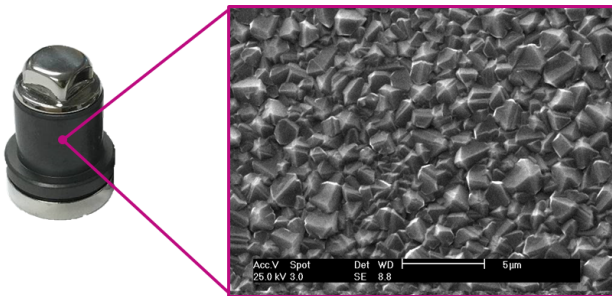


Dri-amond™ - diamond coated silicon carbide bearings

APPLIES TO: Steridose Dri-amond™ bearings are available for the Sterimixer Low Shear and Medium Shear products as an alternative to silicon carbide bearings.



Dri-amond™ male-female bearing combinations, feature a pure crystalline diamond film coating that is deposited in the silicon carbide structure. This results in a lower coefficient of friction and extends bearing life under dry-running conditions.

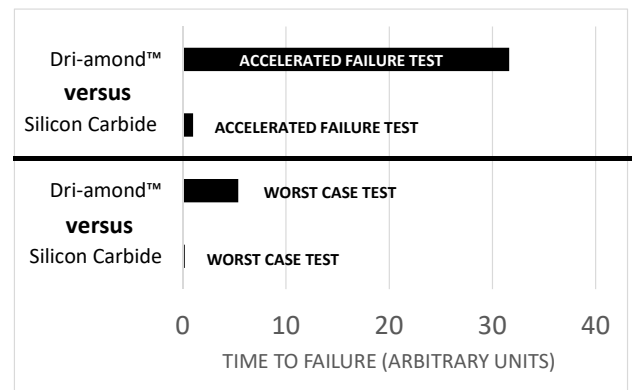
Refer to figure 1 for a comparison of bearing life for a standard silicon carbide running dry, versus a Dri-amond™ bearing running dry in a similar condition (Sterimixer size 85 running at 450 rpm, 200 litre test tank).

Worst case No liquid film present between the bearing surfaces.

Accelerated failure Liquid film present at the onset of the test, accelerated evaporation due to 90°C test temperature.

DRI-AMOND™ FEATURES

- Increased durability under dry-running conditions
- Extreme hardness
- Extreme strength
- Low coefficient of friction
- Chemically inert
- Available on Sterimixer® Low-Shear SMA/SMO and Medium Shear SMMS models.
- Compatible with existing installed mixers and can be retro-fitted



■ **Figure 1** Steridose Dri-amond™ bearings time-to-failure under adverse running conditions versus standard silicon carbide. Refer to the text for descriptions of 'worst case' and 'accelerated failure test'.

SPECIFICATIONS

- Meets or exceeds USP <788> for particle generation
 - Test was conducted over a continuous 48 hour period
 - A modified test that included 32 start/stop sequences was performed
- Meets or exceeds USP <87> for biocompatibility
- Meets the requirements of the current ASME BPE standard

Bearing material ^a	Tungsten Carbide	Silicon Carbide	Dri-amond™
Chemical compatibility	pH range 2-14 ^b	Best - inert	Same as silicon carbide
Ease of installation and handling	Best	Harder than tungsten carbide, but more brittle	Somewhat better than silicon carbide
Survivability under dry-running conditions	Good	Poor	Best - lowest coefficient of friction

^a The use of dissimilar materials in male and female bearings is not recommended.

^b Exact value depends on particular fluid properties, temperature and exposure time.

■ **Table 1** Comparison of bearing materials.

	60/75	85/100	85/140	120/150	120/190	120H/220	210/275	210/350
BU ^a V Dri-amond™	113008	112942	112942	113021	113021	113028	113033	113033
BU V EP Dri-amond™	113009	113014	113014	113022	113022	113029	113034	113034
BU E Dri-amond™	112804	112491	112491	112805	112805	112806	112807	112807
BU E EP Dri-amond™	113039	113040	113040	112906	112906	112970	112971	112971
Imp ^b SMA Dri-amond™	113006	113010	113015	113018	113023	113025	113030	113035
Imp SMA EP Dri-amond™	113007	113011	113016	113019	113024	113026	113031	113036
Imp SMO Dri-amond™	-	113012	112490	113020	112843	113027	113032	113037
Imp SMO EP Dri-amond™	-	113013	113017	112907	112972	112973	112974	113038

^a BU=Bushing Unit, V=FKM (e.g. Viton), E=EPDM, EP=electropolished

^b Imp=Impeller, EP=electropolished

■ **Table 2** Most common article numbers for bushing units and impellers equipped with Dri-amond™. Metal parts in AISI 316L/1.4404.