RAMA & SONS
PRECISION METALLURGICAL ENGINEERING

ISO 9001:2015 CERTIFIED
EN 10204 3.1 COMPLIANT
Global Export Desk · 30+ Countries



2026 OFFICIAL PRODUCT CATALOGUE & TECHNICAL GUIDE

HIGH-PRECISION STEEL BALLS & METALLURGICAL SOLUTIONS

Precision-engineered chrome bearing steels, austenitic & martensitic stainless alloys, high-temperature superalloys, advanced technical ceramics, surface finishing media, and custom Go/No-Go inspection gauges manufactured strictly to ISO 3290 and DIN 5401 international standards.

ISO 3290 GRADE G5 TO G1000 | 50+ ALLOYS IN STOCK | Ø 0.2MM TO 150MM RANGE | EXPORTING TO 30+ NATIONS

01. FERROUS & BEARING
SAE 52100, EN-31, 100Cr6, AISI 1010, EN-9 & SS 300/400 series

02. NON-FERROUS & ALLOYS
High conductivity Brass, Copper, Phosphor Bronze, Aluminium, Lead & Tool Steels

03. EXOTIC SUPERALLOYS
Tungsten Carbide 92 HRA, Inconel 625/718, Hastelloy C-276, K-Monel, Super Duplex

04. CERAMICS & MEDIA
Silicon Nitride Si3N4, Alumina, Ruby, Glass, SS Magnetic Pins & Cut Wire Shots

Global Inquiries: **sales@ramason.in** · Direct Hotline: **+91 63976 82296**
Web: **https://ramason.in** · Registered Works: Agra, Uttar Pradesh, India

Precision Bearing & Ferrous Steel Balls

Through-hardened high carbon chrome bearing steel, case-hardened carbon steels, and corrosion-resistant stainless alloys.

Tolerance Grades: **ISO 3290 G10 to G1000**
Standard Diameters: **0.50 mm – 150.00 mm**



SAE 52100 Chrome Steel

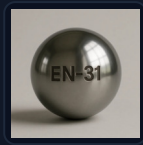
AISI 52100 · 100Cr6 · 1.3505 · High Carbon Chromium

Hardness: **60 – 66 HRC**
Size Range: **0.5 mm – 150 mm**
Density: **7.83 g/cm³**
Finish: **Mirror Polish**

Size can be customized based on customer requirement (12.987 mm)

METALLURGY: 1.0% Carbon, 1.5% Chromium through-hardened matrix delivering supreme contact fatigue strength and anti-fretting resistance under heavy rotational load.

APPLICATIONS: Electric motor bearings, automotive wheel hubs, ball screws, linear guideways, high-precision machine tool spindles.



EN-31 Alloy Bearing Steel

BS 970 EN31 · 535A99 · High Carbon Wear Resistant Alloy

Hardness: **62 – 65 HRC**
Size Range: **1.0 mm – 120 mm**
Density: **7.85 g/cm³**
Finish: **Mirror Polish**

Size can be customized based on customer requirement (8.425 mm)

METALLURGY: High chromium formulation providing extreme resistance to adhesive wear, abrasive scuffing, and microscopic surface deformation under severe shear stress.

APPLICATIONS: Heavy-duty industrial gearboxes, steering knuckles, agricultural machinery bearings, crushing equipment guides.



100Cr6 European Bearing Steel

DIN 17230 · W.Nr. 1.3505 · Vacuum Degassed Standard

Hardness: **60 – 66 HRC**
Size Range: **0.5 mm – 100 mm**
Density: **7.83 g/cm³**
Finish: **Mirror Polish**

Size can be customized based on customer requirement (15.632 mm)

METALLURGY: Manufactured exclusively from vacuum-degassed pure melt stock ensuring negligible oxygen content and zero non-metallic micro-inclusions for silent bearing operation.

APPLICATIONS: High-speed electric vehicle traction motors, precision robotic actuators, aerospace guidance instruments.



SS 300 Series (304 / 316 / 316L)

Austenitic Stainless Steel · Non-Magnetic · FDA Food Grade

Hardness: **25 – 39 HRC**
Size Range: **0.8 mm – 100 mm**
Density: **7.95 – 8.00 g/cm³**
Finish: **Mirror Polish**

Size can be customized based on customer requirement (10.125 mm)

METALLURGY: 18% Chromium, 10–14% Nickel and 2.5% Molybdenum providing total immunity to organic acids, sulfates, and seawater corrosion. Fully passivated surface.

APPLICATIONS: Food & dairy valves, pharmaceutical dosing pumps, subsea check valves, cosmetic lotion aerosol dispensers.



SS 400 Series (420 / 440C)

Martensitic Stainless Steel · Hardenable · Magnetic

Hardness: **55 – 60 HRC**
Size Range: **0.5 mm – 100 mm**
Density: **7.75 g/cm³**
Finish: **Mirror Polish**

Size can be customized based on customer requirement (17.840 mm)

METALLURGY: High-carbon martensitic alloy (1.0% C, 17% Cr) through-hardened to achieve maximum Rockwell hardness while preserving stainless rust-proofing properties.

APPLICATIONS: Surgical instruments, dental turbine drills, stainless marine bearings, aerospace check valves, fuel line fittings.



AISI 1010 & EN-9 Carbon Steel

Low & Medium Carbon Steel · Case-Hardened / Soft Core

Hardness: **60 HRC (Case) / 25 HRC (…**
Size Range: **1.5 mm – 50 mm**
Density: **7.85 g/cm³**
Finish: **Mirror Polish**

Size can be customized based on customer requirement (6.750 mm)

METALLURGY: Carburized outer case providing tough abrasion resistance over a ductile shock-absorbing core that prevents catastrophic cracking under sudden dynamic impact.

APPLICATIONS: Bicycle steering headsets, furniture drawer runners, castor wheels, conveyor roller assemblies, toys.

Non-Ferrous Precision Alloy Balls

High-purity brass, copper, phosphor bronze, aerospace aluminium, lead radiation shielding, and rockbit tool steels.

Materials: **Copper, Brass, Bronze, Al, Pb, Tool Steel**
Tolerance: **ISO 3290 G50 to G500**



Brass Balls (CuZn37 / CuZn39)

Copper-Zinc Alloy · Non-Sparking · Non-Magnetic

Hardness: **75 – 87 HRB**
Size Range: **1.0 mm – 75 mm**
Density: **8.50 g/cm³**
Finish: **Mirror Polish**

Size can be customized based on customer requirement (14.350 mm)

METALLURGY: 63% Copper, 37% Zinc formulation delivering low friction, zero magnetic interference, and certified non-sparking performance in combustible atmospheres.

APPLICATIONS: LPG regulators, potable water plumbing valves, electrical contacts, decorative architectural fittings, carburetors.



Pure Copper Balls (Cu-ETP 99.9%)

Electrolytic Tough Pitch Copper · High Conductivity

Hardness: **40 – 60 HB**
Size Range: **1.5 mm – 65 mm**
Density: **8.96 g/cm³**
Finish: **Mirror Polish**

Size can be customized based on customer requirement (9.182 mm)

METALLURGY: Oxygen-refined high purity electrolytic copper offering supreme electrical and thermal dissipation. Naturally antimicrobial and biocidal surface properties.

APPLICATIONS: High-amperage electrical switchgear, galvanic sacrificial anodes, heat exchange calibration, spark erosion electrodes.



Phosphor Bronze (CuSn6 / CuSn8)

Copper-Tin-Phosphorus · Anti-Galling · Marine Grade

Hardness: **75 – 95 HRB**
Size Range: **1.5 mm – 60 mm**
Density: **8.80 g/cm³**
Finish: **Mirror Polish**

Size can be customized based on customer requirement (11.450 mm)

METALLURGY: Tin content provides superior elastic fatigue resilience while deoxidizing phosphorus eliminates metal seizing and galling during unlubricated sliding.

APPLICATIONS: Marine shaft bushings, subsea check valves, cryogenic fluid instruments, chemical metering pumps, spring contacts.



Aluminium Alloy Balls (6061 / 2017)

Precipitation-Hardened Alloys · Ultra Lightweight

Hardness: **60 – 110 HB**
Size Range: **2.0 mm – 80 mm**
Density: **2.70 – 2.80 g/cm³**
Finish: **Mirror Polish**

Size can be customized based on customer requirement (16.275 mm)

METALLURGY: Magnesium-silicon alloying elements heat-treated to T6 temper, providing impressive structural strength while cutting inertial payload weight by 65%.

APPLICATIONS: Aviation fuel shutoff valves, aerospace fluid couplings, satellite optical mechanisms, lightweight roller bearings.



High Purity Lead Balls (Pb 99.9%)

Refined Chemical Lead · Radiation Shielding & Ballast

Hardness: **Soft / Malleable (5 HB)**
Size Range: **2.0 mm – 75 mm**
Density: **11.34 g/cm³**
Finish: **Mirror Polish**

Size can be customized based on customer requirement (7.820 mm)

METALLURGY: Highest density standard commercial element providing exceptional linear mass attenuation for nuclear shielding and compact dynamic weight balancing.

APPLICATIONS: Radiotherapy collimators, nuclear isotope transport containers, naval keel ballast weights, acoustic sound deadening.



Rockbit Tool Steel Balls

Shock-Resistant Tool Steel · Severe Impact Metallurgy

Hardness: **60 – 64 HRC**
Size Range: **3.0 mm – 75 mm**
Density: **7.82 g/cm³**
Finish: **Mirror Polish**

Size can be customized based on customer requirement (19.340 mm)

METALLURGY: Silicon-molybdenum tool steel specially tempered to withstand severe rotary percussion shock and crushing pulverization without spalling or catastrophic splitting.

APPLICATIONS: Tricone oil well rock bits, mining drill stems, pulverizing ball mills, hydraulic fracturing check valves.

High-Temperature & Harsh Environment Superalloys

Engineered for subsea oilfield sour gas, aerospace rocket propulsion, severe acid reactors, and extreme wear valves.

Operating Temp: **Up to 1,150°C**
Hardness: **Up to 92 HRA (Tungsten)**



Tungsten Carbide Balls (WC-Co/Ni)

94% Tungsten Carbide + 6% Cobalt or Nickel Binder

Hardness: **89 – 92 HRA (1500 HV)**
Size Range: **0.3 mm – 65 mm**
Density: **14.95 – 15.10 g/cm³**
Finish: **Mirror Polish**

Size can be customized based on customer requirement (6.350 mm)

METALLURGY: Near diamond-grade hardness delivering exceptional resistance to sliding abrasion, high-velocity particle erosion, and deformation under immense point loads.

APPLICATIONS: Subsea downhole ball valves, oilfield flowmeters, CMM coordinate measuring probe styli, ballizing hole sizing tools.



Inconel Balls (Alloy 625 / 718)

UNS N06625 / N07718 · Nickel-Chromium Superalloy

Hardness: **35 – 44 HRC**
Size Range: **1.5 mm – 80 mm**
Density: **8.44 g/cm³**
Finish: **Mirror Polish**

Size can be customized based on customer requirement (13.842 mm)

METALLURGY: Nickel-chromium-molybdenum matrix strengthened by niobium. Retains high rupture strength at white-hot temperatures while providing complete immunity to chloride stress pitting.

APPLICATIONS: Gas turbine fuel nozzles, subsea oil wellheads, chemical reactors, rocket propulsion systems, sour gas pipelines.



Hastelloy C-276 Balls

UNS N10276 · W.Nr. 2.4819 · Premier Chemical Alloy

Hardness: **90 – 98 HRB / 28 HRC**
Size Range: **1.5 mm – 70 mm**
Density: **8.89 g/cm³**
Finish: **Mirror Polish**

Size can be customized based on customer requirement (18.150 mm)

METALLURGY: High molybdenum (16%) and chromium (16%) with tungsten providing the greatest resistance to pitting, crevice corrosion, and strong oxidizing salts known in chemical engineering.

APPLICATIONS: Flue gas desulfurization scrubbers, pharmaceutical synthesis autoclaves, hydrochloric acid check valves, paper bleaching lines.



K-Monel 400 & 500 Balls

UNS N05500 · Age-Hardenable Nickel-Copper Alloy

Hardness: **28 – 35 HRC**
Size Range: **1.5 mm – 65 mm**
Density: **8.44 g/cm³**
Finish: **Mirror Polish**

Size can be customized based on customer requirement (12.420 mm)

METALLURGY: Precipitation hardened with aluminium and titanium additions. Completely non-magnetic even at cryogenic temperatures, impervious to marine bio-fouling and cavitation.

APPLICATIONS: Submarine navigation compass gyros, oilfield non-magnetic drill collars, marine propeller shaft check valves.



Super Duplex Balls (2507 / F55)

UNS S32750 / S32760 · 25% Cr Duplex Stainless

Hardness: **28 – 34 HRC**
Size Range: **2.0 mm – 75 mm**
Density: **7.80 g/cm³**
Finish: **Mirror Polish**

Size can be customized based on customer requirement (15.785 mm)

METALLURGY: 50/50 austenitic-ferritic microstructure delivering twice the mechanical yield strength of standard austenitic stainless steels coupled with unmatched pitting resistance.

APPLICATIONS: High-pressure desalination reverse osmosis plants, subsea manifold valves, offshore marine fire-water pumping systems.



Stellite Alloy 6 Cobalt Balls

Cobalt-Chromium-Tungsten · Severe Galling Immunity

Hardness: **40 – 48 HRC**
Size Range: **2.0 mm – 60 mm**
Density: **8.46 g/cm³**
Finish: **Mirror Polish**

Size can be customized based on customer requirement (8.925 mm)

METALLURGY: Cobalt base alloy with complex chromium-tungsten carbides. Retains extreme hardness at glowing red temperatures, totally eliminating galling and micro-welding.

APPLICATIONS: Steam power turbine bypass valves, fluid catalytic cracking slurries, high-pressure oil refining severe service valves.

Technical Ceramics, Synthetic Minerals & Polymers

Silicon nitride, alumina, ruby, optical glass, and engineering plastics for non-magnetic, cryogenic, and dry running bearings.

Grades: **Ultra-Precision G5 to G100**
Electric: **100% Non-Conductive / Dielectric**



Silicon Nitride Ceramic (Si3N4)

Hot Isostatically Pressed (HIP) · Black Ceramic

Hardness: **1500 – 1700 HV**
Size Range: **0.5 mm – 50 mm**
Density: **3.20 g/cm³**
Finish: **Mirror Polish**

Size can be customized based on customer requirement (11.230 mm)

METALLURGY: Dense non-porous ceramic with low thermal expansion and self-lubricating characteristics. Prevents electrical arcing fluting damage in EV drivetrains.

APPLICATIONS: High-speed CNC spindle hybrid bearings, electric vehicle traction motors, wind turbine generators, aerospace gyroscopes.



Alumina Ceramic Balls (Al2O3 99.5%)

High-Purity Sintered Aluminium Oxide · White Ceramic

Hardness: **1400 – 1600 HV**
Size Range: **0.8 mm – 60 mm**
Density: **3.95 g/cm³**
Finish: **Mirror Polish**

Size can be customized based on customer requirement (14.760 mm)

METALLURGY: High purity ceramic sintered at 1700°C to achieve near theoretical density. Totally inert against oxidizing acids and molten non-ferrous metals.

APPLICATIONS: Chemical metering dosing pumps, high-voltage semiconductor insulators, molten metal check valves, abrasive slurry agitators.



Synthetic Ruby & Sapphire Balls

Monocrystalline Corundum (Al2O3:Cr) · Mohs 9

Hardness: **2000 HV (Mohs 9)**
Size Range: **0.3 mm – 15 mm**
Density: **3.99 g/cm³**
Finish: **Mirror Polish**

Size can be customized based on customer requirement (7.145 mm)

METALLURGY: Single crystal synthetic gem sapphire grown via Verneuil process with zero grain boundaries. Completely unreactive, friction-free, and wear-impervious.

APPLICATIONS: CMM coordinate measuring probe tips, chronometer balance pivots, optical fiber lens couplers, high-pressure HPLC pumps.



Precision Glass Balls (Borosilicate)

Borosilicate 3.3 & Soda-Lime · Optical Polished

Hardness: **550 – 650 HV**
Size Range: **1.0 mm – 60 mm**
Density: **2.23 – 2.50 g/cm³**
Finish: **Mirror Polish**

Size can be customized based on customer requirement (16.500 mm)

METALLURGY: Engineered low-expansion borosilicate glass unaffected by hot acids, water, and organic solvents. Transparent sphere enables visual fluid flow monitoring.

APPLICATIONS: Rotameter variable-area flowmeters, pharmaceutical pump valves, ink cartridge ball bearings, aerosol check valves.



Engineering Plastic Balls (POM / PTFE)

Delrin POM · Teflon PTFE · Nylon PA66 · PEEK

Hardness: **M80 – M90 (Rockwell)**
Size Range: **1.5 mm – 100 mm**
Density: **1.14 – 2.15 g/cm³**
Finish: **Mirror Polish**

Size can be customized based on customer requirement (9.875 mm)

METALLURGY: Ultra-low friction thermoplastic polymers engineered for completely dry, silent running. Totally immune to rust, moisture absorption, and galvanic degradation.

APPLICATIONS: Medical dialysis equipment, cosmetic roll-on dispensers, electronic office sliders, chemical container float valves.



Zirconia Oxide Ceramic Balls (ZrO2)

Yttria-Stabilized Tetragonal Zirconia (Y-TZP)

Hardness: **1200 – 1300 HV**
Size Range: **0.5 mm – 50 mm**
Density: **6.05 g/cm³**
Finish: **Mirror Polish**

Size can be customized based on customer requirement (13.250 mm)

METALLURGY: Possesses the highest mechanical fracture toughness of any technical ceramic. Thermal expansion coefficient perfectly matches bearing steel races.

APPLICATIONS: Abrasive slurry grinding media, severe chemical pumps, subsea check valves, high-stress ceramic roller bearings.

Surface Finishing Media & Shot Peening Abrasives

Stainless magnetic polishing pins, conditioned cut wire shots, zinc blast media, and precision tumbling shapes.

Pin Diameters: **0.50 mm to 3.00 mm**
Cut Wire Sizes: **CW 14 to CW 62**



SS Straight Polishing Pins

Stainless Steel

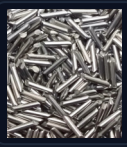
Precision Cut Cylindrical Pins · Deburring & Burnishing

Diameters: **0.5 mm – 3.0 mm**
Lengths: **3 mm – 10 mm**
Material: **Stainless Steel**
Surface Finish: **Smooth & Precision** …

Customization: Sizes Available as per Customer Requirements

METALLURGY: Precision sheared square ends tumble under dynamic electromagnetic fields, penetrating internal cavities and blind threads without jamming or rounding edges.

APPLICATIONS: Micro-deburring precision CNC brass manifolds, jewelry gold/platinum polishing, titanium medical orthopedic implants.



SS Cross Polishing Pins

Stainless Steel

Cross-Wing Geometry · Anti-Sticking Magnetic Media

Wing Diameters: **0.5 mm – 3.0 mm**
Shape: **Cross-Shaped Pins**
Material: **Stainless Steel**
Surface Finish: **Smooth & Precision**…

Customization: Sizes Available as per Customer Requirements

METALLURGY: Proprietary cross geometry physically prevents pins from sliding or wedging inside circular blind holes, cutting machine cycle times in half while boosting shine.

APPLICATIONS: Luxury horology watch movements, surgical dental tools, aerospace electrical pins, fine jewelry finishing.



SS Magnetic Polishing Pins

Stainless Steel

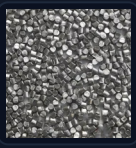
Fine Cut Pin · Magnetic Centrifugal Deburring & Burnishing

Available Sizes: **0.3 mm, 0.4 mm & 0.**…
Shape: **Fine Cut Pin / Cylindrical**
Material: **Stainless Steel**
Surface Finish: **Smooth & Precision** …

Customization: Sizes Available as per Customer Requirements

METALLURGY: Formulated from high-tensile stainless steel with high magnetic permeability for rapid tumbling in magnetic finishing machines without clustering.

APPLICATIONS: Deburring precision machined medical implants, jewelry gold/platinum polishing, dental instruments, micro-connectors.



Stainless Steel Cut Wire Shots

CW 14 – CW 62

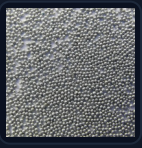
As-Cut & Semi-Conditioned · High Durability Media

Hardness: **45 – 55 HRC**
Sizes: **0.35 mm – 1.6 mm**
Wire Alloy: **AISI 302 / 304 / 430**
Durability: **30x Longer vs Cast Steel**

Customization: Sizes Available as per Customer Requirements

METALLURGY: Drawn stainless steel wire precision chopped into equal length cylinders. Completely eliminates iron oxide dust contamination on aluminium and stainless weldments.

APPLICATIONS: Blast cleaning non-ferrous castings, deburring forged connecting rods, descaling stainless pipe welds.



Zinc Round Shots & Blast Media

High Purity Zn

Spherical Cast Zinc · Low Abrasion Deflashing Media

Hardness: **45 – 60 HV**
Sizes: **0.5 mm – 3.0 mm**
Density: **7.14 g/cm³**
Substrate Damage: **Zero Dimensional**…

Customization: Sizes Available as per Customer Requirements

METALLURGY: Low hardness spherical zinc delivers soft kinetic impact, cleanly stripping flash and burrs from delicate cast parts without altering tight machined tolerances.

APPLICATIONS: Deflashing zinc and aluminium die castings, stripping thermal barrier coatings, delicate electronic component blast cleaning.



Conditioned Cut Wire (CCW G3)

AMS 2431 Certified

Fully Spherical Stainless · Aerospace Shot Peening

Shape: **Fully Spherized (No Edges)**
Sizes: **0.4 mm – 1.4 mm**
Hardness: **50 – 58 HRC**
Life Cycle: **Up to 5,000 Blast Cycles**

Customization: Sizes Available as per Customer Requirements

METALLURGY: Pre-conditioned repeatedly through impellers to achieve true sphericity. Induces uniform high compressive residual stress layers preventing fatigue fracture.

APPLICATIONS: Aerospace turbine rotor disc peening, automotive transmission gears, high-tensile coil suspension springs.

Precision Inspection Gauges (Go / No-Go)

Master ball plug gauges, type OG raceway gauges, and bespoke spherical measuring masters for quality assurance laboratories.

Tolerance Classes: **Class XX, X, Y (±0.0005 mm)**
Calibration: **NABL & ISO 17025 Traceable**



Spherical Ball Plug Gauges

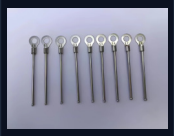
Class XX / Class X

Double-End & Single-End Go / No-Go · Self-Centering

Size Tolerance: **± 0.0005 mm (0.5 µm)**
Diameter Range: **1.0 mm – 65 mm**
Gauging Heads: **SAE 52100 / Tungst…**
Surface Finish: **Mirror Lap Ra 0.01 µm**
Handle: **Hex Aluminum Anodized**
Calibration: **NABL Traceable Cert**

METALLURGY: Spherical measuring geometry enters bores at any angle without binding, jamming or scratching the cylinder wall. Greatly accelerates inspection throughput.

APPLICATIONS: Hydraulic spool valve bore inspection, bearing seat inner ring calibration, high-volume CNC shop floor QA.



Type OG Raceway Master Gauges

Bearing Master

Outer Groove Radial Radius Inspection Standards

Radius Accuracy: **Sub-Micron (±0.8 µm)**
Profiles: **Deep Groove / Angular Race**
Material: **Sub-Zero Aged Alloy Steel**
Hardness: **62 – 65 HRC**
Stability: **Cryogenically Stabilized**
Traceability: **Laser Etched Serialization**

METALLURGY: High-carbon chromium bearing alloy cryogenically treated at -80°C to eliminate retained austenite, ensuring zero dimensional drift over decades of service.

APPLICATIONS: Deep groove ball bearing ring curvature inspection, angular contact raceway conformity verification.



Custom Engineered Master Gauges

Bespoke OEM

Manufactured to Customer Technical Blueprints

Configurations: **Stepped / Taper / Off…**
Materials: **Carbide, Ceramic, Tool St…**
Hardness: **Up to 92 HRA**
Custom Engraving: **Serial & Part Nu…**
Handles: **Ergonomic Lightweight K…**
Packaging: **Velvet Lined Hard Case**

METALLURGY: Engineered precisely to CAD drawing tolerances. Custom probe reach extensions and dual-step diameter verification for complex production parts.

APPLICATIONS: Automotive transmission shaft spline inspection, aerospace turbine casing multi-bore validation.



Reference Master Calibration Spheres

Grade 3 / Grade 5

CMM Calibration Reference Standards · High Sphericity

Sphericity: **≤ 0.08 µm (Grade 3)**
Diameters: **10 mm – 50 mm**
Stem Mount: **M6 / M8 Threaded Stain…**
Materials: **Tungsten Carbide / Si3N4**
Finish: **Mirror Polished Ra 0.005 µm**
Certificate: **Full Sphericity Roundnes…**

METALLURGY: Ultra-precise spherical datum standard for calibrating multi-axis coordinate measuring machine touch-trigger probes, articulating arms, and laser scanners.

APPLICATIONS: Tactile CMM volumetric probe tip qualification, optical scanner 3D point cloud calibration.

Corporate Quality Assurance & RFQ Order Guide

Two decades of precision metallurgical manufacturing, worldwide export logistics, and bespoke order execution.

Exports To: **30+ Industrial Nations**
Compliance: **EN 10204 3.1 Mill Certified**

ABOUT RAMA & SONS ENTERPRISES

Rama & Sons is an ISO 9001:2015 accredited manufacturer and global exporter specializing in high-precision metallurgical solutions. With state-of-the-art cold-heading, vacuum heat-treatment, precision grinding, and ultra-fine lapping facilities in Agra, India, we supply mission-critical components to bearing manufacturers, automotive Tier-1 OEMs, aerospace contractors, and severe-service valve makers across more than 30 industrial nations worldwide.

20+	30+	100%
Years of Metallurgy	Export Countries	Batch Traceable

METROLOGY & QUALITY INSPECTION RIGOR

- **Talyrond Roundness Analyzers:** Sub-micron sphericity measurement adhering to ISO 3290-1.
- **Dual-Frequency Eddy Current Crack Testing:** 100% automated microscopic crack detection.
- **Computerized Laser Micrometers:** High-speed optical sorting verifying gauge diameter tolerances.
- **Rockwell & Vickers Micro-Hardness Testers:** ASTM E18 through-case hardness certification.

Every consignment is accompanied by an **EN 10204 Type 3.1 Mill Inspection Certificate** including complete melt chemistry spectrometry.

REQUEST FOR QUOTATION (RFQ) SPECIFICATION PROTOCOL

Guaranteed same-day binding price quote

SPECIFICATION PARAMETER	OPTIONS / ENGINEERING CHOICES	CUSTOMER SPECIFICATION GUIDANCE
1. Material Family & Grade	SAE 52100, 100Cr6, SS 316L, SS 440C, Inconel, Tungsten Carbide, Ceramic Si3N4, Brass, Delrin	Specify desired alloy standard (AISI, DIN, UNS, BS or ISO)
2. Nominal Diameter	Standard Metric (0.50mm to 150.00mm) or Inch Fractions (1/32" to 3")	Specify exact diameter with allowable tolerance limits (± µm)
3. Precision Grade (ISO 3290)	Grade 5, Grade 10, Grade 25, Grade 50, Grade 100, Grade 200, Grade 500, Grade 1000	Higher grades (G10/G25) recommended for precision bearings
4. Order Volume / Batch Size	Trial / Prototype batch, production run, or scheduled annual call-off contracts	Custom quantities accepted without restrictive MOQ barriers
5. Packaging & Shipping Terms	VCI anti-corrosion barrier foil, hermetic bags, sea-freight crates; FOB, CIF, DDP air-courier	Indicate target destination airport / sea port for landed quote

PRECISION MANUFACTURING & QUALITY LIFECYCLE (ZERO DEFECT PROTOCOL)

01	02	03	04	05	06	07
Wire Heading	Flash Grinding	Heat Treating	Hard Grinding	Ultra Lapping	Eddy Current	VCI Packaging

🌐 Global Sea & Air Logistics

Express air-courier dispatch via DHL/FedEx for urgent prototypes; full container ocean freight for bulk production.

🛡️ Multi-Layer VCI Barrier

Multi-layer vapor corrosion inhibitor (VCI) bags with desiccants guarantee 100% rust-free international marine transit.

⚡ 4-Hour RFQ Turnaround

Dedicated engineering desk delivers binding pricing, material datasheets, and dispatch schedules within 4 hours.

RAMA & SONS ENTERPRISES

PRECISION METALLURGICAL ENGINEERING & EXPORT WORKS

ISO 9001:2015 REGISTERED FIRM

DIRECT RFQ & SALES DESK
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General: info@ramason.in

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Mon – Sat: 09:00 – 19:00 IST

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