



# Surface & Hard-Rock Technologies



**Kennametal**  
is a world leader  
in the design,  
manufacture,  
and supply of  
premium-quality  
Surface and  
Hard-Rock  
Mining products  
and services.

No matter how challenging your application or operating conditions, our proven tooling and custom wear solutions will significantly boost your productivity and profitability by:

- improving your workplace safety
- optimizing your equipment uptime
- delivering you the absolute lowest cost-per-ton/yard/meter





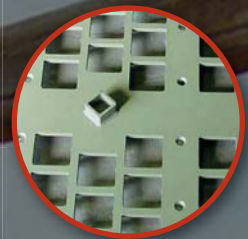
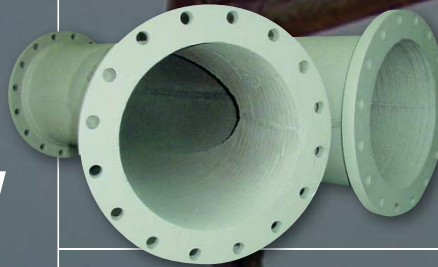
**Kennametal**  
is the global  
benchmark  
for effectively  
and efficiently  
combating  
extremes of  
wear, impact,  
and abrasion.

Regardless of how demanding or unique your requirement, we provide an unbeatable portfolio of affordable, best-in-class solutions:

- plate
- welding electrodes
- bar
- pins
- custom processing

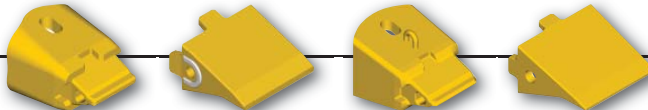
Our overall ultra-durable, high-performance offering includes:

- ground-engaging teeth and adapters
- drums and related tooling systems
- cutting edges





# Overburden Removal



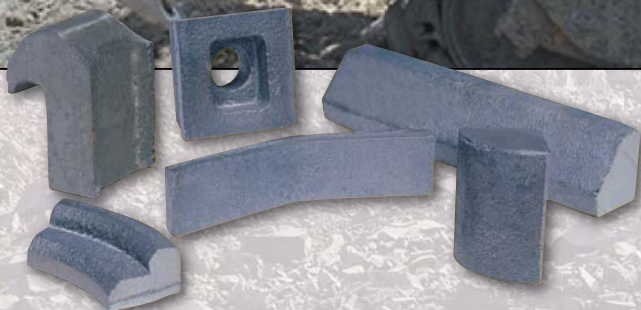
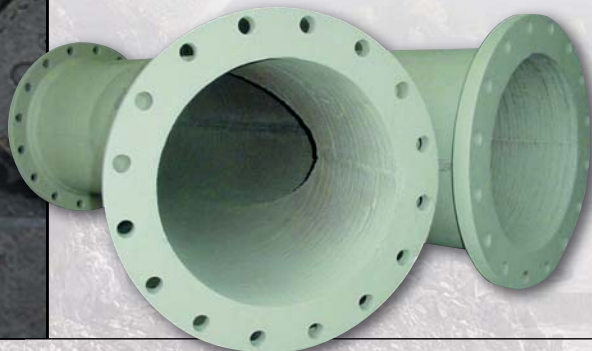
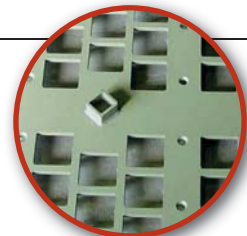
## Dragline Teeth and Adapters

Our one-of-a-kind Kenna-Lok™ system eliminates the need for hammers, pin drivers, and welding – drastically reducing flying splinters or metal to injure workers! Make changeouts, in minutes, using just a simple hand ratchet or impact wrench. Specially engineered chisel point design increases penetration depth – giving you superior digging capacity and more material! We can also custom-make parts for your particular application.

We match our custom-designed materials with cutting-edge hardening processes to provide **shovel and bucket pins** that have an extremely wear-resistant surface and a tough inner core – dramatically improving your machine uptime!



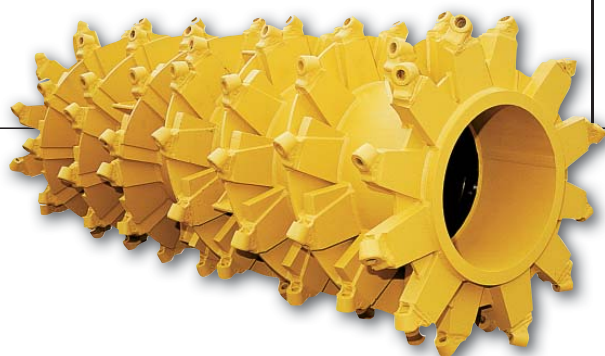
Our equipment-saving components incorporate **Kennametal Tricon's superior abrasion, impact, and wear-resistant products** (Tri-Braze™, Super-C™) – and are backed by an expert technical staff that will work with you to best address even your most hostile environments!



And, for when the utmost security against operational damage is necessary, choose our proprietary **Kennametal KenCast™ wear bars, plates, and strips** – that combine the practicality of air-hardening steel with the toughness of Kennametal tungsten carbide.



# Surface Miner Systems



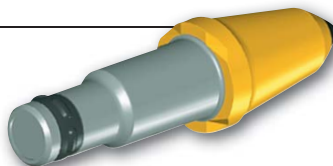
**ShearPro™**

*Kennametal, since 1952 the worldwide leader in premier underground-mining products, has bought its quality and expertise to the surface!*



**Kennametal's Shear-Pro™ Drums program** is unmatched in the mining industry! First, we'll visit your location to see, first-hand, your operating conditions and equipment. Next, we'll custom-design (using our elaborate CADD 3-D modeling system that factors in your cutting speed, depths, and particulars), build, tool, and service a precisely balanced surface-mining drum that will deliver promised results: up to 80% less vibration, with as much as a 40% reduction in your fuel costs! In addition, we're your best source for like-new remanufactured drums.

All Kennametal drums come equipped with genuine **Kennametal carbide-tipped tools, ultra-durable blocks, and related accessories.** All available separately, as well. Our exclusive Easy-Pull™ notches ensure fast, easy, and accurate tool removal.



## Crushing



Kennametal is your best option for high-performance crusher drums – with our unique flexibility to provide you a custom-engineered unit perfectly suited to your specific requirements!

As with all other high-wear areas in your operations, **Kennametal Tricon and KenCast sheets, strips, bars, and pads** provide maximum safeguarding against premature sizing equipment and tool failure, costly repairs, and excessive downtime.



Our extra-large **KXLC™ conicals** are the industry standard for year-round durability and output! Extended base ensures ideal block protection, while our carbide body, with Easy-Pull notches, will be on the job almost three times longer versus welded-overlay tooling. We also offer a vast array of other styles, in multiple shank sizes.



# Drilling & Blasting



## Carbide Compacts

We supply many of the world's leading blast-hole and percussion-drilling bit makers with their long-life tips! So, if you want unsurpassed quality at the point of impact, specify genuine **KENAMETAL carbide!**



## KenCast™ Wear Parts

Kennametal KenCast blades, when applied to the sides of drillstrings, have proven to outlast competitive materials by more than 5-to-1! Easy to weld on, economical, and exceptionally versatile, our parts fit virtually any machine for just about any type of job within a surface mine or quarry.



## Welding Electrodes

Our product portfolio includes a complete line of hardfacing, build-up, and joining alloys – all unsurpassed to battle the effects of abrasion and impact.

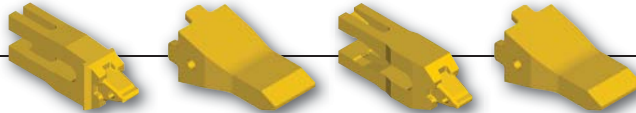
# Processing



Kennametal has an entire suite of **premium surface and solid-carbide technologies** to resist wear during the processing phase of your business: screws, flow and suction liners, screens, plates, nozzles, bushings, valves, bearings, sleeves, chains...



# Load & Haul Operations

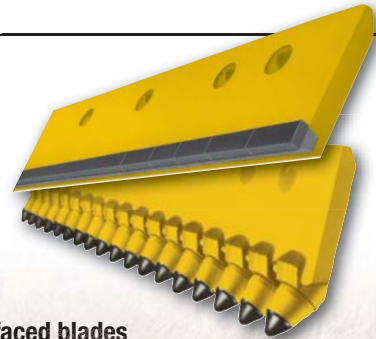


## Shovel Teeth and Adapters

Our through-hardened steel shovel teeth and adapters (standard and custom), like those we provide for draglines, employ a hammerless technology that makes them the safest choice on the market. But they're extremely productive, too – yielding superior penetration and enabling you to get the most from your machine!



From initial design to finished product, **Kennametal Tricon** will give you the ultimate blend of proven abrasion and impact protection – all to keep your machines running at maximum performance!



For haul-road maintenance, **Kennametal tungsten-carbide grader, scarifier, and hardfaced blades** outlast all-steel or cast styles by as much as 12-to-1, especially in tough cutting conditions – with far less passes! And they're simple to install and replace, too. We also offer moldboard liners... for optimum blade protection.

Plus: Ask about our productivity-boosting **grouser bars**, made with KenCast material, to significantly improve your track shoe work life – while giving you a totally secure grip, even in hazardous ice and snow!



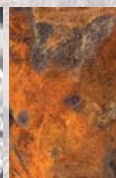
## End Products ...and so many more!



Gold



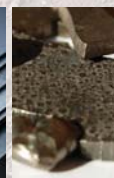
Diamond



Iron Ore



Base Metals



Cobalt



Granite



Copper



Coal



Oil Sands



Nickel



Platinum

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