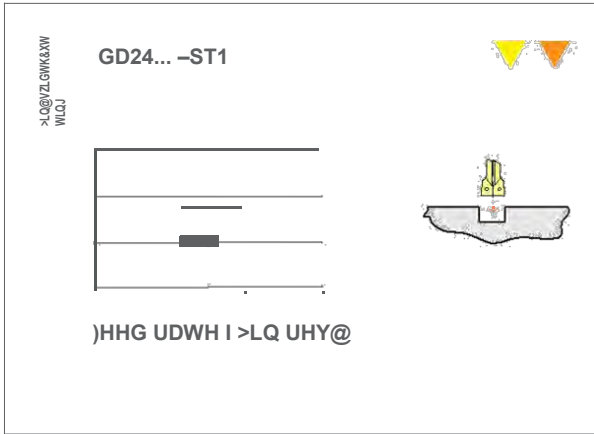
ICPP345:

- ▲▲ Ideal for stainless steel
- ▲▲ Excellent toughness
- ▲▲ Good wear resistance
- ▲▲ High application security

ICP1340:

- ▲▲ Excellent suitability for universal application
- ▲▲ High cutting edge stability

Long size – Double sided
Feed rate for parting and grooving (GD24... –ST1)



GD24...20... –ST1

Insert	Designation	Chipbreaker	Available
	GD24LT-20.015-06-ST1 ICCP320ST	... –ST1	•
	GD24LT-20.015-06-ST1 ICP1340		•
	GD24LT-20.015-06-ST1 ICPP345		•
	GD24NT-20.02-00-ST1 ICCP320ST		•
	GD24NT-20.02-00-ST1 ICP1340		•
	GD24NT-20.02-00-ST1 ICPP345		•
	GD24RT-20.015-06-ST1 ICCP320ST		•
	GD24RT-20.015-06-ST1 ICP1340		•
	GD24RT-20.015-06-ST1 ICPP345		•

GD24...30... –ST1

Insert	Designation	Chipbreaker	Available
	GD24LT-30.02-06-ST1 ICCP320ST	... –ST1	•
	GD24LT-30.02-06-ST1 ICP1340		•
	GD24LT-30.02-06-ST1 ICPP345		•
	GD24NT-30.02-00-ST1 ICCP320ST		•
	GD24NT-30.02-00-ST1 ICP1340		•
	GD24NT-30.02-00-ST1 ICPP345		•
	GD24RT-30.02-06-ST1 ICCP320ST		•
	GD24RT-30.02-06-ST1 ICP1340		•
	GD24RT-30.02-06-ST1 ICPP345		•

Blades *	Tools	Spare parts
		

Blades, tools and spare parts, see page 52 – 58

Long size – Double sided
Feed rate for parting and grooving (GD24... –ST1)

Hand

GD24... –ST1





Cutting data

Work piece			ICP1340	Coated carbide ICCP320ST	ICPP345
material	Type of treatment/alloy	Hardness HB	v _c [sfm]	v _c [sfm]	v _c [sfm]
M	annealed ferritic	200	160 – 660	390 – 660	330 – 590
	quenched austenitic	180	160 – 590	330 – 560	260 – 490
	quenched duplex	230 – 260	160 – 330	230 – 360	230 – 360
	hardened martensitic	330	160 – 260	200 – 300	200 – 300
S	Fe base	200	–	–	70 – 150
	Nickel or cobalt base	250	–	–	50 – 80
	Titanium	Rm 440	–	–	160 – 390

GD24...40... –ST1

Insert	Designation	Chipbreaker	Available
	GD24LT-40.03-04-ST1 ICCP320ST	... –ST1	coming soon
	GD24LT-40.03-04-ST1 ICP1340		coming soon
	GD24LT-40.03-04-ST1 ICPP345		coming soon
	GD24NT-40.04-00-ST1 ICCP320ST		•
	GD24NT-40.04-00-ST1 ICP1340		•
	GD24NT-40.04-00-ST1 ICPP345		•
	GD24RT-40.03-04-ST1 ICCP320ST		coming soon
	GD24RT-40.03-04-ST1 ICP1340		coming soon
	GD24RT-40.03-04-ST1 ICPP345		coming soon

GD24...50... –ST1

Insert	Designation	Chipbreaker	Available
	GD24NT-50.04-00-ST1 ICPP345	... –ST1	•
	GD24NT-50.04-00-ST1 ICP1340		•

GD24...60... –ST1

Insert	Designation	Chipbreaker	Available
	GD24NT-60.04-00-ST1 ICPP345	... –ST1	coming soon
	GD24NT-60.04-00-ST1 ICP1340		coming soon

Blades *	Tools	Spare parts
		

Blades, tools and spare parts, see page 52 – 58



Overview (GD... –T, GD... –M)

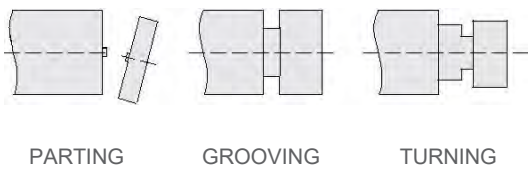
Which chipbreaker to use?

T – Grooving and Turning

- ▲▲ For grooving and turning
- ▲▲ Suitable for all steel and stainless steel materials
- ▲▲ Very good chip control



Application –T

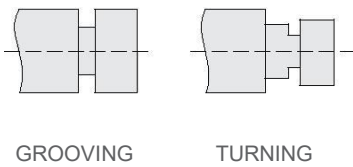


M – Radius grooves

- ▲▲ Insert for radius grooves
- ▲▲ For copy turning
- ▲▲ Suitable for all steel and cast iron materials



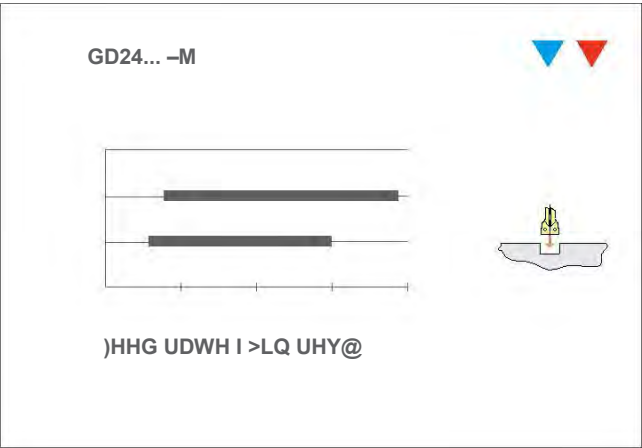
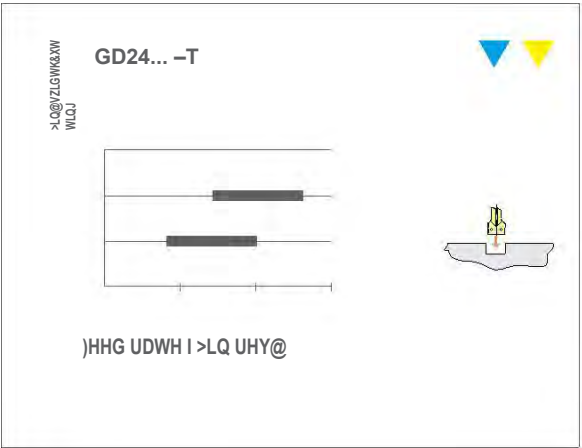
Application –M



Premium grade

- ICP1340:
- ▲▲ Excellent suitability for universal application
 - ▲▲ High cutting edge stability

Long size – Double sided
Feed rate for parting and grooving (GD24... –T / –M)



Cutting data

Work piece			ICP1340	Coated carbide ICCP320ST	ICPP345
material	Type of treatment/alloy	Hardness HB	v _c [sfm]	v _c [sfm]	v _c [sfm]
P	Steel	non alloyed steel 0.15% – 0.45% C	150 – 250	260 – 590	260 – 490
		low alloyed steel tempered	250 – 300	200 – 490	360 – 590
		high alloyed steel tempered	350	230 – 520	200 – 330
		corrosion resistant steel annealed	200	390 – 660	300 – 520
M	Steel stress rel.	annealed ferritic	200	330 – 560	260 – 490
		quenched austenitic	180	230 – 360	230 – 360
		quenched duplex	230 – 260	200 – 300	200 – 300
		hardened martensitic	330	330 – 590	–
K	Cast iron	grey cast iron	180	330 – 520	–
		spheroidal	160	260 – 490	–
		malleable ferritic	130		

GD24 20..... –T / –M

Insert	Designation	Chipbreaker	Available
	GD24LT-20.02-06-T ICCP320ST	... –T	•
	GD24LT-20.02-06-T ICP1340		•
	GD24LT-20.02-06-T ICPP345		•
	GD24NT-20.02-00-T ICCP320ST		•
	GD24NT-20.02-00-T ICP1340		•
	GD24NT-20.02-00-T ICPP345		•
	GD24RT-20.02-06-T ICCP320ST	... –M	•
	GD24RT-20.02-06-T ICP1340		•
	GD24RT-20.02-06-T ICPP345		•
	GD24NR-20.00-00-M ICCP320ST		•
	GD24NR-20.00-00-M ICP1340		•
	GD24NR-20.00-00-M ICPP345		•

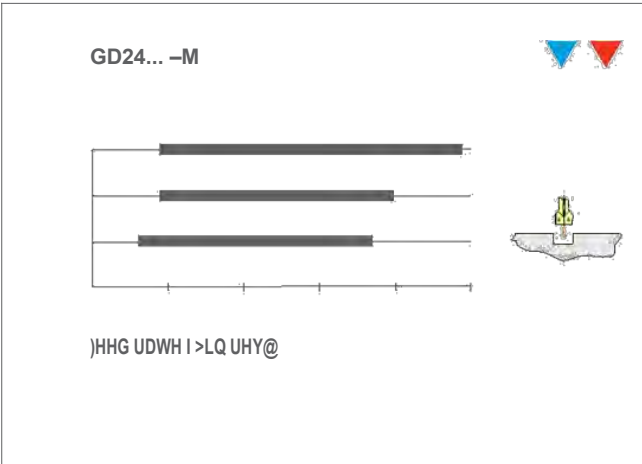
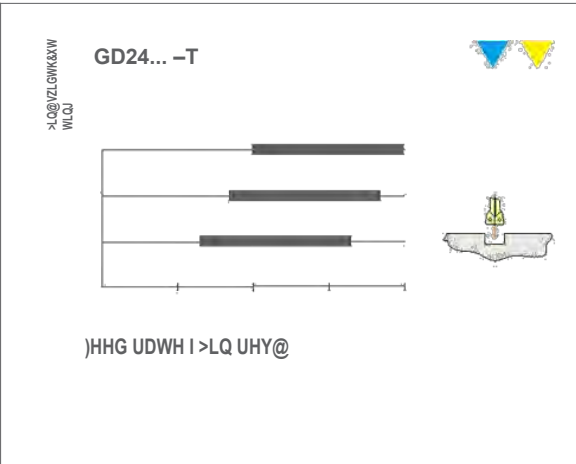
GD24...30... –T / –M

Insert	Designation	Chipbreaker	Available
	GD24LT-30.02-06-T ICCP320ST	... –T	•
	GD24LT-30.02-06-T ICP1340		•
	GD24LT-30.02-06-T ICPP345		•
	GD24NT-30.03-00-T ICCP320ST		•
	GD24NT-30.03-00-T ICP1340		•
	GD24NT-30.03-00-T ICPP345		•
	GD24RT-30.02-06-T ICCP320ST	... –M	•
	GD24RT-30.02-06-T ICP1340		•
	GD24RT-30.02-06-T ICPP345		•
	GD24NR-30.00-00-M ICCP320ST		•
	GD24NR-30.00-00-M ICP1340		•
	GD24NR-30.00-00-M ICPP345		•

Blades, tools and spare parts, see page 52 – 58

Long size – Double sided

Feed rate for parting and grooving (GD24... –T / –M)



Cutting data

Work piece			ICP1340	Coated carbide ICCP320ST	ICPP345
material	Type of treatment/alloy	Hardness HB	vc [sfm]	vc [sfm]	vc [sfm]
P	Steel	non alloyed steel 0.15% – 0.45% C	260 – 590	360 – 620	260 – 490
		low alloyed steel tempered	200 – 490	360 – 590	230 – 390
		high alloyed steel tempered	350	230 – 520	200 – 330
		corrosion resistant steel annealed	160 – 660	390 – 660	300 – 520
M	Steel	annealed ferritic	160 – 660	390 – 660	330 – 590
		quenched austenitic	180	330 – 560	260 – 490
		quenched duplex	230 – 260	230 – 360	230 – 360
		hardened martensitic	330	200 – 300	200 – 300
K	Cast iron	grey cast iron	330 – 660	300 – 590	–
		spheroidal	330 – 590	330 – 520	–
		malleable ferritic	260 – 520	260 – 490	–

GD24...40... –T / –M

Insert	Designation	Chipbreaker	Available
	GD24NT-40.04-00-T ICCP320ST		•
	GD24NT-40.04-00-T ICP1340	... –T	•
	GD24NT-40.04-00-T ICPP345		•
	GD24NR-40.00-00-M ICCP320ST		•
	GD24NR-40.00-00-M ICP1340	... –M	•
	GD24NR-40.00-00-M ICPP345		•

GD24...50... –T / –M

Insert	Designation	Chipbreaker	Available
	GD24NT-50.04-00-T ICP1340	... –T	•
	GD24NR-50.00-00-M ICP1340	... –M	•

GD24...60... –T / –M

Insert	Designation	Chipbreaker	Available
	GD24NT-60.04-00-T ICP1340	... –T	coming soon
	GD24NR-60.00-00-M ICP1340	... –M	coming soon

Blades, tools and spare parts, see page 52 – 58

Available range blades
GD24



Available range blades GD24

Blades / Spare parts GD24

Blades		Designation	Tmax [in]	Available
 	GD24... 20	GBL-2602-GO2402	0.827	•
		GBL-3202-GO2402	0.827	•
		GBR-2602-GO2402	0.827	•
		GBR-3202-GO2402	0.827	•
	GD24... 30	GBN-2603-GO2403	0.827	•
		GBN-3203-GO2403	0.827	•
	GD24... 40	GBN-2604-GO2404	0.827	•
		GBN-3204-GO2404	0.827	•
	GD24... 50	GBN-2605-GO2405	0.827	coming soon
		GBN-3205-GO2405	0.827	coming soon

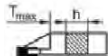
Spare parts *	Designation
	GK-3 (for the blades of 2 and 3 mm width)
	GK-4 (for the blades of 4, 5 and 6 mm width)

* How to use the system? Page 113

Available range tool holders GD24



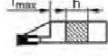
Available range tool holders GD24...20...

Tool					Designation	Available
		Tmax	h			
	GD24...20...	.512	050	L	GMEL-050-GD2402-C-T13	
				R	GMER-050-GD2402-C-T13	
			0625	L	GMEL-0625-GD2402-C-T13	
				R	GMER-0625-GD2402-C-T13	
			0750	L	GMEL-0750-GD2402-C-T13	
				R	GMER-0750-GD2402-C-T13	

Spare parts	Designation	Available
	Key T15	•
	Key T20	•
	M3.5X14,0/T15 (for h=050)	•
	M4.0X16/T20 (for h=0650)	•
	M4.0X18/T20 (for h=0750)	•

* How to use the system? Page 113

Available range tool holders GD24...30...

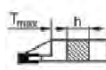
Tool					Designation	Material number	Available
		Tmax	h				
	GD24... 30.0...	0.512	050	L	GMEL-050-GD2403-C-T13		
				R	GMER-050-GD2403-C-T13		
			0625	L	GMEL-0625-GD2403-C-T13		
				R	GMER-0625-GD2403-C-T13		
			0750	L	GMEL-0750-GD2403-C-T13		
				R	GMER-0750-GD2403-C-T13		
			100	L	GMEL-100-GD2403-C-T13		
				R	GMER-100-GD2403-C-T13		
		1	0625	L	GMEL-0625-GD2403-C-T25		
				R	GMER-0625-GD2403-C-T25		
			0750	L	GMEL-0750-GD2403-C-T25		
				R	GMER-0750-GD2403-C-T25		
			100	L	GMEL-100-GD2403-C-T25		
				R	GMER-100-GD2403-C-T25		

Spare parts	Designation	Available
	Key T15	•
	Key T20	•
	M3.5X14.0/T15 (for h=050)	•
	M4.0X16/T20 (for h=0625)	•
	M4.0X18/T20 (for h=0750/100)	•

* How to use the system? Page 113

GD24... 40/50/60



Tool			Tmax	h	Designation	Available			
	GD24...40.0...		1	0625	L	GMEL-0625-GD2404-C-T25			
					R	GMER-0625-GD2404-C-T25			
				0750	L	GMEL-0750-GD2404-C-T25			
					R	GMER-0750GD2404-C-T25			
				100	L	GMEL-100-GD2404-C-T25			
					R	GMER-100-GD2404-C-T25			
	GD24...50.0...			0750	L	GMEL-0750-GD2405-C-T25			
					R	GMER-0750-GD2405-C-T25			
				100	L	GMEL-100-GD2405-C-T25			
					R	GMER-100-GD2405-C-T25			
	GD24...60.0...			0750	L	GMEL-0750-GD2406-C-T25			
					R	GMER-0750-GD2406-C-T25			
				100	L	GMEL-100-GD2406-C-T25			
					R	GMER-100-GD2406-C-T25			

Spare parts	Designation	Available
	Key T20	•
	M4.0X16 T20 (for h=0625)	•
	M4.0X18/T20 (for h=0750/100)	•
	Key SW5 (50.0 + 60.0)	•
	M6.0X20 (50.0 + 60.0)	•

Long size insert – Single sided



Overview

Long size insert – Single sided

The benefit of **GO-24 system**, is the possibility to groove past the length of the insert **without damaging the surface finish!**



Excellent surface finish

Long size insert – Single sided GO... –M1, GO... –F1



Overview (GO... –M1, GO... –F1)

Which chipbreaker to use? M1 – Medium cutting chipbreaker

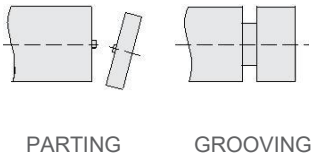
- ▲ Single side insert with narrow negative chamfer
- ▲ Suitable for all steel materials with high strength
- ▲ Suitable for all applications
- ▲ For steel and grey cast iron
- ▲ Good stability for deep grooving



Application –M1



Application –F1



F1 – Very soft cutting chipbreaker

- ▲ Excellent cutting chipbreaker with low cutting forces
- ▲ For low or medium strength materials
- ▲ Particularly suitable for parting off tubes and thin-walled work pieces
- ▲ High cutting edge stability
- ▲ Excellent chip control also with low feed
- ▲ Low built up edge



Premium grade

ICP1340:

- ▲ Excellent suitability for universal application
- ▲ High cutting edge stability

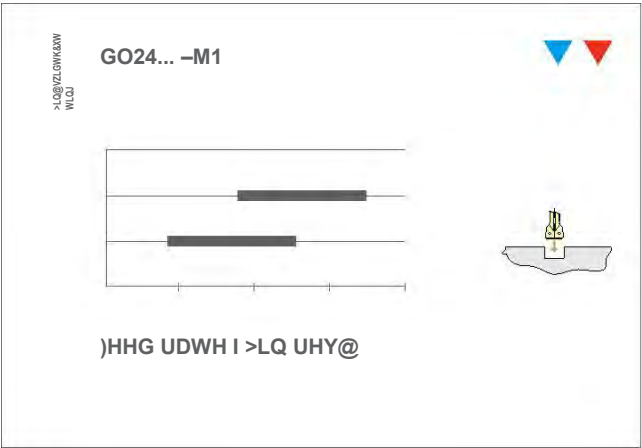
ICCP320ST:

- ▲ Excellent wear resistance
- ▲ Good resistance to oxidation
- ▲ High toughness
- ▲ Good heat resistance

ICPP345:

- ▲ Ideal for stainless steel
- ▲ Excellent toughness
- ▲ Good wear resistance
- ▲ High application security

Long size – Single sided Feed rate for parting and grooving (GO24... –M1 / –F1)



Cutting data

Work piece			ICP1340	Coated carbide ICCP320ST	ICPP345
material	Type of treatment/alloy	Hardness HB	v _c [sfm]	v _c [sfm]	v _c [sfm]
P	Steel	non alloyed steel 0.15% – 0.45% C	260 – 590	360 – 620	260 – 490
		low alloyed steel tempered	200 – 490	360 – 590	230 – 390
		high alloyed steel tempered	160 – 390	230 – 520	200 – 330
		corrosion resistant steel annealed	160 – 660	390 – 660	300 – 520
M	Stain less steel	annealed ferritic	160 – 660	390 – 660	330 – 590
		quenched austenitic	160 – 590	330 – 560	260 – 490
		quenched duplex	160 – 330	230 – 360	230 – 360
		hardened martensitic	160 – 260	200 – 300	200 – 300
K	Cast iron	grey cast iron	330 – 660	300 – 590	–
		spheroidal	330 – 590	330 – 520	–
		malleable ferritic	260 – 520	260 – 490	–

GO24...20... –M1 / –F1

Insert	Designation	Chipbreaker	Available
	GO24NT-20.02-00-M1 ICCP320ST		•
	GO24NT-20.02-00-M1 ICP1340	... –M1	•
	GO24NT-20.02-00-M1 ICPP345		•
	GO24NT-20.02-00-F1 ICCP320ST		•
	GO24NT-20.02-00-F1 ICP1340	... –F1	•
	GO24NT-20.02-00-F1 ICPP345		•

Blades	Designation	Tmax [in]	Available
	GBL-2602-GO2402	1	•
	GBR-2602-GO2402	1	•
	GBL-3202-GO2402	1	•
	GBR-3202-GO2402	1	•

Spare parts *	Designation
	GK-3 (for the blades of 2 and 3 mm width)

* How to use the system? Page 113

GO24...30... –M1 / –F1

Insert	Designation	Chipbreaker	Available
	GO24NT-30.02-00-M1 ICCP320ST		•
	GO24NT-30.02-00-M1 ICP1340	... –M1	•
	GO24NT-30.02-00-M1 ICPP345		•
	GO24NT-30.02-00-F1 ICCP320ST		•
	GO24NT-30.02-00-F1 ICP1340	... –F1	•
	GO24NT-30.02-00-F1 ICPP345		•

Blades	Designation	Tmax [in]	Available
	GBN-2603-GO2403	1.38	•
	GBN-3203-GO2403	1.97	•

Spare parts *	Designation
	GK-3 (for the blades of 2 and 3 mm width)

* How to use the system? Page 113

GO24 40..... –M1 / –F1

Insert	Designation	Chipbreaker	Available
	GO24NT-40.03-00-M1 ICCP320ST		•
	GO24NT-40.03-00-M1 ICP1340	... –M1	•
	GO24NT-40.03-00-M1 ICPP345		•
	GO24NT-40.03-00-F1 ICCP320ST		•
	GO24NT-40.03-00-F1 ICP1340	... –F1	•
	GO24NT-40.03-00-F1 ICPP345		•

Blades	Designation	Tmax [in]	Available
	GBN-2604-GO2404	1.57	•
	GBN-3204-GO2404	1.97	•

Spare parts *	Designation
	GK-4 (for the blades of 4, 5 and 6 mm width)

* How to use the system? Page 113

Overview (GO... –ST1, GO... –T)

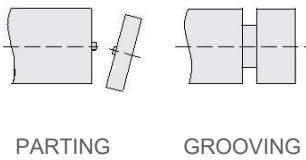
Which chipbreaker to use?

ST1 – Soft cutting chipbreaker

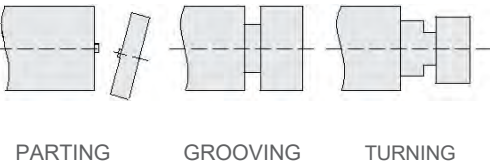
- ▲▲ Especially for stainless steel
- ▲▲ Problem solver for steel machining



Application –ST1



Application –T



T – Grooving and Turning

- ▲▲ For grooving and turning
- ▲▲ Suitable for all steel and stainless steel materials
- ▲▲ Very good chip control



Premium grade

ICPP345:

- ▲▲ Ideal for stainless steel
- ▲▲ Excellent toughness
- ▲▲ Good wear resistance

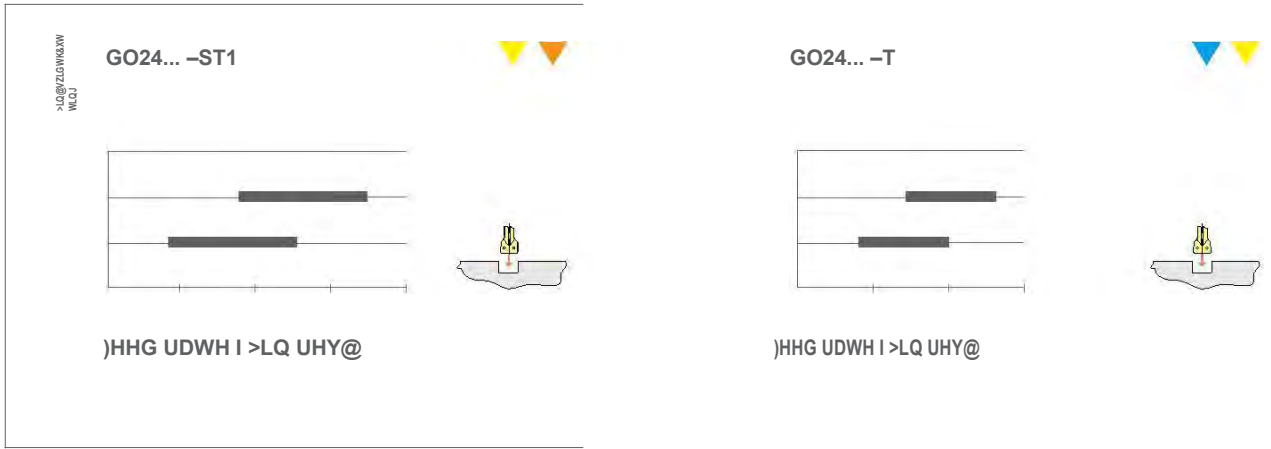
- ▲▲ High application security

ICP1340:

- ▲▲ Excellent suitability for universal application
- ▲▲ High cutting edge stability

Long size – Single sided

Feed rate for parting and grooving (GO24... –ST1 / T)



Cutting data

Work piece			ICP1340	Coated carbide ICCP320ST	ICPP345
material	Type of treatment/alloy	Hardness HB	v _c [sfm]	v _c [sfm]	v _c [sfm]
P	Steel	non alloyed steel 0.15% – 0.45% C	260 – 590	360 – 620	260 – 490
		low alloyed steel tempered	200 – 490	360 – 590	230 – 390
		high alloyed steel tempered	160 – 390	230 – 520	200 – 330
		corrosion resistant steel annealed	160 – 660	390 – 660	300 – 520
M	Stainless steel	annealed ferritic	160 – 660	390 – 660	330 – 590
		quenched austenitic	160 – 590	330 – 560	260 – 490
		quenched duplex	160 – 330	230 – 360	230 – 360
		hardened martensitic	160 – 260	200 – 300	200 – 300
K	Cast iron	grey cast iron	330 – 660	300 – 590	–
		spheroidal	330 – 590	330 – 520	–
		malleable ferritic	260 – 520	260 – 490	–

GO24...20... –ST1 / T

Insert	Designation	Chipbreaker	Available
	GO24NT-20.02-00-ST1 ICP320ST		•
	GO24NT-20.02-00-ST1 ICP1340	... –ST1	•
	GO24NT-20.02-00-ST1 ICPP345		•
	GO24NT-20.02-00-T ICP320ST		•
	GO24NT-20.02-00-T ICP1340	... –T	•
	GO24NT-20.02-00-T ICPP345		•

Blades	Designation	Tmax [in]	Available
	GBL-2602-GO2402	1	•
	GBR-2602-GO2402	1	•
	GBL-3202-GO2402	1	•
	GBR-3202-GO2402	1	•

Spare parts *	Designation
	GK-3 (for the blades of 2 and 3 mm width)

* How to use the system? Page 113

GO24...30... –ST1 / T

Insert	Designation	Chipbreaker	Available
	GO24NT-30.03-00-ST1 ICCP320ST	... –ST1	on request
	GO24NT-30.03-00-ST1 ICP1340		coming soon
	GO24NT-30.03-00-ST1 ICPP345		on request
	GO24NT-30.03-00-T ICCP320ST	... –T	on request
	GO24NT-30.03-00-T ICP1340		coming soon
	GO24NT-30.03-00-T ICPP345		on request

Blades	Designation	Tmax [in]	Available
	GBN-2603-GO2403	1.38	•
	GBN-3203-GO2403	1.97	•

Spare parts *	Designation
	GK-3 (for the blades of 2 and 3 mm width)

* How to use the system? Page 113

GO24...40... –ST1 / T

Insert	Designation	Chipbreaker	Available
	GO24NT-40.04-00-ST1 ICCP320ST	...– ST1	on request
	GO24NT-40.04-00-ST1 ICP1340		coming soon
	GO24NT-40.04-00-ST1 ICPP345		on request
	GO24NT-40.04-00-T ICCP320ST	... –T	on request
	GO24NT-40.04-00-T ICP1340		coming soon
	GO24NT-40.04-00-T ICPP345		on request

Blades	Designation	Tmax [in]	Available
	GBN-2604-GO2404	1.38	•
	GBN-3204-GO2404	1.97	•

Spare parts *	Designation
	GK-3 (for the blades of 2 and 3 mm width)

* How to use the system? Page 113

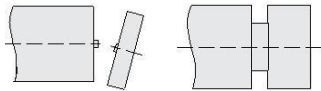
Overview (GO... –LM)

LM – First choice in case of aluminum and non ferrous metals

- ▲▲ Insert with highly positive cutting chipbreaker and sharp cutting edge
- ▲▲ Extra-smooth rake face through PARTING GROOVING “microfinish”
- ▲▲ Reduced built-up edge



Application –LM

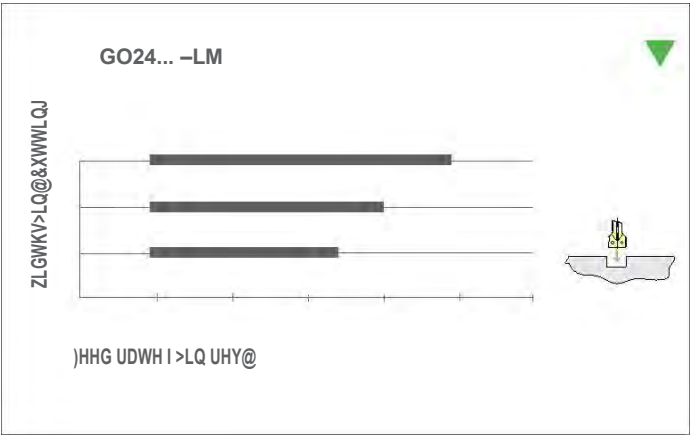


Premium grade

H216T:

- ▲▲ Optimal suitable for aluminum
- ▲▲ High wear resistance
- ▲▲ High heat resistance
- ▲▲ Low tendency to adhesion

Long size – Single sided
Feed rate for parting and grooving (GO24... –LM)



Hand
GO24... –LM



N

Cutting data

Work piece material			Uncoated carbide H216T
Type of treatment/alloy			vc [sfm]
Non ferrous	Aluminum wrought alloys	100	660 – 6560
	Aluminum cast alloys < 12% Si	90	1310 – 4920
	Copper alloys (bronze)	90	660 – 1970

GO24... 20... –LM

Insert	Designation	Chipbreaker	Available
	GO24NT-20.02-00-LM H216T	... –LM	•

Blades	Designation	Tmax [in]	Available
	GBL-2602-GO2402	1	•
	GBR-2602-GO2402	1	•
	GBL-3202-GO2402	1	•
	GBR-3202-GO2402	1	•

Spare parts *	Designation
	GK-3 (for the blades of 2 and 3 mm width)

GO24...30... –LM

Insert	Designation	Chipbreaker	Available
	GO24NT-30.03-00-LM H216T	... –LM	•

Blades	Designation	Tmax [in]	Available
	GBN-2603-GO2403	1.38	•
	GBN-3203-GO2403	1.97	•

Spare parts *	Designation
	GK-3 (for the blades of 2 and 3 mm width)

* How to use the system? Page 113

GO24... 40... –LM

Insert	Designation	Chipbreaker	Available
	GO24NT-40.04-00-LM H216T	... –LM	•

Blades	Designation	Tmax [in]	Available
	GBN-2604-GO2404	1.57	•
	GBN-3204-GO2404	1.97	•

Spare parts *	Designation
	GK-4 (for the blades of 4, 5 and 6 mm width)

* How to use the system? Page 113

Small size insert – Single
sided GS... –M1



Overview (GS... –M1)

Which chipbreaker to use?

M1 – First choice for part-off on steel and cast iron

- ▲▲ Insert with narrow negative chamfer
- ▲▲ Suitable for all steel materials with high strength
- ▲▲ Suitable for all applications
- ▲▲ For steel and grey cast iron



Premium grade

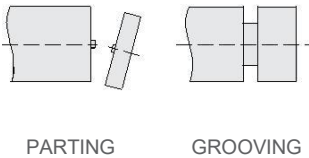
ICCP320ST:

- ▲▲ Excellent wear resistance
- ▲▲ Good resistance to oxidation
- ▲▲ High toughness
- ▲▲ Good heat resistance

ICPP345:

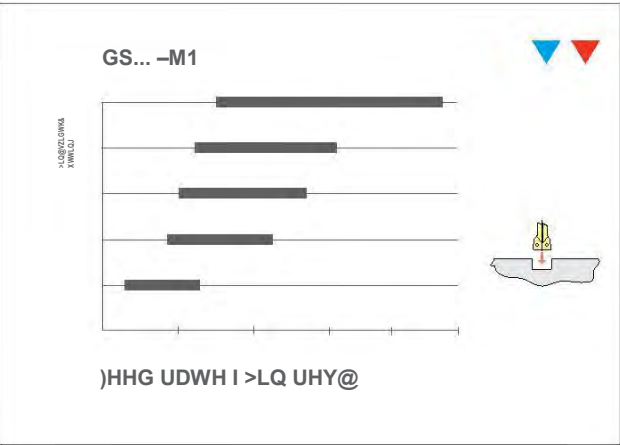
- ▲▲ Ideal for stainless steel
- ▲▲ Excellent toughness
- ▲▲ Good wear resistance
- ▲▲ High application security

Application –M1



Small size – Single sided

Feed rate for parting and grooving (GS... –M1)



Cutting data

Work piece			Coated carbide		
material	Type of treatment/alloy	Hardness HB	ICP1340 v _c [sfm]	ICCP320ST v _c [sfm]	ICPP345 v _c [sfm]
P	Steel	non alloyed steel 0.15% – 0.45% C	260 – 590	360 – 620	260 – 490
		low alloyed steel tempered	200 – 490	360 – 590	230 – 390
		high alloyed steel tempered	160 – 390	230 – 520	200 – 330
		corrosion resistant steel annealed	160 – 660	390 – 660	300 – 520
K	Cast iron	grey cast iron	330 – 660	300 – 590	–
		spheroidal	330 – 590	330 – 520	–
		malleable ferritic	260 – 520	260 – 490	–

GS... 20... –M1

Insert	Designation	Chipbreaker	Available
	GSNT-20.02-00-M1 ICCP320ST		•
	GSNT-20.02-00-M1 ICPP345	... –M1	•
	GSNT-20.02-00-M1 ICP1340		•

Blades	Designation	Tmax [in]	Available
	GBR-2602-GS02	1	•
	GBL-2602-GS02	1	•
	GBR-3202-GS02	1	•
	GBL-3202-GS02	1	•

Spare parts *	Designation
	GK-3 (for the blades of 2 and 3 mm width)

* How to use the system? Page 113

GS 30..... –M1

Insert	Designation	Chipbreaker	Available
	GSNT-30.02-00-M1 ICCP320ST		•
	GSNT-30.02-00-M1 ICPP345	... –M1	•
	GSNT-30.02-00-M1 IC1340		•

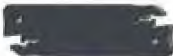
Blades	Designation	Tmax [in]	Available
	GBN-2603-GS03	1.38	•
	GBN-3203-GS03	1.97	•

Spare parts *	Designation
	GK-3 (for the blades of 2 and 3 mm width)

* How to use the system? Page 113

GS... 40...-M1

Insert	Designation	Chipbreaker	Available
	GSNT-40.03-00-M1 ICCP320ST		•
	GSNT-40.03-00-M1 ICPP345	... -M1	•
	GSNT-40.03-00-M1 ICP1340		•

Blades	Designation	Tmax [in]	Available
	GBN-2604-GS04	1.57	•
	GBN-3204-GS04	1.97	•

Spare parts *	Designation
	GK-4 (for the blades of 4, 5 and 6 mm width)

* How to use the system? Page 113

GS 50.....-M1

Insert	Designation	Chipbreaker	Available
	GSNT-50.03-00-M1 ICCP320ST		•
	GSNT-50.03-00-M1 ICPP345	... -M1	•
	GSNT-50.03-00-M1 ICP1340		•

Blades	Designation	Tmax [in]	Available
	GBN-3205-GS05	2.16	•

Spare parts *	Designation	Available
	GK-4 (for the blades of 4, 5 and 6 mm width)	•

Monobloc	Designation	Tmax [in]	Available
	GMEL-100-GS05-C-T25	1	
	GMER-100-GS05-C-T25	1	

Spare parts	Designation	Available
	Key T20	•
	M4.0X18/T20 (for h=0750)	•

GS...60... –M1

Insert	Designation	Chipbreaker	Available
	GSNT-60.04-00-M1 ICCP320ST		•
	GSNT-60.04-00-M1 ICPP345	... –M1	•
	GSNT-60.04-00-M1 ICP1340		•

Blades	Designation	Tmax [in]	Available
	GBN-3206-GS06	2.36	•

Spare parts *	Designation	Available
	GK-4 (for the blades of 4, 5 and 6 mm width)	•

Monobloc	Designation	Tmax [in]	Available
	GMEL-100-GS06-C-T32	1.26	
	GMER-100-GS06-C-T32	1.26	

Spare parts *	Designation	Available
	Key T20	•
	M4.0X18/T20 (for h=0750)	•

* How to use the system? Page 113

Small size insert – Single sided GS... –M2



Overview (GS... –M2)

Which chipbreaker to use?

M2 – First choice in case of varying materials

- ▲▲ For grooving and turning
- ▲▲ Suitable for all steel and cast iron materials
- ▲▲ Very good chip control



Premium grade

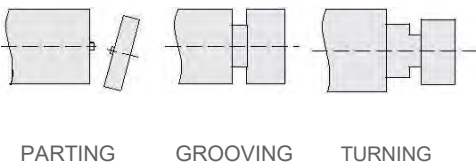
ICCP320ST:

- ▲▲ Excellent wear resistance
- ▲▲ Good resistance to oxidation
- ▲▲ High toughness
- ▲▲ Good heat resistance

ICPP345:

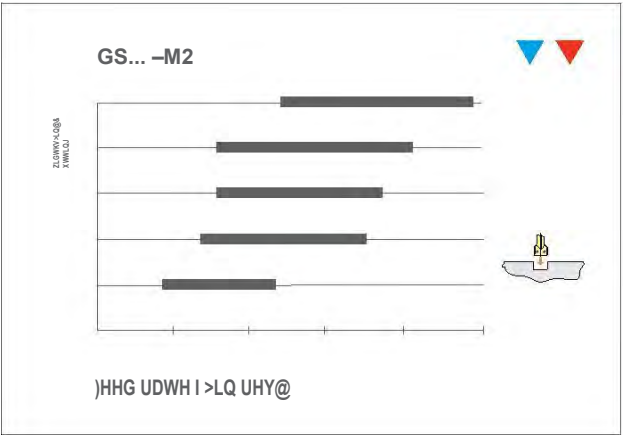
- ▲▲ Ideal for stainless steel
- ▲▲ Excellent toughness
- ▲▲ Good wear resistance
- ▲▲ High application security

Application –M2



Small size – Single sided

Feed rate for parting and grooving (GS... –M2)



Cutting data

Work piece			ICP1340	Coated carbide ICCP320ST	ICPP345
material	Type of treatment/alloy	Hardness HB	v _c [sfm]	v _c [sfm]	v _c [sfm]
P	Steel	non alloyed steel 0.15% – 0.45% C	150 – 250	260 – 590	360 – 620
		low alloyed steel tempered	250 – 300	200 – 490	360 – 590
		high alloyed steel tempered	350	160 – 390	230 – 520
		corrosion resistant steel annealed	200	160 – 660	390 – 660
K	Cast iron	grey cast iron	180	330 – 660	300 – 590
		spheroidal	160	330 – 590	330 – 520
		malleable ferritic	130	260 – 520	260 – 490

GS... 20... –M2

Insert	Designation	Chipbreaker	Available
	GSNT-20.02-00-M2 ICCP320ST		•
	GSNT-20.02-00-M2 ICPP345	... –M2	•
	GSNT-20.02-00-M2 ICP1340		•

Blades	Designation	Tmax [in]	Available
	GBR-2602-GS02	1	•
	GBL-2602-GS02	1	•
	GBR-3202-GS02	1	•
	GBL-3202-GS02	1	•

Spare parts *	Designation
	GK-3 (for the blades of 2 and 3 mm width)

* How to use the system? Page 113

GS 30..... –M2

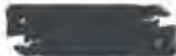
Insert	Designation	Chipbreaker	Available
	GSNT-30.03-00-M2 ICCP320ST		•
	GSNT-30.03-00-M2 ICPP345	... –M2	•
	GSNT-30.03-00-M2 ICP1340		•

Blades	Designation	Tmax [in]	Available
	GBN-2603-GS03	1.38	•
	GBN-3203-GS03	1.97	•

Spare parts *	Designation
	GK-3 (for the blades of 2 and 3 mm width)

* How to use the system? Page 113

GS... 40... –M2

Insert	Designation	Chipbreaker	Available
	GSNT-40.04-00-M2 ICCP320ST	... –M2	•
	GSNT-40.04-00-M2 ICPP345		•
	GSNT-40.04-00-M2 ICP1340		•
Blades	Designation	Tmax [in]	Available
	GBN-2604-GS04	1.57	•
	GBN-3204-GS04	1.97	•
Spare parts *	Designation		
	GK-4 (for the blades of 4, 5 and 6 mm width)		

* How to use the system? Page 113

Insert	Designation	Chipbreaker	Available
	GSNT-50.04-00-M2 ICCP320ST	... –M2	•
	GSNT-50.04-00-M2 ICPP345		•
	GSNT-50.04-00-M2 ICP1340		•
Blades	Designation	Tmax [in]	Available
	GBN-3205-GS05	2.16	•
Spare parts *	Designation	Available	
	GK-4 (for the blades of 4, 5 and 6 mm width)	•	
Monobloc	Designation	Tmax [in]	Available
	GMEL-100-GS05-C-T25	1	
	GMER-100-GS05-C-T25	1	
Spare parts	Designation	Available	
	Key T20 M4.0X18/T20	•	
GS...50... –M2		(for h=0750/100)	

* How to use the system? Page 113

GS... 60... –M2

Insert	Designation	Chipbreaker	Available
	GSNT-60.05-00-M2 ICCP320ST		•
	GSNT-60.05-00-M2 ICPP345	... –M2	•
	GSNT-60.05-00-M2 ICP1340		•

Blades	Designation	Tmax [in]	Available
	GBN-3206-GS06	2.36	•

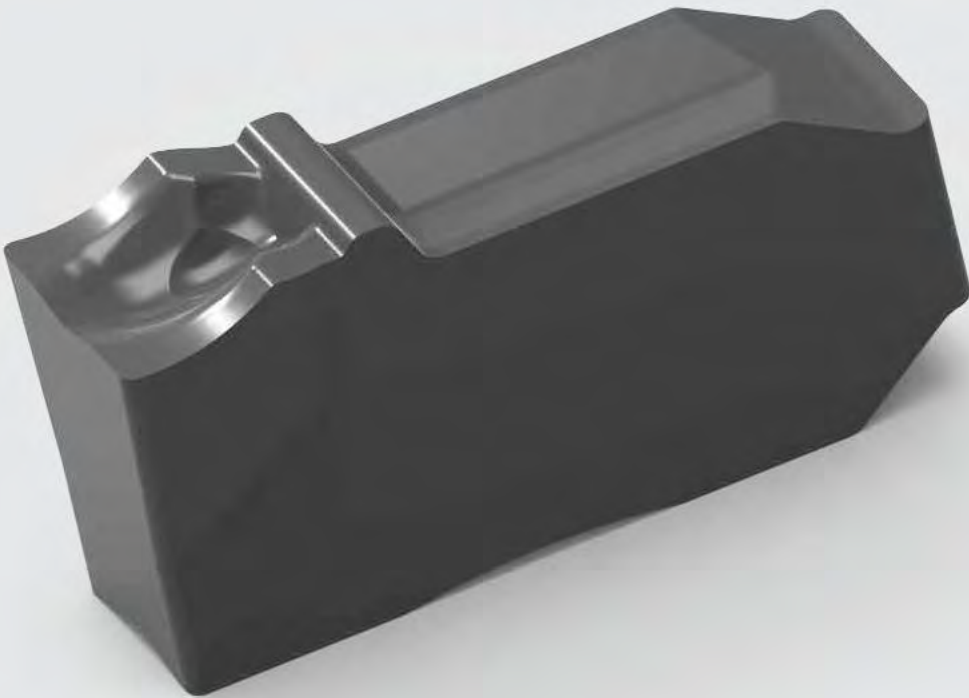
Spare parts	Designation	Available
	GK-4 (for the blades of 4, 5 and 6 mm width)	•

Monobloc	Designation	Tmax [in]	Available
	GMEL-100-GS06-C-T32	1.26	
	GMER-100-GS06-C-T32	1.26	

Spare parts	Designation	Available
	Key T20	•
	M4.0X18/T20 (for h=0750)	•

* How to use the system? Page 113

Small size insert – Single sided GS... –ST1



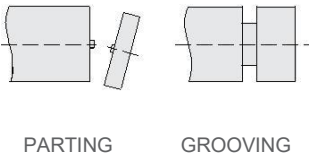
Overview (GS... –ST1)

Which chipbreaker to use?
ST1 – Soft cutting chipbreaker

- ▲▲ Especially for stainless steel
- ▲▲ Problem solver for steel machining



Application –ST1



Premium grade

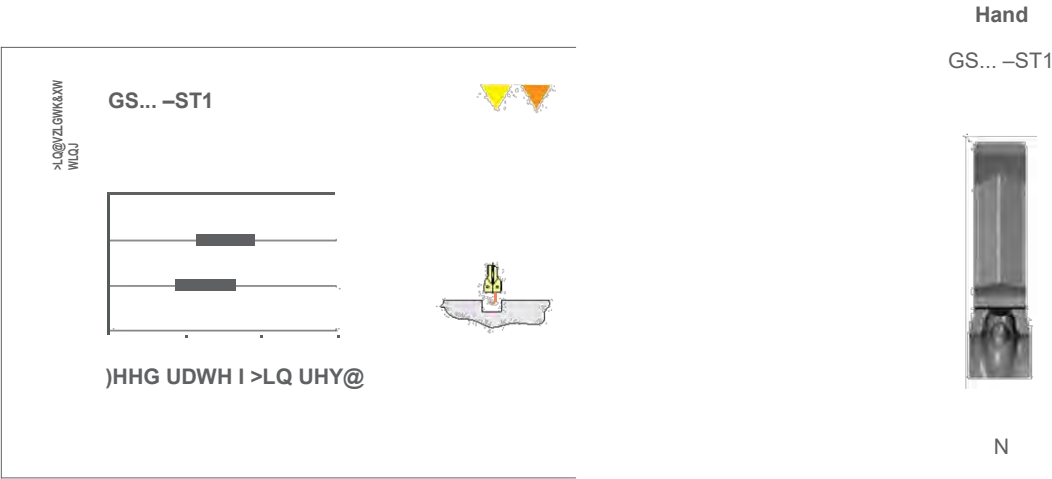
ICPP345:

- ▲▲ Ideal for stainless steel
- ▲▲ Excellent toughness
- ▲▲ Good wear resistance
- ▲▲ High application security

ICP1340:

- ▲▲ Excellent suitability for universal application
- ▲▲ High cutting edge stability

Small size – Single sided
Feed rate for parting and grooving (GS... –ST1)



Cutting data

Work piece			ICP1340	Coated carbide ICCP320ST	ICPP345
material	Type of treatment/alloy	Hardness HB	vc [sfm]	vc [sfm]	vc [sfm]
M	annealed ferritic	200	160 – 660	390 – 660	330 – 590
	quenched austenitic	180	160 – 590	330 – 560	260 – 490
	quenched duplex	230 – 260	160 – 330	230 – 360	230 – 360
	hardened martensitic	330	160 – 260	200 – 300	200 – 300
S	Exoti c	Fe base	–	–	70 – 150
		Nickel or cobalt base	–	–	50 – 80
		Titanium	–	–	160 – 390

GS...20... –ST1

Insert	Designation	Chipbreaker	Available
	GSNT-20.02-00-ST1 ICP1340	... –ST1	•
	GSNT-20.02-00-ST1 ICCP320ST		•
	GSNT-20.02-00-ST1 ICPP345		•

Blades	Designation	Tmax [in]	Available
	GBR-2602-GS02	1	•
	GBL-2602-GS02	1	•
	GBR-3202-GS02	1	•
	GBL-3202-GS02	1	•

Spare parts *	Designation
	GK-3 (for the blades of 2 and 3 mm width)

* How to use the system? Page 113

GS...30... –ST1

Insert	Designation	Chipbreaker	Available
	GSNT-30.02-00-ST1 ICP1340	... –ST1	•
	GSNT-30.02-00-ST1 ICCP320ST		•
	GSNT-30.02-00-ST1 ICPP345		•

Blades	Designation	Tmax [in]	Available
	GBN-2603-GS03	1.38	•
	GBN-3203-GS03	1.97	•

Spare parts *	Designation
	GK-3 (for the blades of 2 and 3 mm width)

* How to use the system? Page 113

Small size insert – Single sided GS... –LM



Overview (GS... –LM)

Which chipbreaker to use?

LM – First choice in case of aluminum and non ferrous metals

- ▲▲ Insert with highly positive cutting chipbreaker and sharp cutting edge
- ▲▲ Extra-smooth rake face through "microfinish"
- ▲▲ Reduced built-up edge

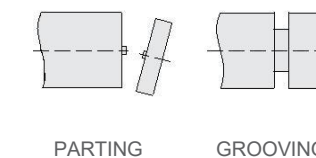


Premium grade

H216T:

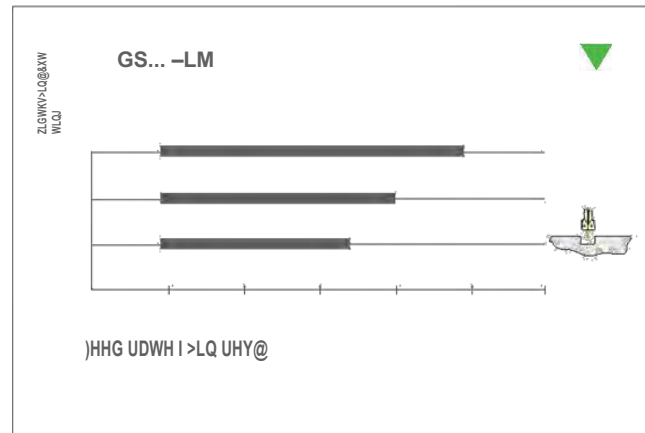
- ▲▲ Optimal suitable for aluminum
- ▲▲ High wear resistance
- ▲▲ High heat resistance
- ▲▲ Low tendency to adhesion

Application –LM



Small size – Single sided

Feed rate for parting and grooving (GS... –LM)



Cutting data

Work piece material			Uncoated carbide H216T
Type of treatment/ally		Hardness HB	vc [sfm]
Non ferrous	Aluminum wrought alloys	100	660 – 6560
	Aluminum cast alloys < 12% Si	90	1310 – 4920
	Copper alloys (bronze)	90	660 – 1970

GS 20.....-LM

Insert	Designation	Chipbreaker	Available
	GSNT-20.02-00-LM H216T	... -LM	•

Blades	Designation	Tmax [in]	Available
	GBR-2602-GS02	1	•
	GBL-2602-GS02	1	•
	GBR-3202-GS02	1	•
	GBL-3202-GS02	1	•

Spare parts *	Designation
	GK-3 (for the blades of 2 and 3 mm width)

* How to use the system? Page 113

GS... 30... –LM

Insert	Designation	Chipbreaker	Available
	GSNT-30.03-00-LM H216T	... –LM	•

Blades	Designation	Tmax [in]	Available
	GBN-2603-GS03	1.38	•
	GBN-3203-GS03	1.97	•

Spare parts *	Designation
	GK-3 (for the blades of 2 and 3 mm width)

* How to use the system? Page 113

GS 40..... –LM

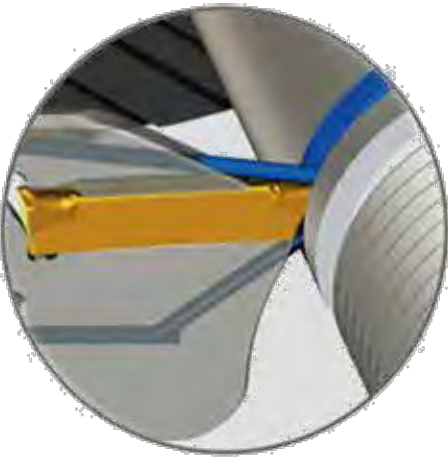
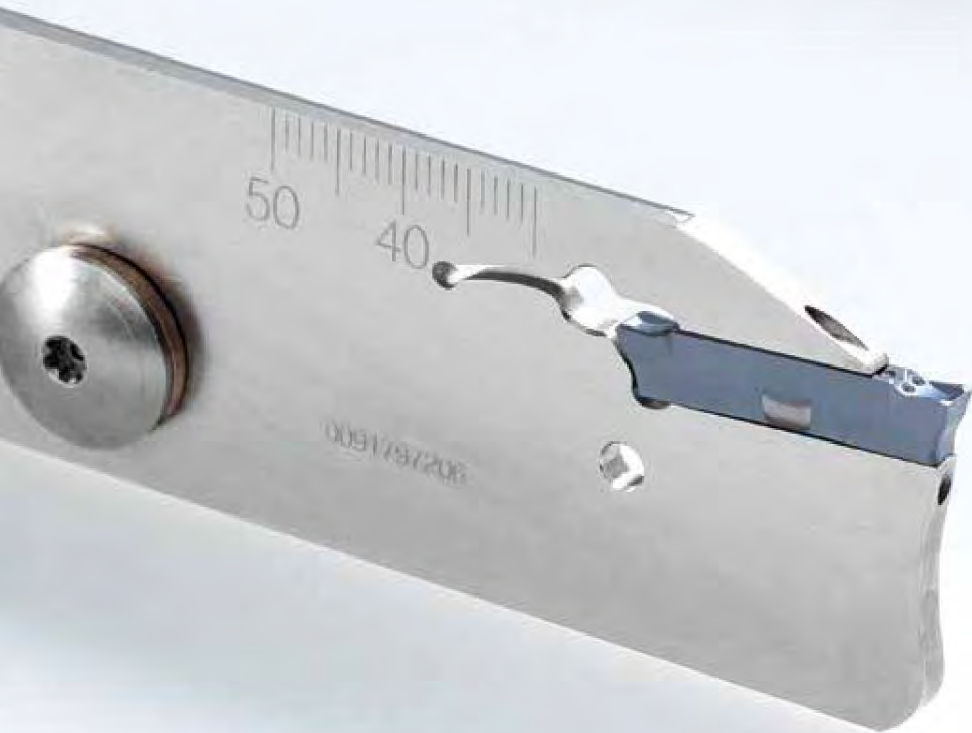
Insert	Designation	Chipbreaker	Available
	GSNT-40.04-00-LM H216T	... –LM	•

Blades	Designation	Tmax [in]	Available
	GBN-2604-GS04	1.57	•
	GBN-3204-GS04	1.97	•

Spare parts *	Designation
	GK-4 (for the blades of 4, 5 and 6 mm width)

* How to use the system? Page 113

Tools with internal cooling Blades and tool holders



▲▲ This system allows the coolant to arrive directly on the cutting edge of the insert, which increases the lifetime up 100 %.

New tools with internal cooling

Double Directional Internal Cooling System



Blade (GS...–20/30/40)

Blades		Designation	Tmax [in]	Available
	GS02	GBL-2602-GS02-C	1	•
		GBL-3202-GS02-C	1	•
		GBR-2602-GS02-C	1	•
		GBR-3202-GS02-C	1	•
	GS03	GBN-2603-GS03-C	1.38	•
		GBN-3203-GS03-C	1.97	•
	GS04	GBN-2604-GS04-C	1.57	•
		GBN-3204-GS04-C	1.97	•

Blade (GO...–20/30)

Blades		Designation	Tmax [in]	Available
	GO02	GBL-2602-GO2402-C	1	coming soon
		GBL-3202-GO2402-C	1	coming soon
		GBR-2602-GO2402-C	1	coming soon
		GBR-3202-GO2402-C	1	coming soon
		GBN-2602-GO2402-C	1	coming soon
		GBN-3202-GO2402-C	1	•
	GO03	GBN-2603-GO2403-C	1.38	•
		GBN-3203-GO2403-C	1.97	•

Spare parts	Designation	Available
	Key T15 58MM	•
	Coolant screw plug M4X3	•

* How to use the system? Page 113

New tools with internal cooling

Double Directional Internal Cooling System

Tool holder (GD...-20/30/40/50/60...)



Tool		Tmax	h		Designation
	GD24... 20.0...	0.512	625	L	GMEL-0625-GD2402-C-T13-C
				R	GMER-0625-GD2402-C-T13-C
			750	L	GMEL-0750-GD2402-C-T13-C
				R	GMER-0750-GD2402-C-T13-C
				L	GMEL-0750-GD2402-C-T13-C
				R	GMER-0750-GD2402-C-T13-C
	GD24... 30.0...	1	625	L	GMEL-0625-GD2403-C-T25-C
				R	GMER-0625-GD2403-C-T25-C
			750	L	GMEL-0750-GD2403-C-T25-C
				R	GMER-0750-GD2403-C-T25-C
			100	L	GMEL-100-GD2403-C-T25-C
				R	GMER-100-GD2403-C-T25-C
	GD24... 40.0...	1	625	L	GMEL-0625-GD2404-C-T25-C
				R	GMER-0625-GD2404-C-T25-C
			750	L	GMEL-0750-GD2404-C-T25-C
				R	GMER-0750-GD2404-C-T25-C
			100	L	GMEL-100-GD2404-C-T25-C
				R	GMER-100-GD2404-C-T25-C



Tool		Tmax	h		Designation
	GD24... 50.0...	1	750	L	GMEL-0750-GD2405-C-T25-C
				R	GMER-0750-GD2405-C-T25-C
			100	L	GMEL-100-GD2405-C-T25-C
				R	GMER-100-GD2405-C-T25-C
	GD24... 60.0...	1	750	L	GMEL-0750GD2406-C-T25-C
				R	GMER-0750-GD2406-C-T25-C
			100	L	GMEL-100-GD2406-C-T25-C
				R	GMER-100-GD2406-C-T25-C

Spare parts	Designation	Available
	Key SW5 (50.0 + 60.0)	•
	M6.0x20 (50.0 + 60.0)	•
	M6x6 DIN 913	•
	G1/8 DIN 913	•

* How to use the system? Page 113

Clamping bloc

Available clamping bloc without internal cooling system



Designation	Available	h2 [in]	h [in]	h1 [in]	h3 [in]	l1 [in]	b [in]	b1 [in]	For blade
SCB-GB26-2020	•	1.02	0.79	0.79	1.69	3.54	0.79	1.46	GBN...26...
SCB-GB32-2520	•	1.26	0.98	0.98	1.93	4.33	0.79	1.50	GBN...32...

Spare part for clamping bloc without cooling

Spare parts	Designation	Available
	Clamping screw M6.0x25	•

* How to use the system? Page 113

Available clamping bloc with internal cooling system



Designation	Available	h2 [in]	h [in]	h1 [in]	h3 [in]	l1 [in]	b [in]	b1 [in]	For blade
SCB-GB26-2020-C	•	1.02	0.79	0.79	1.69	3.23	0.79	1.57	GBN...26...
SCB-GB32-2525-C	•	1.26	0.98	0.98	1.93	3.74	0.98	1.75	GBN...32...

Spare part for clamping bloc with cooling

Spare parts	Designation	Available
	Grub screw M6.0x8	•
	Clamping screw M6.0x12	•

* How to use the system? Page 113

Technical Information



How to use the system?



Insert mounting key with handle towards the front into the 2 tool location points



When moving the mounting key in the direction of the arrows the insert seat is opened



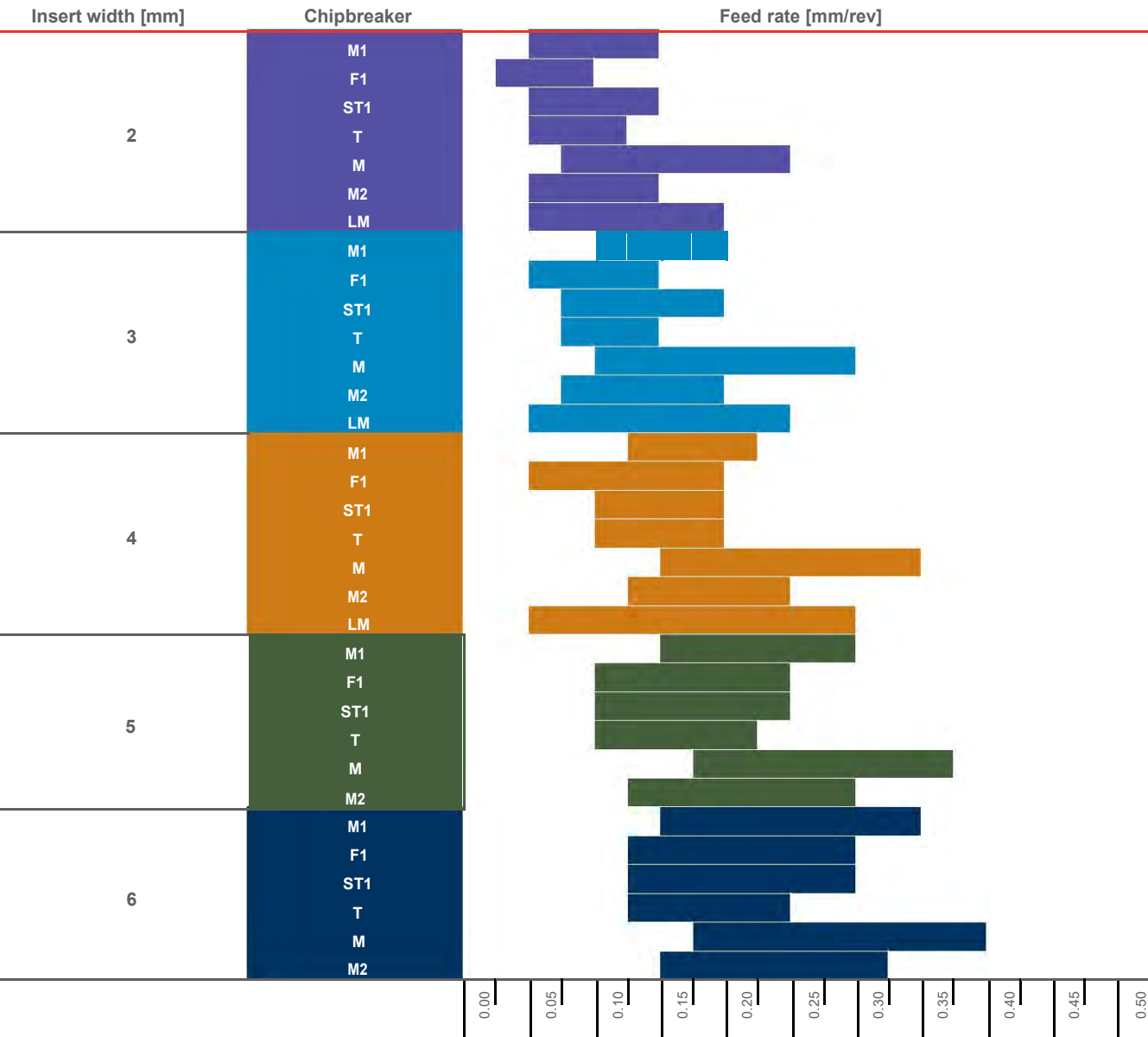
Position the insert pressing it against the location face



Moving the mounting key forward the insert seat locks and insert is clamped securely



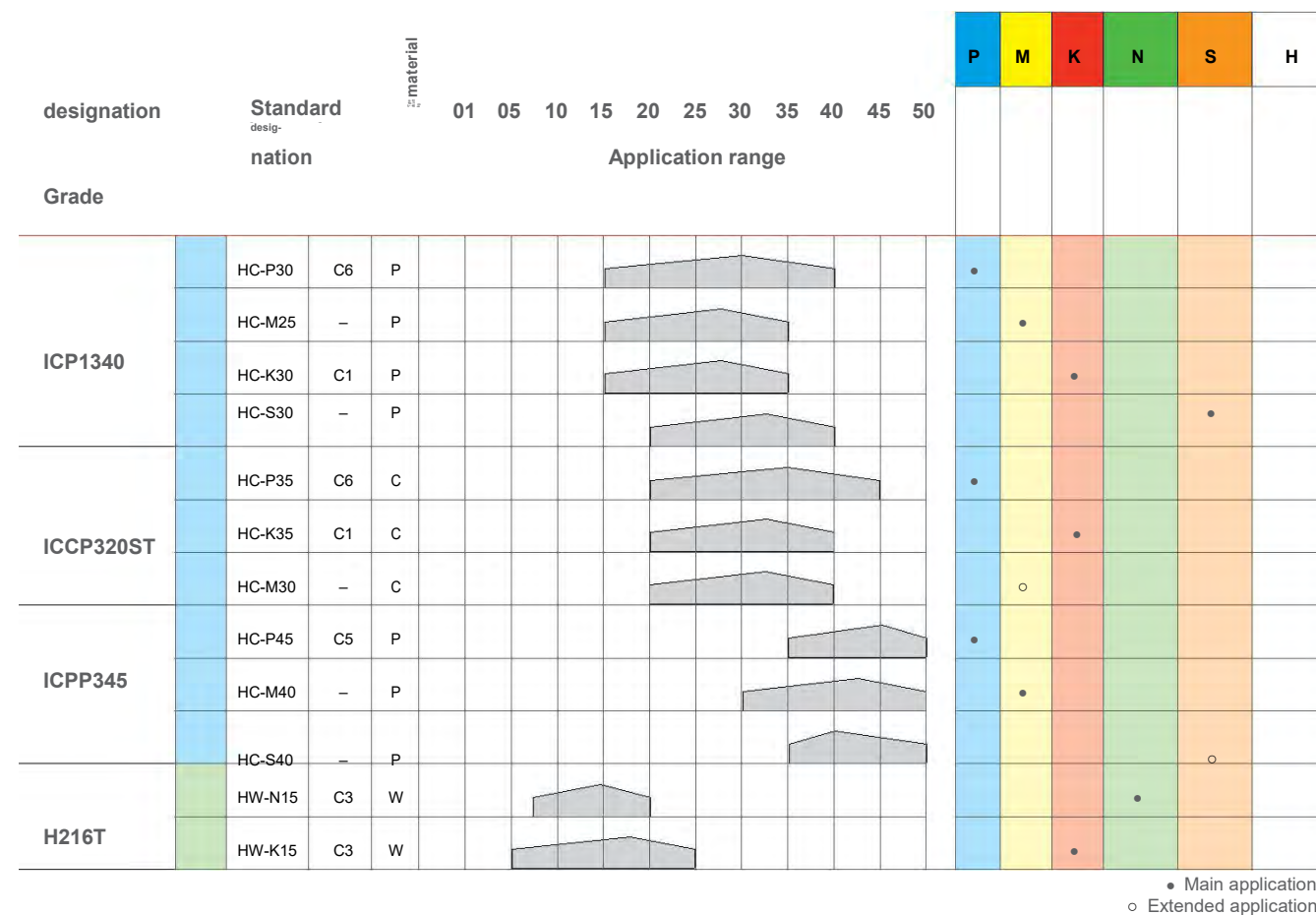
Cutting parameters overview



Grades



Grade overview



Grade description

ICP1340



HC-P30 | HC-M25 | HC-K30 | HC-S30

Specification:

Composition: Co 9.0 %; mixed carbides 2.0 %; WC balance | Grain size: 0.7-1 μm |

Hardness: HV₃₀ 1590 | Coating specification: PVD TiAlN

Recommended application:

heat-resistant alloys.

ICCP320ST



HC-P35 | HC-K35 | HC-M30

Specification:

Composition: Co 10.5 %; mixed carbides 2.0 %; WC balance | Grain size: 1 μm | Hardness: HV₃₀ 1400 |

Coating specification: CVD TiCN-Al₂O₃ multi-layer

Recommended application:

The reliable choice for the machining of steel and cast iron.

ICPP345



HC-P45 | HC-M40 | HC-S40

Specification:

Composition: Co 12.5 %; mixed carbides 2.0 %; WC balance | Grain size: 1-1.5 μm |

Hardness: HV₃₀ 1380 | Coating specification: PVD TiAlTaN

Recommended application:

The reliable solution for steel and austenitic steels under unstable conditions.

H216T



HW-N15 | HW-K15

Specification:

Composition: Co 6.0 %; WC balance | Grain size: 1 μm | Hardness: HV₃₀ 1630

Recommended application:

The uncoated carbide grade for the machining of aluminium and other non-ferrous metals.



ICE

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