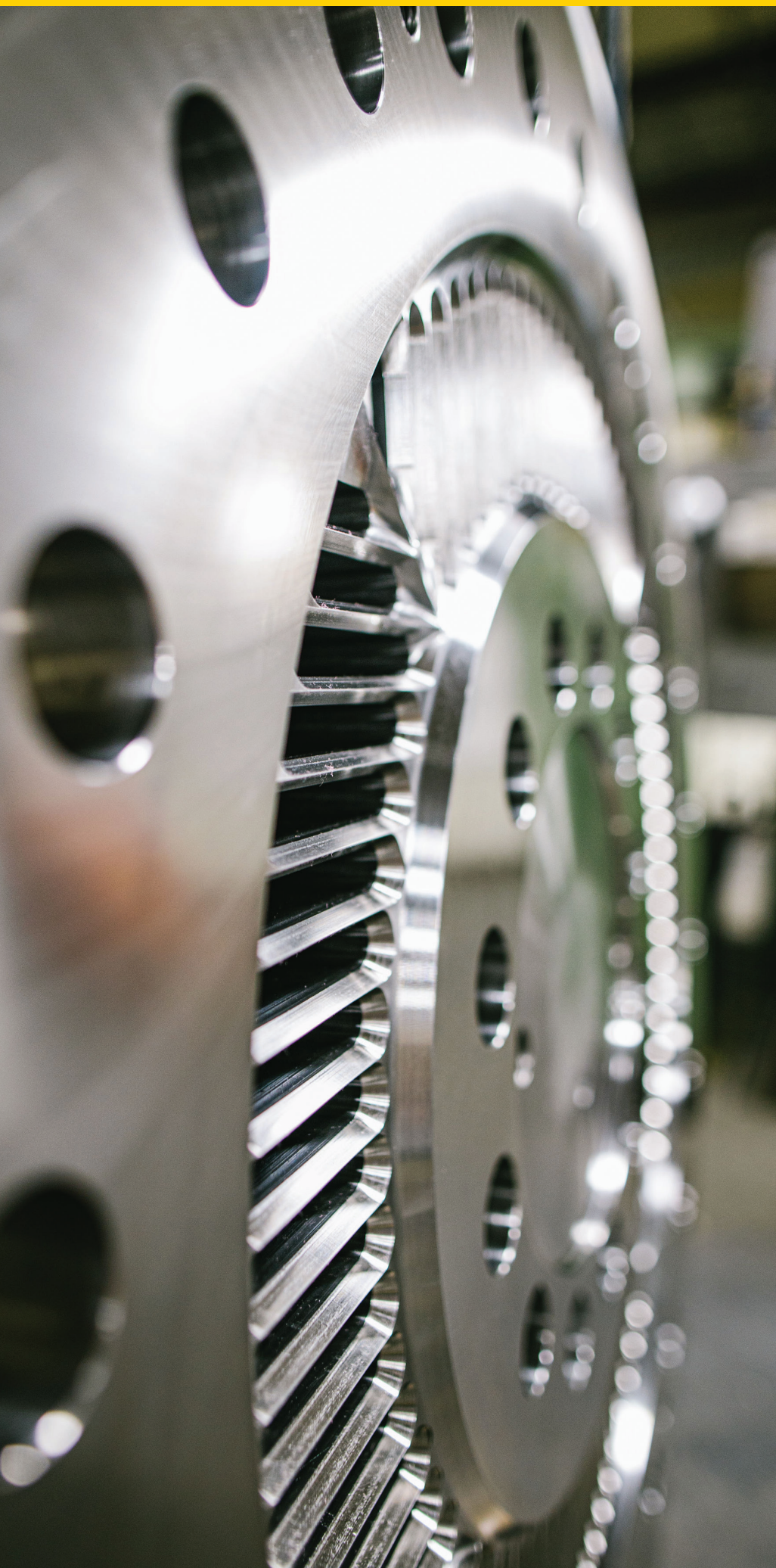


Pelletizing Die Plates for the Polyolefins Industry

Cutting-Edge Innovation





WHO WE ARE

Kennametal® is a leading provider of tooling equipment, engineered components, and advanced materials consumed in production processes. We are recognized globally in the polyolefins industry as a leading supplier of underwater pelletizing die plates.

Each year we design and engineer up to 100 new dies and recondition over 200 dies. Companies with multiple production sites around the world rely on Kennametal for our pelletizing die plates, which provide the best thermal performance and highest wear resistance.

Founded in 1938 and headquartered in Pittsburgh, Pennsylvania, Kennametal operates in more than 60 countries and employs more than 9,000 team members worldwide.



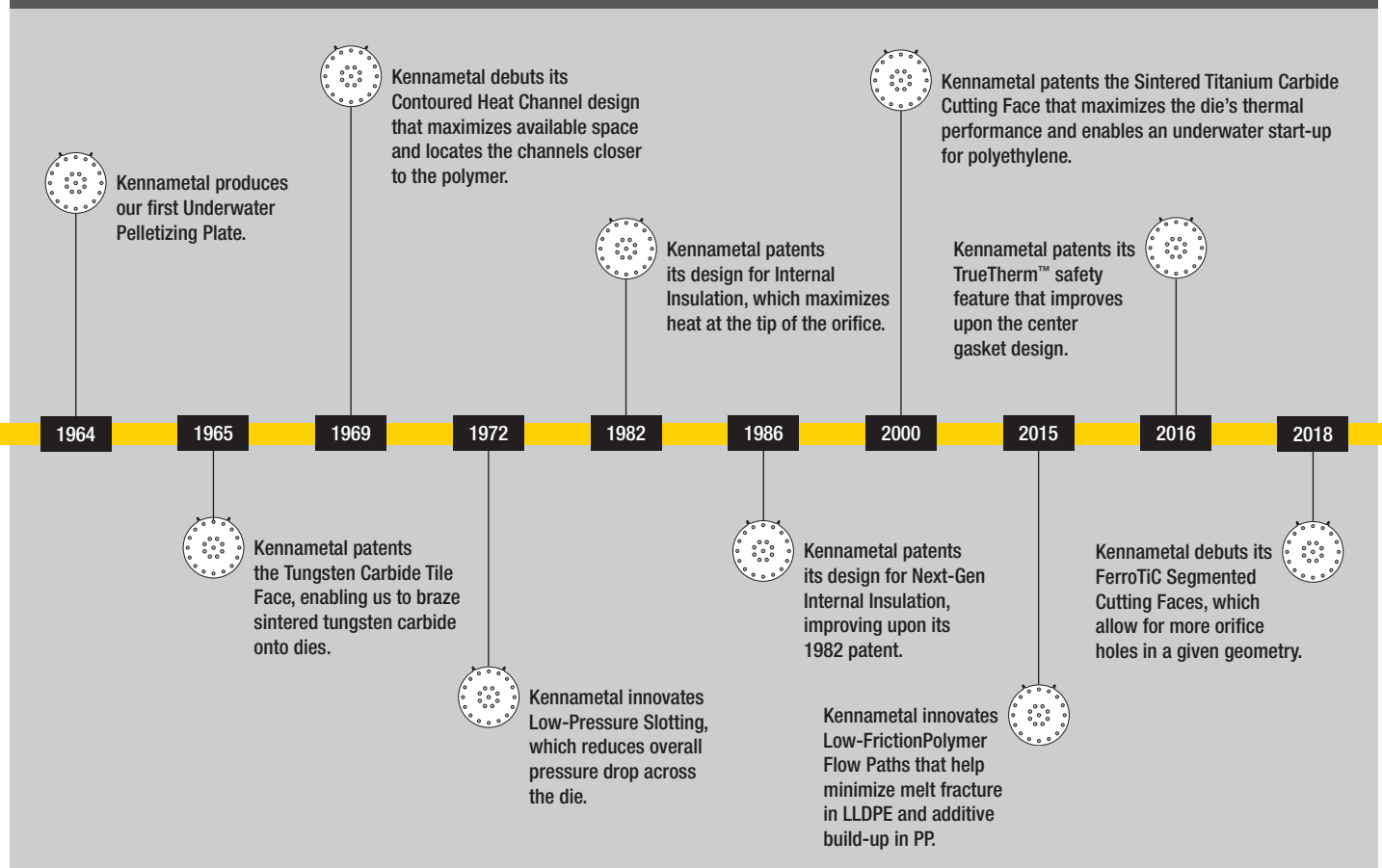
A HISTORY OF INNOVATION

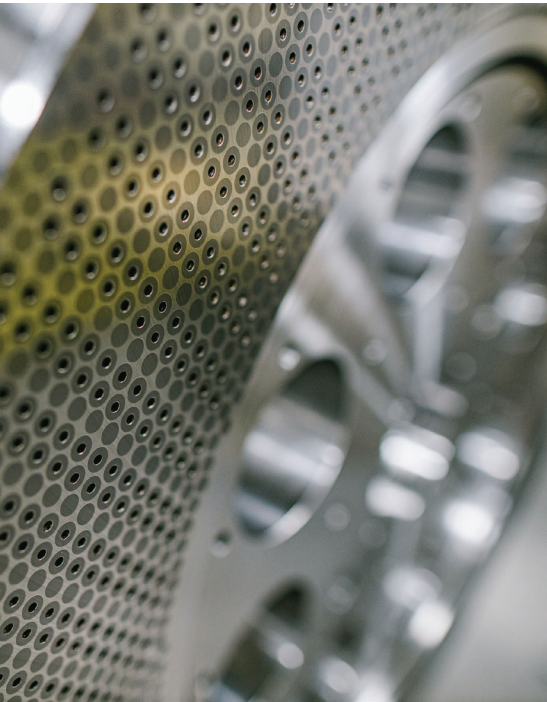
For more than 55 years, Kennametal has served the polyolefins industry with a team dedicated to die development and solely focused on manufacturing pelletizing die plates.

As one of the world's largest aftermarket die plate manufacturers, we offer solutions that fit **all major OEM pelletizers**. Our experience has led to the development of numerous design innovations that greatly increase the standard of performance for pelletizing die plates.

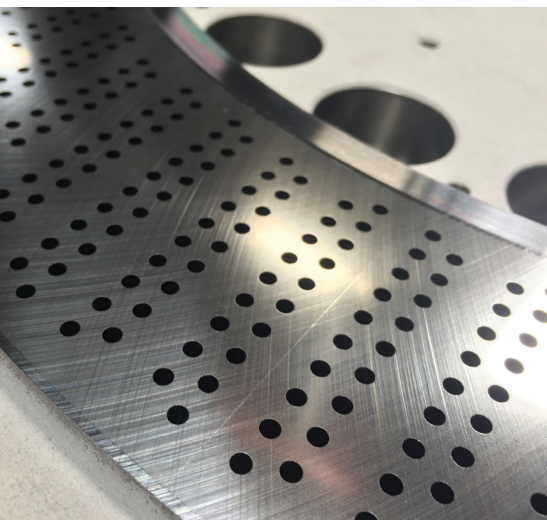
We've always been known for having close working relationships with customers like you.

These mutually beneficial interactions have led to many of our innovations.





Nib Die



Segmented Face Die

INNOVATIVE TECHNOLOGY

Our pelletizing die plates are known throughout the polyolefins industry for their superior design, safety features, and low total cost of ownership. Learn more about what makes them better.

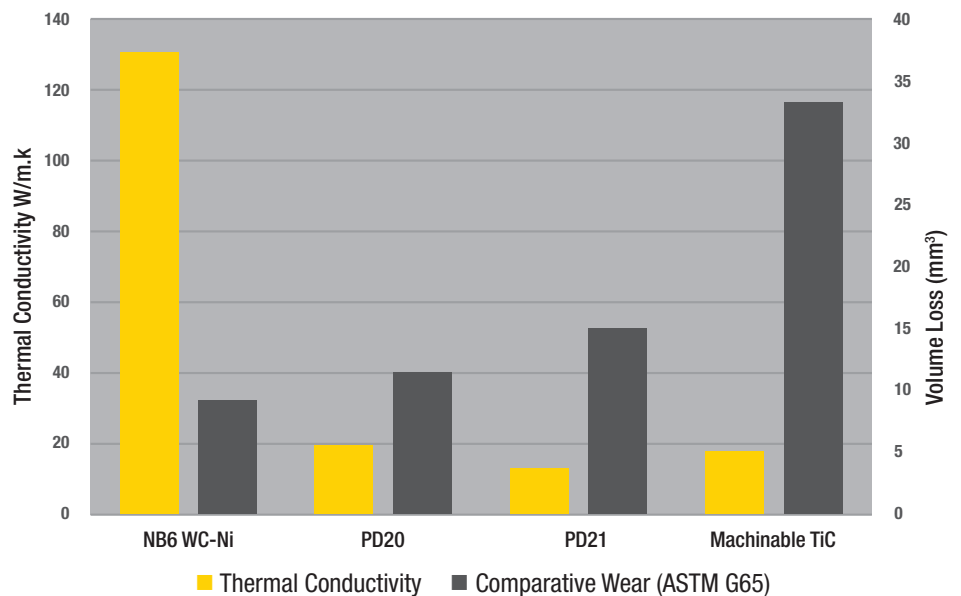
ADVANCED CUTTING FACE MATERIALS

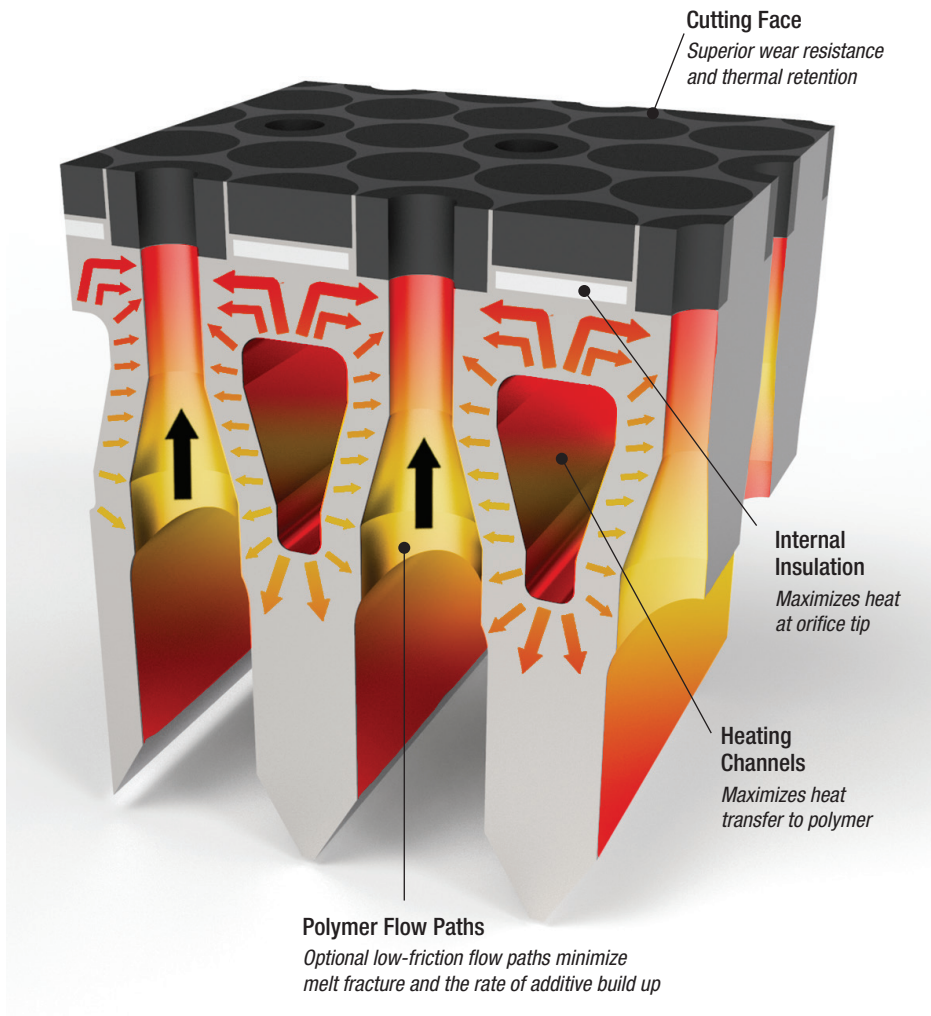
By leveraging our core competencies we have innovated a range of superior cutting face materials. Kennametal's latest PD-21 titanium carbide provides properties unmatched by any other material suitable for this application. It combines excellent wear resistance with outstanding thermal retention to better enable underwater start-ups, reduce orifice hole freeze-off, decrease melt fracture, and solve many other pelletizing issues.

SUPERIOR INTERNAL INSULATION

Kennametal set a high-performance standard when we innovated internal insulation. This feature consists of a ceramic layer embedded under the cutting face of the plate. The embedded layer helps to reduce overall heat loss from the plate and focuses this extra energy into the tip of the orifice, which is where the energy is most needed. Our exclusive design provides the most heat-intensive and uniformly heated pelletizing plate in the industry.

Thermal & Wear Properties



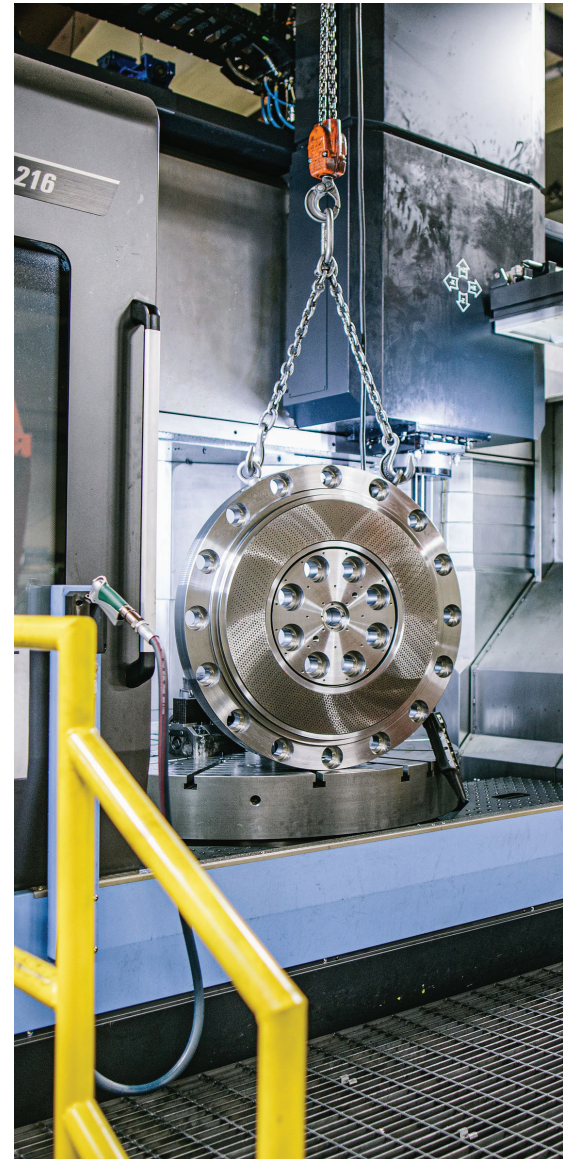


EFFICIENT HEATING CHANNELS

Compared to drilled or round channels, our contoured heating channels enable a more efficient thermal transfer to the polymer passageways. They greatly improve the thermal performance of the die while minimizing orifice freeze off and pellet size distribution. Kennametal's advanced channel design allows us to maximize the area of the heating cross section within a given geometry and without sacrificing the strength of forged steel.

LOW-FRICTION POLYMER FLOW PATHS

Kennametal offers die plates with optional low-friction polymer flow paths. The enhanced surface finish minimizes the rate of melt fracture and polymer shear, which benefits LLDPE production. Additionally, this innovation reduces the rate of additive build-up and flow restriction. This extends the overall life of the die by increasing your time between die change-outs, or maintenance intervals.

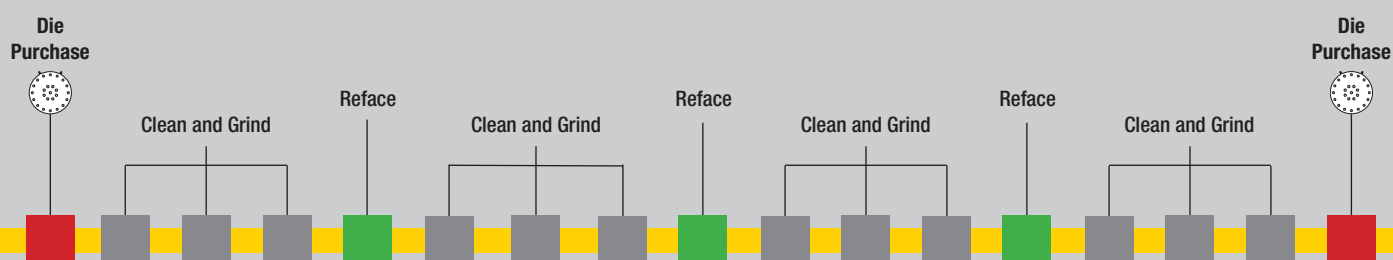


LOWER TOTAL COST OF OWNERSHIP

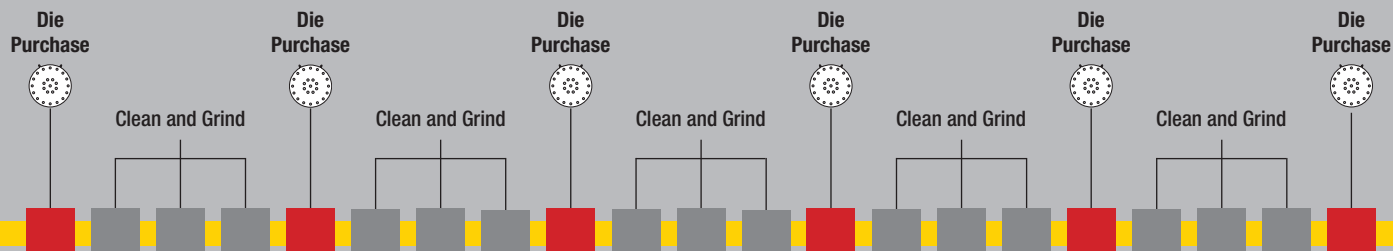
Our pelletizing die maintenance center is one of the largest in the world, reconditioning over 200 dies each year. We can replace the cutting face of your worn Kennametal pelletizing nib die plate at a fraction of the cost of a competitor's new plate. And depending on its size, a Kennametal die can be refaced multiple times — which can greatly reduce your costs.

RECONDITIONING AND MAINTENANCE SERVICES

Kennametal Die Performance



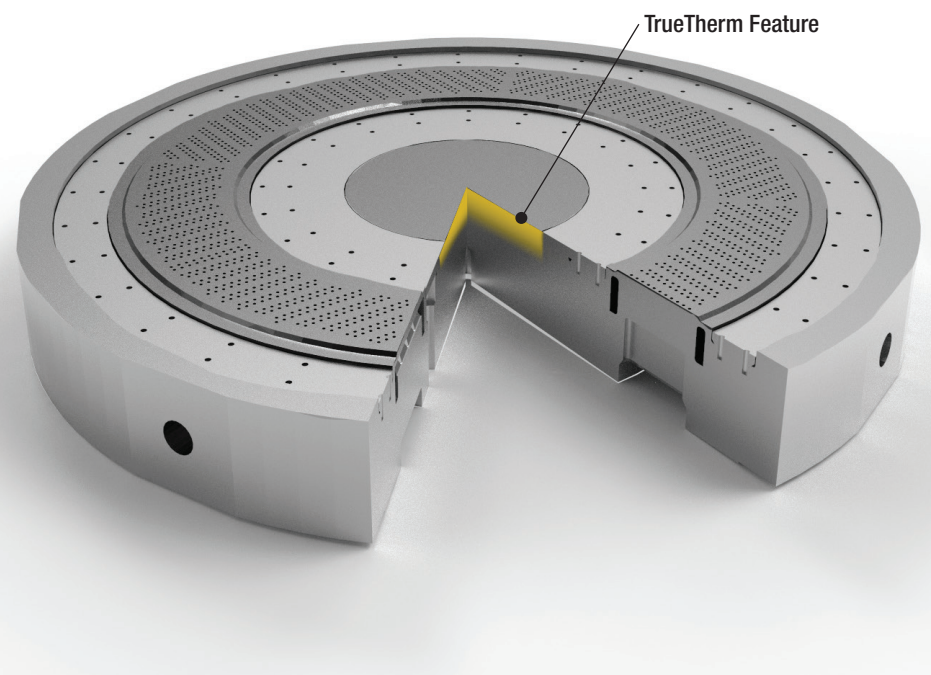
Competitor Die Performance



Charts are for comparison purposes only and represent a Kennametal die vs. a competitor solid face die. Process parameters and operating conditions may alter outcomes. The number of times a die can be refaced depends on die size and other parameters.

SAFETY

When the large surface area at the center of a pelletizing die is exposed to the pellet-cooling water, it can lead to excessive heat loss from the die. Over the years, this has led to the unsafe practice of using gaskets to insulate the die center, which can trap water and cause distorted or ejected steel retainers. Kennametal's TrueTherm™ design uses embedded air cavities to insulate the die center, so that a much safer ring design can gasket the mounting bolts against water intrusion.



Kennametal's TrueTherm center gasket design offers greater safety, thermal flexibility, and easier start ups.



Kennametal provides critical components and tooling for polyolefins manufacturers.

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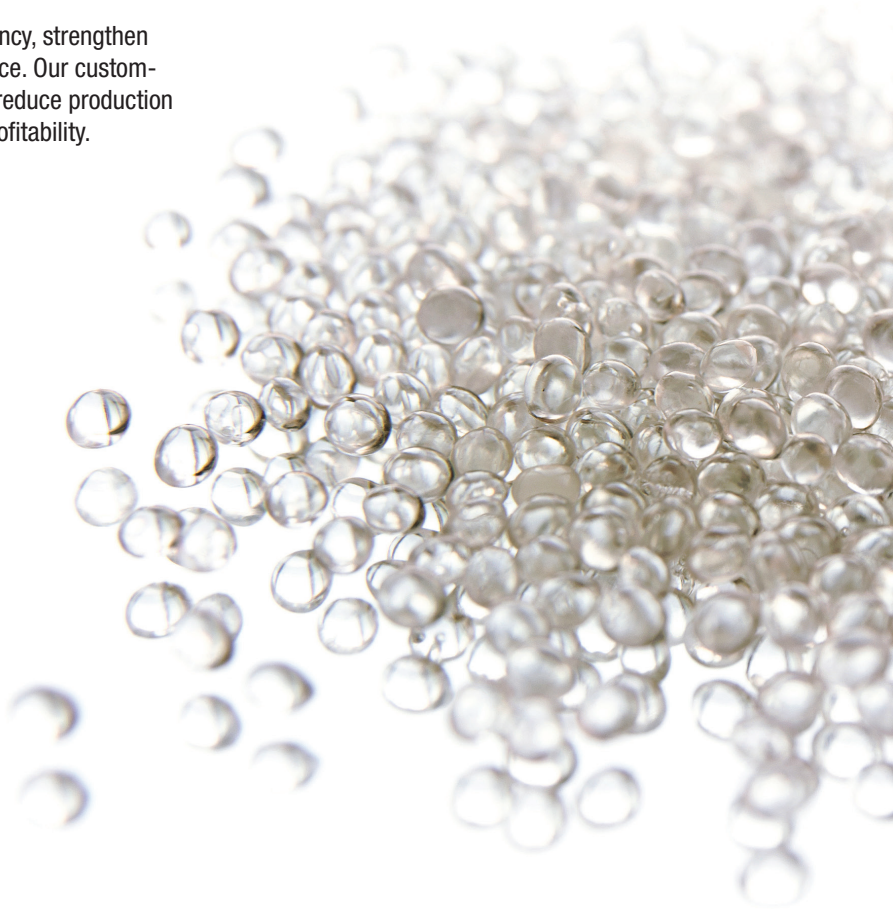
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Most companies support products. We support customers.

With Kennametal's support, you can attain operational efficiency, strengthen customer loyalty, and thrive in today's competitive marketplace. Our custom-designed and engineered critical components enable you to reduce production costs, improve performance and service life, and increase profitability.

Contact us today!



kennametal.com