

# Productivity in the Most Demanding Environments

## THE CHALLENGE

**Pumps requiring  
impeller replacement  
at around 1 month.**

A U.S. Gulf Coast refinery had experienced accelerated internal wear of oil pumps, often requiring entire case replacements. Compared to typical industry pump performance, run lengths were shorter, about a month, and cost per installed was higher. The application requires pumps capable of withstanding significant catalyst fines.

## THE RESULT

**13 months in service  
with no significant signs  
of internal erosion.**

Working with Kennametal, the company had the inside of closed impellers treated with UltraFlex™. The company was particularly impressed by the true metallurgical bond and a dense, uniform distribution of tungsten carbide particles throughout the coating, to create excellent erosion resistance and toughness in complex geometries.

After 13 months in service, a treated oil pump showed no significant signs of internal erosion.

This technology has also been applied to FCCU fractionator bottoms and debutanizer reboiler services, with no signs to date of increased vibration or loss of hydraulic performance.