

Engineering Your  
Competitive Edge

# IN WASTE WATER TREATMENT

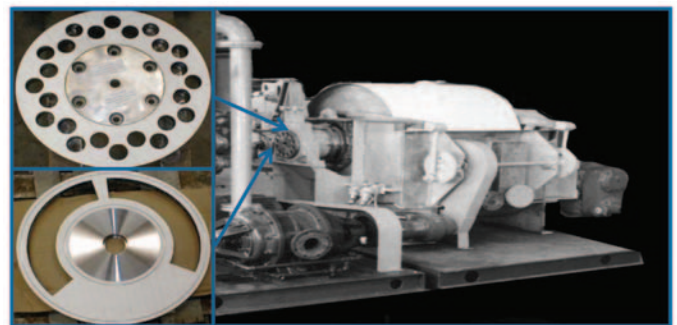


## Wear-Resistant Technologies

Kennametal® ceramic solutions meet the overall cost reduction demands in the wastewater treatment industry. Our engineered solutions extend the life of vacuum and wear plates in rotary vacuum drum filters. Durafrax™ 2000 alumina tiles applied to the steel surface with our Aero-Tech bonding process enhances the overall wear resistance of the Durafrax™ 2000 by maximizing the impact resistance and bond strength.

### Materials

- Durafrax™ 2000 alumina
- ZAC®, Corguard® fused cast AZS
- Cryston®, Cast Refrax™ nitride-bonded silicon carbide
- Norfrax RB® reaction-bonded silicon carbide
- Hexoloy® alpha sintered silicon carbide
- ROKIDE®/SNMI thermal ceramic spray
- Wearpak 600xs wear-resistant compounds



### Applications

- Chutes/hoppers
- Classifier cones
- Cyclone separator
- Elbows
- Fan housing & blades
- Lined piping
- Nozzles
- Wear panels
- Specialized material handling systems

	Initial Cost (US\$)	Estimated Lifetime (Year)	Cost Per Year (US\$)	Additional Costs to Inspect and Repair Over Lifetime	Total Savings Over Lifetime (US\$)
Current Material	\$1,100	.25 years	\$4,400	\$6,000 4 replacement/year at \$500	
Ceramic Material	\$3,200	3 years+	\$1,067	N/A	*\$16,000 over 3 years

\*Note: This figure does not take into account less efficient production of the RVDF and increased equipment demand in the same process. These are factors that ultimately cost money. Also, this customer has ordered our ceramic solution for all four of their RVDF machines.

Kennametal is setting the standard in advanced ceramics!

*Let us prove it.*



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## IN CEMENT PROCESSING



# Wear-Resistant Technologies

Providing wear protection to industrial equipment requires a comprehensive understanding of material and applications. With years of experience in providing engineered solutions, we offer proven designs and materials to protect your equipment. Let Kennametal's Engineered Products Group show you how we can improve the life and downtime of your transfer chutes by installing Durafrax™ tile liners.

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## ANIMAL FOOD PROCESSING

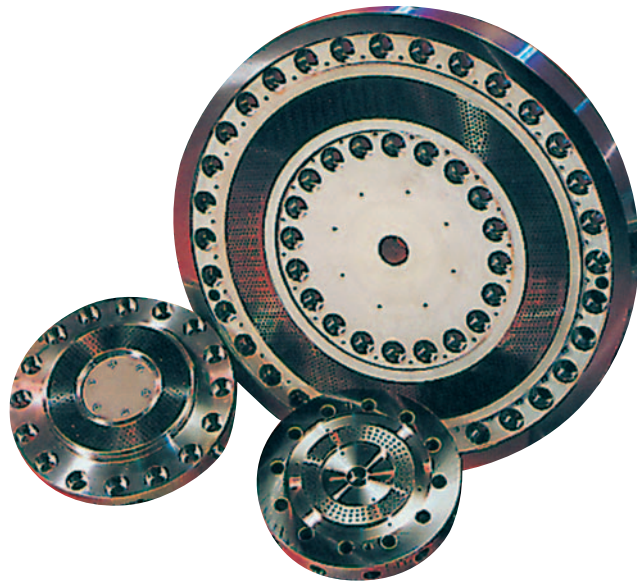


# Wear-Resistant Technologies

Feeds can differ greatly in their composition, which can affect the life of the die. For example, some feeds are highly fibrous in content while others are not, such as Soya meal based feeds. Generally, the more fibrous the feed ingredients, the shorter the life of the die. The process of pelleting consists of forcing a soft feed through holes in a metal die plate to form compacted pellets, which are then cut to a predetermined size. Kennametal's Engineered Products Group can provide ceramic wear solutions for your pellet knives, rolls and dies to reduce downtime and increase production. We can also provide wear solutions for augers, paddles and mixing chambers.

### Applications

- Knives
- Pellet dies
- Pellet rolls
- Augers
- Extruder dies
- Paddles
- Tank liners



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## IN PULP AND PAPER

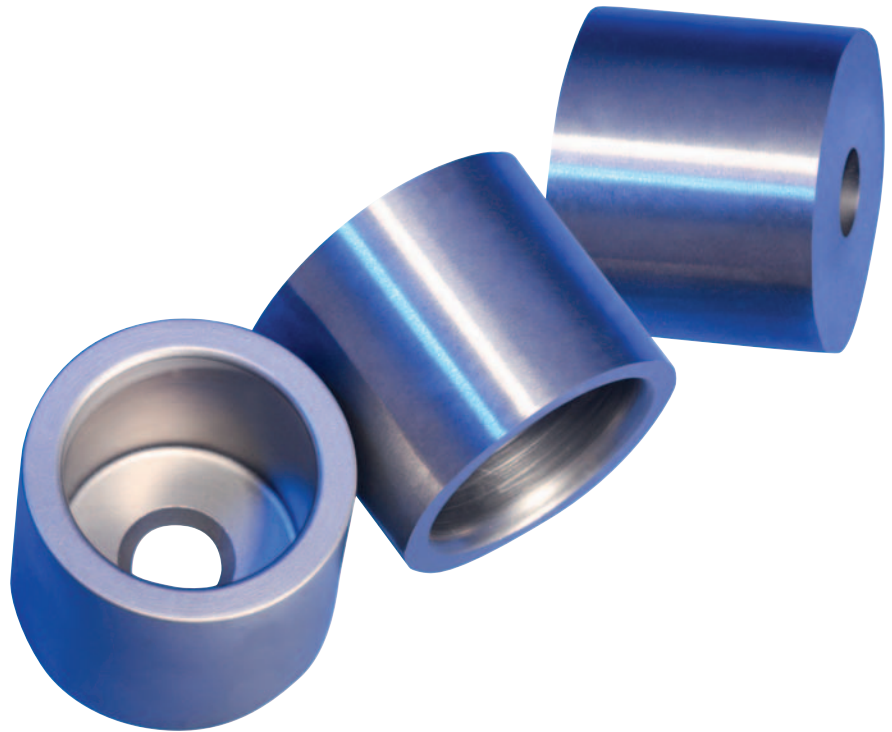


# Wear-Resistant Technologies

Liquid-Solid Cyclone Separator Cups made of Kennametal® ceramic material can provide you with higher quality, more consistent material, leading to better tool life and dependability. Increase your cleaner system performance and product quality by choosing Kennametal® ceramic Liquid-Solid Cyclone Separator Cups produced by the Kennametal's Engineered Products Group.

## Other Applications

- Slitters
- Forming board
- Lead and trail blades
- Uhle box
- Cleaner cones



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