



MADE IN GERMANY



ENVIRONMENTAL TECHNOLOGIES

GRADER TOOLS



BETEK TUNGSTEN CARBIDE TOOLS



ENVIRONMENTAL
TECHNOLOGIES

- AGRICULTURE
- GRADER TOOLS
- FORESTRY & RECYCLING

IN USE WORLDWIDE

TUNGSTEN CARBIDE AND STEEL

Steel and carbide are two materials with totally different expansion coefficients when subjected to heat. Nevertheless, it is of steel and tungsten carbide that our tools are made, with tungsten carbide for the wear-resistant tip, and steel for the tool shank. Since tools reach high temperatures during use, extreme tensile stresses are generated. These stresses are absorbed by a special brazing material that joins the tungsten carbide tip to the steel section.

We have developed our own methods and systems for this brazing process, which is carried out on fully automated machines with the process covered in an inert protective gas. Manufacturing parameters are fully monitored and documented to ensure consistent quality. Afterwards, brazing shear strengths are checked to ensure that our "Masters of the construction site" lose no time due to broken tools!



BETEK HIGH-TECH TOOLS



1

CUSTOMER SERVICE

- Efficient, customised solutions based on flexible structures
- Personalised, quick response to customer requirements



2

RESEARCH & DEVELOPMENT

- Quick creation of samples and prototypes
- Competitive pricing thanks to close cooperation with all production units



3

TUNGSTEN CARBIDE MANUFACTURING

- High-purity raw materials are used for high strength
- Consistently high, pore-free tungsten carbide quality through precise process control thanks to years of experience and know-how



4

SOLDERING PRODUCTION UNIT

Production facilities and processes specially developed to perfection by experts in the combination of tungsten carbide and steel



5

AUTOMATION

Maintaining a competitive edge on the global market thanks to a high degree of automation and flexible manufacturing facilities



6

QUALITY ASSURANCE

Continuous quality testing of the entire manufacturing chain all the way up to the installation site, in conformity with DIN ISO 9001:2000 and DIN EN ISO 14001



7

TRAINING

User training courses at BETEK or on-site for sustainable, long-term commercial success and customer satisfaction



8

LOGISTICS

Quick responses thanks to:

- the use of the very latest IT and enhanced logistics networking
- Standard products kept in stock

OUR KNOW-HOW COMBINED WITH STATE-OF-THE-ART PRODUCTION TECHNOLOGIES GUARANTEES THE FINEST QUALITY, MADE IN GERMANY



Over 40 Years of TC Manufacturing Experience

Tools „Made in Germany“

Experienced, flexible partner for tungsten carbide tools

Customized development of the tools in close cooperation with your local dealer

BETEK provides the optimum tungsten carbide grade for each application, even for the most severe conditions

State-of-the-art technology in engineering and production

TOOL SYSTEMS FOR YOUR GRADER APPLICATION

BETEK is a leading international manufacturer of tungsten carbide and tungsten carbide equipped wear parts. The focal points in our range of products include road milling, foundation drilling, mining, tunnelling and recycling. Grader tools are a further application field of tungsten carbide and a new successful product area at BETEK.

All BETEK tool systems are developed and manufactured at the German company location in Aichhalden in the Black Forest. During the development of tools, the interplay between the cause variables of processing tasks, machines, holder systems and tools take central stage. The basis for the continuous success in the market is system partnerships with machine manufacturers and supplier companies that make BETEK an innovation and technology leader in many areas.

BETEK tungsten carbide tools for graders, snowplows and snow groomers are specifically designed for their application areas. The used tungsten carbide grades ensure high durability and break resistance. In combination with high quality steel bodies BETEK manufactures tool systems that provide excellent support to the performance of modern machines.

A high degree of efficiency is guaranteed through the balance of wear between the tungsten carbide and the steel body, thus insuring the complete use of the tungsten carbide part. This results in quality, time and cost advantages for the customer.

SCARIFIER BLADES

Versatile Solutions for Road Maintenance

BETEK scarifier blades are designed for the effective maintenance of dirt and gravel roads, as well as for breaking up icy roads during winter. Paired with BETEK carbide bits, these blades offer an ideal combination for easy, efficient, and cost-effective performance.

Available in two lengths (3' and 4') and two material thickness options:

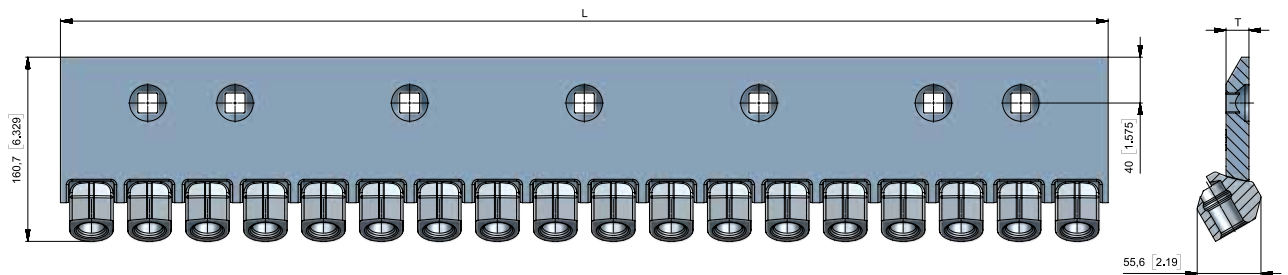
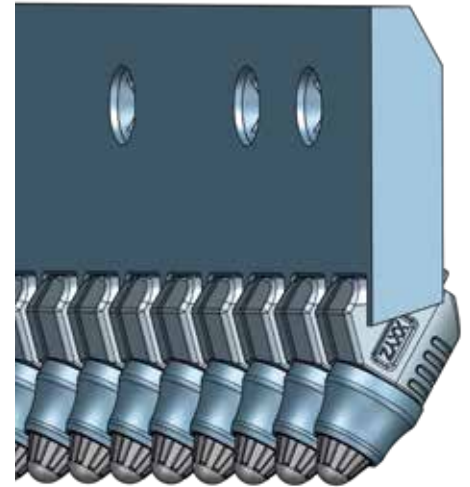
- **Standard Version:**

20 mm thickness, suitable for light to medium conditions.

- **Heavy-Duty Version:**

30 mm thickness, built for demanding applications in all conditions.

BETEK scarifier blades are compatible with various screw sizes, making them adaptable to all common systems. Additionally, a range of accessories is available upon request, further enhancing versatility and ease of use.



- **BX1036**

BX914,4x160,8x55,7

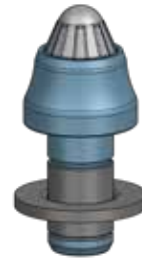


GRAVEL ROAD MAINTENANCE



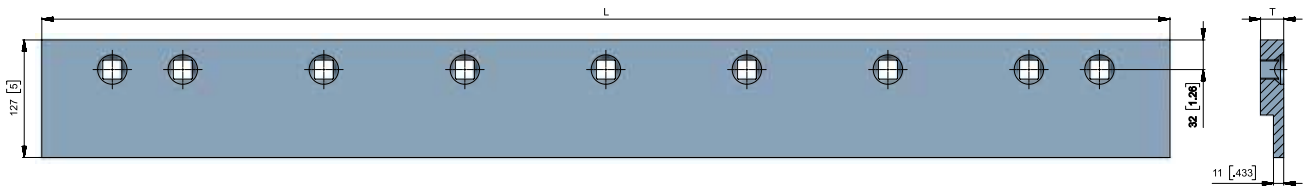
Replacement tool holder out of micro alloyed heat treatable steel to fit 22mm scarifier bits (see page 11 and following)

Especially designed durable tungsten carbide replacement bits for maximum service life.



Code Part No./ Order	Length mm ["]	Width mm ["]	Thickness mm ["]	Weight kg	Bolt Diameter Ø mm ["]
BX1036	914 [36]	127 [5]	20 [0.787]	21.6	16 [0.625]
BX1037	914 [36]	127 [5]	20 [0.787]	21.6	19 [0.750]
BX1038	1219 [48]	127 [5]	20 [0.787]	28.8	19 [0.750]
BX1039	1219 [48]	127 [5]	20 [0.787]	28.8	16 [0.625]
BX1040	1219 [48]	127 [5]	30 [1.181]	38.4	19 [0.750]
BX1041	914 [36]	127 [5]	30 [1.181]	21.6	16 [0.625]
BX1042	914 [36]	127 [5]	30 [1.181]	28.7	19 [0.750]
BX1043	1219 [48]	127 [5]	30 [1.181]	38.4	16 [0.625]

STEEL COVER BLADES



■ BX1055

BX1219, 2x127x2

In very tough applications, BETEK recommends the use of additional cover plates to protect the steel body of the Scarifier Blade against wear. The blade made out of wear-resistant steel can easily be bolted onto the Scarifier Blade.

Code Part No./ Order	Length [L] mm	Width mm	Thickness mm	Weight kg	Bolt Diameter Ø mm
BX1052	914 [36]	127 [50]	25 [0.98]	17.5	16 [0.625]
BX1053	914 [36]	127 [50]	25 [0.98]	17.5	19 [0.750]
BX1054	1219 [48]	127 [50]	25 [0.98]	23.4	16 [0.625]
BX1055	1219 [48]	127 [50]	25 [0.98]	23.4	19 [0.750]

SCARIFIER BLADES -HOLDERS AND CUTTER BITS

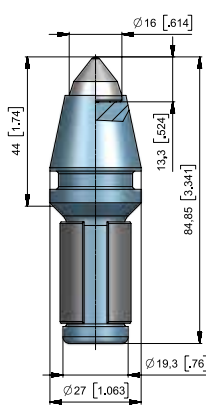
Available in various diameters

Retainers and tungsten carbide tips are matched exactly to the operating conditions

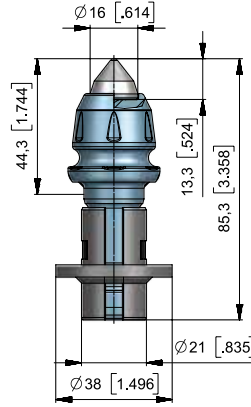
With various holders and mounting tools

SHANK SYSTEM

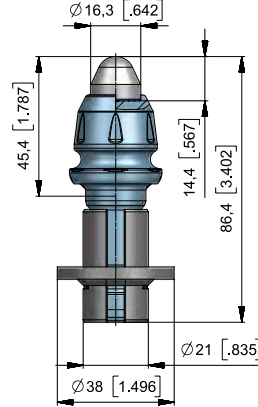
► Ø 19,4 MM/0,76"



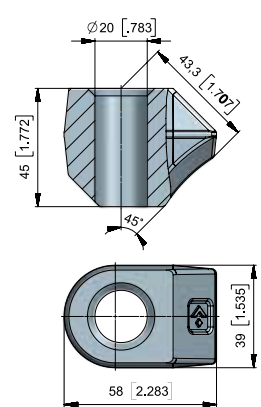
• BSH09
B3



• BSH219
BG20H-60.3344



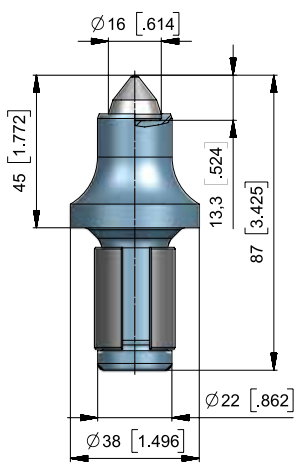
• BSH254
BG20H-16.3045



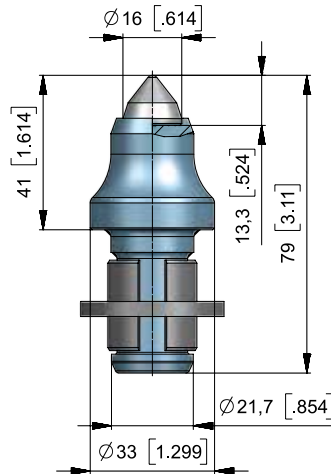
• BHR05
B10



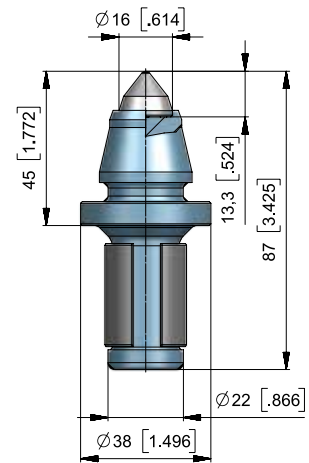
➤ Ø 22 MM/0,87"




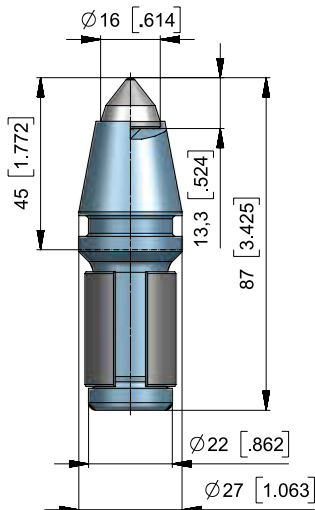
■ **BC41**
B3S/22 



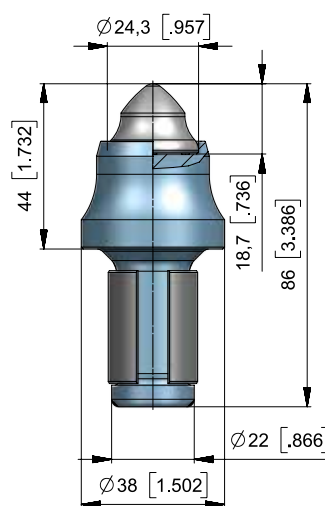
■ **BC133**
BG22H-60.3845 



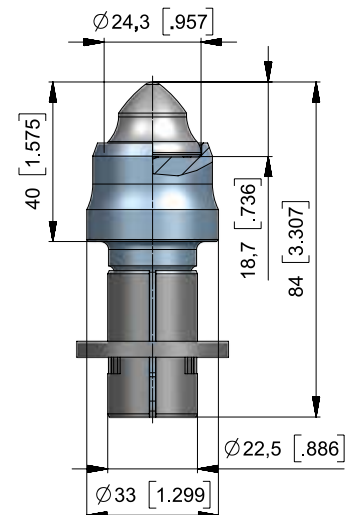
■ **BC81**
BG22H-60.3845 



■ **BC49**
B3/22 



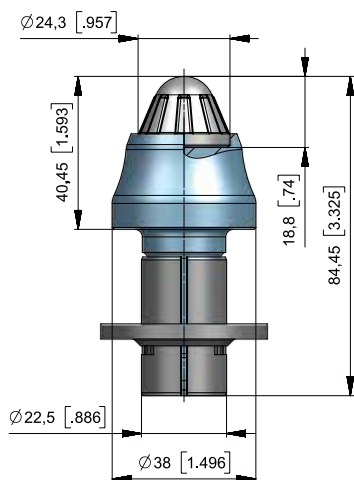
■ **BC43**
B9/22 



■ **BC1016**
BG22H-68.3844 

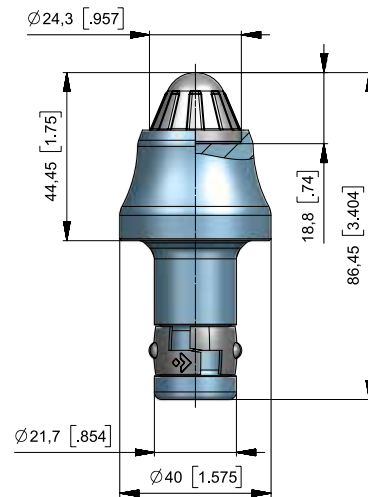
ROAD ROCKER SHANK SYSTEM

> Ø 22 MM/0,87"



NEW

■ **BC1004**
BG22H-24.4444



NEW

■ **BC1005**
BG22K-25.4044

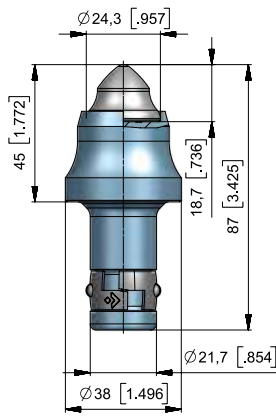


ROAD ROCKER

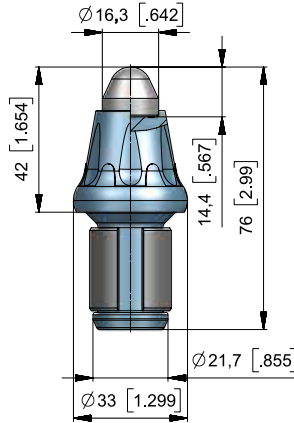



SHANK SYSTEM

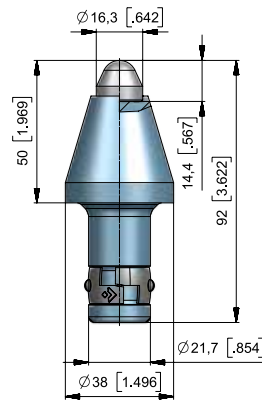
> Ø 22 MM/0,87"




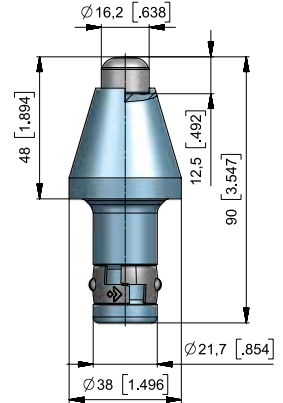
• **BC70**
BG22K-68.3845 




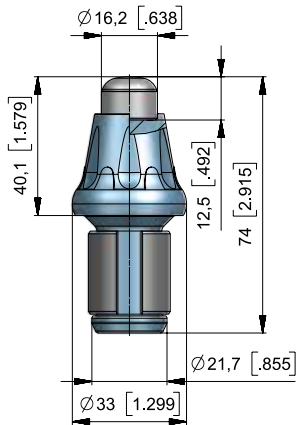
• **BC72**
BG22H-16.3342 




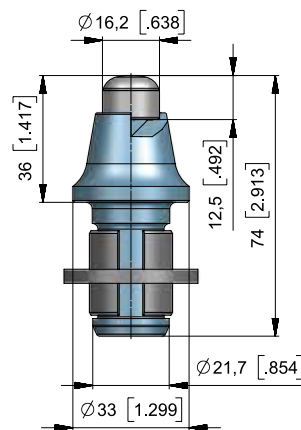
• **BC73**
BG22K-16.3850 



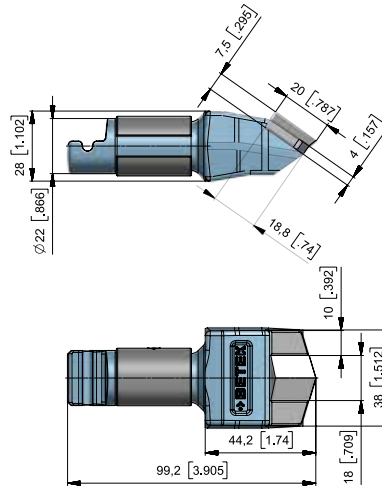
• **BC74**
BG22K-16.3848 



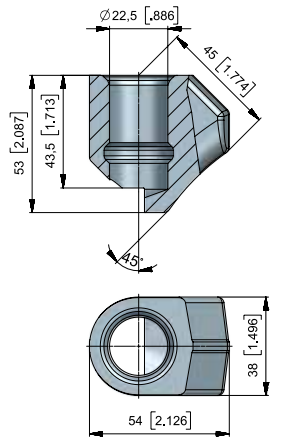
• **BC75**
BG22H-16.3340A 



• **BC131**
BG22H-16.3840 

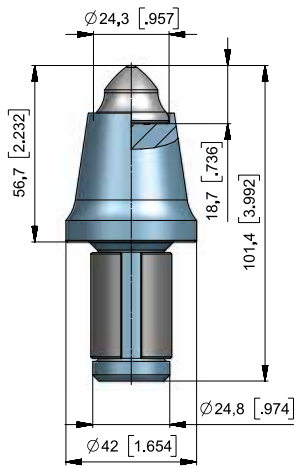


• **BFR09**
BFR99x40 

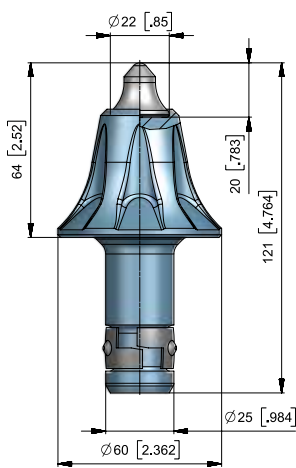


• **BHR223**
B22.3845 

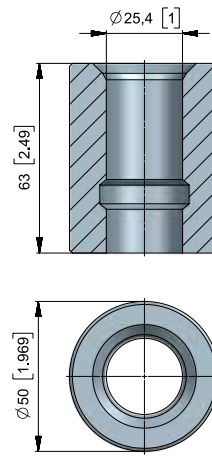
► Ø 25 MM/1,0"



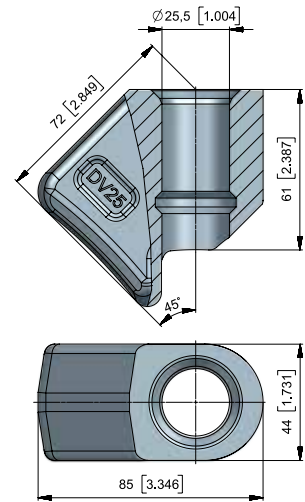
■ **BTK134**
BG25H-68.4257



■ **BTK80**
WR8-E



■ **BHR167**
BHRd=50xBd=25



■ **BHR31**
DV25



ACCESSORIES



■ **BZ04**
Assembly



■ **BZ43**
Disassembly



■ **BZ42**
Disassembly



■ **BZ46**
Disassembly

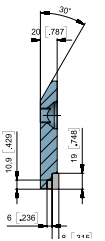
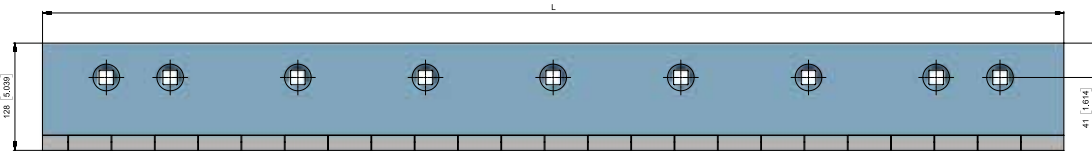
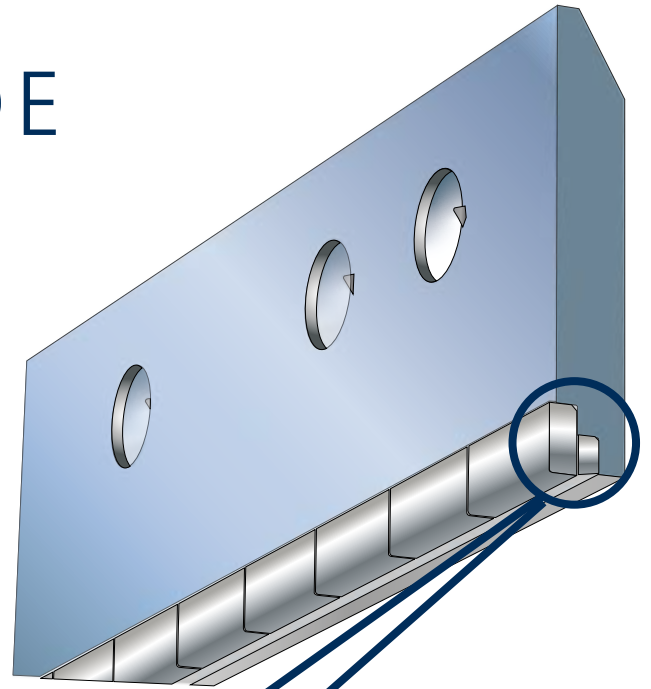
DUAL CARBIDE BLADES

BETEK Dual Carbide Blades:

By combining two different carbides, BETEK has created a grader blade that is perfectly suited to highly abrasive road conditions:

- The front carbide is made of a wear-resistant and impact-resistant carbide grade and is insensitive to impacts.
- The rear carbide is made of a hard grade and is characterized by high wear resistance to abrasion.

BETEK recommends the use in very abrasive conditions with low impact stress. The easy installation of the edges reduces the indirect wear part costs for installation and maintenance and thus ensures good cost-effectiveness.



■ **BX1044**
Bx1219,2x129x22

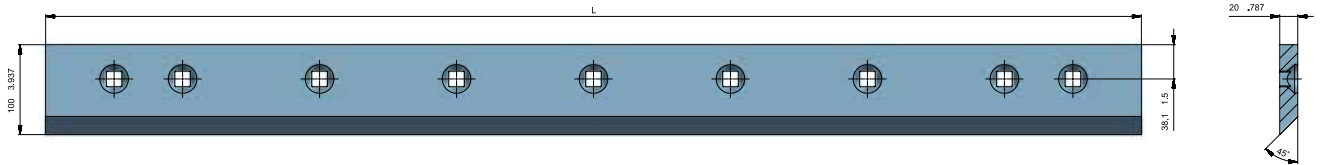
DUAL CARBIDE BLADES

Code Part No./ Order	Length mm ["]	Width mm ["]	Thickness mm ["]	Weight kg	Bolt Diameter Ø mm ["]
BX1044	1219 [48]	129 [5.1]	20 [0.787]	24.4	16 [0.625]
BX1045	914 [36]	129 [5.1]	20 [0.787]	18.3	16 [0.625]
BX1046	914 [36]	129 [5.1]	20 [0.787]	18.3	19 [0.750]
BX1047	1219 [48]	129 [5.1]	20 [0.787]	24.4	19 [0.750]

GRAVEL ROAD MAINTENANCE

For very tough applications, BETEK recommend the use of additional cover plates in order to protect the steel parts of the Dual Carbide blade against wear.

The blade is made of wear resistant steel. It can easily bolted onto the Dual Carbide blade.



■ BX1056

BX1219,2x100x20

DUAL CARBIDE COVER BLADES

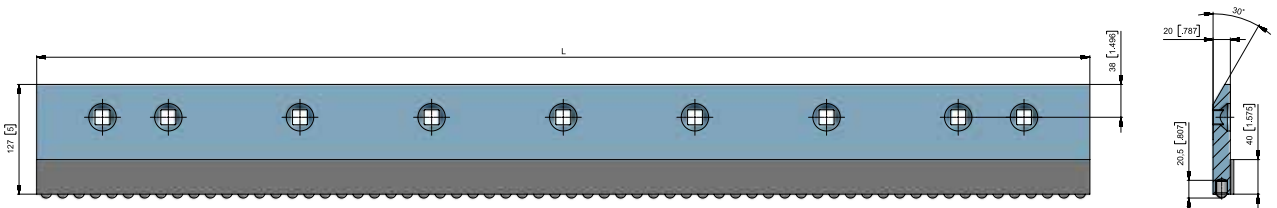
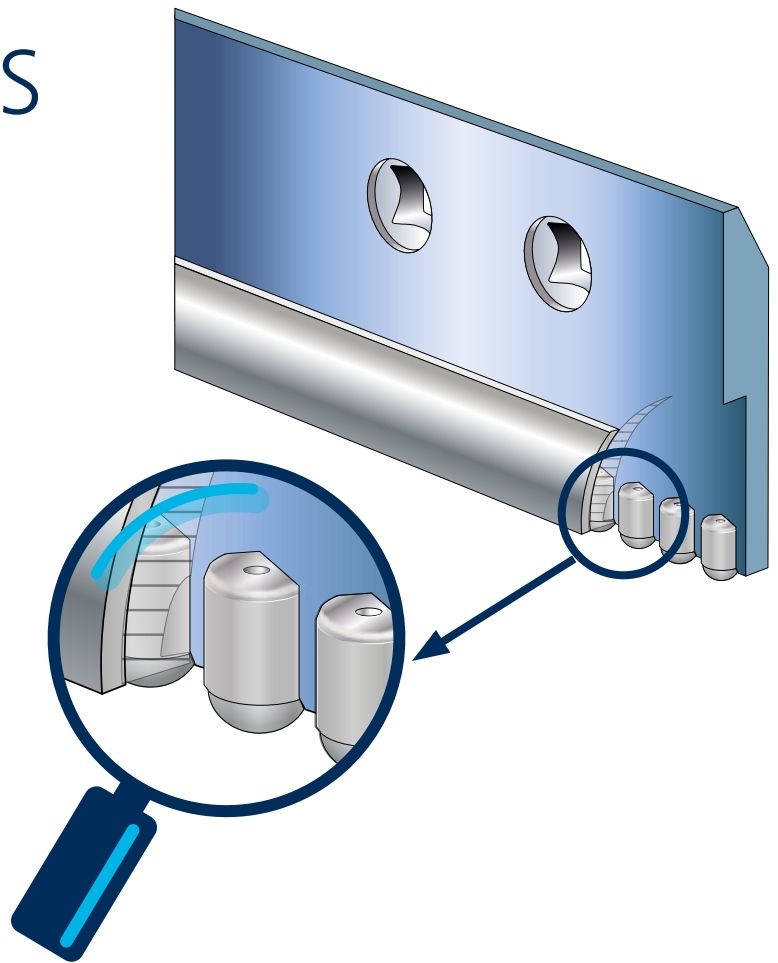
Code Part No./ Order	Length [L] mm	Width mm	Thickness mm	Weight kg	Bolt Diameter Ø mm
BX1056	1219 [48]	100 [3.9]	20 [0.787]	16.5	16 [0.625]
BX1057	914 [36]	100 [3.9]	20 [0.787]	12.3	16 [0.625]
BX1058	914 [36]	100 [3.9]	20 [0.787]	12.3	19 [0.750]
BX1059	1219 [48]	100 [3.9]	20 [0.787]	16.5	19 [0.750]





TUNGSTEN PIN BLADES

Standard carbide blades run the risk of cracking and chipping during use in very hard conditions. With individual pins made from a highly wear and break resistant carbide grade. BETEK offers a very robust blade with maximum performance. BETEK recommends additional BeCoat wear protection on the front.

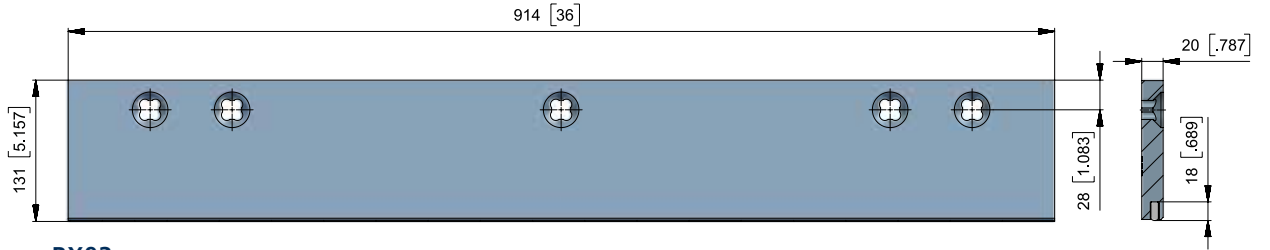


- **BX1049**
BX1219,2x131,5x24

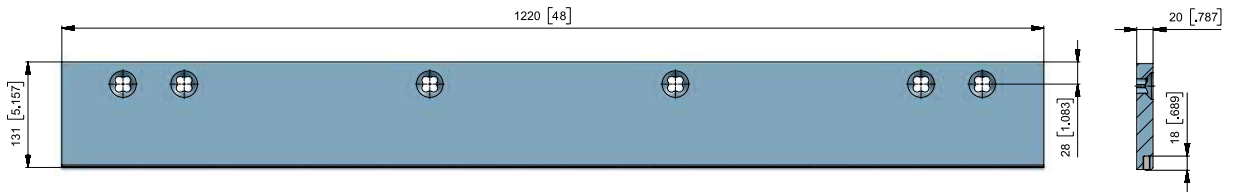
PIN BLADES

Code Part No./ Order	Length mm ["]	Width mm ["]	Thickness mm ["]	Weight kg	Bolt Diameter Ø mm ["]
BX1048	1219 [48]	127 [5]	20 [0.787]	25.6	19 [0.750]
BX1049	1219 [48]	127 [5]	20 [0.787]	25.6	16 [0.625]
BX1050	914 [36]	127 [5]	20 [0.787]	19.2	19 [0.750]
BX1051	914 [36]	127 [5]	20 [0.787]	19.2	16 [0.625]

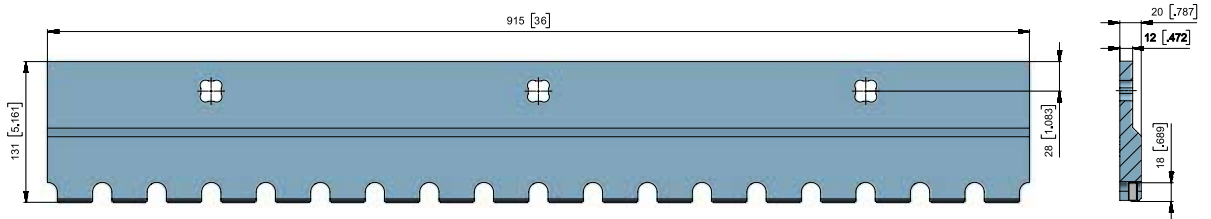
SNOW PLOW BLADES



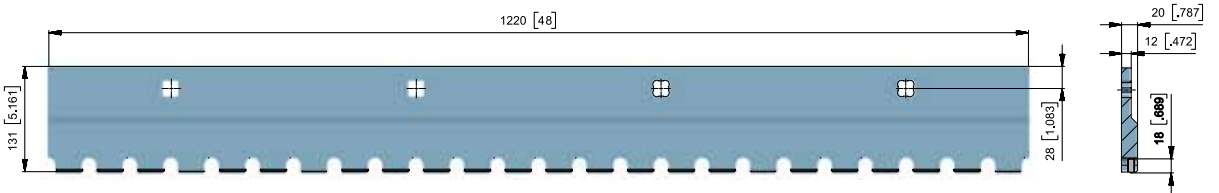
■ **BX93**
BX915x130x20



■ **BX94**
BX1220x130x20



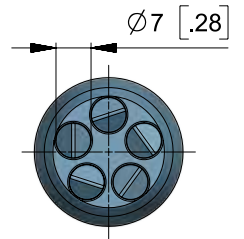
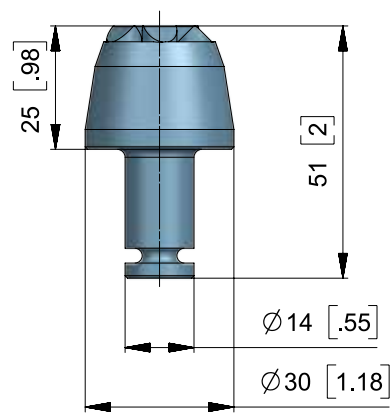
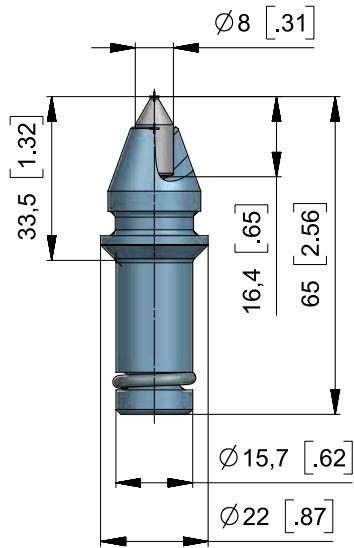
■ **BX76**
BX915x130x20S



■ **BX77**
BX1220x130x20S



SNOW GROOMERS



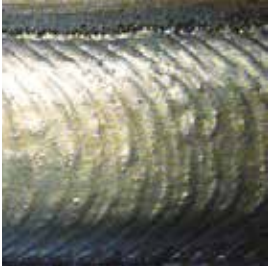
■ **BM08**
BM8-15.8/FK 

■ **BM69**
BM7-14/2F 



FLEXIBLE WEAR PROTECTION

> BeCoat® HARDFACING TYPES



FeCr
hardfacing



NiCr + FTC
hardfacing



TC grit
hardfacing

> BeCoat® ADVANTAGES

- Cost reduction due to less downtime
- Coating thickness $\leq 6\text{mm}$
- Evenly distributed fused tungsten carbide (FTC) and low dilution
- Engineering and consulting
- Proven to withstand even the harshest environments

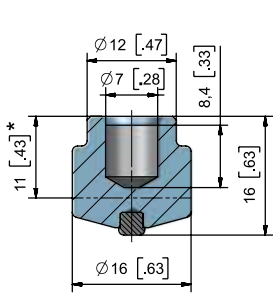


EXTENSIVE WEAR PROTECTION

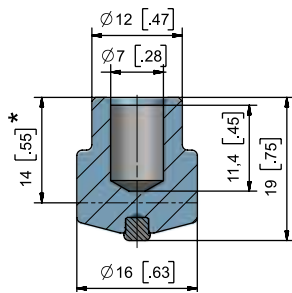


> OVERVIEW

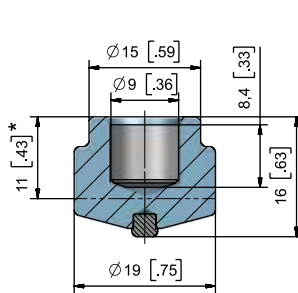
Betek can provide the appropriate stud welding machine for the TungStuds wear protection system.



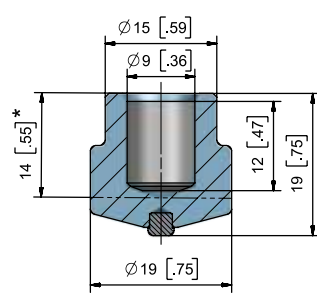
• **BTS01** BTSD16/16 



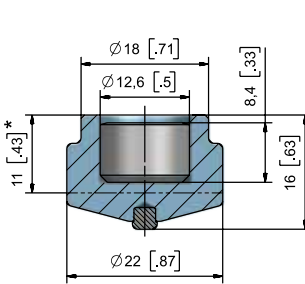
• **BTS02** BTSD16/19 



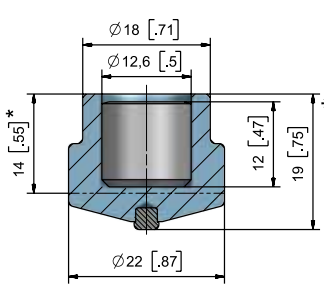
• **BTS03** BTSD19/16 



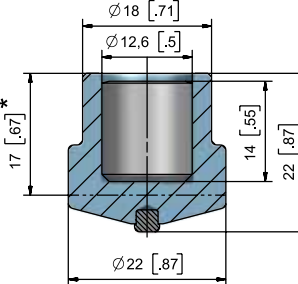
• **BTS04** BTSD19/19 



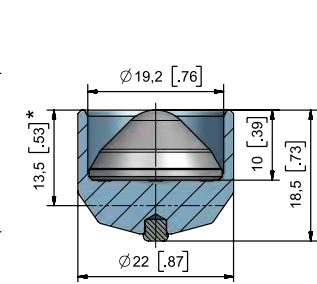
• **BTS05** BTSD22/16 



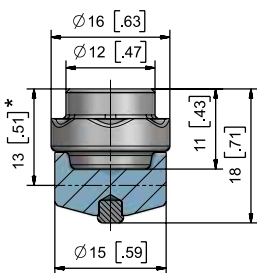
• **BTS06** BTSD22/19 



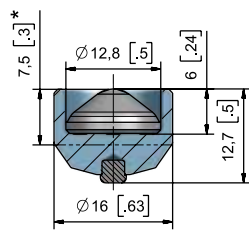
• **BTS07** BTSD22/22 



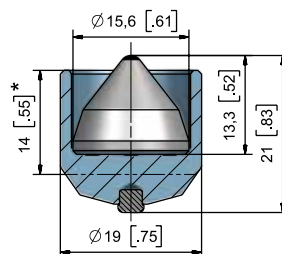
• **BTS08** BTSD22/18,5SG 



• **BTS10B** BTSD16/18B 



• **BTS20** BTSD16/12,5SG 

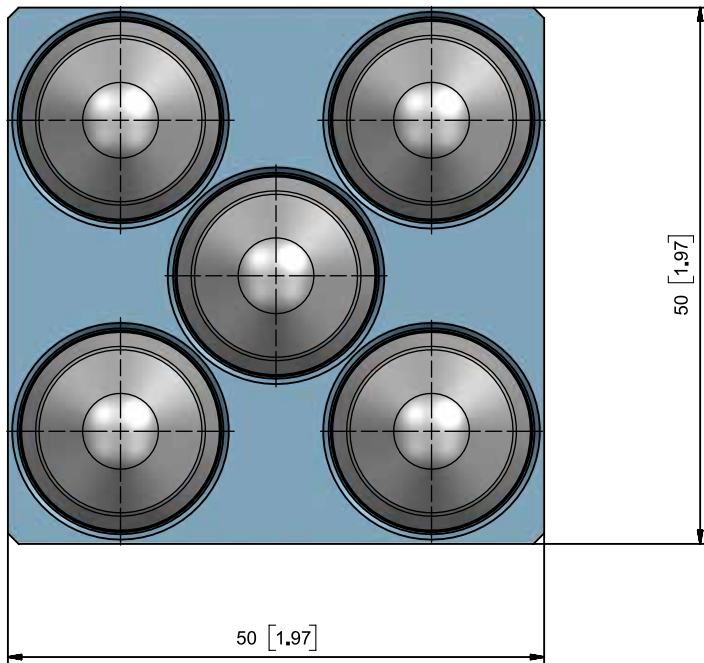
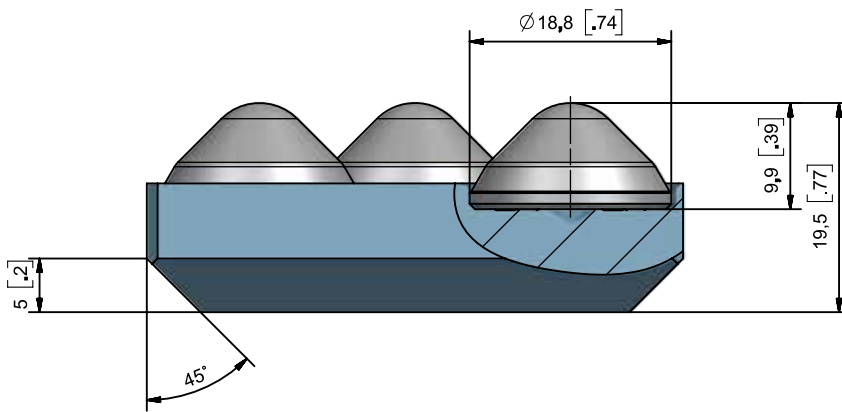


• **BTS100** BTSD19/15,6SG 

*Height after welding

EXTENSIVE WEAR PROTECTION

› BTS-PLATES



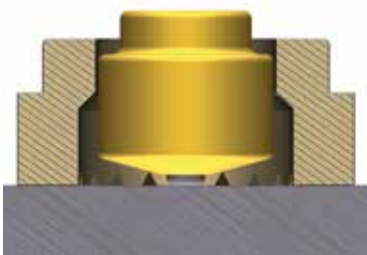
DIMENSIONS

Width in mm	Length in mm
50	50
75	75
100	100
125	125
150	150

Other sizes on request

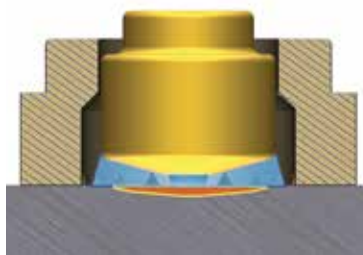
› WELDING PROCESS

1



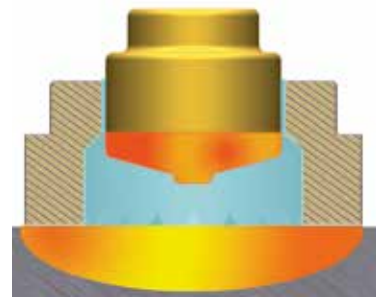
- The TungStud should be placed on the steel surface
- The ceramic ferrule protects the welding area around

2



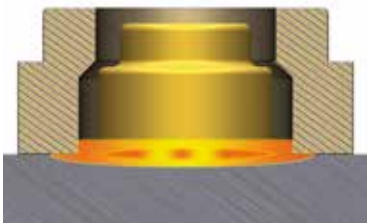
- Current flow is applied
- The TungStud raises up as soon as the arc ignites

3



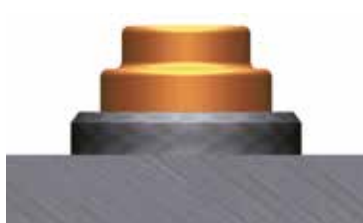
- The arc causes a specific melting of the TungStud and the steel surface

4



- The TungStud plunges into the melted steel surface

5



- The welding connection between TungStud and steel surface is completed

BENEFITS

- Wear resistant thanks to the carbide core
- Quick welding process
- Suitable for uneven surfaces
- Simply replaceable
- Less maintenance › Higher productivity
- Less downtime › Cost reduction

PERFORMANCE

› CUTTING WEAR PROTECTION

- Grid pattern is recommended
- Cutting wear protection due to the conical carbide shape

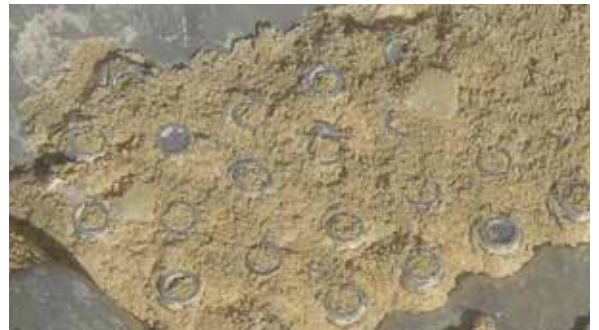
EXTENSIVE WEAR PROTECTION



› ROCK BOX EFFECT

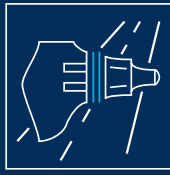
- Grid pattern is recommended
- Rock-Box-Effect due to the cylindrical carbide shape

EXTENSIVE WEAR PROTECTION





➤ BETEK



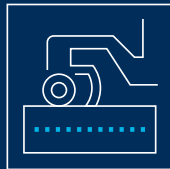
- ROAD MILLING
- SURFACE MINING
- STABILISING

SURFACE TECHNOLOGIES



- FOUNDATION DRILLING
- MINING
- TRENCHING
- TUNGSTUDS
- DRUM CUTTERS

UNDERGROUND TECHNOLOGIES



- AGRICULTURE
- GRADER TOOLS
- FORESTRY & RECYCLING

ENVIRONMENTAL TECHNOLOGIES



- CRUSHING & MIXING
- TUNGSTEN CARBIDE
- RAIL TRACK CONSTRUCTION
- INDUSTRIAL SOLUTIONS

INDUSTRIAL TECHNOLOGIES



- TIRE STUDS
- SCARIFIER CUTTERS
- POLE TIPS
- HORSESHOE TIPS

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