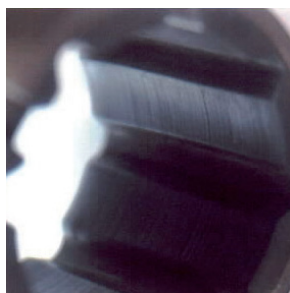


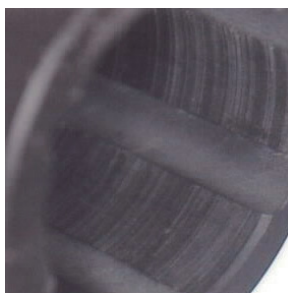
# Bearing Test Results

## 1. Abrasion Resistance Test

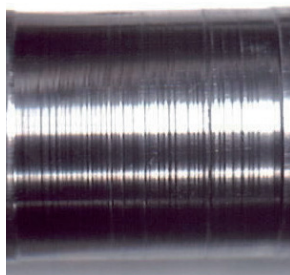
## Product Test Laboratory



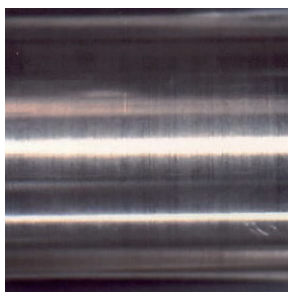
*Cutlass rubber bearing*



*AR<sup>®</sup>1 bearing*



300 series SS shaft



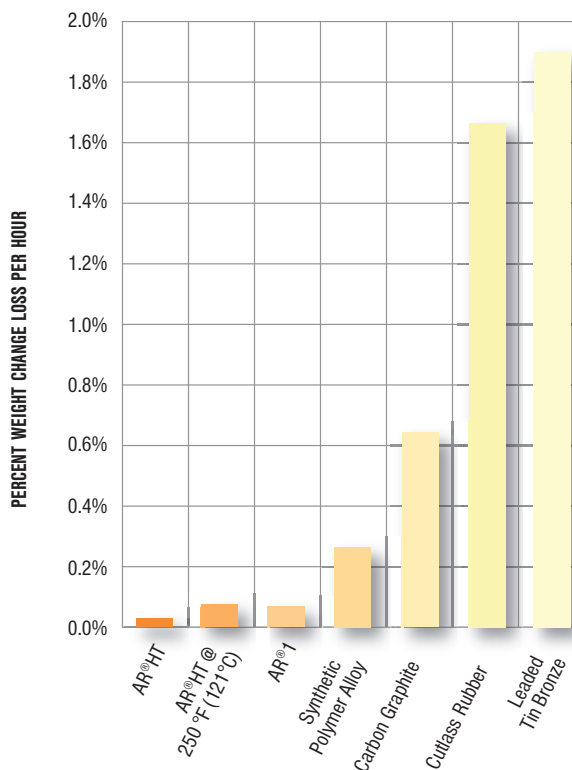
300 series SS shaft

## Test Conditions

Speed:..... 900 rpm  
Load:..... 25 psi (0,172 MPa) bearing load  
Shaft:..... 300 SS shaft  
Media:..... 95% water, 5% silica sand  
Temperature:..... all materials: 70°F (21°C)  
                                AR®HT at 250°F (121°C) in  
                                ethylene glycol  
Duration:..... 8-hour run time

## Test Results – At a Glance

AR® composites are less damaging to the shaft or shaft sleeve in abrasive media over traditional bearing materials, such as cutlass rubber.



This chart shows percent weight change (loss) per hour of Greene Tweed's AR® materials compared to traditional materials. As shown in the data, Greene Tweed's AR®HT and AR®1 are less damaging to the shaft or shaft sleeve in abrasive media than traditional bearing materials.

## Contact Us

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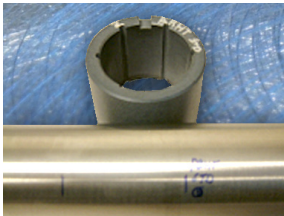
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## 2. Dry Run Testing

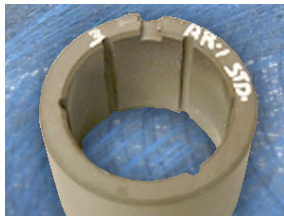
The pictures below show bearings and rods after two minutes of dry testing @ 1666 rpm.

AR®HT



*Excellent condition of bearing/rod.*

AR®1



*Unaffected*

Duramax Cutlass Rubber



*Severe wear; after 20 sec excessive vibration, black smoke & motor rpm dropped drastically.*

Thordon



*Worn cross-section & outer diameter; grooves completely filled with excess material; slivers of material extruding from the grooves.*

### Test Conditions

Test fixture:..... Vertical bearing test rig  
 Speed:..... 3600 rpm  
 Load:..... 10.2 psi (0,07 MPa) side load  
 Shaft:..... 316 SS shaft, surface finish of approx. 50 Ra  
 Media:..... Air  
 Temperature:..... Room temperature  
 Duration: ..... 2 minutes, 2 runs per material (standard .004"/0.1 mm and increased .008"/0.2 mm clearance)  
 Parameters:..... all bearings grooved (since used for abrasive conditions)

### Test Results – At a Glance

AR®1/AR®HT:

No change in cross-section, outer diameter, or weight loss. Bearings and rod look practically new.

Thordon:

Grooves completely filled with excess material. If emptied, weight loss values would clearly increase >1%.

Cutlass Rubber: Only for 20 seconds running

AR® bearing materials proved to have good dry-run capability. They showed virtually no wear on the ID, lubrication grooves, and shafting after 2 minutes of dry running.

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