

# ARCHOIL AR8300 SEVERE DUTY GREASE

## NANOCERAMIC TECHNOLOGY

### AR8300 Severe Duty Synthetic Grease

**AR8300 Severe Duty Synthetic Grease** incorporates a complex of nanoceramic elements that took ten years to develop. The nanoceramic elements are suspended in a high grade PAO biodegradable non-toxic base stock and thickened with fumed silica.

**AR8300's** ceramics form a solid boundary layer that has been tested to be harder than its host alloy in many cases with an extremely low coefficient of friction (.003 CoF @ 14.40 MPa). The ceramic complex withstands extreme temperatures, while dramatically reducing wear and corrosion. AR8300 protects against hydrogen embrittlement and demonstrates an exceptional water washout rate (0.50%).

**AR8300** is suitable for many high performance/severe duty applications and is recommended for OEM suppliers who would like to ensure resilience of parts under warranty.

### Features & Benefits

- Dramatically reduces friction and wear
- Improves hardness of host metals in many cases
- Fills in surface asperities
- Extreme pressure protection
- Extends the life of components
- Excellent corrosion protection
- Significantly increases greasing intervals
- Reduces heat generation
- The ceramic elements withstand extreme temperatures
- Low water washout rate at 0.50%
- Very high dropping point ( >550F) Freezing point (-105F)

### Falex Pin and Vee Test

Comparing a low viscosity lubricant without and with nanoceramic compound:

- Decrease of COF from 0.014 to 0.003 (4.5 times)
- Increase in the linear dimensions of parts (weight gain roller test rig at 0.03 grams)
- Reduction of linear wear from  $l_h=6.3 \times 10^{-8}$  to  $2.3 \times 10^{-8}$  (3 times)
- Increase in critical loads from  $p_{cr}=7.35$  MPa to  $p_{cr} 14.40$  MPa (2 times)



14oz tube - \$79.95

### Applications

Applications include heavy equipment, mining equipment, industrial, railroad, marine, extreme environments, racing, heavy load bearings, firearms etc.

#### CHEMICAL COMPOSITION OF NANOCERAMIC COMPOUND

SiO <sub>2</sub>	42%
Al <sub>2</sub> O <sub>3</sub>	1.95%
TiO <sub>2</sub>	0.11%
Fe <sub>2</sub> O <sub>3</sub>	3.50%
MnO	0.09%
MgO	38.0%
CaO	0.30%
Na <sub>2</sub> O	0.30%
Other	14.65%