



At WEARTEC®, we specialize in cutting-edge surface treatment refinement technologies designed for tribological systems using advanced nano-micro-particle technology. Our innovative solutions significantly reduce wear, friction, and maintenance costs while enhancing efficiency and sustainability.

Our technology is applied across various industries, including maritime, wind power, mining, steel, oil, automotive, and beyond. It is particularly effective in optimizing the performance of combustion engines, gearboxes, bearing components, and other mechanical systems where wear and abrasion occur, even in the presence of lubricants.

By improving the contact patterns and minimizing friction, to name a few benefits our solutions are:

- Reducing fuel consumption and emissions, CO₂, NO_x and fine particles
- Reduction of oil consumption/lube oil usage
- Life extension of the treated engine, gearbox or bearings
- Lower maintenance requirements and operational costs
- Enhance safety and reliability
- Reduces or eliminates blow-by, cleaner exhaust smoke
- Temperature reduction
- Reduction of maintenance costs and overhaul costs
- Vibration, oscillation and noise reduction
- Improvement of engine performance
- Optimization of material properties
- Wear protection durability
- Extreme friction and roughness reduction on all components

At WEARTEC®, our goal is not only to improve performance and efficiency but also to make a positive impact on the environment by reducing emissions and resource consumption.

The WEARTEC surface application treatment is delivered through a compatible lubricant, such as oil or grease, into an engine, gearbox, or bearing. As the lubricant circulates, it transports the treatment to the loaded surfaces. Activated by temperature and friction energy, the concentrate bonds with the surface, filling microscopic valleys and creating a uniform contact pattern. This process reduces surface roughness, minimizes wear, and enhances overall component longevity.

During daily operation, crystalline temperatures trigger a reaction between the application coating concentrate and the metal surface molecules. This initiates a physical bonding process, forming a new, smooth, and resilient surface layer. As a result, the treated metal surfaces develop enhanced strength and corrosion resistance. While friction and wear characteristics improve significantly, the lubricant's properties remain unaffected.



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