



CONSTRUCTION

Tooling and Wear Protection Solutions for Construction Applications

Road Rehabilitation
Trenching
Foundation Drilling
Forestry and Recycling





Oil and Gas Wear Solutions



Mining Wear Solutions



Process Industries Wear Solutions

We Can Solve Your Most Challenging Wear Problems.

Kennametal is a global supplier of solutions for wear, heat, and corrosion problems, a world-class manufacturer of components, and a service provider to a wide range of industries. For years, we have helped customers in the Oil and Gas, Construction, and Mining industries, as well as those in process industries like Petrochemical, Food and Feed, and Plastics Extrusion.

Count on us for innovations that deliver productivity, reliability, and extended life in the harshest environments. Kennametal's commitment to providing solutions for the most demanding applications is unparalleled. We have a long history of helping our customers achieve success and a tradition of exceeding their expectations.

By matching our advanced material solutions and technologies to your applications, we can help you solve your biggest wear problems, avoid costly downtime and catastrophic failures, and achieve significant savings.

We are the wear problem experts.

Contact us today and we'll find the right solution for you.

OUR MISSION

Through the skill and innovation of our people, we deliver industry-leading tools and technologies that solve customer challenges and enable exceptional performance.

Our mission is all about performance for our customers. Our tools and wear-resistant solutions enable customers to run longer, cut faster, and machine with greater precision. We aren't setting the performance standard for our industry...we're resetting it even higher.

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Count on Kennametal for High-Performance Wear Solutions

MATERIAL SCIENCE EXPERTISE

Kennametal's wear solutions begin with our material science expertise. Being a producer and supplier of raw materials enables us to maintain critical control over our materials.

Our primary portfolio of materials includes tungsten carbide, cobalt, nickel, and other specialty additives. We combine these materials to create unique formulas and grades to solve specific challenges.

PROVEN MANUFACTURING METHODS

Finding the right materials for your application is the first step, but you also need proven manufacturing methods to solve complex wear issues.

Kennametal's network of global manufacturing operations enables us to take our quality materials and turn them into products and solutions while maintaining the highest level of quality from the inside out.

BUILDING ON ADDITIVE MANUFACTURING

Metal additive manufacturing processes — metal 3D printing — represent the next generation in design freedom, manufacture cost reduction, and supply chain optimization. These proven processes are being leveraged across multiple industries and applications to quickly and efficiently develop and deploy high-performing parts.

Kennametal develops materials specific to additive manufacturing, offering additive metal powder feedstock materials and finished parts. Our gas atomization powder production capabilities supply cobalt, nickel, and iron powders optimized for specific additive manufacturing processes. Kennametal's expertise in sintering and post printing processes provide custom solutions in both tungsten carbide and Stellite™ materials.

AN UNDERSTANDING OF YOUR UNIQUE WEAR ISSUES

Quality materials and proven manufacturing methods are only part of the equation. At Kennametal, we are aware that our expertise is only beneficial if we truly understand your challenge.

Through close partnerships with our customers, we design, develop, and manufacture solutions that deliver exceptional value throughout the lifecycle of the components. At Kennametal, we leverage our extensive knowledge of materials technologies and manufacturing methods to develop your unique solution.



Kennametal Wear Protection Solutions Are Made from the Right Materials

		MATERIAL SYSTEMS OVERVIEW			
		Tungsten Carbide	KenCast™	Conforma Clad™	Stellite™
Wear Mechanism:	Abrasion Resistance	•••	•	••	••
	Corrosion Resistance	••	•	••	•••
	Erosion Resistance	•••		••	••
	High Temp Resistance	••	••	•••	•••
	Impact Resistance	••	•••	•	•••
Material Form:	Casting		X		X
	Coating	X		X	X
	Powder	X			X
	Sintered	X			X
	Wrought				X
Manufacturing Method:	Powder Compaction	X			X
	Green Forming	X			
	Casting		X		X
	Machining/Grinding	X		X	X
	Brazing/Assembly	X		X	
	Welding		X	X	X

Tungsten Carbide

Kennametal has been manufacturing tungsten carbide products since our inception.

Cemented tungsten carbide possesses unique engineering properties that makes it ideal for countless industrial applications. In addition to being more durable, it is often more economical than other materials. Tungsten carbide is used for parts that must withstand extremes of wear, including deflection, deformation, abrasion, erosion, galling, and corrosion.

Unlike some carbide manufacturers, Kennametal produces its own powders, assuring the highest quality tungsten carbide from start to finish.

KenCast

KenCast™ is composed of tungsten carbide particles that have been metallurgically bonded to air-hardened steel. The result is a tough, durable, and extremely wear-resistant material.

Carbide granules give KenCast exceptionally long-lasting protection. Various-sized tungsten carbide particles are blended to create a precise combination of carbide protection for your specific application. Both standard and custom shapes and geometries can be produced.

Conforma Clad

Conforma Clad™ incorporates two industry workhorse materials — tungsten carbide and Stellite™ cobalt-based alloys — into our unique cloth-based and Ultraflex™ slurry-based processes. This enables us to provide superior wear-resistant claddings in a wide variety of substrate materials and geometries for a range of industries and applications.

Stellite

The Stellite family of alloys has a long and distinguished history of delivering in the toughest of applications. Since its inception in 1912, the family of Stellite alloys has grown to more than 300 unique solutions, including known brands such as: Tribaloy™, Nistelle™, and others.

Stellite alloys are available as consumable powders, hardfacing materials and equipment, and wrought bar and sheet. Through complex casting and finished machined components, our engineers will work with you to provide the solution that best fits your need.

Tooling and Wear Protection Solutions in a Construction Environment

With our proven tooling and wear protection solutions, you can build and maintain best-in-class operations in any of your applications: road rehabilitation, trenching, foundation drilling, forestry, and recycling. We keep your high-value equipment running longer and performing better in the most demanding environments.

Forestry and Recycling

Tooling and Wear Protection Solutions
for Forestry and Recycling Equipment

Grader

Wood Grinder

Trenching

Tooling and Wear Protection
Solutions for Trenching Equipment

Chain Trencher



Micro
Trencher

Horizontal Drill

Foundation Drill

Foundation Drilling
Tooling Solutions for Foundation
Drilling Equipment

Stabilizer

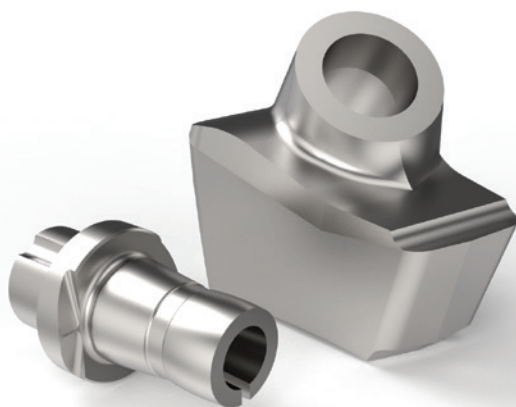
Road Planer

Road Rehabilitation
Tooling and Wear Protection Solutions
for Road Rehabilitation Equipment

Road Rehabilitation: Road Planer Solutions

TOOLING AND WEAR PROTECTION SOLUTIONS FOR ROAD PLANERS

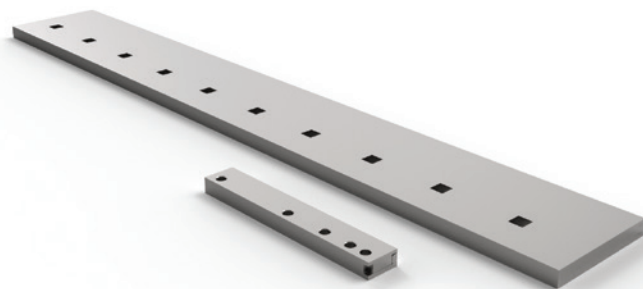
Road rehabilitation takes your tooling equipment through rough conditions. Kennametal cutting tools are designed for long tool life, excellent holder protection, and smooth machine operation – enabling you to run longer and be more productive. With KenCast™ wear protection, you can avoid costly repairs and downtime while on the road.



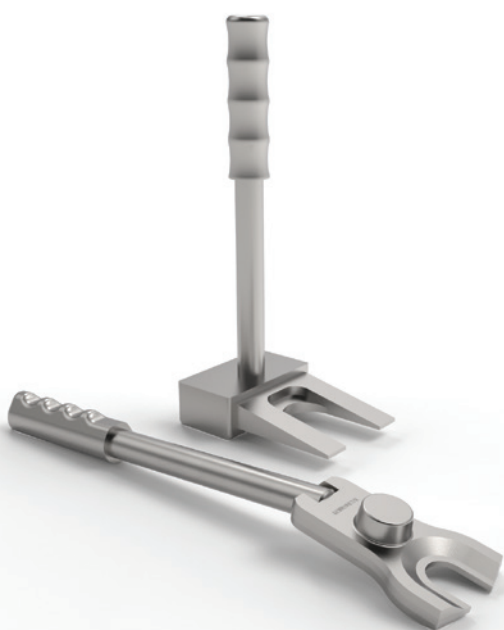
Road Planer: Tool Holders with Sleeves



Road Planer: Cutting Tools



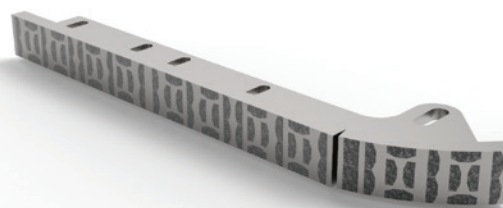
Road Planer: Blades



Road Planer: Tool Pullers



Road Planer: KenCast Wear Protection Kicker Paddle



Road Planer: KenCast Wear Protection Ski



Road Rehabilitation: Stabilizer Solutions

TOOLING AND WEAR PROTECTION SOLUTIONS FOR STABILIZERS

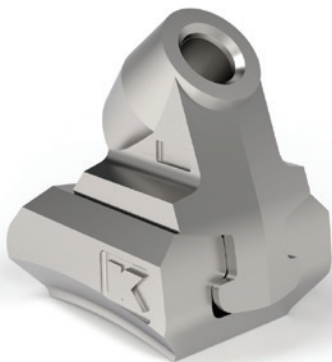
Stabilization builds the base for any successful road construction project. Tackle wear with Kennametal steel/carbide tools and KenCast™. Quality parts keep your high-value equipment going and your crews working.



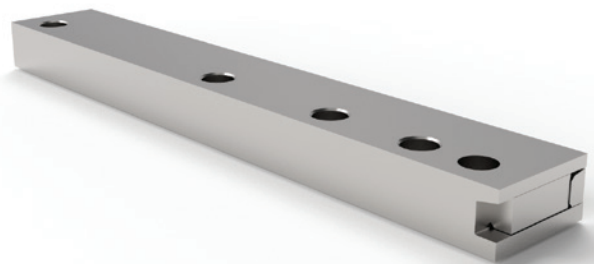
Stabilizer: Cutting Tools



Stabilizer: Flat Tools and Tool Holders



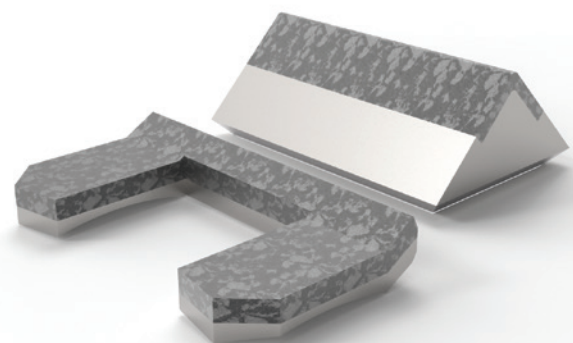
Stabilizer: Tool Holders



Stabilizer: Blades



Stabilizer: Tool Pullers



Stabilizer: KenCast Wear Protection

Trenching: Trencher, Micro Trencher, and Horizontal Drill Solutions

TOOLING AND WEAR PROTECTION SOLUTIONS FOR TRENCHERS, MICRO TRENCHERS, AND HORIZONTAL DRILLS

Kennametal designs cutting systems that improve productivity and protection for equipment used in trenching applications. By selecting the right tool at the onset of the job, we can help meet your production goals and protect machinery from costly downtime. We also offer wear protection solutions that can lengthen the service life of your trenchers and drills.



1 Trencher: Clip Puller



1 Trencher: Cutting Tools with Retainers



1 Trencher: Tool Holders with Sleeves



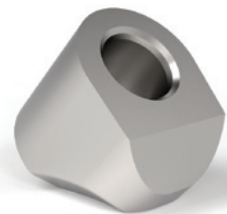
1 Trencher: KenCast™ Wear Protection



2 Micro Trencher: Cutting Tools



2 Micro Trencher: Cutting Tools



2 Micro Trencher: Tool Holders



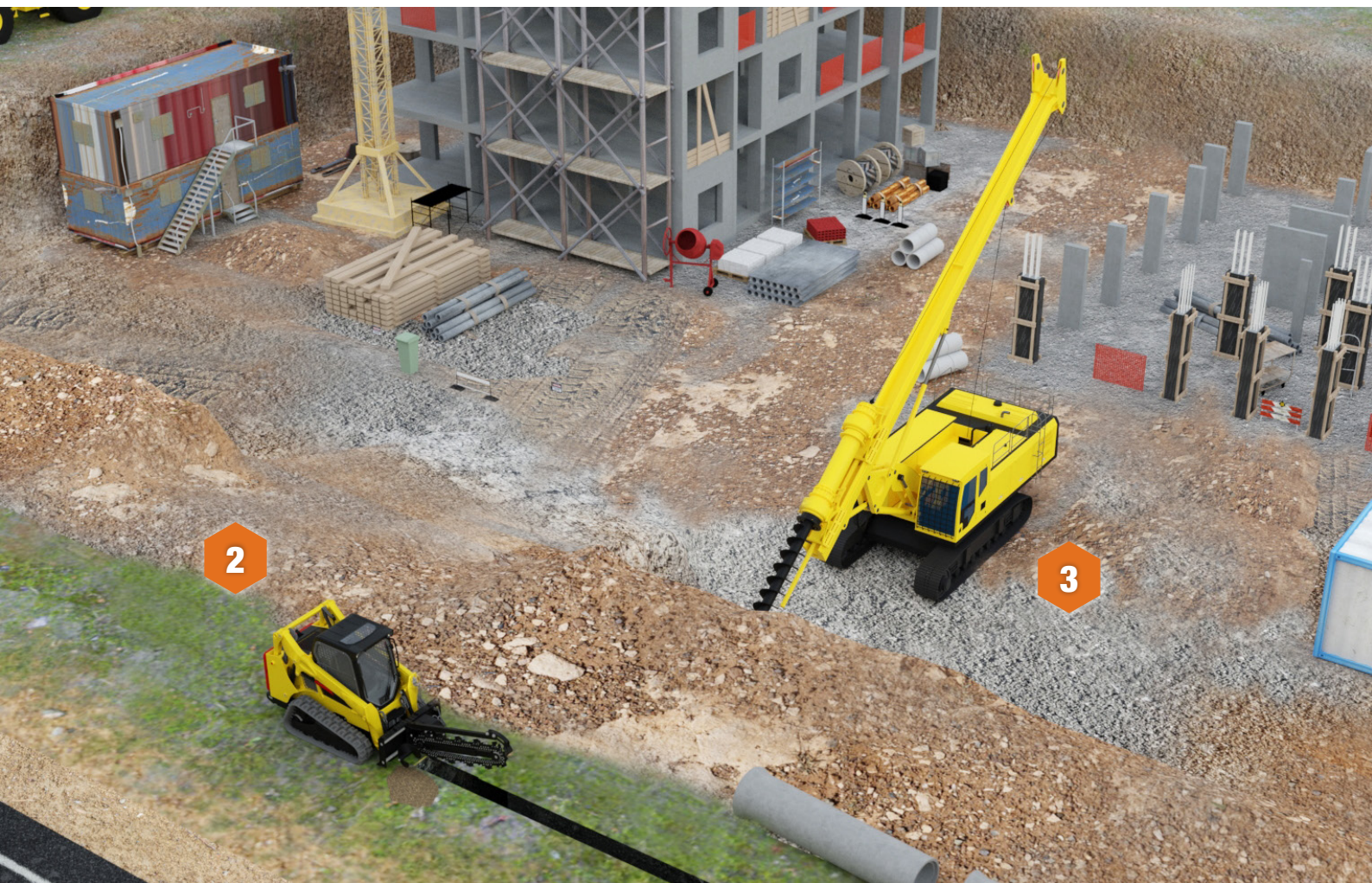
2 Micro Trencher: Tool Pullers



3 Horizontal Drill: Cutting Tools



3 Horizontal Drill: KenCast Wear Protection



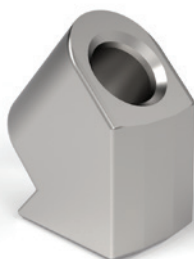
Foundation Drilling: Foundation Drill Solutions

TOOLING AND WEAR PROTECTION SOLUTIONS FOR FOUNDATION DRILLS

Equipping your foundation drill with the right cutting system gets the job done more efficiently and with less downtime. Kennametal cutting systems can be used in a wide range of foundation drilling attachments and geotechnical conditions. Our products maximize productivity, minimize wear, and boost overall performance.



Foundation Drill: Cutting Tools



Foundation Drill: Tool Holders



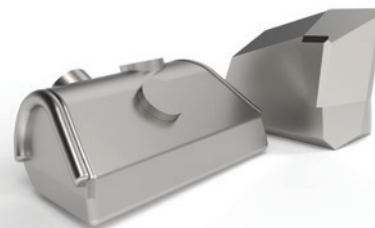
Foundation Drill: Tool Pullers



Foundation Drill: Auger Cutting Tools



Foundation Drill: Diaphragm Walls
Cutting Tools



Foundation Drill: Core Barrel Cutting Tools



Forestry and Recycling: Wood Grinder, Grader, and Circular/Band Saw Solutions

TOOLING AND WEAR PROTECTION SOLUTIONS FOR WOOD GRINDERS, GRADERS, AND CIRCULAR/BAND SAWS

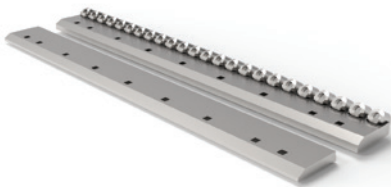
You can't do a job without tools that are up to the challenge. Kennametal offers cutting and wear protection solutions that will extend your equipment's longevity in waste recycling, wood waste processing, and woodworking. Kennametal scarifier and grader blades will help you get there.

**1**

Wood Grinder: Hammer Tips

**1**

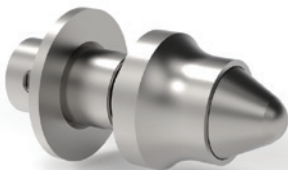
Wood Grinder: Retainers and Accessories

**2**

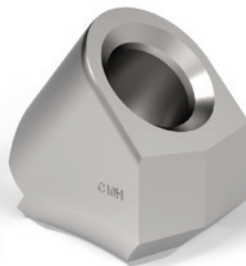
Grader: Blades

**2**

Grader: Wear Protection

**2**

Grader: Cutting Tools

**2**

Grader: Tool Holders

**2**

Grader: Punch





Sawmill Application


3

Circular Saw: Saw Tips

3

Band Saw: Stellite Saw Tips





Kennametal is your ideal partner for the development of next-generation wear components.

In addition to our long tradition as a cemented carbide producer, we are also trusted by OEM manufacturers to supply them with engineered wear solutions required for demanding construction operations. Kennametal doesn't just manufacture the components and materials. We also provide customers with unmatched expertise and dedicated collaboration.

***Contact us today so we can help find the right solution for your application: 1-833-379-1506
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Kennametal is the Global Leader for Wear Protection Solutions.

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