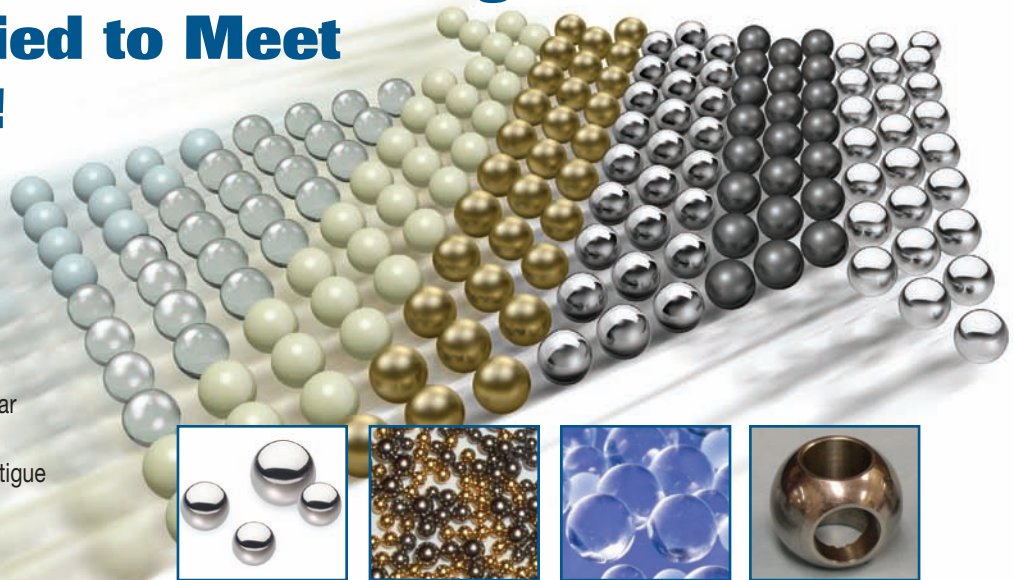


Hartford Technologies: The Precision Ball & Bearing Manufacturer Most Qualified to Meet Your Needs!



Stainless Steel Balls

AISI-440C

- Maximum hardness, toughness, wear resistance, dimensional stability
- Highly resistant to rolling-contact fatigue
- Rockwell C 58-62

AISI 430

- Economical alternative to 302/304
- Cosmetic grade available
- Corrosion resistance approximately the same as nickel-bearing stainless steels
- Oxidation-resistant at elevated temperatures
- Rockwell B 25-95

AISI 420

- Rockwell C 48-52
- Improved corrosion resistance vs. 440C
- Recommended where strength and wear resistance are required

AISI 316

- FDA approved or medical grade material
- High tensile and creep strength at high temperatures
- Rockwell C 26-35
- This iron-chromium-nickel steel is the most corrosion-resistant of the stainless steels, with fine mechanical properties.

AISI 304/302 (18-8)

- Exceptional corrosion resistance
- Low magnetic permeability
- Obtain hardness by work hardening
- Rockwell C 26-35



Chrome steel balls



Miniature balls



Precision glass balls



Drilled balls

Chrome Steel Balls

- AISI-52100/SAE 52100
- Manufactured from highest quality chrome alloy electric furnace steel
- Through-hardened for maximum strength
- Rockwell C 60-66

Carbon Steel Balls

- Economical alternative to through-hardened balls
- Case-hardened to Rockwell C 60
- Special plating and coatings available

Brass Balls

- CDA 260 material
- High ductility
- Nonferrous, nonmagnetic

Plastic Balls

- Polyamide (Nylon) balls
- Acetal (Delrin and Celcon) balls
- PTFE (Polytetrafluoroethylene/Teflon) balls
- Polypropylene balls
- Polyethylene balls
- Grades I, II, III

Precision Glass Balls

- Soda lime glass balls and borosilicate
- Matte, polished or ground finishes
- Cleanroom grade available
- High dimensional stability
- Excellent corrosion resistance

Miniature Balls

- Meet the ABMA Std-10, ISO3290, and DIN5401 standards
- Cleanroom grade available
- Packaging can meet ESP requirements.

MIL Spec Balls

- We supply product referencing MS19059 (chrome steel 52100), MS19060 (440C stainless steel), MS19061 (low carbon steel) and MS19062 (brass).
- Also many officially inactive MIL Spec balls

Drilled Balls

- Stainless steel, carbon steel, brass, aluminum, glass, plastics
- Drilled-through, depth-controlled, or threaded



80 YEARS . . . of Service to Industry

www.hartfordtechnologies.com

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Custom Bearings

- Single or double row, thrust or retainer styles
- Engineered for high/low speed and oscillating applications
- Energy-optimized designs reduce total energy use.
- The testing protocols cover materials, dimensionality; in-line x-ray verifies ball count.



Standard Bearings

- Deep Groove Ball Bearings
- Thrust Bearings
- Angular Contact Bearings
- Plastic Bearings
- Needle Bearings
- Clutch/CSK Bearings



Needle Rollers, Pins, Shafts, Dowels

- Tolerances tailored to size and end configuration.
- Crowned, rounded spherical, and chamfered ends available
- Materials are through-hardened, except carbon steel.
- Diameter: 0.031" to 1.000"
- Length: 0.125" to 3.000"
- 52100 chrome steel
- 440C stainless steel
- Other materials as requested



Custom Seat Bearings

Caged Bearings and Ball and Roller Retainers

- Custom innovative bearing designs
- Many applications, including power seat actuators, seat adjusters, seat slides, stow-away seats
- Extensive experience with many steel and plastic materials for retainers and balls
- Plastic retainer materials help ensure lubricity, straightness, toughness and reduction in friction.
- Different ball and roller materials are available for best strength, fit and corrosion resistance.
- Innovative cage designs reduce sub-assembly costs.
- Leading supplier in automotive seat track industry

Hartford Services

- Engineering assistance to develop rolling motion solutions
- Facilities in North America and Asia
- The most experienced global support team in the world
- Worldwide inventory management and logistics
- Hartford is known for its fast-response prototyping.

Hartford Quality

- One of the most advanced quality labs in the industry
- ISO 9001:2008 and ISO/TS 16949:2002 certified
- All products are fully traceable from raw material through finished product. Advanced Product Quality Planning (APQP) is applied to all ball and bearing programs, and embodies the concepts of defect prevention and continuous improvement.