Is this bearing really stainless steel?

by Mike Mortensen - Director of Engineering RBI-USA

Some bearing customers will use a magnet to determine if a bearing is made of stainless steel. Their understanding is based on the belief that magnets are attracted to stainless steel. When they used this test on a stainless steel bearing and find the magnet is not attracted to the bearing they suspect the bearing is not made of stainless steel. It is at this point I need to explain that this is a valid test but only for certain stainless steels.

Stainless steels can be divided into three basic groups based on their metallurgical structure: Austenitic, Ferritic, and Martensitic (and precipitation hardenable stainless steel).

All Austenitic stainless steels are nonmagnetic although cold working of these steels can result in some magnetic properties.

Examples of austenitic stainless steels are Type 302, 304, and 316.

Ferritic, Martensitic and most precipitation hardenable stainless steels are magnetic.

Examples of these stainless steels are Type 430F, 446, 420 and 440C.

RBI stainless steel bearings use 440C stainless steel (magnetic) for the inner rings, outer rings and balls. Cages and shields typically use 302 or 304 stainless steel (non-magnetic).

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