

Kennametal

The proven global leader in the design, manufacture, implementation, and sale of premium-quality tooling systems for underground and surface mining, road rehabilitation, aggregates production, and waste recycling!

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CONSTRUCTION

Drilling Systems



TRENCHING | ROAD REHABILITATION | DRILLING



For Drilling, Road Planing, and Trenching.

Kennametal tools are the toughest, strongest, and longest lasting in the mining and construction industries. Our carbide-tipped cutting tools feature Kennametal's exclusive macrocrystalline tungsten carbide for superior cutting performance in the most demanding applications. Our toolholder blocks and drums are renowned for their exceptional durability and wear resistance.

For 50 years, Kennametal customers have relied on us to provide them with cutting edge technology and technical support and service that is unmatched in the mining and construction industries. We provide complete tooling solutions that optimize productivity...to keep you, our customers, competitive and profitable!

Kennametal, the block style K, "Kennametal. The Construction Tool Authority.", KenCast, and KenClaw are trademarks of Kennametal Inc. and are used as such herein. The absence of a product or service name or logo from this list does not constitute a waiver of Kennametal's trademark or other intellectual property rights concerning that name or logo.

MilClaw is a trademark of Mills Machine Company and is used as such herein.

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NOTE: Tool images in this catalog are not shown to scale.

Kennametal Inc. encourages the safe use of its products.

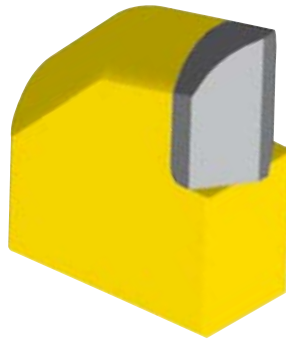
To help avoid personal injury or damage to tools, please follow these guidelines:

- Wear approved personal protection equipment, including eye and ear protection, steel-toed shoes, hard hat, and vest.
- Make sure tools are properly seated and securely retained.
- Do not strike tools with metal objects. Carbide tips could shatter.
- Exercise care when removing tools.
- Inspect tools daily. Do not use dull, cracked, burred, or bent tools.
- Operate all machines with safety in mind. Stand clear of machines in use, and make sure protective guards are in place.
- Do not change tools when the auger is moving or still engaged.



Drilling Innovations

***Our long-life tools and cutting systems
get your high holmaking and boring
costs under control!***



Directional Drilling

Our new directional drilling tools yield superior cost savings, long tool life, and unparalleled impact strength — in even the most challenging operating conditions!



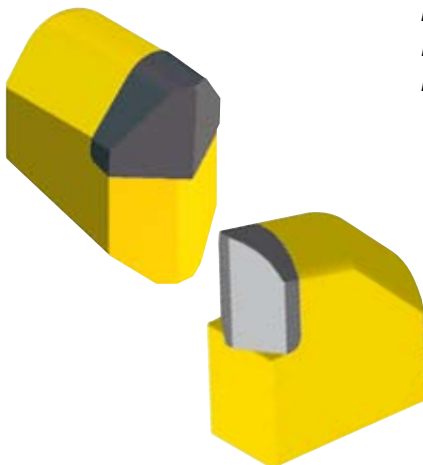
Kenclaw™

Kenclaw surface drilling tools produce blast and water-well holes at least twice as fast versus conventional teeth — with less dust, too!



New CM Series Tooling

- CMM65 features cap-style, flanged solid carbide tip for better wear resistance in hard cutting conditions.
- CM66 features a sharp tip-style profile that provides excellent penetration in medium cutting conditions.
- Both tools have a long retainer for better block bore protection.
- Wide-collar body style gives maximum block face protection.



New Cutting Tools... For PROVEN, Premium Performance!

- Customized especially for directional drilling.
- Superior impact strength for long-lasting tool life.
- Shorter versions of standard longer tool sizes for greater breakage resistance.



Our C31FSRHD Conical

- Full-size steel body with beveled design for better performance when drilling concrete and hard rock.
- Excellent penetration from narrow, solid carbide tip.
- Dimpled short retainer for secure holding power in high-rpm machines.

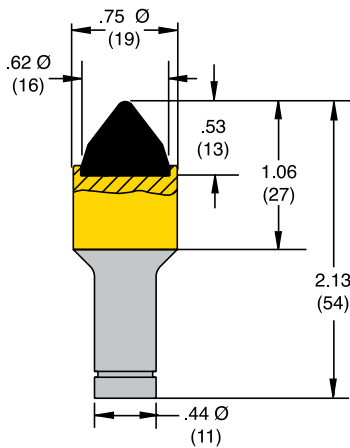


CM Series – Cutting Tools and Blocks

.44" Shank

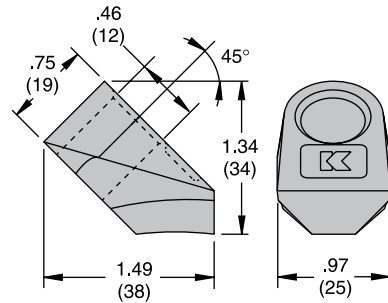
CM42 1010778

For drilling in soft to medium conditions.



CMB4 block 1012281

Accepts CM42 cutting tools. All blocks are easily welded with a 7018 or 8018 low-hydrogen rod or equivalent wire.



.55" Shank

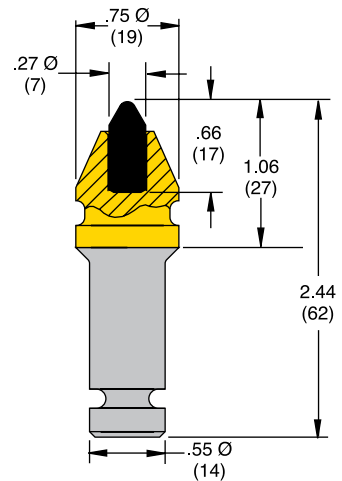
CM4 snap ring 1012223

For CM42 tools.



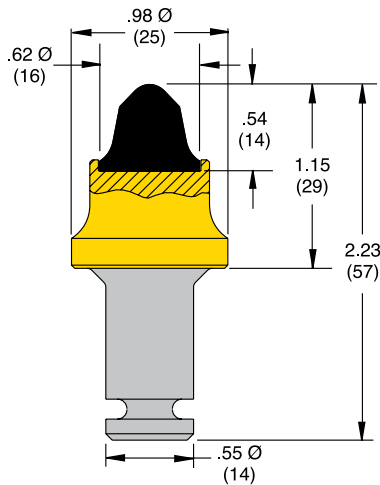
CM61 1094015

For drilling in medium to hard conditions. Small-diameter tip designed for increased penetration.



CM63 1795208

For drilling in medium to hard conditions. The wide collar provides maximum block protection.



Log on to

www.kennametal.com

to learn more about

our complete line of products

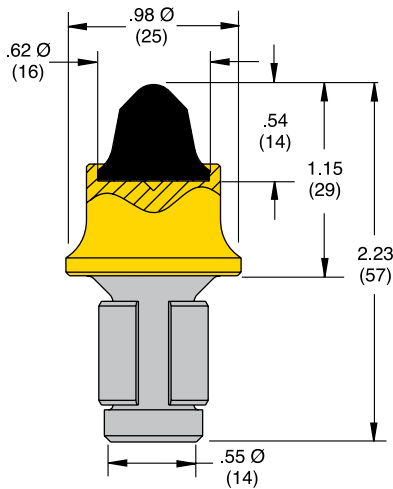
and services!



.55" Shank

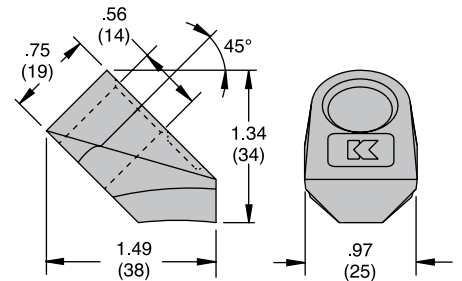
CM65 1876905

For drilling in medium to hard conditions. Flanged carbide tip for better wear resistance in abrasive cutting.



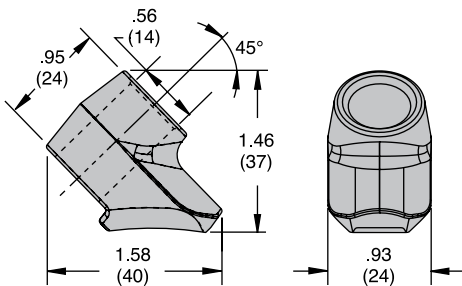
CMB6 block 1321008

Accepts CM63 cutting tools. All blocks are easily welded with a 7018 or 8018 low-hydrogen rod or equivalent wire.



CMB6L block 1898353

For use with CM61 and CM65 cutting tools. Features cannon-style face for improved tool rotation and larger base for stability and weld strength.



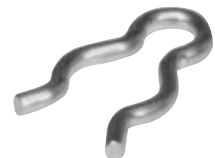
CM6L lock ring 1595671

Hardened lock ring for CM61, CM62, and CM63 tools.



CM6H hair pin retainer 1777806

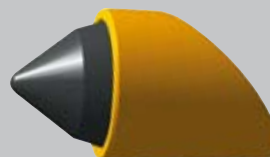
For CM61, CM62, and CM63 tools.



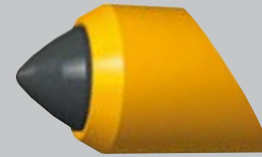
Go in the RIGHT (or left, up, or down...) direction with our newest directional drilling tools!

Our new BR weld-on tools:

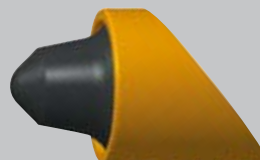
- Are specifically designed for directional drilling back reamers to protect them from everyday wear in abrasive conditions, thus reducing tool inventory and tool replacement costs.
- Feature solid carbide tips and solid steel bodies for superior wear resistance to enhance back reamer tool life.
- Provide extra penetration and debris evacuation in all cutting applications.



Slim tip style for all cutting conditions!



High-penetration tip for use on all back reamers in all cutting conditions!



Broad tip for better penetration in hard cutting conditions!

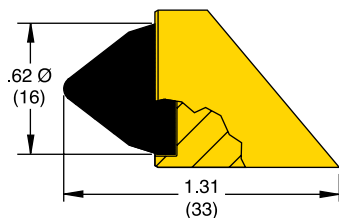


Large-cap design for use on high-horsepower machines in very abrasive conditions!

CM Series and BR Tools

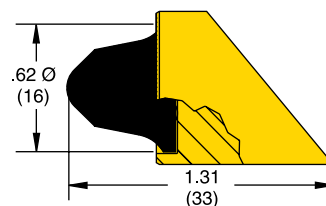
BR1 1800063

General-purpose design for use on all back reamers in all cutting conditions.



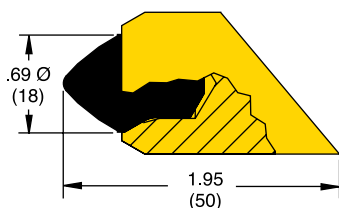
BR2 1858633

High-penetration tip for use on all back reamers in all cutting conditions.



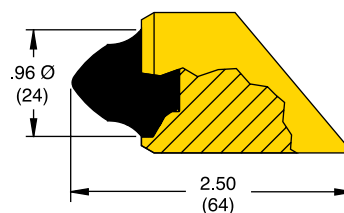
BR3 1858622

Designed for use on medium to large back reamers in hard cutting conditions.



BR4 1858634

Large-cap design for use on medium to large back reamers on high-horsepower machines in very abrasive conditions.



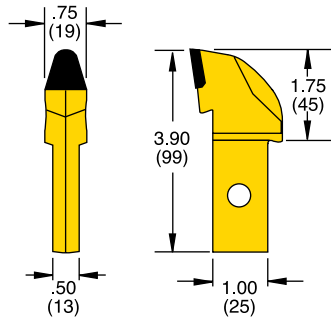
Packaging Information

tool	code	old tool name	packaging			container weight		pieces per pallet	pallet weight		stock status
			type	pieces per container	containers per pallet	lbs.	kg.		lbs.	kg.	
CM42	1010778	CMM4	bucket	200	50	34.96	15.89	10,000	1798.06	817.30	stock
CM63	1795208	CMM6RTF	bucket	200	50	40.99	18.63	10,000	2099.68	954.40	stock
CM61	1094015	CMM5	bucket	200	50	37.16	16.89	10,000	2099.68	954.40	stock
CM65	1876905	CMM6FLR	bucket	200	50	41.12	18.69	10,000	2106.06	957.30	stock
BR1	1800063		bucket	300	50	31.01	14.10	15,000	1600.61	727.55	stock
BR2	1858633		bucket	300	50	31.01	14.10	15,000	1600.61	727.55	stock
BR3	1858622		bucket	150	50	45.98	20.90	7,500	2349.22	1067.83	stock
BR4	1858634		bucket	80	50	47.38	21.54	4,000	2419.16	1099.62	stock
blocks											
CMB4	1012281	CMMB2	bucket	200	50	19.29	42.44	10,000	2172.06	987.30	stock
CMB6	1321008	CMMB6	bucket	200	50	16.89	37.16	10,000	1908.06	867.30	stock
CMB6L	1898353	CMMB7	bucket	150	50	31.01	14.10	7,500	1600.61	727.55	stock



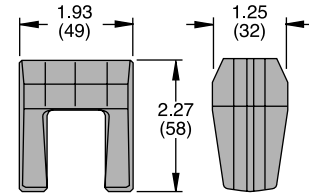
**CJ2
1011207**

For boring holes in extremely hard ground. Roll pin retainer.



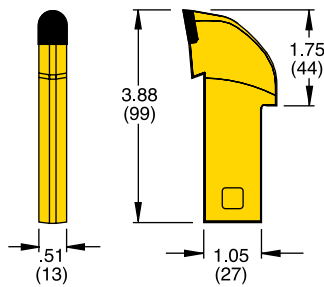
**CJ2 block
1012369**

Accepts CJ2 cutting tools only. All blocks are easily welded with a 7018 or 8018 low-hydrogen rod or equivalent wire.



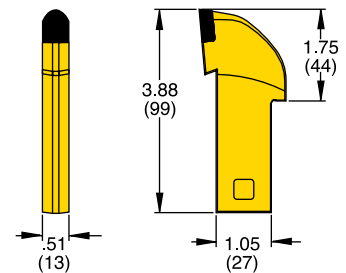
**U7
1011213**

For boring in soft to hard conditions. Normally welded to core barrel.



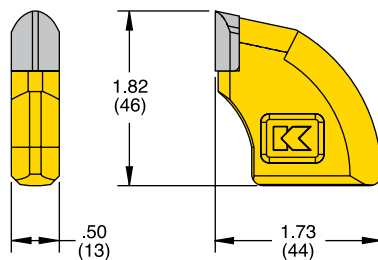
**U7L
1011181**

For high penetration in hard-rock core barrel applications.



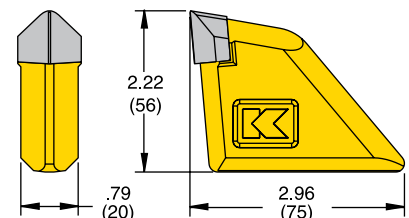
**DT50
1086101**

For drilling in soft to hard rock and concrete. Carbide tip is 1/2" wide.



**DT87
1086378**

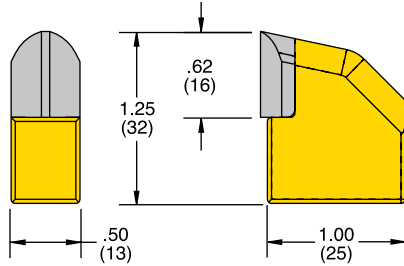
For drilling in hard rock and concrete. Carbide tip 7/8" wide.



Core Barrel Series – Cutting Tools and Blocks

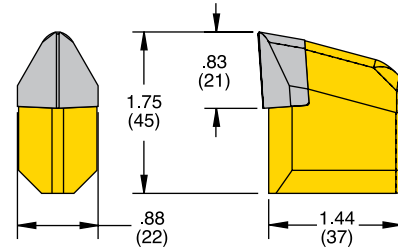
RT1 1784646

For drilling in soft to medium hard rock. Carbide tip is 1/2" wide.



RT2 1844257

For drilling in soft to hard conditions. Carbide tip is 7/8" wide.



Packaging Information

tool	code	packaging			container weight		pieces per pallet	pallet weight		stock status
		type	pieces per container	containers per pallet	lbs.	kg.		lbs.	kg.	
CJ2	1011207	bucket	50	50	33.75	15.34	2500	1737.56	789.80	stock
U7	1011213	bucket	50	50	29.35	13.34	2500	1517.56	689.80	stock
U7L	1011181	bucket	50	50	29.57	13.44	2500	1528.56	694.80	stock
RT1	1784646	bucket	200	50	34.08	15.49	10000	1754.06	797.30	stock
RT2	1844257	bucket	100	50	25.00	11.35	5000	1299.00	590.30	stock
DT50	1086101	bucket	150	50	40.68	18.49	7500	2084.06	947.30	stock
DT87	1086378	bucket	50	50	43.43	19.74	2500	2221.56	1009.80	stock
blocks										
CJ2	1012369	bucket	30	50	21.54	9.79	1500	1127.06	512.30	stock



Kenclaw™ and MilClaw™

***Kenclaw and MilClaw drills
blast holes and water wells
with twice the speed of
standard cutting tools!***

The cutting tools in the Kenclaw are ideally suited for soft to medium formations. They are the best choice for unconsolidated formations in which the drill will encounter alternating layers of soft clay and sand rock, or hard shale that might cause a drag cutting tool to over torque and possibly stall. The cutting tools are available in a wide range of sizes from 3 1/2" to 24" diameter. They feature numerous options, including multistage reamers, hole openers, circulating pilot tools, and special jet circulation configurations.

The MilClaw features triangular, multistage bodies that provide better support for the tools in harder formations. MilClaw cutting tools are available in sizes ranging from 6 1/2" to 24" and are best suited for medium-soft to medium-hard formations.

Custom Work

For all custom work on the Kenclaw and MilClaw systems, call Kennametal at 800/458-3608.

Rebuilds

We offer complete rebuilds of your Kenclaw and MilClaw systems. Contact your Kennametal representative for details, or call 800/458-3608.

Custom Designs

The Kenclaw and the MilClaw can be furnished with your choice of pin or box threads. Other modifications include different pilot cutting tools, breakout flats and larger sizes, and different conical cutting tools and holders.

Surface Drilling Tools

Kenclaw Features

- no bearings
- cuts a variety of formations from clay to medium shale rock (up to 6,000 psi rock)
- rapid penetration rates — the speed of a typical drag cutting tool and the toughness of a soft-formation rock cutting tool
- suitable for air or fluid drilling
- average tool cutting life ranges from 500 ft. (152 meters) to 2,000 ft. (610 meters), depending on formations being drilled

Kenclaw Drilling System

code	description	size		a.p.i. pin size	pilot tool	C23 cutters	weight	
		inch	mm				lbs.	kg.
1825003	K3 7/8 2 3/8 API	3 7/8	98,4	2 3/8" regular pin	CP15	*3 CM42	8	3.6
1825004	K4 2 3/8 API	4	101,6	2 3/8" regular pin	CP15	*3 CM42	8	3.6
1825005	K4 1/8 2 3/8 API	4 1/8	104,5	2 3/8" regular pin	CP15	*3 CM42	8	3.6
1825006	K4 1/4 2 3/8 API	4 1/4	104,8	2 3/8" regular pin	CP15	*3 CM42	9	4.1
1012268	K4 1/2 20 2 3/8 API	4 1/2	108	2 3/8" regular pin	CP15	3	9	4.1
1825007	K4 5/8 2 3/8 API	4 5/8	117,5	2 3/8" regular pin	CP15	3	9	4.1
1777124	K4 3/4 20 2 7/8 API	4 3/4	120,7	2 7/8" regular pin	CP15	3	12	5.4
1825008	K4 7/8 2 7/8 API	4 7/8	123,8	2 7/8" regular pin	CP15	3	12	5.4
1825009	K5 2 7/8 API	5	127	2 7/8" regular pin	CP15	3	18	8.2
1825010	K5 1/8 2 7/8 API	5 1/8	130,2	2 7/8" regular pin	CP15	3	18	8.2
1825011	K5 1/4 2 7/8 API	5 1/4	133,4	2 7/8" regular pin	CP15	4	18	8.2
1825012	K5 1/2 2 7/8 API	5 1/2	139,7	2 7/8" regular pin	CP15	4	18	8.2
1012260	K5 5/8 20 3 1/2 C	5 5/8	142,9	3 1/2" regular pin	CP18	4	18	8.2
1825033	K5 3/4 3 1/2 API	5 3/4	146,1	3 1/2" regular pin	CP18	4	18	8.2
1012261	K6 20 3 1/2 C	6	152,4	3 1/2" regular pin	CP18	5	21	9.5
1825034	K6 1/4 3 1/2 API	6 1/4	158,8	3 1/2" regular pin	CP18	5	21	9.5
1012263	K6 1/2 20 3 1/2 C	6 1/2	165,1	3 1/2" regular pin	CP18	5	21	9.5
1012264	K6 3/4 20 3 1/2 C	6 3/4	171,5	3 1/2" regular pin	CP18	5	22	10.0
1825035	K7 3 1/2 API	7	177,8	3 1/2" regular pin	CP18	6	28	12.7
1012267	K7 1/2 20 3 1/2 C	7 1/2	190,5	3 1/2" regular pin	CP18	6	28	12.7
1777126	K7 7/8 20 4 1/2 API	7 7/8	200	4 1/2" regular pin	CP18	7	34	15.4
1825036	K8 1/2 4 1/2 API	8 1/2	215,9	4 1/2" regular pin	CP18	8	40	18.1
1012265	K8 3/4 20 4 1/2 C	8 3/4	222,3	4 1/2" regular pin	CP18	8	40	18.1
1012266	K9 20 4 1/2 C	9	228,6	4 1/2" regular pin	CP18	8	40	18.1
1825037	K9 1/2 6 5/8 API	9 1/2	241,3	6 5/8" regular pin	CP18	9	51	23.1
1608784	K9 7/8 20 6 5/8 API	9 7/8	250,8	6 5/8" regular pin	CP18	9	57	25.9
1777125	K10 5/8 87 6 5/8 API	10 5/8	269,9	6 5/8" regular pin	CP18	9	70	31.8
1825038	K11 1/2 6 5/8 API	11 1/2	292,1	6 5/8" regular pin	CP18	11	90	40.8
1117344	K12 1/4 87 6 5/8 API	12 1/4	311,2	6 5/8" regular pin	CP18	12	110	49.9
1825039	K14 3/4 6 5/8 API	14 3/4	374,7	6 5/8" regular pin	APEX DB	16	150	68.0
1825040	K17 1/2 6 5/8 API	17 1/2	444,5	6 5/8" regular pin	APEX DB	24	210	95.2
1825041	K19 6 5/8 API	19	482,6	6 5/8" regular pin	APEX DB	34	300	136.1

*CM cutting tools

Kennametal strongly recommends the use of a ribbed stabilizer on top of the Kenclaw.



MilClaw Features

- large chippings for blast-hole stemming
- no bearings
- cuts various formations from clay to soft limestone (up to 10,000 psi rock)
- rapid penetration rates - the speed of a typical drag cutting tool and the toughness of a medium-formation rock cutting tool
- carbide cutters rotate in their blocks (toolholders) to promote a self-sharpening action and to reduce torque on the drillstring
- economical/replaceable carbide tools are easy to change on site
- average cutting tool life is from 2,000 ft. (610 meters) to 10,000 ft. (3048 meters), depending on the formation being drilled
- best suited for unconsolidated formations where layers of soft and hard formations are encountered
- suitable for air or fluid circulation
- manufactured from 4142 HR heat-treated alloy steel

MilClaw Drilling System

code	description	size		a.p.i. pin size	pilot tool	C23 cutters	weight	
		inch	mm				lbs.	kg.
1825047	MC6 1/2 3 1/2 API	6 1/2	161,5	3 1/2" regular pin	CP18	6	35	15.9
1777022	MC6 3/4 3 1/2 API	6 3/4	171,5	3 1/2" regular pin	CP18	6	35	15.9
1825048	MC7 3 1/2 API	7	177,8	3 1/2" regular pin	CP18	6	45	20.4
1825049	MC7 1/2 4 1/2 API	7 1/2	190,5	4 1/2" regular pin	CP18	7	51	23.1
1777021	MC7 7/8 4 1/2 API	7 7/8	200	4 1/2" regular pin	CP18	7	51	23.1
1825050	MC8 1/2 4 1/2 API	8 1/2	215,9	4 1/2" regular pin	CP18	8	60	27.2
1825051	MC8 3/4 4 1/2 API	8 3/4	222,3	4 1/2" regular pin	CP18	8	60	27.2
1825073	MC9 4 1/2 API	9	228,8	4 1/2" regular pin	CP18	9	65	29.5
1825074	MC9 1/2 6 5/8 API	9 1/2	241,3	6 5/8" regular pin	CP18	9	69	31.3
1825075	MC9 3/4 6 5/8 API	9 3/4	247,9	6 5/8" regular pin	CP18	9	80	36.3
1777020	MC9 7/8 6 5/8 API	9 7/8	250,8	6 5/8" regular pin	CP18	9	88	29.9
1825079	MC10 6 5/8 API	10	254	6 5/8" regular pin	CP18	11	100	45.4
1777018	MC10 5/8 6 5/8 API	10 5/8	271,1	6 5/8" regular pin	CP18	13	109	49.4
1825080	MC10 3/4 6 5/8 API	10 3/4	273,5	6 5/8" regular pin	CP18	13	109	49.4
1777016	MC12 1/4 6 5/8 API	10 7/8	276,2	6 5/8" regular pin	CP18	14	115	52.2
1825082	MC10 7/8 6 5/8 API	11 5/8	295,3	6 5/8" regular pin	CP18	14	128	48.1
1825094	MC11 5/8 6 5/8 API	12 1/4	311,1	6 5/8" regular pin	CP18	14	132	59.9
1825095	MC14 6 5/8 API	14	255,6	6 5/8" regular pin	APEX DB	17	150	68.0
1825096	MC14 3/4 6 5/8 API	14 3/4	274,7	6 5/8" regular pin	APEX DB	20	165	74.8
1825097	MC17 1/2 6 5/8 API	17 1/2	444,5	6 5/8" regular pin	APEX DB	24	225	192.0

Kennametal strongly recommends the use of a ribbed stabilizer on top of the MilClaw.

Operating Instructions for Kenclaw and MilClaw

Recommended operating feeds and speeds depend on the type of formation being drilled. When drilling into soft formations, you may have to hold back on the drill rod because the MilClaw will penetrate faster than you can clean the hole.

When drilling into harder formations, it is recommended you use about 1500 lbs. of down pressure and rotate at approximately 60 rpm to 100 rpm. These figures are estimates and may have to be adjusted, based on your actual drilling operations.

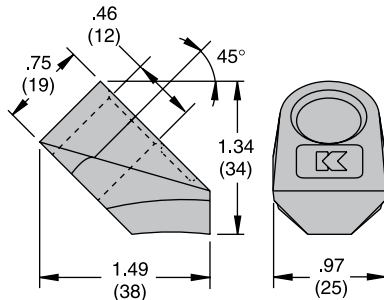
To ensure maximum footage from the MilClaw cutting tool, it is very important that the tools are rotating freely in their blocks before starting each hole.

Surface Drilling Tools

Light Drilling

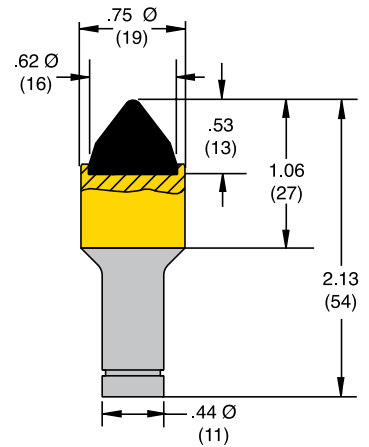
CMB4 block 1012281

- accepts Kennametal CM42 cutting tool
- also accepts our CM64 tool if a 3/8" spacer is added under the block to provide clearance for the retention nut
- easily welded with a 7018 or 8018 low-hydrogen rod or equivalent wire



CM42 1010778

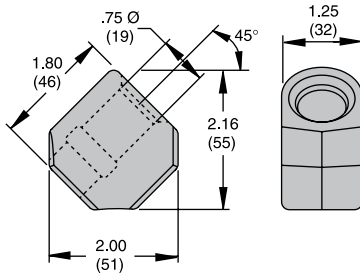
- basic system cutting tool
- double-angle carbide tip prolongs tool life
- requires a CM4 snap ring retainer (included with cutting tool)



Medium Drilling

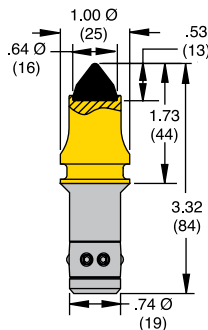
C20 block 1012273

- accepts our C23 cutting tools
- easily welded with a 7018 or 8018 low-hydrogen rod
- no preheating required



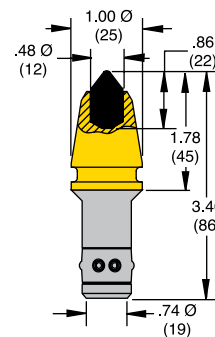
C23 1010758

For asphalt or abrasive applications.



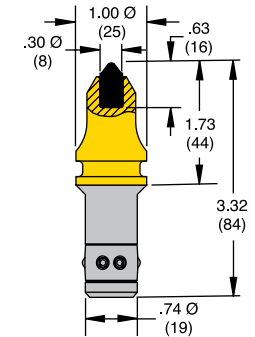
C21HD 1010789

For drilling hard rock or concrete.



C21 1010748

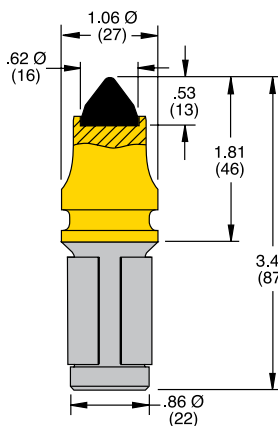
For most cutting applications. Especially good in soft to medium-hard material.



Heavy Drilling (See page 22 for four additional C87 tools and blocks.)

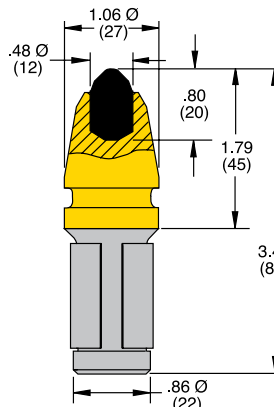
SL02 1010797

For asphalt or abrasive applications.



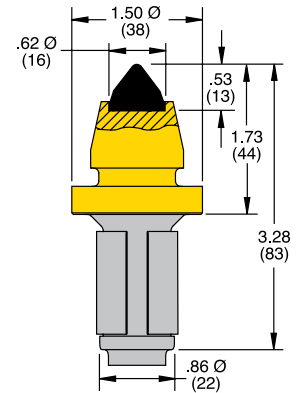
SL04 1010795

For drilling hard rock or concrete.



SM02 1010817

For asphalt or abrasive applications.



All conical tools on this page are supplied with a retainer.



Claw Drilling System

Drills blast holes and water wells nearly twice as fast as standard cutting tools, particularly in unconsolidated ground and soft to medium-hard rock. Produces larger chips and less dust, with less gage down pressure. Strategically located air holes evacuate the cuttings. All of this means more production, less downtime, and a greatly reduced total cost.

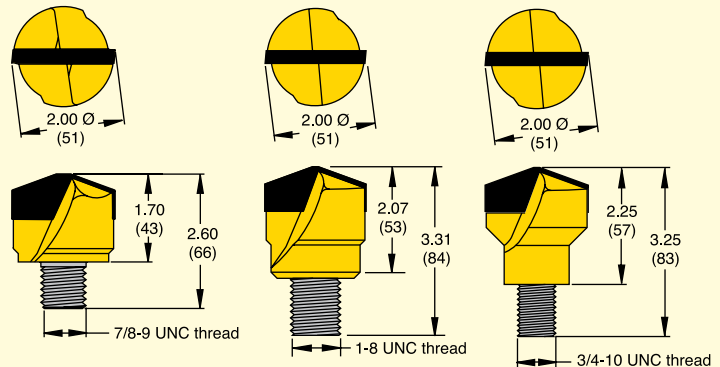
Our claw system is actually several Kennametal cutting tools in one! One of four pilot tools: a CP15 for 4 1/2"- and 4 3/4"-diameter systems; a CP17 for 4 1/2"- and 4 3/4"-diameter systems; a CP16 for 5"- to 5 1/2"-diameter systems; or a CP18 for 6"-diameter and larger systems, with a CP18 pilot chuck... plus a number (depending upon the diameter of the hole you want to drill) of our self-sharpening, carbide-tipped C23 conicals. All cutting tools are easy to install and, when necessary, a snap to change.

Recommended Rotation Speeds and Down Pressures*

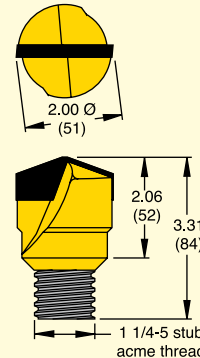
system sizes ** (inches in dia.)	API pin †	maximum rpm	pull down pressure
4-1/2	2-3/8	160	300
4-3/4	2-7/8	155	300
5	2-7/8	153	300
5-1/8	2-7/8	153	300
5-1/4	2-7/8	153	300
5-1/2	2-7/8	138	400
5-5/8	3-1/2	138	400
5-3/4	3-1/2	138	400
5-7/8	3-1/2	138	400
6	3-1/2	128	500
6-1/8	3-1/2	128	500
6-1/4	3-1/2	122	500
6-3/8	3-1/2	122	500
6-1/2	3-1/2	116	500
6-5/8	3-1/2	116	500
6-3/4	3-1/2	113	500
6-7/8	3-1/2	113	500
7	3-1/2	109	600
7-1/8	3-1/2	109	600
7-1/4	3-1/2	105	600
7-3/8	3-1/2	105	600
7-1/2	3-1/2	101	600
7-5/8	4-1/2	101	600
7-3/4	4-1/2	98	700
7-7/8	4-1/2	98	700
8	4-1/2	95	700
8-1/8	4-1/2	95	700
8-1/4	4-1/2	95	700
8-3/8	4-1/2	95	700
8-1/2	4-1/2	90	800
8-5/8	4-1/2	90	800
8-3/4	4-1/2	90	800
8-7/8	4-1/2	90	800
9	4-1/2	85	800
9-1/8	6-5/8	85	800
9-1/4	6-5/8	85	800
9-3/8	6-5/8	85	800
9-1/2	6-5/8	80	900
9-5/8	6-5/8	80	900
9-3/4	6-5/8	80	900
9-7/8	6-5/8	80	900
10	6-5/8	76	900
12	6-5/8	64	1400
15	6-5/8	50	1400

pilot cutting tools

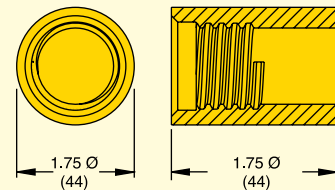
CP15 1324059 CP16 1012300 CP17 1012301



CP18 1012304



CP18 1012287 pilot chuck



shown: C6 1/2-10NS assembly

pilot assemblies ...for vertical and horizontal boring

- **C6 1/2 10NS 1012251**
comes equipped with C3 conicals and a CP18 pilot tool.
- **C6 1/2 20NS 1012334**
comes equipped with C23 conicals and a CP18 pilot tool.
- **C6 1/2 87NS 1012254**
comes equipped with C387LR conicals and a CP18 pilot tool.

*Whenever possible, drill rotation speeds should be kept at maximum rpm or below. This will result in maximum tool life. Also, do not apply excessive down pressure when operating the Kenclaw system. Tool damage could occur.

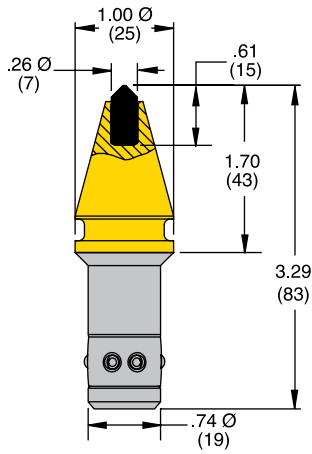
**Other sizes available upon request.

† Other API pin sizes can be ordered as required.

.74" Shank Series – Cutting Tools and Blocks

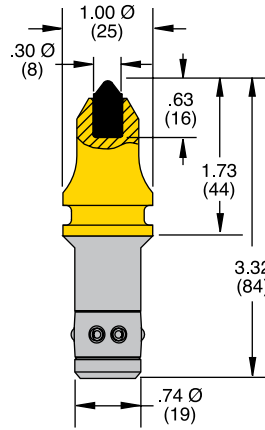
C24 1010302

For drilling soft material. Sharp tip nose for high penetration.



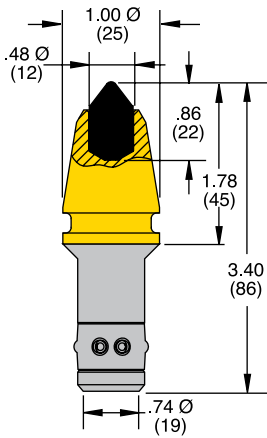
C21 1010748

For most cutting applications. Especially good in soft to medium-hard material.



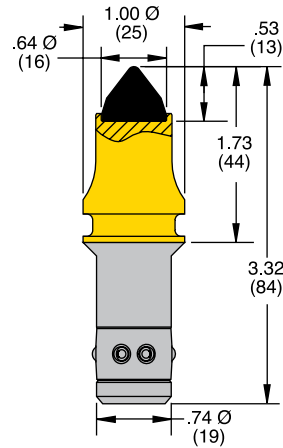
C21HD 1010789

Heavy-duty design. For augering in extremely hard rock and concrete.



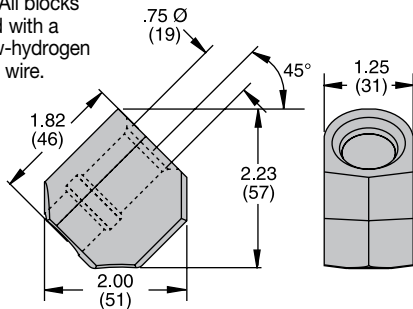
C23 1010758

For drilling and core-barreling in soft to medium-hard rock with abrasive cutting conditions.



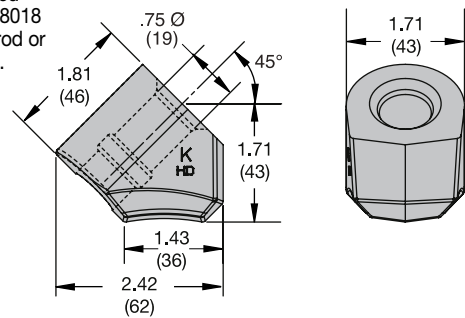
C20 block 1012273

Accepts .74" shank series tools. Thinner width allows closer block placement in restricted areas. All blocks are easily welded with a 7018 or 8018 low-hydrogen rod or equivalent wire.



C20HD block 1012276

Accepts .74" shank series tools. Heavier block design than the C20 block. All blocks are easily welded with a 7018 or 8018 low-hydrogen rod or equivalent wire.





Packaging Information

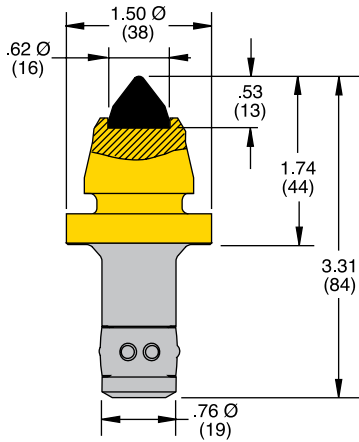
tool	code	packaging			container weight		pieces per pallet	pallet weight		stock status
		type	pieces per container	containers per pallet	lbs.	kg.		lbs.	kg.	
C21	1010748	bucket	75	50	30.45	13.84	3750	1572.56	714.80	stock
C21HD	1010789	bucket	75	50	38.04	17.29	3750	1952.06	887.30	stock
C23	1010758	bucket	75	50	31.77	14.44	3750	1638.56	744.80	stock
C24	1010302	bucket	75	50	29.46	13.39	3750	1523.06	692.30	stock
blocks										
C20HD	1012276	bucket	25	50	30.50	13.87	1250	1575.31	716.50	stock
C20	1012273	bucket	40	50	29.41	13.37	2000	1520.86	691.30	stock



.76" Shank Series – Cutting Tools and Blocks

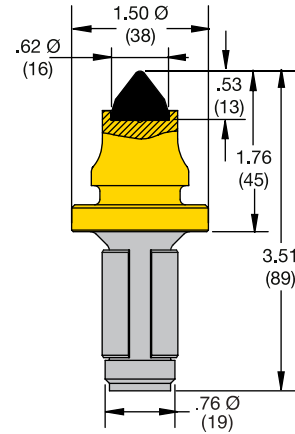
RS18 1107032

For drilling in soft to medium conditions. Sharp tip for improved penetration.



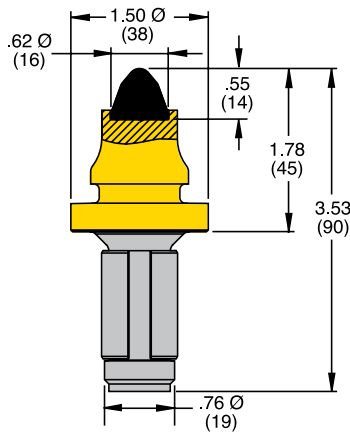
RS20 80101626

For drilling in hard rock and concrete, excellent impact strength.



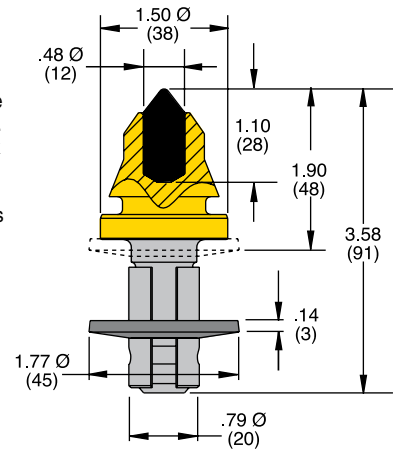
C3KBF 1010862

For all types of asphalt and abrasive material. Wide tip has high fracture resistance.



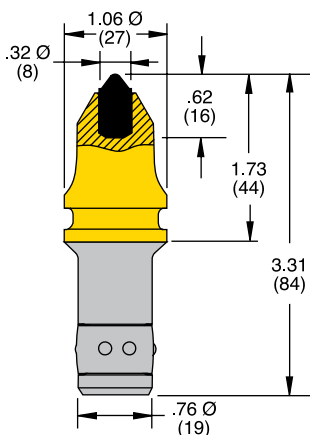
RP21 1825565

For high-impact and abrasive applications. Deep recessed carbide provides long wear life. Washer provides block face protection and improves rotation. Full sleeve retainer protects entire bore.



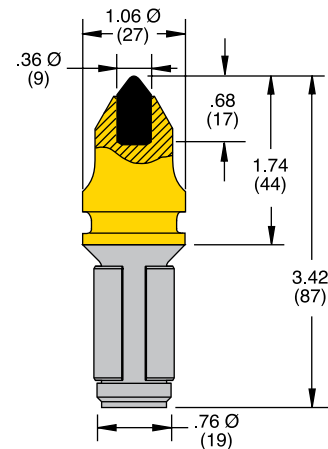
RL11 1010772

For cutting soft to medium-hard materials with good penetration. Dimpled retainer for increased holding power in grooved blocks.



RL06 1010830

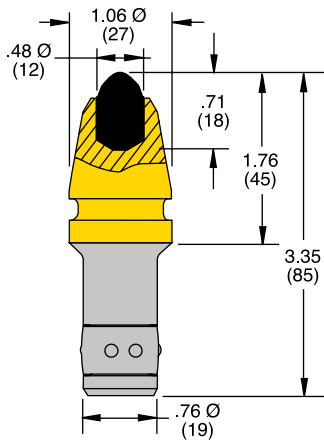
For soft to medium-hard cutting conditions. Long retainer for better block bore protection.





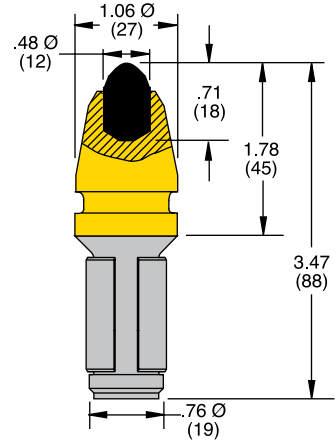
**RL10
1010784**

For drilling concrete and rock cutting. Double-angle tip provides maximum impact strength.



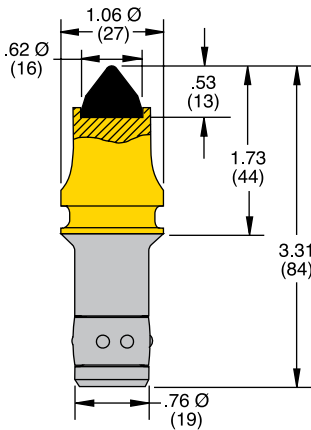
**RL07
1010782**

For drilling concrete and rock cutting. Long retainer for better block bore protection.



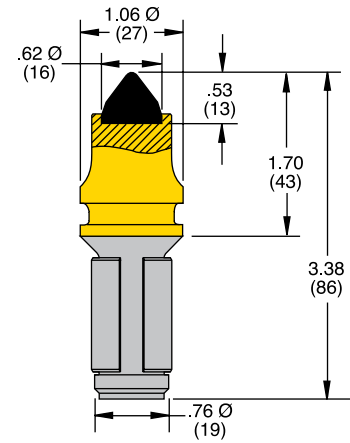
**RL09
1010770**

For cutting in abrasive conditions. Dimpled retainer provides increased holding power in grooved blocks.



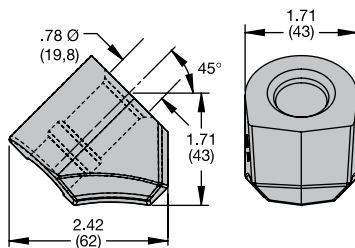
**RL08
1010767**

For cutting in abrasive conditions. Long retainer for better block bore protection.



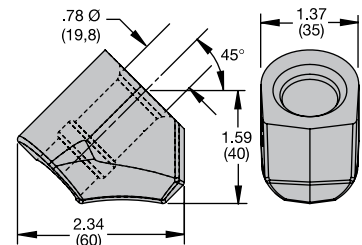
**C10HD block
1012289**

Extra-heavy-duty design. Accepts all .76" series tools. All blocks are easily welded with a 7018 or 8018 low-hydrogen rod or equivalent wire.



**C10 block
1012278**

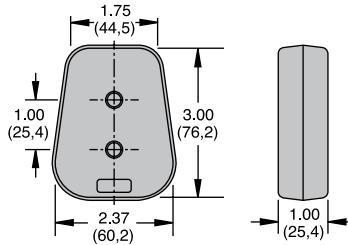
Has a narrower face than the C10H style. Accepts all .76" series tools. All blocks are easily welded with a 7018 or 8018 low-hydrogen rod or equivalent wire.



.76" Shank Series – Blocks and Packaging Information

C10AM/LG base 1012364

Used with C10AMC block. All blocks are easily welded with a 7018 or 8018 low-hydrogen rod or equivalent wire.



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and services!

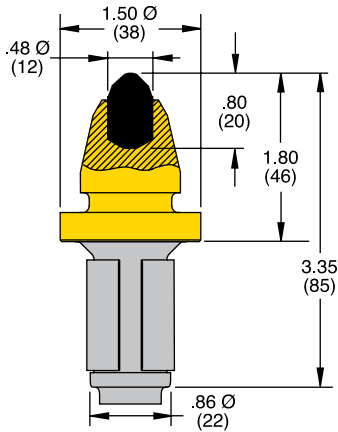
Packaging Information

tool	old tool name	code	packaging			container weight		pieces per pallet	pallet weight		stock status
			type	pieces per container	containers per pallet	lbs.	kg.		lbs.	kg.	
RS18	C3BFSR	1107032	bucket	50	50	31.00	14.09	2500	1600.06	727.30	stock
RL11	C1	1010772	bucket	75	50	34.74	15.79	3750	1787.06	812.30	stock
RL06	C1LR	1010830	bucket	75	50	37.05	16.84	3750	1902.56	864.80	stock
RL10	C1HDSR	1010784	bucket	75	50	39.36	17.89	3750	2018.06	917.30	stock
RL07	C1HDLR	1010782	bucket	70	50	38.19	17.36	3500	1959.76	890.80	stock
RL09	C3SR94	1010770	bucket	75	50	34.00	15.45	3750	1750.00	795.50	stock
RL08	C3LR	1010767	bucket	75	50	37.00	16.82	3750	1900.00	863.60	stock
RS20		1010974	bucket	50	50	30.00	13.64	1550	704.50	2500.00	stock
C3KBF		1010862	bucket	50	50	31.00	14.09	2500	1600.06	727.30	stock
RP21		1781713	box	50	54	36.06	16.39	2700	1853.06	842.30	stock
blocks											
C10HD		1012289	bucket	25	50	30.89	14.04	1250	1594.56	724.80	stock
C10		1012278	bucket	35	50	33.19	15.09	1750	1709.51	777.05	stock
C10AM/LG base		1012364	bucket	30	50	55.53	25.24	1500	2826.56	1284.80	stock



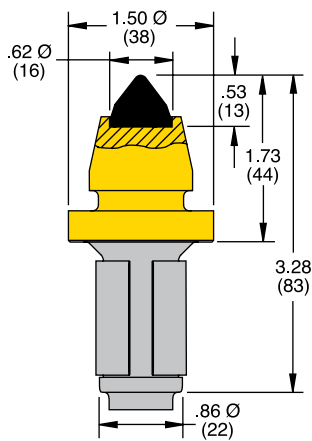
**SM06
1010815**

For drilling hard rock or concrete. Double-angle tip for maximum impact strength.



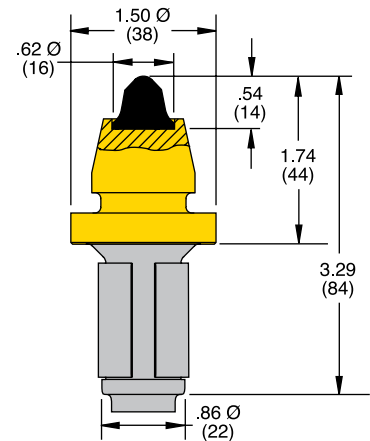
**SM02
1010817**

For asphalt or abrasive applications. Sharp tip for improved penetration.



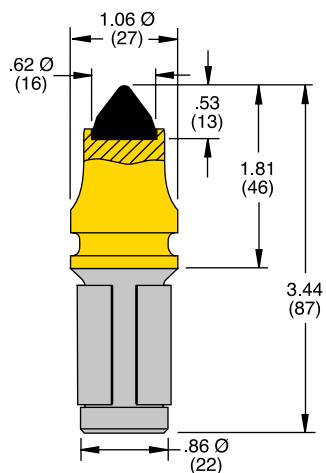
**SM01
1010860**

For asphalt or abrasive cutting conditions with moderate impact.



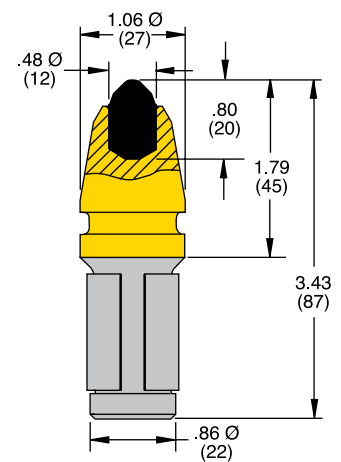
**SL02
1010797**

For asphalt or abrasive applications. Sharp tip for improved penetration.



**SL04
1010795**

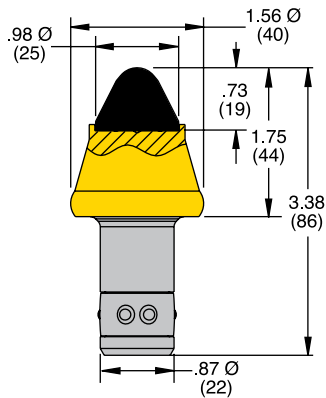
For drilling hard rock or concrete. Double-angle tip for maximum impact strength.



.86" Shank Series – Cutting Tools and Blocks

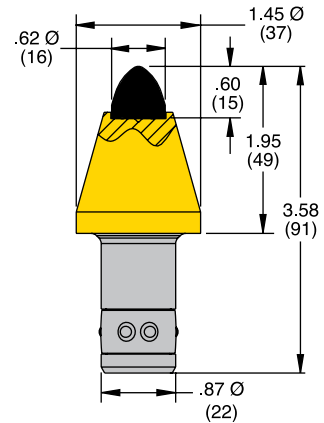
C87KCSBSR 1010937

Used with Kenclaw drilling system. Large-diameter carbide tip provides maximum abrasion resistance. Large nose radius is well suited for impact.



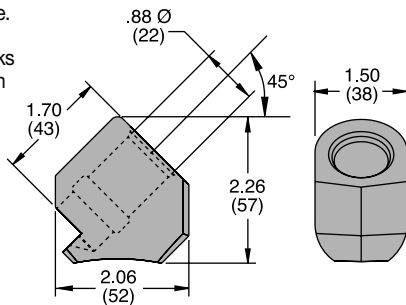
C87DSSR 1010935

Used with Kenclaw drilling system. Sharper bullet profile provides increased penetration in medium to hard rock.



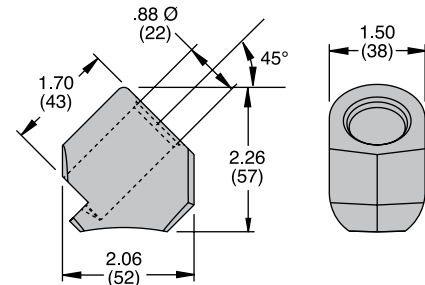
C87G block 1012234

Heavy-duty design with machined step for non-rotating tools. Has a .875"-diameter bore. Accepts .86" series cutting tools. All blocks are easily welded with a 7018 or 8018 low-hydrogen rod or equivalent wire.



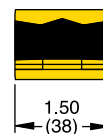
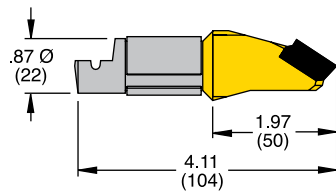
C87B block 1012275

Has a machined step to accept AR150 87 tools. All blocks are easily welded with a 7018 or 8018 low-hydrogen rod or equivalent wire.

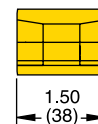
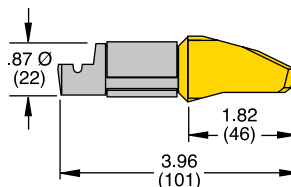


Carbide-edged AR150 87 or all-hardened-steel AR150 87ST

For asphalt and other soft to medium-hard abrasive conditions. Available cutting faces: carbide-edged or all-hardened-steel. Carbide-edged tool has a 1.50" cutting face width for added block protection. Swept-back carbide edge provides exceptional tool life. Non-rotating, not self-sharpening. Requires an LR87 retainer, which is supplied with the tool.



**AR150 87
1012240**



**AR150 87ST
1012241**



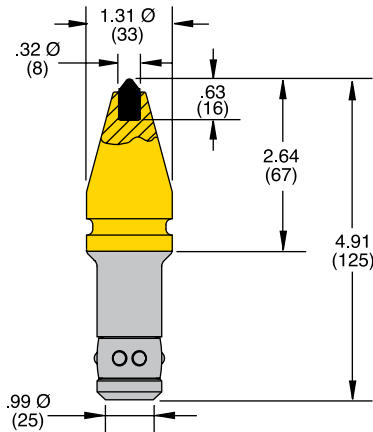
tool	old tool name	code	packaging			container weight		pieces per pallet	pallet weight		stock status
			type	pieces per container	containers per pallet	lbs.	kg.		lbs.	kg.	
SM06	C87BF	1010815	bucket	50	50	34.52	15.69	2500	1776.06	807.30	stock
SM01	C387KBF	1010860	bucket	50	50	33.97	15.44	2500	1748.56	794.80	stock
SM02	C387BF	1010817	bucket	50	50	33.97	15.44	2500	1748.56	794.80	stock
SL02	C387LR	1010797	bucket	70	50	38.80	17.64	3500	1990.00	904.50	stock
SL04	C87LR	1010795	bucket	60	50	37.00	16.82	3000	1900.00	863.60	stock
C87KCSBSR		1010937	bucket	50	50	41.78	18.99	2500	2139.06	972.30	stock
C87DSSR		1010935	bucket	50	50	39.58	17.99	2500	2029.06	922.30	stock
AR150-87		1012240	bucket	40	50	37.95	17.25	2000	1947.66	885.30	stock
AR150-87ST		1012241	bucket	40	50	35.49	16.13	2000	1824.46	829.30	stock
blocks											
C87B		1012275	bucket	25	50	22.81	10.37	1250	1190.31	541.05	stock
C87G		1012234	bucket	35	50	32.57	14.81	1750	1678.71	763.05	stock



1st Shank Series – Cutting Tools and Blocks

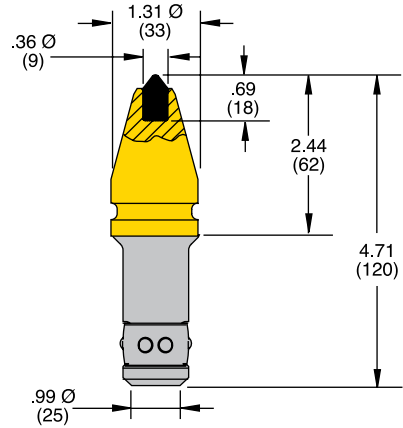
C32 1010296

For drilling most soils and broken or laminated rock. Sharp nose profile for maximum penetration.



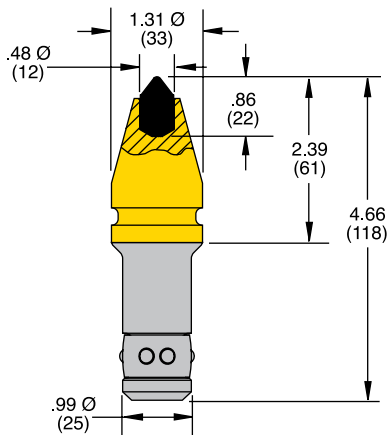
C31 1010304

For drilling in soft to hard rock and concrete. Slender nose profile for increased penetration.



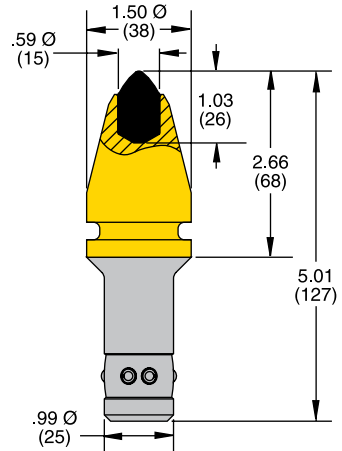
C31HD 1010787

Heavy-duty design for drilling and tunnel boring in extremely hard rock and concrete.



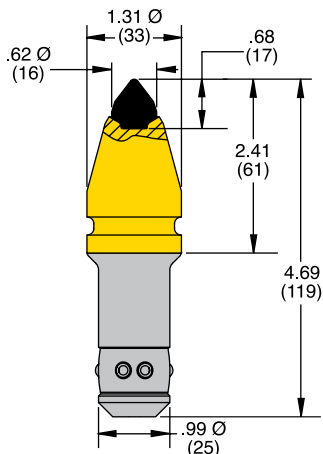
U40HD 1010414

For augering and tunnel boring in extremely hard rock and concrete. Ballistic-style tip provides high impact strength.



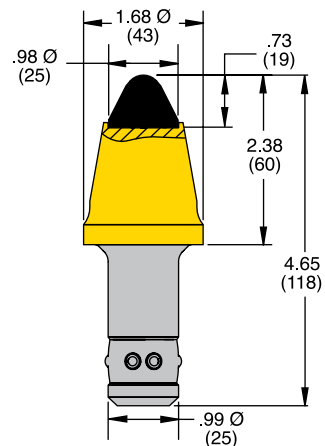
AUC40KH 1010396

For augering in soft to medium-hard cutting conditions where abrasive cutting washes away steel.



CH31SR 1010960

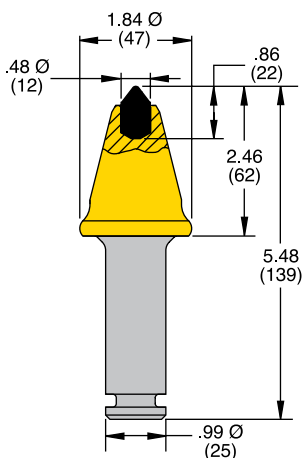
For drilling in soft to medium-hard cutting conditions. Large cap tip design provides maximum abrasion resistance.





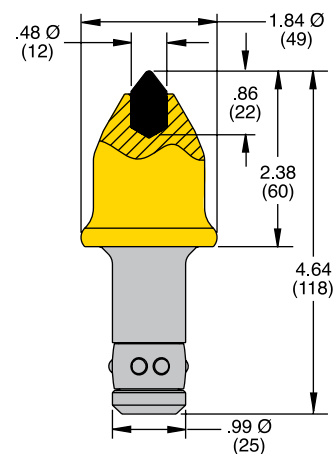
C31RHD 1010806

Heavy-duty design for drilling concrete and soft to medium-hard rock. Sharp nose profile for maximum penetration.



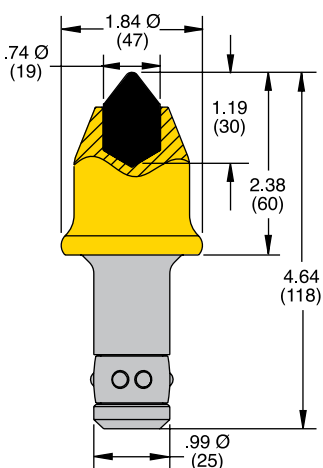
C31FSRHD 1939780

For drilling in concrete and soft to medium hard rock. Narrow tip diameter enables better penetration.



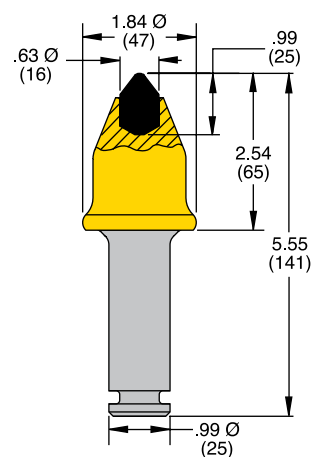
C34FSR 1939793

For drilling in hard and extremely abrasive rock. Dimple retainer enables easy installation and removal.



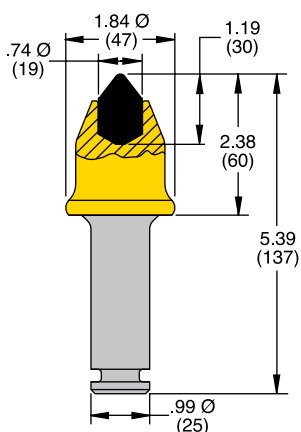
C35R 1094018

For drilling in medium to hard conditions.



C34R 1010799

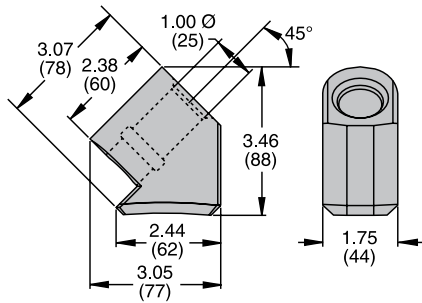
For drilling in hard and extremely abrasive rock.



1st Shank Series – Cutting Tools and Blocks

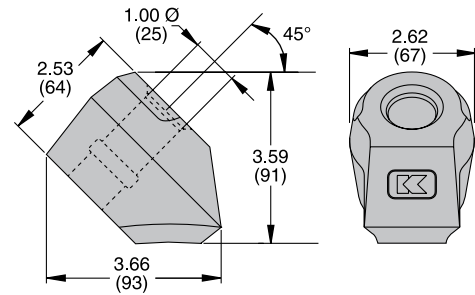
C30 block 1012279

Accepts our C31, C31HD, C32, U40HD, AUC40KH, and CH31SR, C31FSRHD, and C34FSR cutting tools. All blocks are easily welded with a 7018 or 8018 low-hydrogen rod or equivalent wire.



C30H/U40H block 1011585

Heavy-duty design. Accepts all 1st-shank cutting tools. All blocks are easily welded with a 7018 or 8018 low-hydrogen rod or equivalent wire.



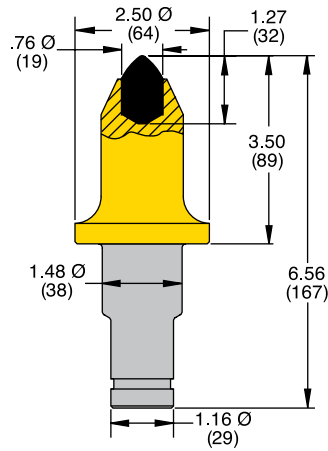
Packaging Information

tool name	code	type of flange	packaging			container weight		pieces per pallet	pallet weight		stock status
			type	pieces per container	containers per pallet	lbs.	kg.		lbs.	kg.	
C31FSRHD	1939780	medium	bucket	25	50	24.73	11.24	1250	1286.56	584.80	stock
C34FSR	1939793	medium	bucket	25	50	30.21	13.73	1000	1560.49	709.30	stock
C31RHD	1010806	medium	bucket	15	50	23.22	10.56	750	1211.21	550.55	stock
C35R	1094018	medium	bucket	15	50	26.06	11.85	750	1353.11	615.05	stock
C34R	1010799	medium	bucket	15	50	26.06	11.85	750	1353.11	615.05	stock
C31	1010304	small	bucket	25	50	27.53	12.52	1250	1426.81	648.55	stock
C31HD	1010787	small	bucket	25	50	27.70	12.59	1250	1435.06	652.30	stock
U40HD	1010414	small	bucket	25	50	35.18	15.99	1250	1809.06	822.30	stock
AUC40KH	1010396	small	bucket	25	50	27.31	12.42	1250	1415.81	643.55	stock
C32	1010296	small	bucket	25	50	28.08	12.77	1250	1454.31	661.05	stock
CH31SR	1010960	small	bucket	25	50	35.84	16.29	1250	1842.06	837.30	stock
blocks											
C30H/U40H	1011585		bucket	8	50	33.36	15.16	400	1717.98	780.90	stock
C30	1012279		bucket	12	50	30.22	13.74	600	1561.34	709.70	stock



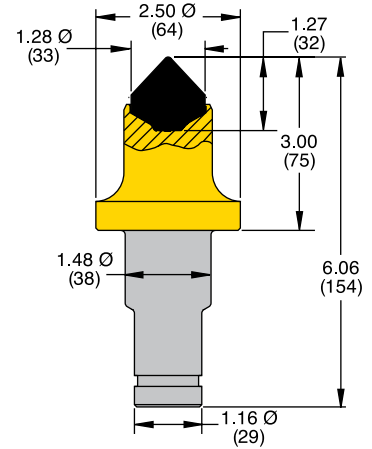
**TS8
1318426**

For drilling and tunnel boring in extremely hard cutting conditions.



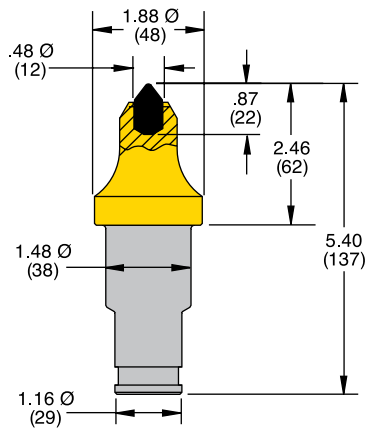
**TS18
1317523**

For drilling in soft to medium-hard abrasive cutting conditions. Slim tip profile for better penetration.



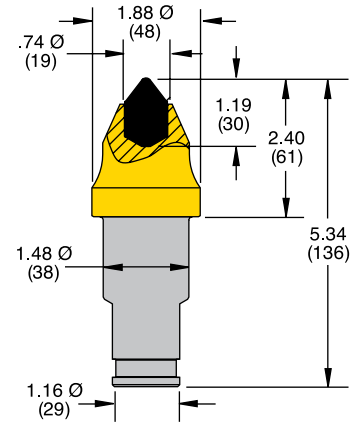
**C6
1010740**

For soft cutting conditions. Also available in 1/2" or longer gage.



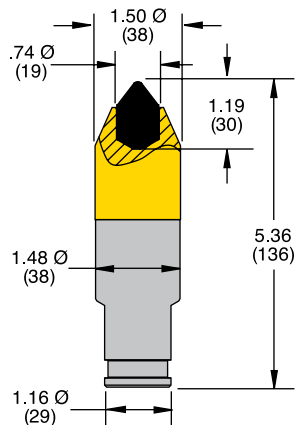
**C7
1010742**

For extremely hard cutting conditions. Also available in 1/2" and 1" longer gage.



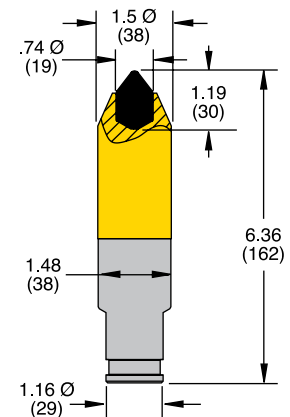
**C4
1010761**

For most cutting conditions. No collar.



**C4 1
1010776**

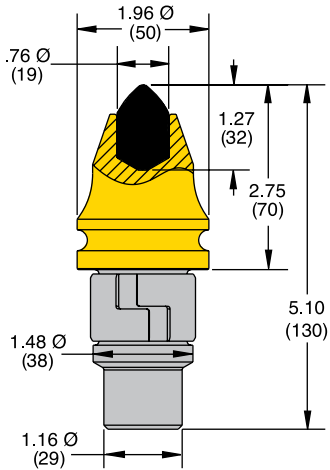
For most deep cutting applications. No collar.



Step Shank Series – Cutting Tools and Blocks

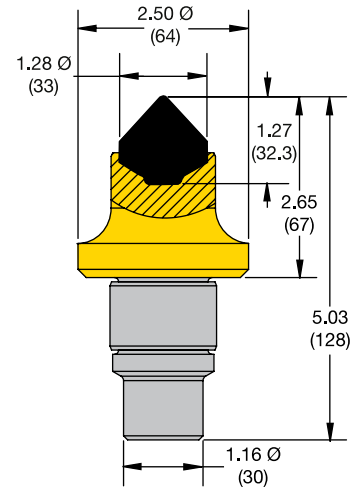
DS01 1880696

For drilling and tunnel boring in medium to extremely hard rock and concrete.



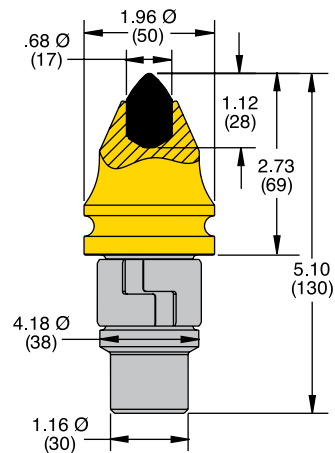
DS06 3110671

For drilling in medium to hard and highly abrasive conditions.



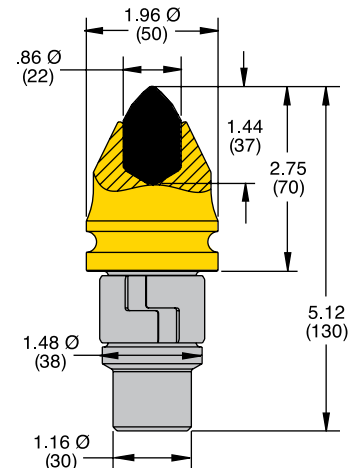
DS04 1918736

For drilling and tunnel boring in medium to hard rock.



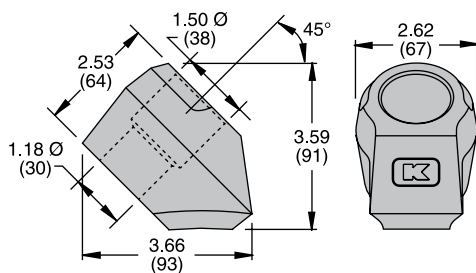
DS05 1918738

For drilling and tunnel boring in the most extreme hard rock and concrete.



C4/U43H block 1011578

Heavy-duty design accepts all step shank tools. All blocks are easily welded with a 7018 or 8018 low-hydrogen rod or equivalent wire. Accepts all step shank tools.



Our TS Series tools are PROVEN in drilling through extremely hard rock and concrete!

- Extra heavy-duty collar for maximum block protection and load distribution.
- Quality Kennametal carbide combined with enhanced geometry provides tools that withstand the most extreme cutting conditions.
- Large selection of tools to maximize performance in most drilling applications.
- TS6 is available with hardfacing for superior wear resistance.





new tool name	old tool name	code	packaging			container weight		pieces per pallet	pallet weight		stock status
			type	pieces per container	containers per pallet	lbs.	kg.		lbs.	kg.	
TS8	15P46J 15P46L	1318426	bucket	8	50	25.82	11.74	400	1341.34	609.70	stock
TS18	15C42	1317523	bucket	10	50	30.80	14.00	500	1590.16	722.80	stock
C6		1010740	bucket	15	50	32.43	14.74	750	1671.56	759.80	stock
C7		1010742	bucket	15	50	35.40	16.09	750	1820.06	827.30	stock
C4 1		1010776	bucket	15	50	39.72	18.06	750	2036.21	925.55	stock
C4		1010761	bucket	15	50	32.63	14.83	750	1681.46	764.30	stock
DS01		1880696	bucket	15	50	35.50	16.14	750	1825.01	829.55	stock
DS04		1918736	bucket	15	50	34.61	15.73	750	1780.46	809.30	stock
DS05		1918738	bucket	12	50	30.51	13.87	600	1575.86	716.30	stock
DS06		3110671	bucket	12	50	39.2	17.81	600	2008.82	913.10	non stock
blocks											
C4/U43H		1011578	bucket	8	50	29.41	13.37	400	1520.86	691.30	stock

New DS Tools for Extreme Drilling Conditions! Setting the Drilling Standard!

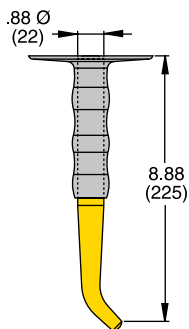
Our new DS step shank tools have what it takes to get you through the hardest rock and concrete:

- New sleeve-style internal retainer improves rotation and increases bore life. It also enables quick and easy tool changes, and eliminates the hassles of external retainers!
- Specially designed tip sizes to maximize cutting capabilities, no matter what your machine type!
- Solid carbide tip made from Kennametal’s exclusive carbide, in new geometries designed for superior performance in extremely hard cutting conditions!



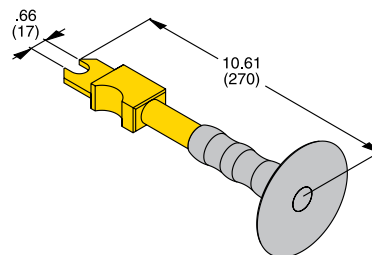
KHP2 1012247 Hammer Punch

For removal of conical tools from blocks. Hardened tip provides long life. Used in conjunction with a hammer. A plastic hand protector is added for safety.

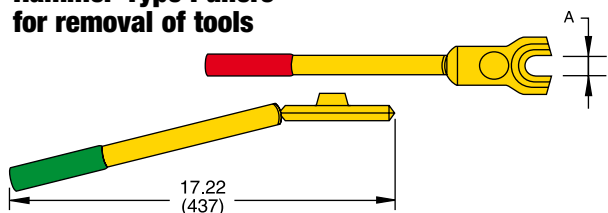


C31R 1012347 Retainer Removal Tools

For removal and installation of C31R metal lock rings. A plastic hand protector is added for safety.



Hammer-Type Pullers for removal of tools



description	for	A	handle color
C30 HP puller 1011982	C30 tools	1.15 (29,21)	blue
C20 HP puller 1011984	C20 tools	.84 (21,34)	black
C123 puller 1012016	RS, RL, SM, SL tools	.91 (23,11)	green
RP puller 1761401	RP tools	1.02 (26,00)	red

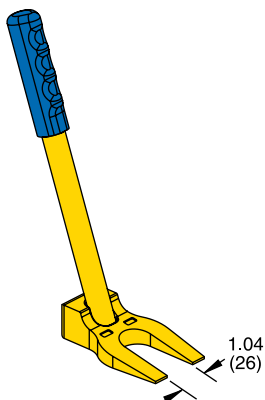
C31R Metal Lock Ring 1012065

For C31RHD, C34R, and C35R cutting tools.



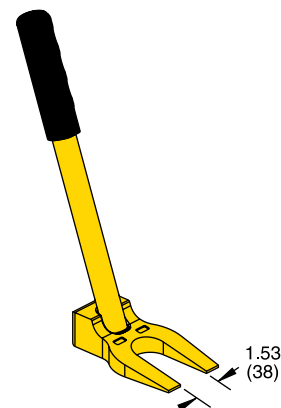
U70 Puller 1012104

For removing collar tools with a 3/4" to 1" shank diameter.



K150 Puller 1012106

For removing step shank tools with collars and DS tools.





KRP-4 Pliers 1012047

For removal of KR112 snap ring.



KRP-1 Pliers 1012010

For removal of KR112 snap ring.



Replaceable Tips 1012012



KR112 Snap Ring 1011979

For C4 system cutting tools.



CM4 Snap Ring 1012223

For CM42 cutting tools.



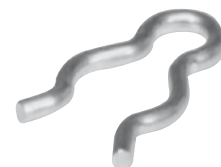
CM6L Lock Ring 1595671

Hardened lock ring for CM61, CM62, and CM63 tools.



CM6H Hairpin Retainer 1554817

For CM62, CM61, and CM63 tools.





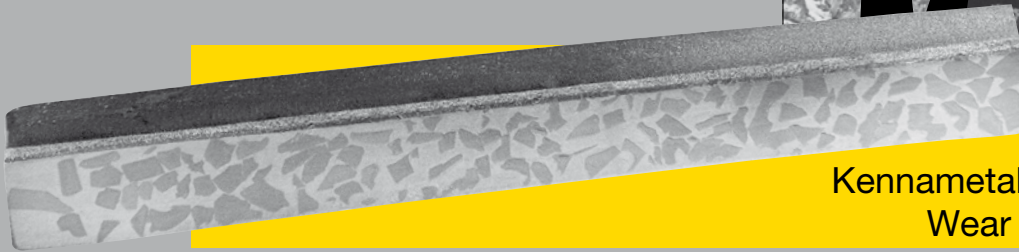
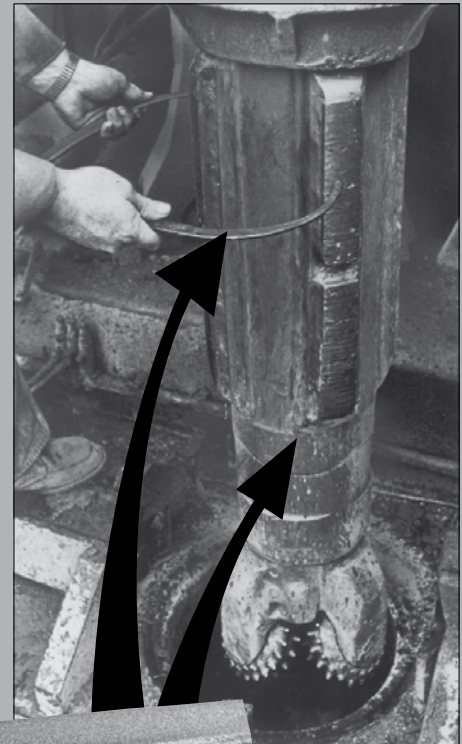
Protect your drilling equipment with maximum-duty Kennametal KenCast™ material!

Your drilling equipment operates in the toughest conditions. Protect it with Kennametal KenCast, a composite material that combines the exceptional wear resistance of Kennametal cemented tungsten carbide with the toughness and practicality of air-hardened steel.

KenCast comes in a variety of standard sizes, is easily welded to your equipment, and is more breakage-resistant than brazed carbide tiles.

In a field test against more traditional carbide button-style wear bars, Kennametal KenCast material outlasted the button-type carbide 4 to 1!

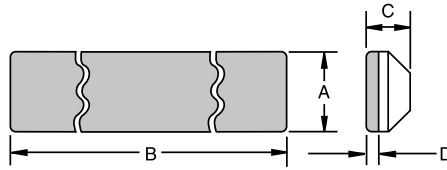
Our carbide castings cover more of the wear surface than button-style bars, thus providing better wear resistance.



**Kennametal KenCast
Wear Bar**



KenCast Ordering Information



part number	order code	A	B	C	D
KCWB-0367	1094287	1	2	1/2	1/8
KCWB-0246	1012536	1	2	1/2	1/4
KCWB-0414	1624932	5/8	5 1/4	5/8	1/4
KCWB-0254	1012544	5/8	2	3/4	1/4
KCWB-0201	1012504	5/8	4	3/4	1/4
KCWB-0255	1012545	3/4	2	3/4	1/4
KCWB-0378	1155344	3/4	5	3/4	1/4
KCWB-0055-20	1012633	1	2	3/4	1/4
KCWB-0055-30	1012634	1	3	3/4	1/4
KCWB-0055-35	1012635	1	3 1/2	3/4	1/4
KCWB-0055-40	1012636	1	4	3/4	1/4
KCWB-0055-50	1012637	1	5	3/4	1/4
KCWB-0055-60	1012638	1	6	3/4	1/4
KCWB-0055-80	1012639	1	8	3/4	1/4
KCWB-0096	1012447	1	10	3/4	1/4
KCWB-0097	1012448	1	12	3/4	1/4
KCWB-0362	1083967	1 1/2	2	3/4	1/4
KCWB-0067	1012436	1 1/2	5	3/4	1/4
KCWB-0056-20	1012640	2	2	3/4	1/4
KCWB-0056-35	1012641	2	3 1/2	3/4	1/4
KCWB-0056-40	1012642	2	4	3/4	1/4
KCWB-0056-60	1012643	2	6	3/4	1/4
KCWB-0056-80	1012644	2	8	3/4	1/4
KCWB-0342	1012628	2	10	3/4	1/4
KCWB-0394***	1324494	2 1/2	8	3/4	1/4
KCWB-0395***	1324495	2 1/2	12	3/4	1/4
KCWB-0073*	1012437	2 5/8	5 1/4	3/4	1/4
KCWB-0057-20	1012645	3	2	3/4	1/4
KCWB-0057-35	1012646	3	3 1/2	3/4	1/4
KCWB-0057-40	1012647	3	4	3/4	1/4
KCWB-0057-60	1012648	3	6	3/4	1/4
KCWB-0057-80	1012649	3	8	3/4	1/4
KCWB-0337	1012622	4	13	3/4	1/4
KCWB-0484	1996381	5	8	3/4	1/4
KCWB-0333	1012618	6	10	3/4	1/4
KCWB-0345**	1080018	1 3/4	9	7/8	1/4
KCWB-0019**	1012422	2	9	7/8	1/4
KCWB-0389	1308317	5/8	3	1	1/4
KCWB-0399	1502226	3/4	8	1	1/4
KCWB-0471	1919347	1 1/2	6	1	1/4
KCWB-0084	1012443	1	4	1	1/4
KCWB-0022	1012423	2	10	1	1/4
KCWB-0105	1012452	2	12	1	1/4
KCWB-0098	1012449	5	8	1	1/4
KCWB-0094	1083557	8 3/4	10 3/4	1	1/4
KCWB-0496	2036144	2	6	1 1/4	1/4
KCWB-0284	1012573	2	13	1 1/4	1/4

All dimensions are in inches.

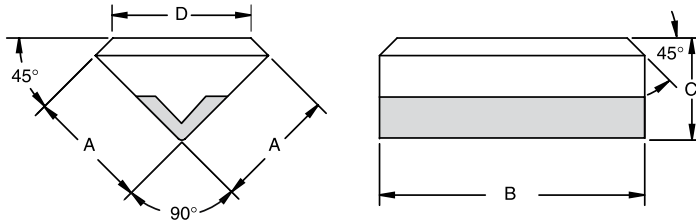
NOTE: Gray shading indicates carbide location on the part.

*3/8" radius along one 5 1/4" edge

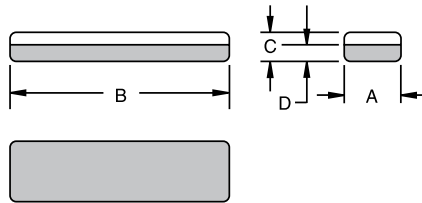
**1/8" radius along all edges on carbide side

*** weld bevels along length only

KenCast Ordering Information

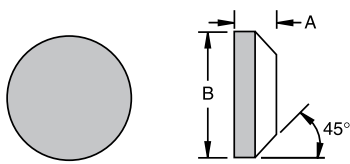


part number	order code	A	B	C	D
KCWB-0243	1012534	1 1/2	1 1/2	1 1/4	2
KCWB-0290	1012579	1 1/2	3 1/4	1 1/4	2 1/8

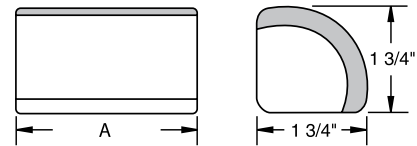


part number	order code	A	B	C	D
KCWB-0277	1012566	1	8	1/4	1/8
KCWB-0216	1012515	1 1/2	6	1/4	1/8
KCWB-0210	1012512	2	2	1/4	1/8
KCWB-0278	1012567	2	8	1/4	1/8
KCWB-0241	1012532	3	6	1/4	1/8
KCWB-0132	1012461	1/2	4	1/2	1/4
KCWB-0300	1012586	3/4	4	1/2	1/4
KCWB-0301	1174410	1	3	1/2	1/4
KCWB-0114	1012454	1	4	1/2	1/4
KCWB-0188	1012494	1 1/2	5	1/2	1/4
KCWB-0092	1012445	2	3	1/2	1/4
KCWB-0329	1012614	2	5 1/4	1/2	1/4
KCWB-0091	1012444	2	6	1/2	1/4
KCWB-0100	1012450	2	8	1/2	1/4
KCWB-0095	1012446	2	15 3/4	1/2	1/4
KCWB-0065	1012435	3	4	1/2	1/4
KCWB-0249	1012539	3	6	1/2	1/4
KCWB-0302	1714701	1	4 1/2	5/8	1/4
KCWB-0083	1012442	1/2	2 3/4	3/4	1/4
KCWB-0186	1012492	1 1/2	10	3/4	1/4
KCWB-0286	1012575	5	12	3/4	1/4
KCWB-0438*	1796637	2	12	1	1/4
KCWB-0010	1714704	7	13	2	1/4

* With 5.71" radius on carbide face.



part number	order code	A	B	C
KCWB-0279	1012568	1/2	1 1/2	1/4
KCWB-0280	1012569	1/2	2	1/4
KCWB-0281	1012570	1/2	3	1/4



part number	order code	A
KCWB-0285	1012574	2 7/8
KCWB-0526	2426055	8

All dimensions are in inches.

NOTE: Gray shading indicates carbide location on the part.



KenCast Hardness Properties

Hardness ranges for composite ingredients:

- tungsten carbide = 86-91 HRA
- matrix steel = 52-58 HRC
(bonded to carbide)
- base steel = 38-50 HRC

Steel matrix composition:

- carbon = .28-.35
- manganese = 1.5-2.0
- silicon = 1.3-1.7
- aluminum = .08-.15

Steel matrix benefits:

- patented composition
- air-hardening matrix; no heat treatment necessary
- special compositions available upon request
- matrix is easily weldable
- machining of matrix not recommended
- hardness comparable to specialty abrasion-resistant steels