



Chip breaker



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2200 years of research and development from engraver to high-tech-tool.



Your partner for HSC-machining, hard machining and high precision machining.

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New ultrahard Diamond cutting materials and their processing

Technical advancement never stands still. Fortunately we can present different new developments concerning cutting tools. The diamond cutting edges will expedite the processing of nonferrous metals and plastics of all kinds into unknown dimensions.

First off all we would like to introduce new monocrystalline diamonds manufactured in HPHT processing. The diamonds have a weight between 0,8 and 1,2 carat and substitute the well known natural diamond to cutting edge lengths of 4mm completely.



Furthermore we have the producing and professional processing of polycrystalline thickfilm CVD-diamond with a thickness between 0,8 and 1,8 mm. Since this pure diamond material without any foreign binder cannot be eroded or ground economically the only remaining machining procedure is the newly developed laser technology.

The necessary segments are cut by laser. After the high vacuum brazing the cutting edges are completely machined by laser both in the periphery and on the top rake with or without a chip control geometry.

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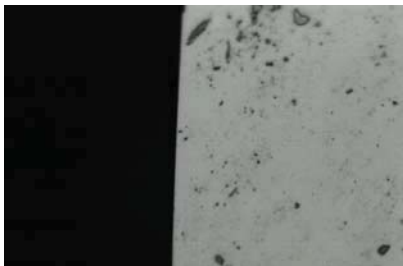


Cutting edge quality in comparison

The extreme cutting edge sharpness and a maximum diamond volume per cutting edge have a big influence on the tool life of the diamond cutting edge, which insures an extremely high thermal conductivity.

The newly developed laser technology offers ideal possibilities by the processing of such diamond cutting tools with CVD thick film and PDC diamond. Additionally all 3D geometries can be produced with the same cutting edge sharpness.

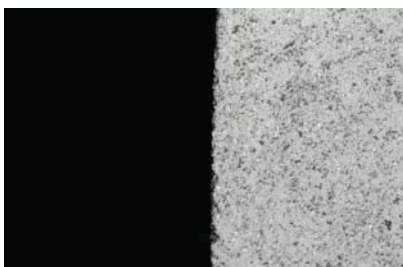
By this development in the laser technology and by the production of the therefore required diamond cutting materials we can enable the production of all necessary diamond cutting edges of highest quality with every optional chip control geometry without using a diamond grinding wheel.



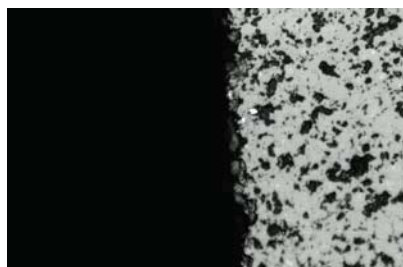
Magnification 500 x:
Monocrystalline Diamond cutting edge, ground



Magnification 500 x:
CVD-Thickfilm-Diamond, Laser processing



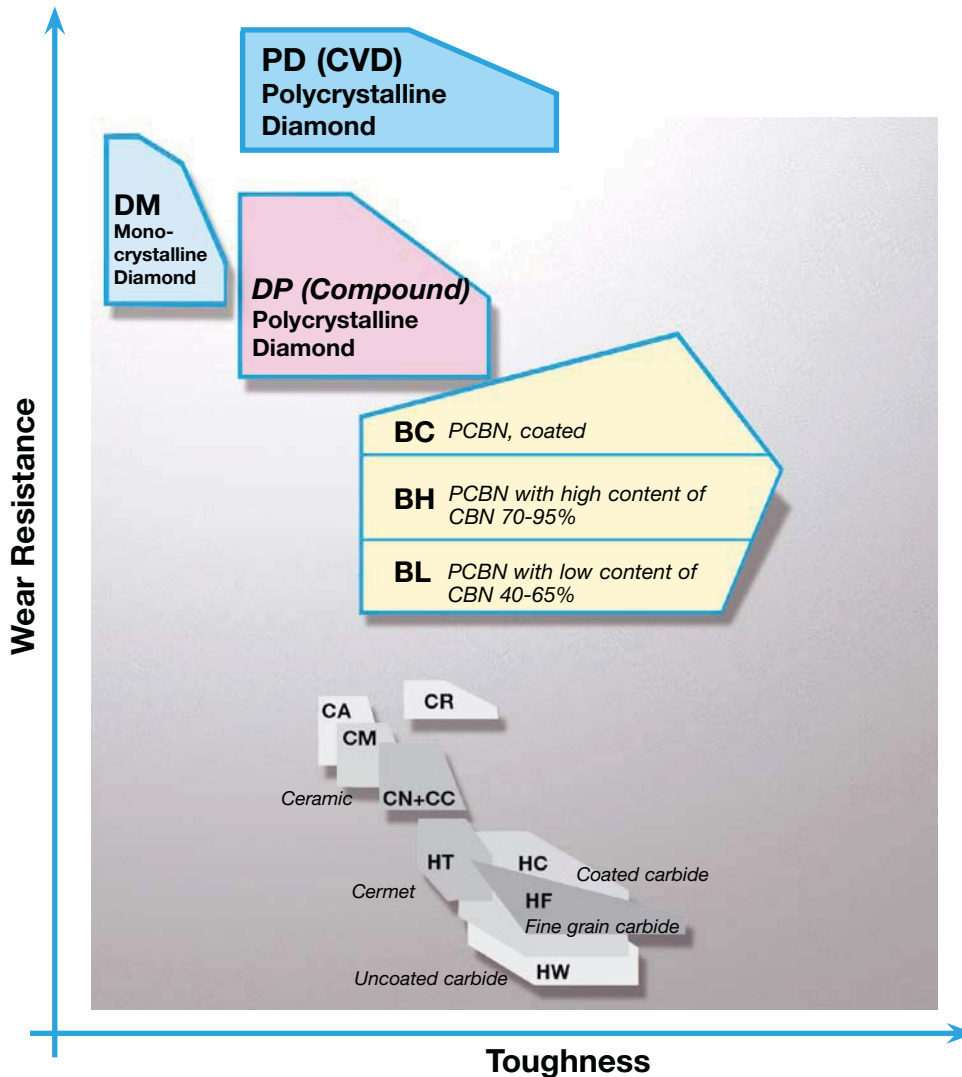
Magnification 500 x:
PDC-Finest grain size, ground super fine



Magnification 500 x:
PDC-mixed grain size, nomally ground



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General cutting material allocation

As for Norm DIN ISO 513 (2001) there are now additional ISO nomenclature for carbide (also cermet) and ceramic.

Furthermore new ident letters for the ultrahard cutting materials Polycrystalline Cubic Boron Nitride, Monocrystalline and Polycrystalline Diamond have been introduced.

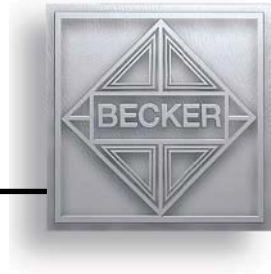
Groups of Cutting Materials (DIN ISO 513)

| | |
|---|---|
| <p>HW = Uncoated carbide HF = Fine grained carbide HT = Cermet, TiC or TiN HC = As above, but coated</p> | <p>DM = Monocrystalline Diamond DP = Polycrystalline Diamond</p> |
| <p>CA = Ceramic, main content Al_2O_3 CM = Mixed ceramic, main content Al_2O_3, plus components other than oxides CN = Siliconnitride ceramic, main content Si_3N_4 CR = Ceramic, main content Al_2O_3 reinforced CC = Ceramics as above, but coated</p> | <p>BL= Polycrystalline Cubic Boron Nitride with low content of CBN BH= Polycrystalline Cubic Boron Nitride with high content of CBN BC= Polycrystalline Cubic Boron Nitride as above, but coated</p> |



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Ultrahard cutting materials

| BECKER | ISO | Composition - Performance | Application |
|--------------|--------------------|---|---|
| MDC | DM | <p>Solid monocrystalline diamond with no structure. Cutting edge extremely sharp and without microdamages, generating no cutting pressure, allowing burr free results with tolerances close to zero.</p> <p>Flank extremely wear resistant and maximum thermal conductivity, low toughness.</p> | <p>Superfinishing of all pure nonferrous metals and nonmetals with no abrasive reinforcement or silicon. (HSC-High Tech)</p> |
| CVD | DP (CVD) | <p>Solid polycrystalline diamond without binder and without carbide reinforcement, perfect cutting edge sharpness and cutting edges without any micro damage.</p> <p>No cutting pressure and smallest tolerances. Highest wear resistance and very high thermal conductivity (HSC and HPC), higher toughness.</p> | <p>From super finishing to semi finishing of all nonferrous metals and nonferrous-composites with low content of abrasive reinforcement or silicon.</p> |
| PDC | DP Compound | <p>Polycrystalline diamond, carbide reinforced diamond of fine grit size, good cutting edge sharpness and low cutting pressure allowing small tolerances.</p> <p>Lower wear resistance at higher toughness</p> | <p>Finishing and general purpose of all nonferrous metals and nonmetals with low content of abrasive reinforcement or silicon.</p> |
| PDC-S | DP Compound | <p>Polycrystalline diamond, carbide reinforced diamond of coarse grit size, good edge sharpness and low cutting pressure allowing small tolerances. Ideal for milling.</p> <p>Low wear resistance at higher toughness.</p> | <p>Finishing and general purpose and milling of all nonmetals with medium to high content of abrasive reinforcement or silicon.</p> |



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Chip Breaker Design

Besides the manufacturing of extremely sharp cutting edges the new laser technology allows to manufacture all imaginable 3D chip geometries with and without chip breaker function, also for all diamond cutting materials.

Thereby all machining situations are very well controlled because besides the pure 3D chip geometries also finest positive and negative chamfer geometries along the cutting edges can be lasered at the same time. With this combination and a special surface structure in the range of chip design we succeeded with all diamond cutting materials in the dry processing of all NE-metals.

In combination with the ideal chip design and the exclusive machining with the new laser technology the polycrystalline CVD thick film diamond demonstrates its real strength.

During the dry processing with chip breaker function the tool life time is 3 to 5 times higher than with all known PDC grades.

Even the monocrystalline diamond – no matter whether manufactured in natural or HPHT processing – is beaten as expected by the polycrystalline CVD thick film diamond during a lot of applications by 2 to 3 times regarding the tool life.

In the following we show a few chip breaker designs in PDC and CVD diamond:





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Cutting Data - Range of application

Due to the new possibilities to manufacture all diamond cutting edges with chip breaker design the fields of application for all diamond cutting materials are considerably extended.

In a first step we offer two designs planned for different applications:

CB 1:

Positive geometry for finish and super finish machining, ap: 0,05 mm to 1,5 mm. Applicable for smallest tolerances at lowest cutting pressure.

Application: thin-walled and instable work pieces.

CB 2:

Slightly negative edge preparation for semi finish, finish and super finish machining, ap: 0,5 mm to 2 mm. Due to an increased cutting pressure a better surface quality at smallest tolerances can be reached.

Application: thick-walled solid work pieces at stable circumstances.

For more details about the machining technique please see our valid main catalogue.

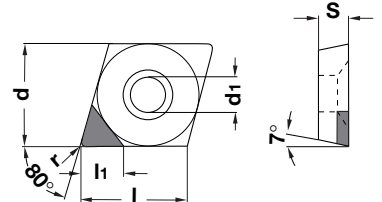
| 3D-chip breaker design CB1 and CB2 | | | | | | | | | |
|------------------------------------|---------------|------|------------|------|---------------|------|------------|------|----------------|
| Cutting radius | Geometry CB 1 | | | | Geometry CB 2 | | | | Cutting radius |
| | ap in mm | | fz in mm/U | | ap in mm | | fz in mm/U | | |
| | min. | max. | min. | max. | min. | max. | min. | max. | |
| 0,1 mm | 0,05 | 0,30 | 0,02 | 0,05 | | | | | 0,1 mm |
| 0,2 mm | 0,06 | 0,40 | 0,03 | 0,08 | 0,50 | 0,80 | 0,08 | 0,12 | 0,2 mm |
| 0,4 mm | 0,10 | 0,80 | 0,04 | 0,15 | 0,60 | 1,50 | 0,08 | 0,20 | 0,4 mm |
| 0,8 mm | 0,15 | 1,00 | 0,08 | 0,20 | 0,70 | 1,50 | 0,15 | 0,30 | 0,8 mm |
| 1,2 mm | 0,30 | 1,50 | 0,12 | 0,25 | 0,80 | 2,00 | 0,20 | 0,40 | 1,2 mm |

The indicated cutting data are recommended values resulting from a chip breaker with the geometries CB 1 and CB 2. Using PDC and PDC-S cutting edges the machining performance should run without emulsion cooling.



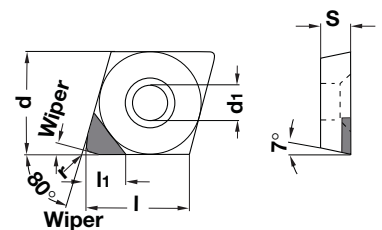
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CCGT Chip geometry CB1



| Insert size | BECKER poly- and monocrystalline diamond grades | | | | | | | | Dimensions mm | | | | | | | |
|-------------|---|--|--|--|-----|--|--|--|---------------|----------------|------|------|--------------------|--------------------|-----|-----|
| | PDC-S | | | | PDC | | | | CVD | | | | | | | |
| | DP | | | | DP | | | | d | d ₁ | s | l | PDC l ₁ | CVD l ₁ | r | |
| CCGT 060202 | | | | | | | | | | | | | | 3,4 | 2,4 | 0,2 |
| CCGT 060204 | | | | | | | | | 6,35 | 2,8 | 2,38 | 6,45 | | 3,2 | 2,2 | 0,4 |
| CCGT 060208 | | | | | | | | | | | | | | 3,0 | 2,0 | 0,8 |
| CCGT 09T302 | | | | | | | | | | | | | | 4,5 | 2,4 | 0,2 |
| CCGT 09T304 | | | | | | | | | 9,52 | 4,4 | 3,97 | 9,7 | | 4,3 | 2,2 | 0,4 |
| CCGT 09T308 | | | | | | | | | | | | | | 4,1 | 2,0 | 0,8 |
| CCGT 120404 | | | | | | | | | | | | | | 4,3 | 2,2 | 0,4 |
| CCGT 120408 | | | | | | | | | 12,70 | 5,5 | 4,76 | 12,9 | | 4,1 | 2,0 | 0,8 |

CCGT Chip geometry CB 1 Wiper geometry



| Insert size | BECKER poly- and monocrystalline diamond grades | | | | | | | | Dimensions mm | | | | | | | |
|---------------|---|--|--|--|-----|--|--|--|---------------|----------------|------|------|--------------------|--------------------|-----|-----|
| | PDC-S | | | | PDC | | | | CVD | | | | | | | |
| | DP | | | | DP | | | | d | d ₁ | s | l | PDC l ₁ | CVD l ₁ | r | |
| CCGT 060202-W | | | | | | | | | | | | | | 3,4 | 2,5 | 0,2 |
| CCGT 060204-W | | | | | | | | | 6,35 | 2,8 | 2,38 | 6,45 | | 3,3 | 2,3 | 0,4 |
| CCGT 09T302-W | | | | | | | | | | | | | | 4,5 | 2,5 | 0,2 |
| CCGT 09T304-W | | | | | | | | | 9,52 | 4,4 | 3,97 | 9,7 | | 4,4 | 2,3 | 0,4 |
| CCGT 120402-W | | | | | | | | | | | | | | 4,4 | 2,3 | 0,2 |
| CCGT 120404-W | | | | | | | | | 12,70 | 5,5 | 4,76 | 12,9 | | 4,2 | 2,1 | 0,4 |

■ =ex stock (subject to prior sale)

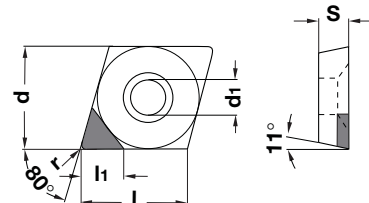
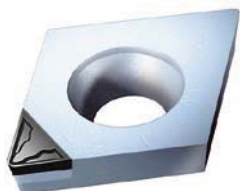
Ordering example: CCGT 09T304-PDC-CB

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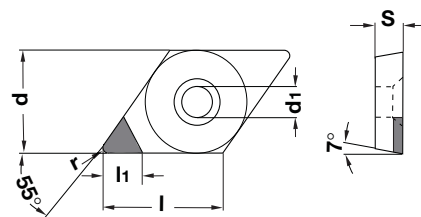
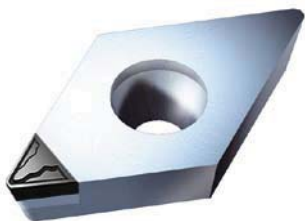


CPGT Chip geometry CB1



| Insert size | BECKER poly- and monocrystalline diamond grades | | | | | | | | | Dimensions mm | | | | | | |
|-------------|---|--|--|-----|--|--|-----|--|--|---------------|----------------|------|------|-----------------------|-----------------------|-----|
| | PDC-S | | | PDC | | | CVD | | | d | d ₁ | s | l | PDC l ₁ | CVD l ₁ | r |
| | DP | | | | | | DP | | | | | | | | | |
| CPGT 050202 | | | | | | | | | | 5,56 | 2,15 | 2,38 | 5,6 | 2,4 | 2,4 | 0,2 |
| CPGT 050204 | | | | | | | | | | | | | | 2,2 | 2,2 | 0,4 |
| CPGT 060202 | | | | | | | | | | | | | | 3,4 | 2,4 | 0,2 |
| CPGT 060204 | | | | | | | | | | 6,35 | 2,8 | 2,38 | 6,45 | 3,2 | 2,2 | 0,4 |

DCGT Chip geometry CB1



| Insert size | BECKER poly- and monocrystalline diamond grades | | | | | | | | | Dimensions mm | | | | | | |
|-------------|---|--|--|-----|--|--|-----|--|-----|---------------|----------------|------|------|-----------------------|-----------------------|-----|
| | PDC-S | | | PDC | | | CVD | | | d | d ₁ | s | l | PDC l ₁ | CVD l ₁ | r |
| | DP | | | | | | DP | | | | | | | | | |
| DCGT 070201 | | | | | | | | | | 6,35 | 2,8 | 2,38 | 7,75 | 3,8 | 2,7 | 0,1 |
| DCGT 070202 | | | | | | | | | 3,7 | | | | | 2,6 | 0,2 | |
| DCGT 070204 | | | | | | | | | 3,4 | | | | | 2,3 | 0,4 | |
| DCGT 070208 | | | | | | | | | 3,0 | | | | | 2,0 | 0,8 | |
| DCGT 11T301 | | | | | | | | | | 9,52 | 4,4 | 3,97 | 11,6 | 4,8 | 2,7 | 0,1 |
| DCGT 11T302 | | | | | | | | | 4,7 | | | | | 2,6 | 0,2 | |
| DCGT 11T304 | | | | | | | | | 4,3 | | | | | 2,3 | 0,4 | |
| DCGT 11T308 | | | | | | | | | 4,0 | | | | | 2,0 | 0,8 | |

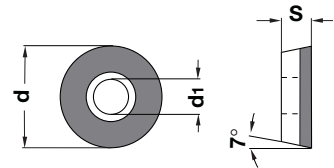
■ =ex stock (subject to prior sale)

Ordering example: CPGT 060204-CVD-CB 1



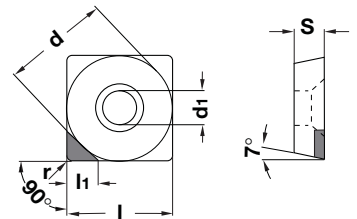
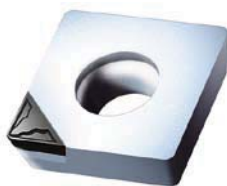
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RCGT Chip geometry CB1 FullFace



| Insert size | BECKER poly- and monocrystalline diamond grades | | | | | | Dimensions mm | | | | | | | | | | |
|----------------|---|--|-------|--|--|-----|---------------|--|-----|--|------|-----|----------------|---|---|----------------|---|
| | | | PDC-S | | | PDC | | | CVD | | | d | d ₁ | s | l | l ₁ | r |
| | DP | | | | | | DP | | | | | | | | | | |
| RCGT 0602M0-VM | | | ■ | | | ■ | | | | | 6,0 | 2,8 | 2,38 | - | - | - | |
| RCGT 10T3M0-VM | | | ■ | | | ■ | | | | | 10,0 | 4,4 | 3,97 | - | - | - | |

SCGT Chip geometry CB1



| Insert size | BECKER poly- and monocrystalline diamond grades | | | | | | Dimensions mm | | | | | | | | | | | |
|-------------|---|--|-------|--|--|-----|---------------|--|-----|--|-------|-----|----------------|-------|-----|-----------------------|-----------------------|---|
| | | | PDC-S | | | PDC | | | CVD | | | d | d ₁ | s | l | PDC l ₁ | CVD l ₁ | r |
| | DP | | | | | | DP | | | | | | | | | | | |
| SCGT 09T304 | | | | | | ■ | | | ■ | | 9,52 | 4,4 | 3,97 | 9,52 | 4,4 | 2,8 | 0,4 | |
| SCGT 09T308 | | | | | | ■ | | | ■ | | | | | | 4,3 | 2,6 | 0,8 | |
| SCGT 120404 | | | | | | ■ | | | | | 12,70 | 5,5 | 4,76 | 12,70 | 4,4 | 2,8 | 0,4 | |
| SCGT 120408 | | | | | | ■ | | | | | | | | | 4,3 | 2,6 | 0,8 | |

■ =ex stock (subject to prior sale)

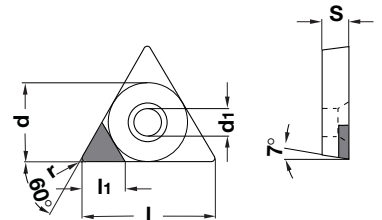
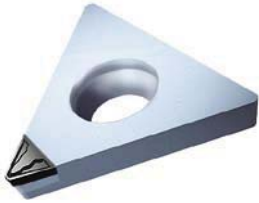
Ordering example: RCGT 0602M0-PDC-S-CB 1

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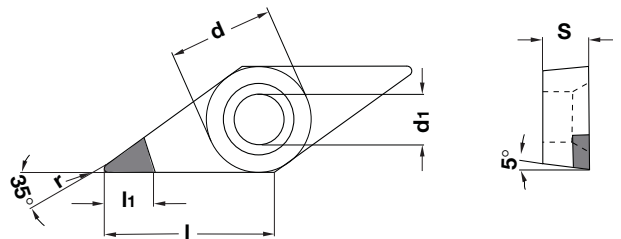


TCGT Chip geometry CB1



| Insert size | BECKER poly- and monocrystalline diamond grades | | | | | | | | | Dimensions mm | | | | | | | | |
|-------------|---|--|--|-----|--|--|-------|--|--|---------------|------|-----|----------------|------|-----|-----------------------|-----------------------|---|
| | PDC-S | | | PDC | | | PDC-L | | | CVD | | d | d ₁ | s | l | PDC l ₁ | CVD l ₁ | r |
| | DP | | | | | | DP | | | | | | | | | | | |
| TCGT 090202 | | | | | | | | | | | | | | | 3,7 | 2,6 | 0,2 | |
| TCGT 090204 | | | | | | | | | | | 5,56 | 2,5 | 2,38 | 9,6 | 3,4 | 2,3 | 0,4 | |
| TCGT 110202 | | | | | | | | | | | | | | | 3,7 | 2,6 | 0,2 | |
| TCGT 110204 | | | | | | | | | | | 6,35 | 2,8 | 2,38 | 11,0 | 3,4 | 2,3 | 0,4 | |
| TCGT 16T304 | | | | | | | | | | | | | | | 4,6 | 2,3 | 0,4 | |
| TCGT 16T308 | | | | | | | | | | | 9,52 | 4,4 | 3,97 | 16,5 | 4,2 | 2,0 | 0,8 | |

VBGT Chip geometry CB1



| Insert size | BECKER poly- and monocrystalline diamond grades | | | | | | | | | Dimensions mm | | | | | | | | |
|-------------|---|--|--|-----|--|--|-------|--|--|---------------|------|-----|----------------|------|-----|-----------------------|-----------------------|---|
| | PDC-S | | | PDC | | | PDC-L | | | CVD | | d | d ₁ | s | l | PDC l ₁ | CVD l ₁ | r |
| | DP | | | | | | DP | | | | | | | | | | | |
| VBGT 160402 | | | | | | | | | | | | | | | 5,9 | 3,0 | 0,2 | |
| VBGT 160404 | | | | | | | | | | | 9,52 | 4,4 | 4,76 | 16,6 | 5,5 | 3,0 | 0,4 | |
| VBGT 160408 | | | | | | | | | | | | | | | 5,0 | 3,0 | 0,8 | |
| VBGT 160412 | | | | | | | | | | | | | | | 4,4 | 3,0 | 1,2 | |

■ =ex stock (subject to prior sale)

Ordering example: VBGT 160408-CVD-CB 1

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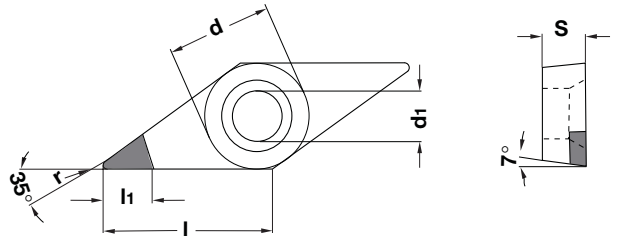
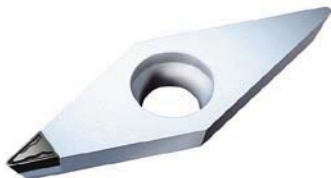
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VCGT Chip geometry CB1



| Insert size | BECKER poly- and monocrystalline diamond grades | | | | | | | | Dimensions mm | | | | | | | | | | |
|-------------|---|--|---|--|-----|--|--|--|---------------|---|--|--|---|----------------|---|-----|-----------------------|-----------------------|---|
| | PDC-S | | | | PDC | | | | CVD | | | | d | d ₁ | s | l | PDC l ₁ | CVD l ₁ | r |
| | DP | | | | | | | | DP | | | | | | | | | | |
| VCGT 110301 | | | | | | | | | | | | | | | | 5,4 | 3,0 | 0,1 | |
| VCGT 110302 | | | ■ | | | | | | | ■ | | | | | | 4,6 | 3,0 | 0,2 | |
| VCGT 110304 | | | ■ | | | | | | | ■ | | | | | | 3,9 | 3,0 | 0,4 | |
| VCGT 160402 | | | | | | | | | | ■ | | | | | | 5,9 | 3,0 | 0,2 | |
| VCGT 160404 | | | ■ | | | | | | | ■ | | | | | | 5,5 | 3,0 | 0,4 | |
| VCGT 160408 | | | ■ | | | | | | | ■ | | | | | | 5,0 | 3,0 | 0,8 | |
| VCGT 160412 | | | ■ | | | | | | | ■ | | | | | | 4,5 | 3,0 | 1,2 | |

■ =ex stock (subject to prior sale)

Ordering example: VCGT 110302-PDC-S-CB 1



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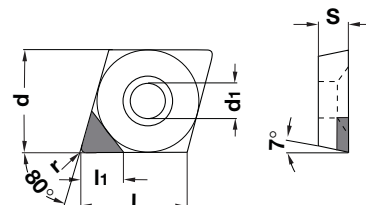
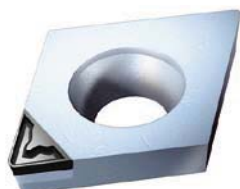
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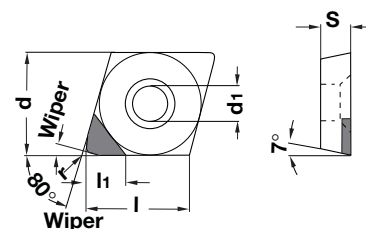
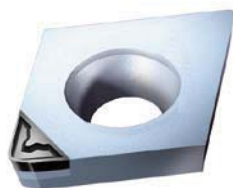


CCGT Chip geometry CB 2



| Insert size | BECKER poly- and monocrystalline diamond grades | | | | | | | | Dimensions mm | | | | | | | | |
|-------------|---|--|---|--|-----|--|--|--|---------------|--|-------|----------------|------|------|-----------------------|-----------------------|-----|
| | PDC-S | | | | PDC | | | | CVD | | d | d ₁ | s | l | PDC l ₁ | CVD l ₁ | r |
| | DP | | | | DP | | | | | | | | | | | | |
| CCGT 060202 | | | ■ | | | | | | ■ | | 6,35 | 2,8 | 2,38 | 6,45 | 3,4 | 2,4 | 0,2 |
| CCGT 060204 | | | ■ | | | | | | ■ | | | | | | 3,2 | 2,2 | 0,4 |
| CCGT 060208 | | | ■ | | | | | | ■ | | | | | | 3,0 | 2,0 | 0,8 |
| CCGT 09T302 | | | ■ | | | | | | ■ | | | | | | 4,5 | 2,4 | 0,2 |
| CCGT 09T304 | | | ■ | | | | | | ■ | | 9,52 | 4,4 | 3,97 | 9,7 | 4,3 | 2,2 | 0,4 |
| CCGT 09T308 | | | ■ | | | | | | ■ | | | | | | 4,1 | 2,0 | 0,8 |
| CCGT 120404 | | | ■ | | | | | | ■ | | | | | | 4,3 | 2,2 | 0,4 |
| CCGT 120408 | | | ■ | | | | | | ■ | | 12,70 | 5,5 | 4,76 | 12,9 | 4,1 | 2,0 | 0,8 |

CCGT Chip geometry CB 2 Wiper geometry



| Insert size | BECKER poly- and monocrystalline diamond grades | | | | | | | | Dimensions mm | | | | | | | | |
|---------------|---|--|---|--|-----|--|--|--|---------------|--|-------|----------------|------|------|-----------------------|-----------------------|-----|
| | PDC-S | | | | PDC | | | | CVD | | d | d ₁ | s | l | PDC l ₁ | CVD l ₁ | r |
| | DP | | | | DP | | | | | | | | | | | | |
| CCGT 060202-W | | | ■ | | ■ | | | | ■ | | 6,35 | 2,8 | 2,38 | 6,45 | 3,4 | 2,5 | 0,2 |
| CCGT 060204-W | | | ■ | | ■ | | | | ■ | | | | | | 3,3 | 2,3 | 0,4 |
| CCGT 09T302-W | | | ■ | | ■ | | | | ■ | | | | | | 4,5 | 2,5 | 0,2 |
| CCGT 09T304-W | | | ■ | | ■ | | | | ■ | | 9,52 | 4,4 | 3,97 | 9,7 | 4,4 | 2,3 | 0,4 |
| CCGT 120402-W | | | ■ | | ■ | | | | ■ | | | | | | 4,4 | 2,3 | 0,2 |
| CCGT 120404-W | | | ■ | | ■ | | | | ■ | | 12,70 | 5,5 | 4,76 | 12,9 | 4,2 | 2,1 | 0,4 |

■ =ex stock (subject to prior sale)

Ordering example: CCGT 060204-W-PDC-S-CB

ISO
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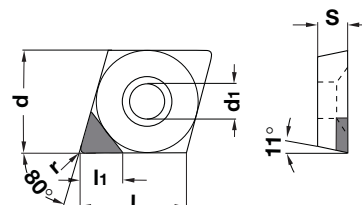
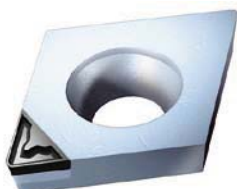
Schneidstoff
Cutting material
page 7

VC
Anwendungstechnik
Technology data
page 9



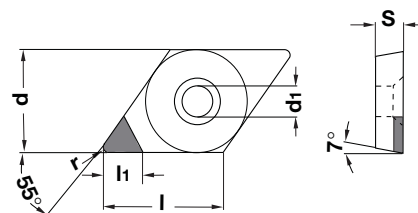
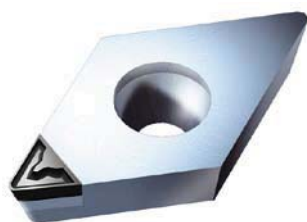
ISO-HardCut

CPGT Chip geometry CB 2



| Insert size | BECKER poly- and monocrystalline diamond grades | | | | | | | | Dimensions mm | | | | | | | | | | | | |
|-------------|---|--|---|--|-----|--|--|--|---------------|----------------|---|---|--------------------|--------------------|------|-----|------|------|-----|-----|-----|
| | PDC-S | | | | PDC | | | | CVD | | | | | | | | | | | | |
| | DP | | | | DP | | | | d | d ₁ | s | l | PDC l ₁ | CVD l ₁ | r | | | | | | |
| CPGT 060202 | | | ■ | | | | | | | | | | | | 3,4 | 2,4 | 0,2 | | | | |
| CPGT 060204 | | | ■ | | | | | | | | | | | | 6,35 | 2,8 | 2,38 | 6,45 | 3,2 | 2,2 | 0,4 |

DCGT Chip geometry CB 2



| Insert size | BECKER poly- and monocrystalline diamond grades | | | | | | | | Dimensions mm | | | | | | | | | | | | | |
|-------------|---|--|---|--|-----|--|--|--|---------------|----------------|---|---|--------------------|--------------------|------|-----|------|------|-----|-----|-----|-----|
| | PDC-S | | | | PDC | | | | CVD | | | | | | | | | | | | | |
| | DP | | | | DP | | | | d | d ₁ | s | l | PDC l ₁ | CVD l ₁ | r | | | | | | | |
| DCGT 070201 | | | ■ | | | | | | | | | | | | 6,35 | 2,8 | 2,38 | 7,75 | 3,8 | 2,7 | 0,1 | |
| DCGT 070202 | | | ■ | | | | | | | | | | | | | | | | | 3,7 | 2,6 | 0,2 |
| DCGT 070204 | | | ■ | | | | | | | | | | | | | | | | | 3,4 | 2,3 | 0,4 |
| DCGT 070208 | | | ■ | | | | | | | | | | | | | | | | | 3,0 | 2,0 | 0,8 |
| DCGT 11T301 | | | ■ | | | | | | | | | | | | | | | | | 4,8 | 2,7 | 0,1 |
| DCGT 11T302 | | | ■ | | | | | | | | | | | | | | | | | 4,7 | 2,6 | 0,2 |
| DCGT 11T304 | | | ■ | | | | | | | | | | | | | | | | | 4,3 | 2,3 | 0,4 |
| DCGT 11T308 | | | ■ | | | | | | | | | | | | | | | | | 4,0 | 2,0 | 0,8 |

■ =ex stock (subject to prior sale)

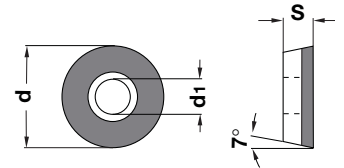
Ordering example: DCGT 11T304-CVD-CB

ultrahard

cutting materials

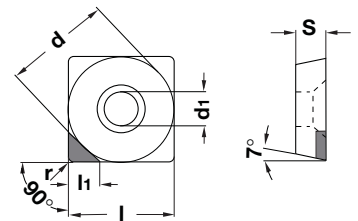
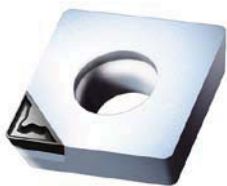


RCGT Chip geometry CB 2 FullFace



| Insert size | BECKER poly- and monocrystalline diamond grades | | | | | | | | Dimensions mm | | | | | | | | | |
|----------------|---|--|-------|--|--|--|-----|----|---------------|-----|--|--|------|----------------|------|---|----------------|---|
| | | | PDC-S | | | | PDC | | | CVD | | | d | d ₁ | s | l | l ₁ | r |
| | DP | | | | | | | DP | | | | | | | | | | |
| RCGT 0602M0-VM | | | ■ | | | | | | | | | | 6,0 | 2,8 | 2,38 | - | - | - |
| RCGT 10T3M0-VM | | | ■ | | | | | | | | | | 10,0 | 4,4 | 3,97 | - | - | - |

SCGT Chip geometry CB 2



| Insert size | BECKER poly- and monocrystalline diamond grades | | | | | | | | Dimensions mm | | | | | | | | | | | | | | |
|-------------|---|--|-------|--|--|--|-----|----|---------------|-----|--|--|-------|----------------|------|-------|--------------------|--------------------|------|-----|-----|-----|--|
| | | | PDC-S | | | | PDC | | | CVD | | | d | d ₁ | s | l | PDC l ₁ | CVD l ₁ | r | | | | |
| | DP | | | | | | | DP | | | | | | | | | | | | | | | |
| SCGT 09T304 | | | ■ | | | | | | ■ | | | | | | | 9,52 | 4,4 | 3,97 | 9,52 | 4,4 | 2,8 | 0,4 | |
| SCGT 09T308 | | | ■ | | | | | | ■ | | | | | | | | | | | 4,3 | 2,6 | 0,8 | |
| SCGT 120404 | | | ■ | | | | | | | | | | | | | | | | | 4,4 | 2,8 | 0,4 | |
| SCGT 120408 | | | ■ | | | | | | | | | | 12,70 | 5,5 | 4,76 | 12,70 | | | 4,3 | 2,6 | 0,8 | | |

■ =ex stock (subject to prior sale)

Ordering example: SCGT 120404-PDC-S-CB 2



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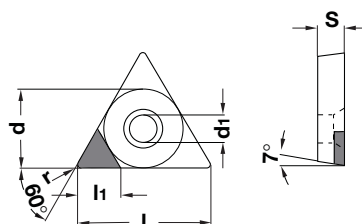
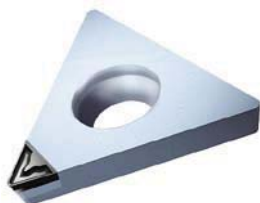


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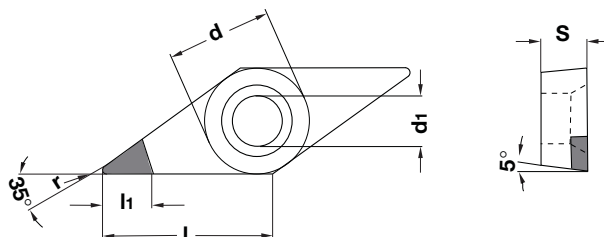
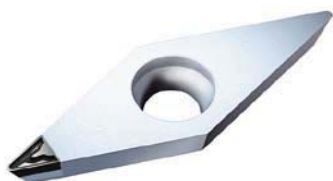
ISO-HardCut

TCGT Chip geometry CB 2



| Insert size | BECKER poly- and monocrystalline diamond grades | | | | | | | | | Dimensions mm | | | | | | | |
|-------------|---|--|-------|--|-----|--|-------|---|-----|----------------|-----|----------------|------|-----|----------------|-----|---|
| | | | PDC-S | | PDC | | PDC-L | | CVD | | d | d ₁ | s | l | PDC | CVD | r |
| | DP | | | | | | DP | | | l ₁ | | | | | l ₁ | | |
| TCGT 090202 | | | ■ | | | | | ■ | | 5,56 | 2,5 | 2,38 | 9,6 | 3,7 | 2,6 | 0,2 | |
| TCGT 090204 | | | ■ | | | | | ■ | | | | | | 3,4 | 2,3 | 0,4 | |
| TCGT 110202 | | | ■ | | | | | ■ | | 6,35 | 2,8 | 2,38 | 11,0 | 3,7 | 2,6 | 0,2 | |
| TCGT 110204 | | | ■ | | | | | ■ | | | | | | 3,4 | 2,3 | 0,4 | |
| TCGT 16T304 | | | ■ | | | | | ■ | | 9,52 | 4,4 | 3,97 | 16,5 | 4,6 | 2,3 | 0,4 | |
| TCGT 16T308 | | | ■ | | | | | ■ | | | | | | 4,2 | 2,0 | 0,8 | |

VBGT Chip geometry CB 2



| Insert size | BECKER poly- and monocrystalline diamond grades | | | | | | | | | Dimensions mm | | | | | | |
|-------------|---|--|-------|--|-----|--|----|-----|--|---------------|----------------|------|------|----------------|----------------|-----|
| | | | PDC-S | | PDC | | | CVD | | d | d ₁ | s | l | PDC | CVD | r |
| | DP | | | | | | DP | | | | | | | l ₁ | l ₁ | |
| VBGT 160402 | | | ■ | | | | | ■ | | 9,52 | 4,4 | 4,76 | 16,6 | 5,9 | 3,0 | 0,2 |
| VBGT 160404 | | | ■ | | | | | ■ | | | | | | 5,5 | 3,0 | 0,4 |
| VBGT 160408 | | | ■ | | | | | ■ | | | | | | 5,0 | 3,0 | 0,8 |
| VBGT 160412 | | | ■ | | | | | ■ | | | | | | 4,4 | 3,0 | 1,2 |

■ =ex stock (subject to prior sale)

Ordering example: TCGT 110204-CVD-CB 2



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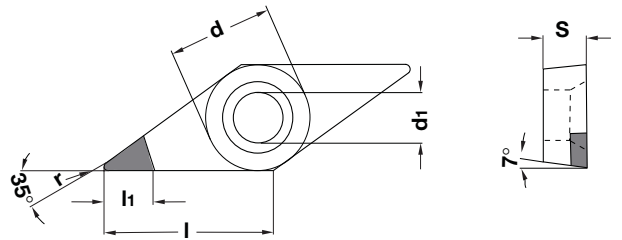
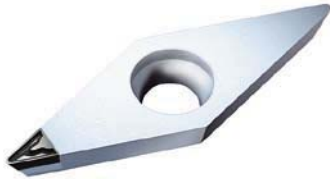
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ultrahard

cutting materials



VCGT Chip geometry CB 2



| Insert size | BECKER poly- and monocrystalline diamond grades | | | | | | | | | | Dimensions mm | | | | | | | | | | |
|-------------|---|--|-------|--|--|--|--|-----|--|---|----------------|----------------|-----|------|-----|----------------|------|-----|-----|-----|---|
| | | | PDC-S | | | | | PDC | | | | CVD | | | d | d ₁ | s | l | PDC | CVD | r |
| | DP | | | | | | | DP | | | I ₁ | I ₁ | | | | | | | | | |
| VCGT 110302 | | | ■ | | | | | | | | ■ | | | 6,35 | 2,9 | 3,18 | 11,1 | 5,4 | 3,0 | 0,2 | |
| VCGT 110304 | | | ■ | | | | | | | | ■ | | | 9,52 | 4,4 | 4,76 | 16,6 | 4,6 | 3,0 | 0,4 | |
| VCGT 110308 | | | ■ | | | | | | | ■ | | | 3,9 | | | | | 3,0 | 0,8 | | |
| VCGT 160402 | | | ■ | | | | | | | ■ | | | 5,9 | | | | | 3,0 | 0,2 | | |
| VCGT 160404 | | | ■ | | | | | | | ■ | | | 5,5 | 3,0 | 0,4 | | | | | | |
| VCGT 160408 | | | ■ | | | | | | | ■ | | | 5,0 | 3,0 | 0,8 | | | | | | |
| VCGT 160412 | | | ■ | | | | | | | ■ | | | 4,5 | 3,0 | 1,2 | | | | | | |

■ =ex stock (subject to prior sale)

Ordering example: VCGT 160412-CVD-CB 2



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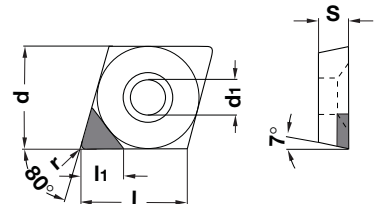
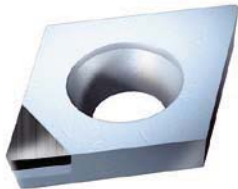


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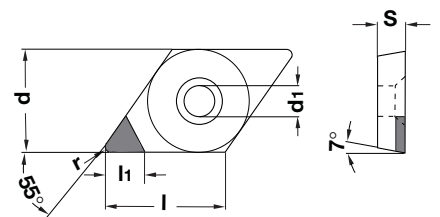
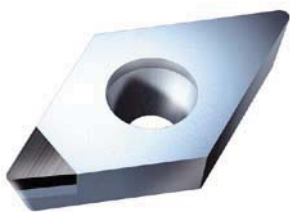
ISO-HardCut

CCGW Neutral



| Insert size | BECKER poly- and monocrystalline diamond grades | | | | | | | | Dimensions mm | | | | | | | | | | |
|-------------|---|--|--|--|-----|--|--|--|---------------|---|---|----------------|------|-----|-----------------------|-----------------------|-----|-----|-----|
| | PDC-S | | | | PDC | | | | CVD | | d | d ₁ | s | l | PDC l ₁ | CVD l ₂ | r | | |
| | DP | | | | DP | | | | | | | | | | | | | | |
| CCGW 060202 | | | | | | | | | | ■ | | | 6,35 | 2,8 | 2,38 | 6,45 | 3,4 | 2,4 | 0,2 |
| CCGW 060204 | | | | | | | | | | ■ | | | 6,35 | 2,8 | 2,38 | 6,45 | 3,2 | 2,2 | 0,4 |
| CCGW 09T302 | | | | | | | | | | ■ | | | 9,52 | 4,4 | 3,97 | 9,7 | 4,5 | 2,4 | 0,2 |
| CCGW 09T304 | | | | | | | | | | ■ | | | | | | | 4,3 | 2,2 | 0,4 |
| CCGW 09T308 | | | | | | | | | | ■ | | | | | | | 4,1 | 2,0 | 0,8 |

DCGW Neutral



| Insert size | BECKER poly- and monocrystalline diamond grades | | | | | | | | Dimensions mm | | | | | | | | | | |
|-------------|---|--|--|--|-----|--|--|--|---------------|---|---|----------------|------|-----|-----------------------|-----------------------|-----|-----|-----|
| | PDC-S | | | | PDC | | | | CVD | | d | d ₁ | s | l | PDC l ₁ | CVD l ₂ | r | | |
| | DP | | | | DP | | | | | | | | | | | | | | |
| DCGW 070202 | | | | | | | | | | ■ | | | 6,35 | 2,8 | 2,38 | 7,75 | 3,7 | 2,6 | 0,2 |
| DCGW 070204 | | | | | | | | | | ■ | | | | | | | 3,4 | 2,3 | 0,4 |
| DCGW 070208 | | | | | | | | | | ■ | | | | | | | 3,0 | 2,0 | 0,8 |
| DCGW 11T302 | | | | | | | | | | ■ | | | 9,52 | 4,4 | 3,97 | 11,6 | 4,7 | 2,6 | 0,2 |
| DCGW 11T304 | | | | | | | | | | ■ | | | | | | | 4,3 | 2,3 | 0,4 |
| DCGW 11T308 | | | | | | | | | | ■ | | | | | | | 4,0 | 2,0 | 0,8 |

■ =ex stock (subject to prior sale)

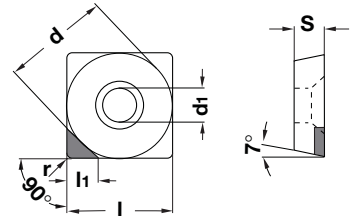
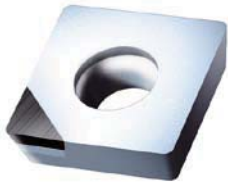
Ordering example: CCGW 09T304-CVD

ultrahard

cutting materials

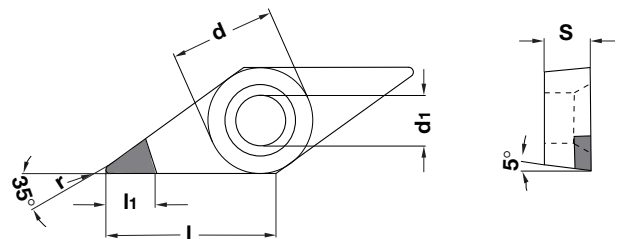


SCGW Neutral



| Insert size | BECKER poly- and monocrystalline diamond grades | | | | | | | | Dimensions mm | | | | | | | | | | |
|-------------|---|--|--|--|-----|--|--|--|---------------|--|---|----------------|------|-----|-----------------------|-----------------------|-----|-----|-----|
| | PDC-S | | | | PDC | | | | CVD | | d | d ₁ | s | l | PDC l ₁ | CVD l ₁ | r | | |
| | DP | | | | | | | | DP | | | | | | | | | | |
| SCGW 09T302 | | | | | | | | | ■ | | | | 9,52 | 4,4 | 3,97 | 9,52 | 4,5 | 3,0 | 0,2 |
| SCGW 09T304 | | | | | | | | | ■ | | | | | | | | 4,4 | 2,8 | 0,4 |
| SCGW 09T308 | | | | | | | | | ■ | | | | | | | | 4,3 | 2,6 | 0,8 |

VBGW Neutral



| Insert size | BECKER poly- and monocrystalline diamond grades | | | | | | | | Dimensions mm | | | | | | | | | | |
|-------------|---|--|--|--|-----|--|--|--|---------------|--|---|----------------|------|-----|-----------------------|-----------------------|-----|-----|-----|
| | PDC-S | | | | PDC | | | | CVD | | d | d ₁ | s | l | PDC l ₁ | CVD l ₁ | r | | |
| | DP | | | | | | | | DP | | | | | | | | | | |
| VBGW 160402 | | | | | | | | | ■ | | | | 9,52 | 4,4 | 4,76 | 16,6 | 5,9 | 3,0 | 0,2 |
| VBGW 160404 | | | | | | | | | ■ | | | | | | | | 5,5 | 3,0 | 0,4 |
| VBGW 160408 | | | | | | | | | ■ | | | | | | | | 5,0 | 3,0 | 0,8 |

■ =ex stock (subject to prior sale)

Ordering example: VBGW 160408-CVD



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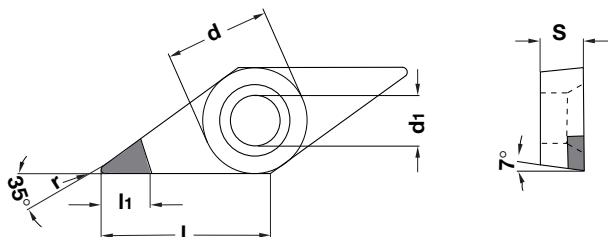
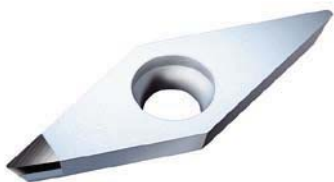


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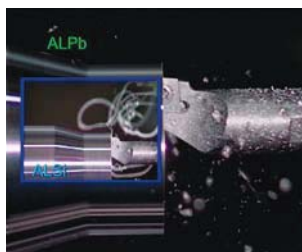
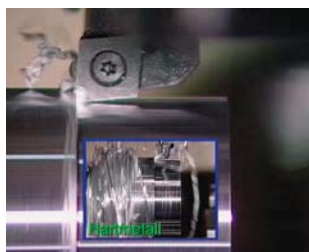
ISO-HardCut

VCGW Neutral

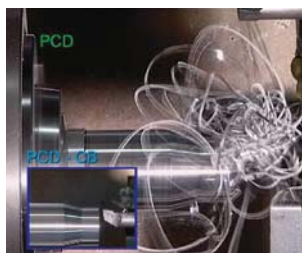


| Insert size | BECKER poly- and monocrystalline diamond grades | | | | | | | Dimensions mm | | | | | | |
|-------------|---|--|--|-----|--|-----|---|---------------|----------------|---|---|-----------------------|-----------------------|-----|
| | PDC-S | | | PDC | | CVD | | d | d ₁ | s | l | PDC l ₁ | CVD l ₁ | r |
| | DP | | | | | DP | | | | | | | | |
| VCGW 110302 | | | | | | | ■ | | | | | 5,4 | 3,0 | 0,2 |
| VCGW 110304 | | | | | | | ■ | | | | | 4,6 | 3,0 | 0,4 |
| VCGW 110308 | | | | | | | ■ | | | | | 3,9 | 3,0 | 0,8 |
| VCGW 160402 | | | | | | | ■ | | | | | 5,9 | 3,0 | 0,2 |
| VCGW 160404 | | | | | | | ■ | | | | | 5,5 | 3,0 | 0,4 |
| VCGW 160408 | | | | | | | ■ | | | | | 5,0 | 3,0 | 0,8 |

You can download free of charge pictures from our demofilm at www.beckerdiamant.de - Please indicate English.



Machining with chip breaker geometry



Machining without chip breaker geometry

■ =ex stock (subject to prior sale)

Ordering example: VCGW 110302-CVD



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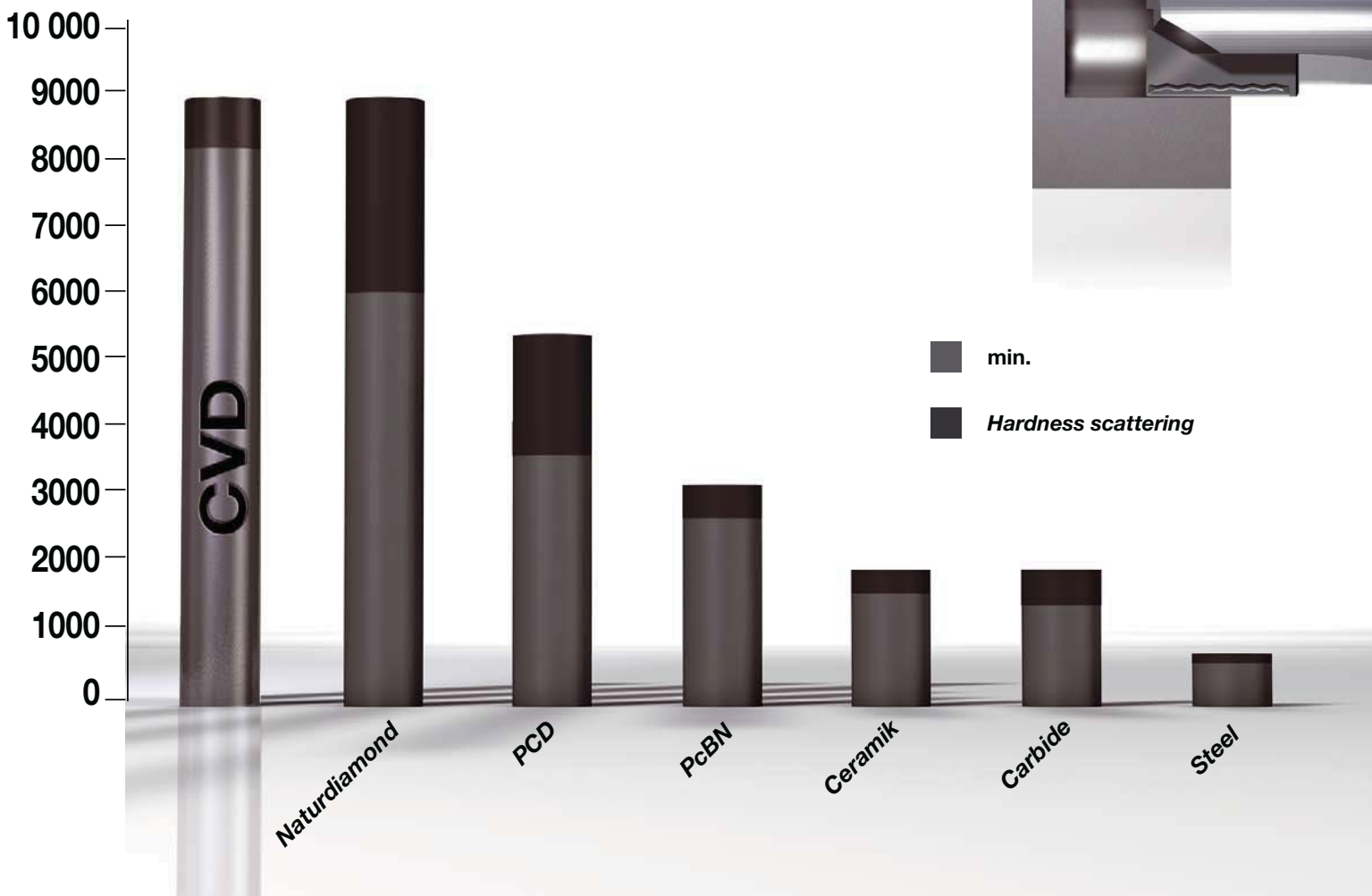
ultrahard

cutting materials



General cutting material allocation

Hardness (Knoop kg/mm²)



www.beckerdiamant.de

becker@beckerdiamant.de

FormCut
MonoCut
MiniCut
ISO-HardCut
MillCut



BECKER Diamantwerkzeuge GmbH

D- 82178 Puchheim / München, Benzstraße 13, Germany
Telefon: +49 (0) 89 89 02 28-0, Telefax: +49 (0) 89 89 02 28-30
becker@beckerdiamant.de, www.beckerdiamant.de