

TURNING

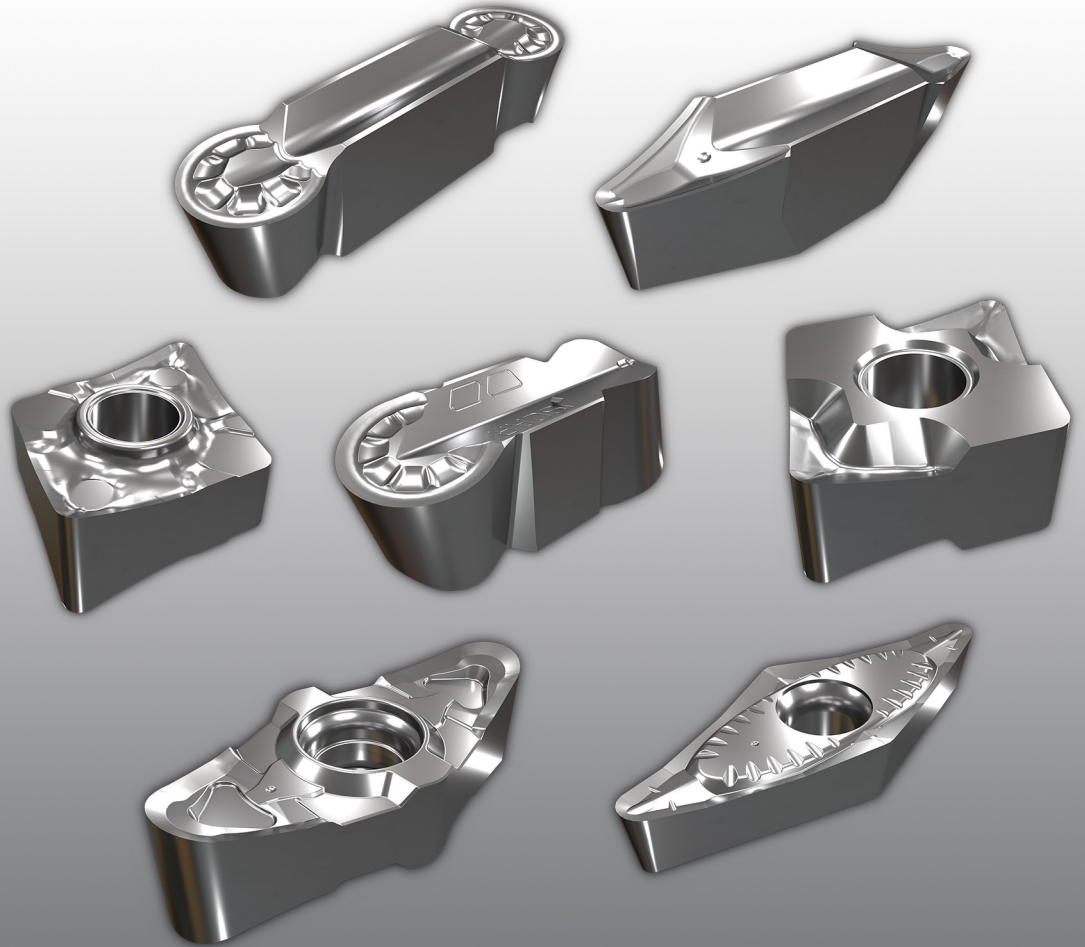
09-2023

MARCH 2023

METRIC

NPA

New Product Announcement



Longer Tool Life



DLC Coating



For Machining Non-Ferrous Materials



ISOTURN

The New Standard Line for Grooving and Turning Inserts with DLC a Coating

METRIC



Longer
Tool Life



DLC
Coating



For Machining Non-
Ferrous Materials

NPA

New Product Announcement

ISOTURN

Highlights

New Turning and Grooving Inserts with DLC Coating for Machining Non-Ferrous Materials.

DLC coating stands for diamond-like carbon coating and is a nanocomposite coating the unique properties of a natural diamond that possesses low friction, high hardness, and high corrosion resistance.

Characteristics:

- High hardness.
- Low friction coefficient.
- Great adhesion to substrate material.
- Very high wear resistance.

These properties make it ideal for machining non-ferrous materials such as:

- Aluminum and Aluminum alloys with up to 12% Si content
- Copper, Bronze, Silver, Gold & Platinum
- Carbon & plastic
- Composite

METRIC



Longer Tool Life



DLC Coating



For Machining Non-Ferrous Materials

NPA

New Product Announcement

ISOTURN

Availability

In stock.

Prices

Your price list will be sent by the pricing department and updated in the **GAL** system.

Sincerely,

Kobi Kisos
Chief Technical Officer,
Marketing Division
ISCAR Headquarters

Sincerely,

Rafi Rabouach
Director of Product Management
Grooving, Parting and Turning Applications
ISCAR Headquarters

Sincerely,

Erez Speiser
Product Manager
TURN-ISO
ISCAR Headquarters

Sincerely,

Edan Karmisi
Aluminum Wheels
Industry Manager
ISCAR Headquarters

Sincerely,

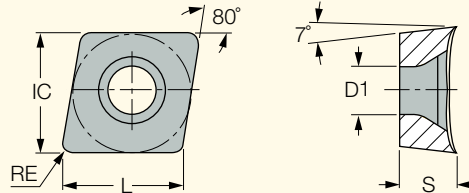
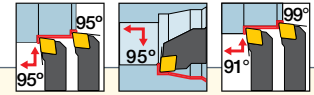
Yaniv Metz
Product Manager
Groove-Turn
ISCAR Headquarters

ISOTURN

CCGT-AS

80° Rhombic Inserts with a 7° Positive Flank, Very Positive Rake Angle and Sharp Cutting Edge for Machining Aluminum

<https://www.iscar.com/eCatalog/Family.aspx?fnum=919&mapp=IS&GFSTYP=M>

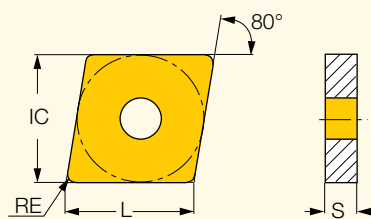
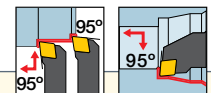


Designation	Dimensions					Tough ↔ Hard		Recommended Machining Data	
	L	IC	S	RE	D1	NEW IC1520	IC20	ap (mm)	f (mm/rev)
CCGT 060201-AS	6.40	6.35	2.38	0.10	2.80	●	●	0.50-2.00	0.10-0.20
CCGT 060202-AS	6.40	6.35	2.38	0.20	2.80	●	●	0.50-2.00	0.10-0.20
CCGT 060204-AS	6.40	6.35	2.38	0.40	2.80	●	●	0.50-2.00	0.10-0.25
CCGT 09T301-AS	9.70	9.52	3.97	0.10	4.40	●	●	0.50-2.50	0.10-0.25
CCGT 09T302-AS	9.70	9.52	3.97	0.20	4.40	●	●	0.50-2.50	0.10-0.25
CCGT 09T304-AS	9.70	9.52	3.97	0.40	4.40	●	●	0.50-2.50	0.10-0.25
CCGT 09T308-AS	9.70	9.52	3.97	0.80	4.40	●	●	0.80-3.00	0.10-0.30
CCGT 120402-AS	12.90	12.70	4.76	0.20	5.50	●	●	0.50-2.50	0.10-0.25
CCGT 120404-AS	12.90	12.70	4.76	0.40	5.50	●	●	0.50-2.50	0.10-0.25
CCGT 120408-AS	12.90	12.70	4.76	0.80	5.50	●	●	1.00-3.50	0.10-0.30

CNGG-F3N

Double-Sided Sharp-Edged Positive and Polished Rake Inserts for Finishing on Aluminum and Other Non-Ferrous Materials

<https://www.iscar.com/eCatalog/Family.aspx?fnum=4224&mapp=IS&GFSTYP=M>



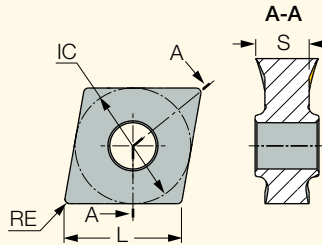
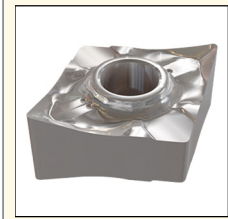
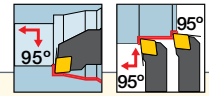
Designation	Dimensions				Tough ↔ Hard		Recommended Machining Data	
	L	IC	S	RE	NEW IC1520	IC20	ap (mm)	f (mm/rev)
CNGG 090402-F3N-P	9.70	9.52	4.76	0.20	●	●	0.30-3.00	0.10-0.30
CNGG 090404-F3N-P	9.70	9.52	4.76	0.40	●	●	0.40-3.00	0.10-0.30
CNGG 090408-F3N-P	9.70	9.52	4.76	0.80	●	●	0.80-3.00	0.10-0.30

ISOTURN

CNGX-M3N

Double-Sided Positive Rake Inserts with High Helical and Sharp Edge for Medium Machining on Non-Ferrous Materials

<https://www.iscar.com/eCatalog/Family.aspx?num=4257&mapp=IS&GFSTYP=M>



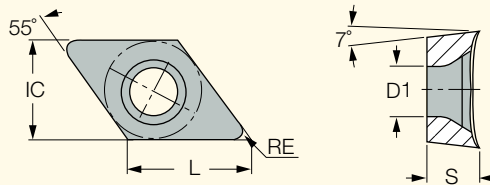
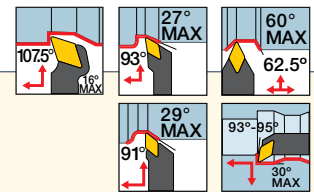
Designation	Dimensions				Tough ↔ Hard		Recommended Machining Data	
	L	IC	S	RE	NEW IC1520	IC20	a_p (mm)	f (mm/rev)
CNGX 090604-M3N-P	9.70	9.52	4.40	0.40	•	•	0.40-3.00	0.10-0.30
CNGX 090608-M3N-P	9.70	9.52	4.40	0.80	•	•	0.80-3.00	0.10-0.30

• PCLNR/L...X and A...PCLNR/L-X are most recommended as they were designed especially for this insert

DCGT-AS

55° Rhombic Inserts with a 7° Positive Flank, Very Positive Rake Angle and Sharp Cutting Edge for Machining Aluminum

<https://www.iscar.com/eCatalog/Family.aspx?num=920&mapp=IS&GFSTYP=M>



Designation	Dimensions					Tough ↔ Hard					Recommended Machining Data	
	L	IC	S	RE	D1	NEW IC1520	IC20	IC920	IC320	IC907	a_p (mm)	f (mm/rev)
DCGT 070201-AS	7.75	6.35	2.38	0.10	2.80	•	•	•			0.50-2.00	0.03-0.20
DCGT 070202-AS	7.75	6.35	2.38	0.20	2.80	•	•	•			0.50-2.00	0.05-0.20
DCGT 070204-AS	7.75	6.35	2.38	0.40	2.80	•	•	•			0.50-2.50	0.05-0.25
DCGT 11T301-AS	11.60	9.52	3.97	0.10	4.40	•	•				0.50-2.50	0.05-0.25
DCGT 11T302-AS	11.60	9.52	3.97	0.20	4.40	•	•		•	•	0.50-2.50	0.05-0.26
DCGT 11T304-AS	11.60	9.52	3.97	0.40	4.40	•	•		•	•	0.50-2.50	0.05-0.25
DCGT 11T308-AS	11.60	9.52	3.97	0.80	4.40	•	•		•	•	0.80-3.00	0.08-0.30

NPA New Product Announcement

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MARCH 2023

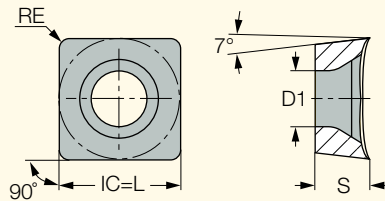
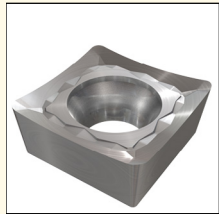
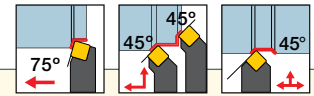
METRIC

ISOTURN

SCGT-AS

Square Inserts with a 7° Positive Flank, Very Positive Rake Angle and Sharp Cutting Edge for Machining Aluminum

<https://www.iscar.com/eCatalog/Family.aspx?fnum=740&mapp=IS&GFSTYP=M>

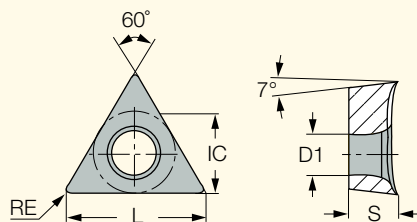
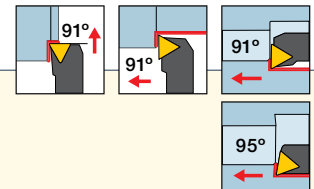


Designation	Dimensions				Tough ↔ Hard		Recommended Machining Data	
	IC	S	RE	D1	IC1520	IC20	a _p (mm)	f (mm/rev)
SCGT 09T308-AS	9.52	3.97	0.80	4.40	●	●	0.50-3.00	0.10-0.30
SCGT 120404-AS	12.70	4.76	0.40	5.50	●	●	1.00-4.00	0.10-0.30
SCGT 120408-AS	12.70	4.76	0.80	5.50	●	●	1.00-4.00	0.10-0.30

TCGT-AS

Triangular Inserts with a 7° Positive Flank, Very Positive Rake Angle and Sharp Cutting Edge for Machining Aluminum

<https://www.iscar.com/eCatalog/Family.aspx?fnum=741&mapp=IS&GFSTYP=M>



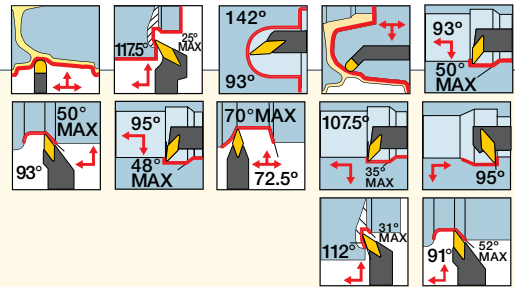
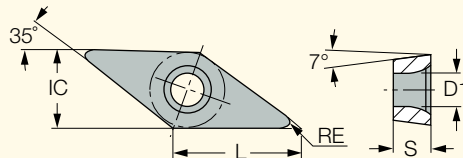
Designation	Dimensions					Tough ↔ Hard		Recommended Machining Data	
	L	IC	S	RE	D1	IC1520	IC20	a _p (mm)	f (mm/rev)
TCGT 110204-AS	11.00	6.35	2.38	0.40	2.80	●	●	0.20-3.00	0.05-0.30
TCGT 16T304-AS	16.50	9.52	3.97	0.40	4.40	●	●	0.50-3.00	0.05-0.30
TCGT 16T308-AS	16.50	9.52	3.97	0.80	4.40	●	●	0.50-3.00	0.10-0.30

ISOTURN

VCGT-AS

35° Rhombic Inserts with a 7° Positive Flank, Very Positive Rake Angle and Sharp Cutting Edge for Machining Aluminum

<https://www.iscar.com/eCatalog/Family.aspx?fnum=742&mapp=IS&GFSTYP=M>

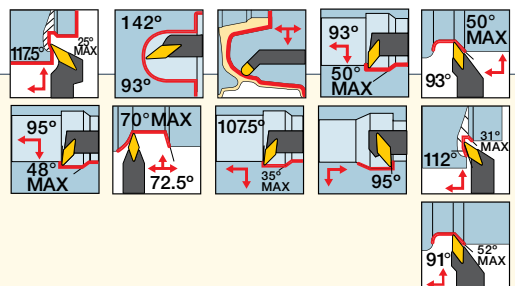
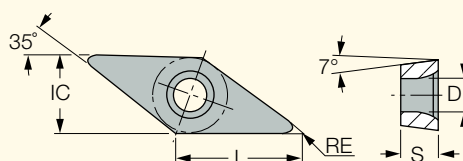


Designation	Dimensions					Tough ↔ Hard			Recommended Machining Data	
	L	IC	S	RE	D1	NEW IC1520	IC20	IC920	ap (mm)	f (mm/rev)
VC GT 110302-AS	11.10	6.35	3.18	0.20	2.90	●	●	●	0.20-2.50	0.05-0.20
VC GT 110304-AS	11.10	6.35	3.18	0.40	2.90	●	●	●	0.50-3.00	0.05-0.25
VC GT 160401-AS	16.60	9.52	4.76	0.10	4.40	●	●	●	0.20-2.50	0.05-0.20
VC GT 160402-AS	16.60	9.52	4.76	0.20	4.40	●	●	●	0.50-2.50	0.05-0.25
VC GT 160404-AS	16.60	9.52	4.76	0.40	4.40	●	●	●	0.50-3.00	0.05-0.25
VC GT 160408-AS	16.60	9.52	4.76	0.80	4.40	●	●	●	0.50-3.00	0.10-0.25
VC GT 160412-AS	16.60	9.52	4.76	1.20	4.40	●	●	●	0.50-3.00	0.10-0.25
VC GT 220520-AS	22.10	12.70	5.56	2.00	5.50	●	●	●	1.50-4.50	0.15-0.30
VC GT 220530-AS	22.10	12.70	5.56	3.00	5.50	●	●	●	1.50-4.50	0.15-0.30

VCGT-AF

Inserts with a Very Positive Rake Angle and Sharp Cutting Edge for Semi-Finishing and Finishing on Aluminum

<https://www.iscar.com/eCatalog/Family.aspx?fnum=2242&mapp=IS&GFSTYP=M>



Designation	Dimensions					Tough ↔ Hard		Recommended Machining Data	
	L	IC	S	RE	D1	NEW IC1520	IC20	ap (mm)	f (mm/rev)
VC GT 220508-AF	22.10	12.70	5.56	0.80	5.50		●	1.00-4.50	0.10-0.25
VC GT 220512-AF	22.10	12.70	5.56	1.20	5.50		●	1.00-4.50	0.10-0.30
VC GT 220516-AF	22.10	12.70	5.56	1.60	5.50	●	●	1.50-4.50	0.10-0.35

NPA New Product Announcement

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09-2023

MARCH 2023

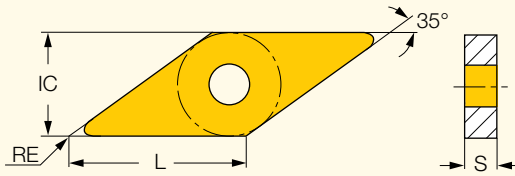
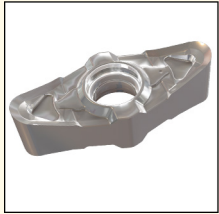
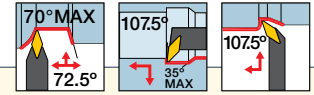
METRIC

ISOTURN

VNGU-R3N

Double-Sided Sharp-Edged Positive Rake Inserts for Rough Machining on Aluminum and Other Non-Ferrous Materials

<https://www.iscar.com/eCatalog/Family.aspx?fnum=4230&mapp=IS&GFSTYP=M>



Designation	Dimensions				Tough ↔ Hard		Recommended Machining Data	
	L	IC	S	RE	IC1520	IC20	a_p (mm)	f (mm/rev)
VNGU 220612-R3N	22.00	12.70	6.77	1.20		●	1.00-4.50	0.10-0.30
VNGU 220616-R3N	22.00	12.70	6.51	1.60		●	1.50-4.50	0.10-0.35
VNGU 220630-R3N	22.00	12.70	6.35	3.00	●	●	1.50-4.50	0.15-0.40

NPA

New Product Announcement

TURNING

09-2023

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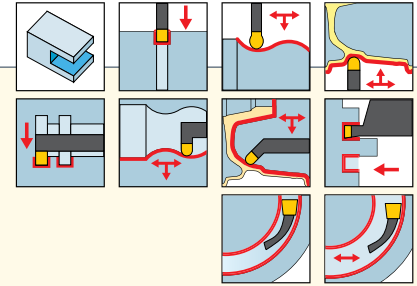
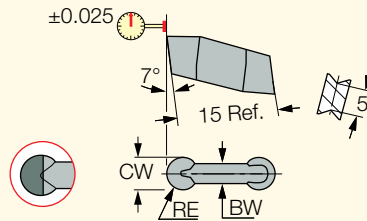
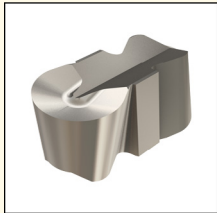
METRIC

CUTGRIP

GIPA (full radius W=3-6)

Precision Double-Ended Inserts with Polished Top Rake for Machining Aluminum

<https://www.iscar.com/eCatalog/Family.aspx?fnm=2533&mapp=TG&GFSTYP=M>



Designation	Dimensions					Tough ↔ Hard					Recommended Machining Data		
	CW	RE	CWTOL ⁽⁴⁾	RETOL ⁽⁵⁾	BW	NEW IC1520	IC20	IC806	IC4	ID5	a _p (mm)	f turn (mm/rev)	f groove (mm/rev)
GIPA 3.00-1.50	3.00	1.50	0.020	0.050	2.40	●	●				0.00-1.50	0.15-0.30	0.08-0.16
GIPA 3.00-1.50-D ⁽¹⁾	3.00	1.50	0.020	0.050	2.40					●	0.00-1.50	0.19-0.36	0.09-0.19
GIPA 4.00-2.00	4.00	2.00	0.020	0.050	3.20	●	●	●			0.00-2.00	0.20-0.43	0.10-0.22
GIPA 4.00-2.00-D ⁽¹⁾	4.00	2.00	0.020	0.050	3.20					●	0.00-2.00	0.25-0.53	0.12-0.26
GIPA 4.00-2.00YZ-D ⁽²⁾	4.00	2.00	0.020	0.050	3.20					●	0.00-2.00	0.25-0.53	0.12-0.26
GIPA 5.00-2.50	5.00	2.50	0.020	0.050	3.90	●	●	●			0.00-2.50	0.21-0.48	0.09-0.24
GIPA 5.00-2.50-D ⁽¹⁾	5.00	2.50	0.020	0.050	3.90					●	0.00-2.50	0.22-0.60	0.11-0.30
GIPA 5.00-2.50YZ-D ⁽²⁾	5.00	2.50	0.020	0.050	3.90					●	0.00-2.50	0.22-0.60	0.11-0.30
GIPA 6.00-3.00	6.00	3.00	0.020	0.050	4.80	●	●		●		0.00-3.00	0.21-0.58	0.11-0.29
GIPA 6.00-3.00-D ⁽¹⁾	6.00	3.00	0.020	0.050	4.80					●	0.00-3.00	0.26-0.72	0.13-0.36
GIPA 6.00-3.00YZ	6.00	3.00	0.020	0.050	4.80	●	●				0.00-3.00	0.21-0.58	0.11-0.29
GIPA 6.00-3.00YZ-D ⁽²⁾	6.00	3.00	0.020	0.050	4.80					●	0.00-3.00	0.26-0.72	0.13-0.36
GIPA 6.00-3.00CB ⁽³⁾	6.00	3.00	0.020	0.050	4.80					●	0.00-3.00	0.21-0.58	0.11-0.29

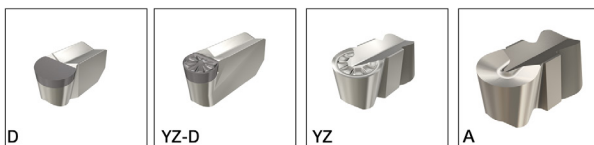
⁽¹⁾ Single-ended PCD tipped insert

⁽²⁾ Single-ended molded PCD chipformer tipped insert

⁽³⁾ Single-ended flat PCD tipped insert with chip deflector

⁽⁴⁾ Cutting width tolerance (+/-)

⁽⁵⁾ Corner radius tolerance (+/-)



NIPA

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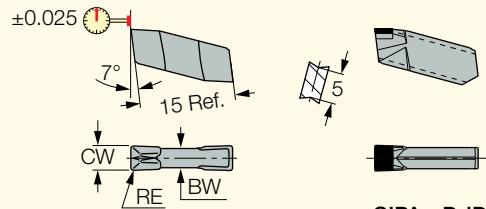
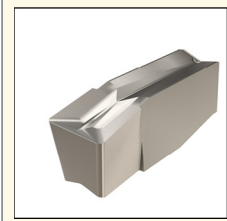
METRIC

CUTGRIP

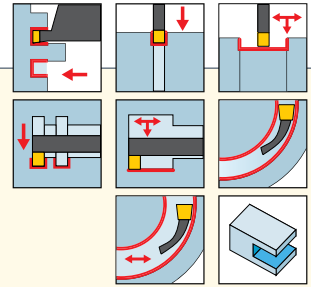
GIPA (W=3-6)

Double-Ended Precision Ground Inserts with a Polished Top Rake for Machining Aluminum

<https://www.iscar.com/eCatalog/Family.aspx?fnum=216&mapp=TG&GFSTYP=M>



GIPA...D-ID5



Designation	Dimensions					Tough ↔ Hard			Recommended Machining Data		
	CW	RE	CWTOL ⁽²⁾	RETOL ⁽³⁾	BW	NEW IC1520	IC20	ID5	a _p (mm)	f turn (mm/rev)	f groove (mm/rev)
GIPA 3.00-0.20	3.00	0.20	0.020	0.030	2.40	•	•		0.25-1.80	0.12-0.20	0.08-0.14
GIPA 3.00-0.20-D ⁽¹⁾	3.00	0.20	0.020	0.030	2.40			•	0.25-1.80	0.12-0.25	0.09-0.16
GIPA 4.00-0.40	4.00	0.40	0.020	0.030	3.20	•	•		0.50-2.40	0.14-0.31	0.10-0.20
GIPA 5.00-0.40	5.00	0.40	0.020	0.030	4.00	•	•		0.50-3.00	0.16-0.34	0.11-0.23
GIPA 6.00-0.40	6.00	0.40	0.020	0.030	4.80	•	•		0.50-3.60	0.19-0.41	0.11-0.26

• DMIN for internal machining = 70 mm

⁽¹⁾ Single-ended PCD tipped insert

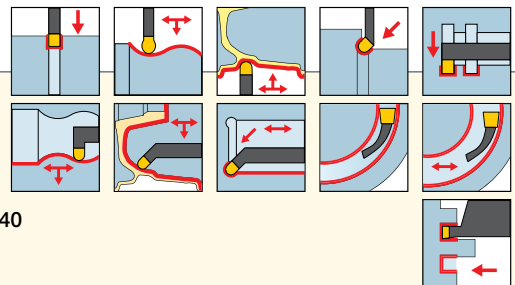
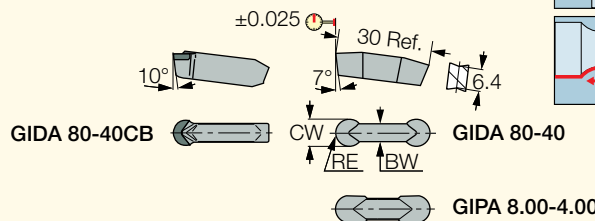
⁽²⁾ Cutting width tolerance (+/-)

⁽³⁾ Corner radius tolerance (+/-)

GIPA/GIDA 8 (full radius)

Precision Double-Ended Inserts with Polished Top Rake for Machining Aluminum

<https://www.iscar.com/eCatalog/Family.aspx?fnum=185&mapp=TG&GFSTYP=M>



Designation	Dimensions					Tough ↔ Hard				Recommended Machining Data		
	CW	RE	CWTOL ⁽²⁾	RETOL ⁽³⁾	BW	NEW IC1520	IC20	IC4	ID5	a _p (mm)	f turn (mm/rev)	f groove (mm/rev)
GIDA 80-40	8.00	4.00	0.020	0.050	5.60	•	•	•		0.00-4.00	0.24-0.67	0.14-0.38
GIDA 80-40-D	8.00	4.00	0.020	0.050	5.60				•	0.00-4.00	0.24-0.67	0.14-0.38
GIDA 80-40CB-D ⁽¹⁾	8.00	4.00	0.020	0.050	5.60				•	0.00-4.00	0.24-0.67	0.14-0.38
GIDA 80-40YZ	8.00	4.00	0.020	0.050	5.60	•	•	•		0.00-4.00	0.24-0.67	0.14-0.38
GIDA 80-40YZ-D	8.00	4.00	0.020	0.050	5.60				•	0.00-4.00	0.35-0.96	0.18-0.48
GIPA 8.00-4.00	8.00	4.00	0.020	0.050	6.00	•	•			0.00-4.00	0.24-0.67	0.14-0.38

• ID5 is a single-ended PCD tipped insert

⁽¹⁾ Should not be clamped on tools with "A" suffix

⁽²⁾ Cutting width tolerance (+/-)

⁽³⁾ Corner radius tolerance (+/-)



NPA New Product Announcement

TURNING

09-2023

MARCH 2023

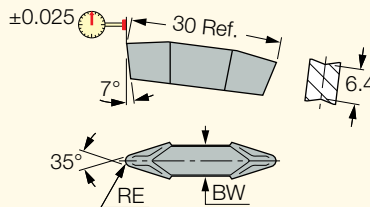
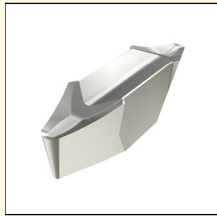
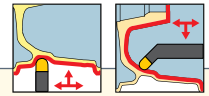
METRIC

CUTGRIP

GIPA 8-35V (V-shape)

V-Shaped Inserts for Machining Aluminum Wheels

<https://www.iscar.com/eCatalog/Family.aspx?fnum=872&mapp=TG&GFSTYP=M>



Designation	Dimensions			Tough ← Hard				Recommended Machining Data	
	RE	RETOL ⁽²⁾	BW	NEW IC1520	IC20	IC4	ID5	ap (mm)	f turn (mm/rev)
GIPA 6.0-35V-0.8	0.80	0.050	4.80		•			1.00-3.60	0.21-0.48
GIPA 8YZ-35V-0.80	0.80	0.050	6.00			•		1.00-4.80	0.24-0.56
GIPA 8YZ-35V-1.20	1.20	0.050	6.00			•		1.45-4.80	0.24-0.62
GIPA 8YZ-35V-1.20-D ⁽¹⁾	1.20	0.050	6.00				•	1.45-4.80	0.35-0.88
GIPA 8-35V-1.20	1.20	0.050	6.00	•	•			1.45-4.80	0.24-0.62
GIPA 8-35V-1.20-D ⁽¹⁾	1.20	0.050	6.00				•	1.45-4.80	0.35-0.88
GIPA 8-35V-3.0	3.00	0.050	6.00		•			3.60-4.80	0.24-0.67

• Precision ground and polished rake to avoid built-up edge • Toolholder seat needs to be modified according to insert profile to ensure clearance

⁽¹⁾ Single-ended PCD tipped insert

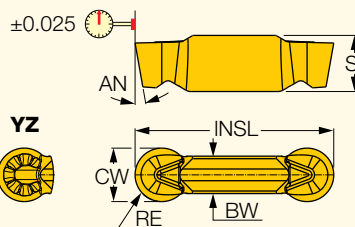
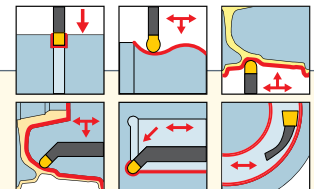
⁽²⁾ Corner radius tolerance (+/-)

FSPA/FSMA

Full Radius Precision Inserts for Machining

Aluminum at Medium to High Feeds

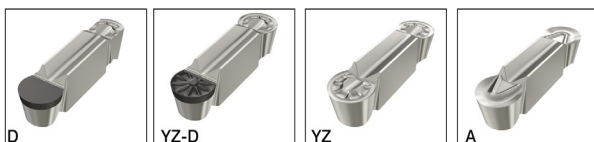
<https://www.iscar.com/eCatalog/Family.aspx?fnum=3196&mapp=TG&GFSTYP=M>



Designation	Dimensions							Tough ← Hard				Recommended Machining Data	
	CW	CWTOL ⁽²⁾	RE	S1	BW	INSL	AN	NEW IC1520	IC20	IC07	ID5	ap (mm)	f turn (mm/rev)
FSPA 6.00-3.00	6.00	0.020	3.00	7.50	4.60	25.00	9.0		•			0.05-3.00	0.30-0.55
FSPA 6.00-3.00YZ	6.00	0.020	3.00	7.50	4.60	25.00	9.0		•			0.05-3.00	0.30-0.55
FSPA 6.00-3.00YZ-D	6.00	0.020	3.00	7.50	4.60	25.00	9.0				•	0.05-3.00	0.30-0.55
FSPA 80-40	8.00	0.020	4.00	8.40	5.60	29.70	10.0		•			0.05-4.00	0.40-0.72
FSPA 80-40-D	8.00	0.020	4.00	8.40	5.60	29.70	10.0				•	0.05-4.00	0.40-0.72
FSPA 80-40YZ	8.00	0.020	4.00	8.40	5.60	29.70	10.0	•	•			0.05-4.00	0.40-0.72
FSPA 80-40YZ-D	8.00	0.020	4.00	8.40	5.60	29.70	10.0				•	0.05-4.00	0.40-0.72
FSMA 80-40 ⁽¹⁾	8.00	0.040	4.00	8.40	5.60	29.70	10.0			•		0.05-4.00	0.40-0.72

⁽¹⁾ Utility insert

⁽²⁾ Cutting width tolerance (+/-)



NIPA

New Product Announcement

TURNING

09-2023

MARCH 2023

METRIC

ISOTURN

TEST REPORTS

Manufacturer	Iscar - Actual	Iscar - Test1
Tool	A40S SVXCR 22	A40S SVXCR 22
Insert	VCGT 220530-AS IC20	VCGT 220530-AS IC1520
Carbide Grade	IC20	IC1520
Tool/Insert Material	Carbide Uncoated	Carbide Coated
Edge Preparation	Sharp	Sharp
External Starting Diameter (mm)		
Internal Starting Diameter (mm)	381	381
Cutting Speed (m/min)	2.394	2.394
Spindle Speed (rpm)	1.987	1.987
Feed (mm/rev)	0,5	0,5
Depth of Cut (mm)	2,5	2,5
Number of Passes	1	1
Length of Cut (mm)	140	140
Parts per Cutting Edge	600	850
Wear	Flank Wear	Flank Wear
Reason for Stopping the Test	Wear	Wear
Surface Quality	Good	Good
Chip Type	Fragments	Fragments
Metal Removal Rate (cm ³ /min)	3.012,14	3.012,14
No. of Corners Tested	4	4

TEST REPORTS

Manufacturer	Iscar - Actual	Iscar - Test1
Tool	A40U SVQCR-22	A40U SVQCR-22
Insert	VCGT 220530-AS IC20	VCGT 220530-AS * IC20+DLC
Carbide Grade	IC20	IC20+DLC
Tool/Insert Material		
Edge Preparation	Polish	Polish
External Starting Diameter (mm)		
Internal Starting Diameter (mm)	391.3	391.3
Cutting Speed (m/min)	3,087	3,087
Spindle Speed (rpm)	2,500	2,500
Feed (mm/rev)	0,6	0,6
Depth of Cut (mm)	1,75	1,75
Number of Passes	1	1
Length of Cut (mm)	147	147
Parts per Cutting Edge	300	700
Wear	Built up Edge	Flank Wear
Reason for Stopping the Test	Surface Finish	Surface Finish
Surface Quality	Good	Good
Chip Type	Comma/Helical	Comma/Helical
Metal Removal Rate (cm ³ /min)	3,226.98	3,226.98
No. of Corners Tested	2	3
Wiper Geometry	No	No
Number of CBN, PCD Tipped Cutting Edges	0	0