

# Barden SPiN Retainers



**The Barden Corporation**

A Member of the Schaeffler Group

*...Insist on Precision*

## The Next Generation of Porous Ball Retainer Material

### Sintered Porous Nylon (SPiN):

Engineered plastic material formed by cold pressing and sintering polyamide powders. The resulting resilient porous material is capable of absorbing, retaining, and releasing controlled quantities of oil which makes it a very desirable ball retainer, or reservoir material.

### SPiN Applications



- Turbine flow meters
- Precision land/airborne mechanisms
- Space mechanisms/instruments
- Electro-Optical systems
- Night vision devices

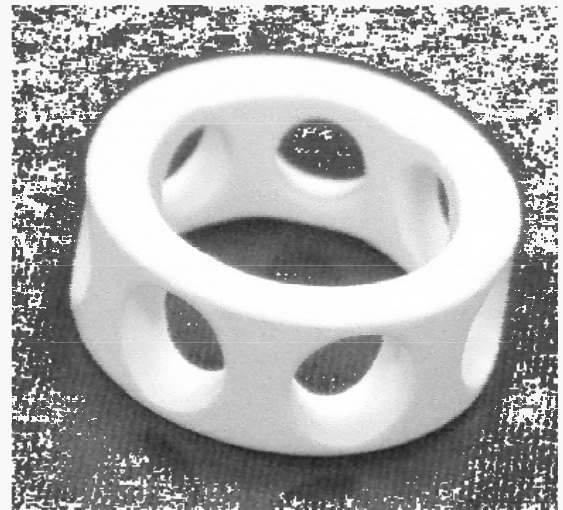
- Navigation systems
- Lubricant reservoir
- Motors



- Deployment devices
- Hinge systems
- Latch systems
- Actuators

### SPiN Production Facility

- 1000 sq ft secured area
- Humidity controlled
- Temperature controlled
- Class 300,000 clean environment
- Raw material inspection
- Powder processing
- Pressing
- QC testing
- Vacuum storage of slugs



### SPiN: Porous Polyamide

- Manufactured exclusively by Barden
- Highly refined Polyamide powder formulation
- Pressed and sintered Nylon material
- Controlled porosity / bleed rate
- Holds up to 30% volume of oil
- Temperature range of -400 to +600F
- Stable at high temperatures
- Chemically inert
- Compatible with all lubricants
- Resistant to cleaning solvents
- No debris generation
- No leachout
- Low outgassing
- Easily machined
- Available as toroids or slugs.

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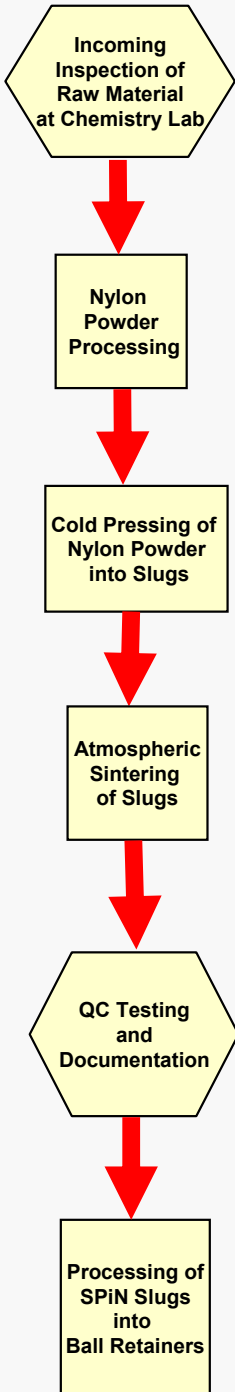


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## Quality Assurance & Traceability



Parent batch number assigned to material  
linked to Purchase order  
Sample sent to independent lab for material analysis and particle size verification

Child Batch numbers assigned based on material processed on a given day linked to Parent batch number

Slugs given unique identification number linked to Child batch number




Slug identification maintained

Density  
Tensile strength  
Oil absorption  
Visual inspection  
All information recorded against Slug ID number

Ball retainers are issued serial numbers linked to the Slug ID number that they were fabricated from.

Frozen process assures batch to batch consistency

## Material Comparison

	Phenolic	Meldin 9000	SPiN	
Tensile Strength (psi) ASTM D-2290	10,000+	2000	3700	
Density (g/cc) ASTM D-1622	1.28	1.10 to 1.20	0.80 to 0.90	Phenolic
Hardness (Shore D) ASTM D-2240	~90	84	60	
Temperature Range	-150 to +300F	-400 to +600F	-400 to +600F	Meldin 9000
Outgassing ASTM E-595 TML (%) CVCM (%)	3.30 0.02	1.39 0.01	0.73 0.02	
Oil Absorption (% weight)	2 to 3	8 to 14	25 to 30+	
Pore Size (microns) ASTM D-2873	N/A	0.95 to 1.25	1.50 avg	SPiN

For consultation or more information contact:

The Barden Corporation  
Schaeffler Group USA Inc.  
200 Park Ave  
Danbury, CT 06813  
Tel: 1-800-243-2477  
www.bardenbearings.com