DALRADA
PRECISION

Dalrada
TECHNOLOGY GROUP

PRODUCT GUIDE

Solving the challenges of supplying top-rated parts through advanced manufacturing solutions and high-quality components.

Dalrada Technology Group provides direct access to the finest components with in-house manufacturing and effective global supply chains.

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TEST PROCESSES

Dimensional

Dimensional inspection is the process for what an object actually is compared to what it's supposed to be. Quantifiable values measure physical characteristics:

- Length, width, and height
- Angles and perpendicularity
- Shape and position profiles
- Roundness and flatness
- Thickness and uniformity
- Edge sharpness

Torque Testing

The angular force needed to rotate something is known as Torque. Torque is used to create tension in threaded fasteners. When the nut and bolt are tightened, the two plates are clamped together. The thread converts the applied Torque into tension in the bolt shank. This, in turn, is converted into a clamping force. The amount of tension created in the bolt is critical.

Tensile/Yield Strength

A Tensile test yields a tensile load, which is calculated to an ultimate tensile strength (UTS). UTS is the maximum tensile stress a material can sustain without fracture. For fasteners, we perform axial and wedge testing.

An Axial tensile test determines the behavior of materials under axial tensile loading. A Wedge tensile test is essentially an axial test with a wedge placed under the head to see if the fastener head can sustain the added stress.

Plating Thickness

A wide range of plated fastener products (nails, screws, bolts, etc.), require testing on hemispherical surfaces, threaded stems, or cut ends to meet specifications. For non-destructive testing, we use high-precision X-Ray fluorescence (XRF) or cost-effective and phase-sensitive Eddy-current testing.

Hydrogen embrittlement (HE) testing determines the performance of materials in a corrosive environment under tensile stress by evaluating ductility due to hydrogen absorption.

Salt Spray Testing

Salt Spray Testing is a laboratory simulation of a corrosive saline environment. It's used as an accelerated means of testing the ability of surface coatings to withstand atmospheric corrosion. Also known as salt fog testing, it's one of the oldest testing methods used to verify coatings, platings, and finishes. Our facility uses ASTM B117 or ISO 9227 as the procedures for corrosion testing.

Hardness Testing

Hardness is a characteristic of a material, not a fundamental physical property. Defined as the resistance to indentation, hardness is determined by measuring the permanent depth of the indentation. Simply put, when using a fixed force (load) and a given indenter, the smaller the indentation, the harder the material.

RoHs/REACH Testing

Upon request, we are able to provide test reports for our base materials and finishings to show compliance for both RoHS and REACH. Also, as part of our first article inspection reports, we may include this as an added component of our declaration in the Certificate of Compliance.

PRODUCTS

Dalrada Precision™ provides direct access to the finest components

BOLTS

- Hex Cap Screws
- Hex Bolts
- Carriage Bolts
- Flange Bolts
- Structural Bolts
- Heavy Hex Cap Screws
- Heavy Hex Bolts
- U-Bolts
- Ferry Cap Screws
- Ferry Cap Bolts
- Eye Bolts
- Hanger Bolts
- Connector Bolts
- Step Bolts
- Penta Bolts
- J-Bolts
- Bin Bolts
- Timber Bolts
- Coli Bolts
- Sidewalk Bolts
- U-Bolts Plates
- Askew Head Bolts
- Track Bolts
- Draw Bolts
- Hurricane Bolts

SCREWS

- Machine Screws
- Sheet Metal Screws
- Self-Drilling Screws
- Wood Screws
- Thread Cutting Screws
- Lag Screws
- Thread Rolling Screws
- SEMS Screws
- Thumb Screws
- Drywall Screws
- Binding Post Barrels
- Drive Screws
- Tamper-resistant Screws
- Eye Screws
- Flooring Screws
- Weld Screws
- Collated Screws
- Binding Post Screw Sets
- Wing Screws
- Dowel Screws
- Binding Post Mating Screws
- Roofing Screws
- Euro Screws
- Timber Screws
- Accordion Screws
- Jack Screws

AUTOMOTIVE FASTENERS

1. Automotive Sheet Metal Screws

2. License Plate and Headlight Screws

- Yellow Zinc Hex Washer Phillips Sheet Metal Screw
- Yellow Zinc Truss Phillips Sheet Metal Screws
- Zinc Slotted Hex Washer Head License Plate Screw
- Yellow Zinc Hex Washer Phillips Sheet Metal Screw
- Black E-Coat #14x5/8'' Slotted Hex Washer Head License Plate Screw
- Zinc Hex Flange Screw
- Black E-Coat Truss Slotted Sheet Metal Screw
- Nylon Washer SS HWH Mirror Mounting Bolt
- Duo-Drive Truss Head License Plate Screw
- Zinc Round Washer Slotted Head Machine Screw
- Phillips Hex Washer Head Tap Screw
- Black Nylon License Plate Screw
- Hex Flange License Plate Screw
- Duo-Drive Truss Head L.P. Screw
- Slotted Hex Washer Head License Plate Screw
- Zinc Slotted Truss Head with Dog Point License Plate Screw
- Zinc Plated Slotted Truss Washer Head License Plate Screw
- Black Nylon M6-1x20mm License Plate Screw
- SLTD. RD.WA.HD.B SCREW ZINC
- Natural Nylon License Plate Screw & Nut
- L Black E-Coat Hex Washer Slotted License Plate Screws
- Black E Coat #10x3/4'' Phillips Flat Washer Head Tap Screw
- Slotted Washer Head License Plate Screw
- #14 x 3/4"L Truss Head Slotted T-A Zinc Sheet Metal Screw

3. Automotive Self-Drilling Screws

4. Plug Gaskets

- 095-002 5/8" (M16) Copper Oil Drain Plug Gasket
- Aluminum 14mm I.D 22mm O.D Drain Plug Gasket
- 095-149 M18 Aluminum Oil Drain Plug Gasket

5. Automotive Pins

- 4-1/16" Phosphate Diameter:11/32" Head O. D. 9/16" Hinge Pin
- GM: 15591860 Door Hinge Pin

6. Automotive Bushings

7. Automotive Machine Screws

- Phillips Pan Head Metric Machine Screw

SOCKETS

- Socket Cap Screws
- Flat Socket Cap Screws
- Button Socket Cap Screws
- Socket Shoulder Bolts
- Low Socket Cap Screws
- Knurled Socket Knobs?
- Socket Set Screws
- Square Head Set Screws
- Socket Jam Screws

RIVETS

- Blind Rivets
- Rivet Nuts
- Solid Rivets
- Rivet Collars
- Drive Rivets
- Rivet Back-Up Washers
- Semi-Tubular Rivets
- Split Rivets

RODS & STUDS

- Fully Threaded Studs
- Threaded Rods
- Weld Studs
- Double End Studs
- Coli Rods

CLINCH FASTENERS

- Self-Clinching Studs
- Self-Clinching Standoffs

NAILS

- Bulk Nails
- Pneumatic Nails

PINS

- Dowel Pins
- Spring Pins
- Clevis Pins
- Cotter Pins
- Groove Pins
- Hairpin Cotter Pins
- Taper Pins
- Weld Pins
- Ring Cotters
- Coli Tension Pins
- Safety Pins
- Split Rings
- Snapper & Tab-Lock Pins

HARDWARE FASTENERS

- Quarter-Turn Fasteners
- Cam Connector Caps
- Cam Connector Bolts
- Cam Connector Cams
- Cam Connector Sleeves

WASHERS

- Flat Washers
- Lock Washers
- Belleville Washers
- Curved Spring Washers
- Conical Washers
- Bonded Sealing Washers
- Beveled Washers
- Square Washers
- Hillside Washers
- Wave Washers

ANCHORS

- Wedge Anchors
- Screw Anchors
- Bent Anchors

NUTS

- Hex Nuts
- Lock Nuts
- Jam Nuts
- Heavy Hex Nuts
- Flange Nuts
- Slotted Nuts
- Weld Nuts
- Wing Nuts
- Coupling Nuts
- Acorn Nuts
- Square Nuts
- Cage Nuts
- Allenuts
- High Nuts
- Palnuts
- Acme Nuts
- Coil Nuts
- Disc Nuts
- Knurled Nuts
- 1/2"-13 Spring Steel Zinc Finish Self-Locking Hex Pal Nut
- #10-24 Spring Steel Zinc Finish Self-Locking Hex Washer Pal Nut
- 3/8"-16 Spring Steel Zinc Finish Self-Locking Hex Pal Nut
- M20-2.5 Spring Steel Plain Finish DIN 7967 Self-Locking Pal Nut
- 10-24 x 3/16 x 1/2" Head Dia Plain Finish 303 Stainless Steel Knurled Round Thumb Nut
- 10-24 x 1/4 x 1/2" Head Dia Plain Finish 303 Stainless Steel Knurled Thumb Nut
- 1/4-20 x 3/8 x 9/16" Head Dia Plain Finish 18-8 SS Hex Thumb Nut Round Thumb Nut

Redefining the critical quality of today's precision parts.

DALRADA
PRECISION

In-house manufacturing and effective global supply chains

RETAINING RINGS & CLIPS

- External Retaining Rings
- Internal Retaining Rings
- E-Clips
- Internal Spiral Rings
- External Spiral Rings
- Round Retaining Rings
- External Crescent Rings
- External Push-On Rings
- Internal Push-On Rings
- External Interlocking Rings
- External Poodle Rings
- Support Rings

- 1" x 0.75" x 0.015" 10 Prong Internal Push-On Ring
- 0.873" Carbon Spring Steel Phosphate Finish TI (Self Locking Push On) Int Retaining Ring #87
- 7/16" x 0.237" x 0.01" 6 Prong Internal Push-On Ring
- 5/16" Stainless Steel Passivated Finish TI(Self Locking Push On) Internal Retaining Ring #31
- 0.748" Carbon Spring Steel Passivated Finish TI (Self Locking Push On) Int Retaining Ring #75
- 1/2" x 0.258" x 0.01" 6 Prong Internal Push-On Ring
- 5/8" x 0.39" x 0.01" 6 Prong Internal Push-On Ring
- 7/16" Carbon Spring Steel Phosphate Finish TI (Self Locking Push On) Int Retaining Ring #43

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TYPES OF FINISHING

Applied coatings can last from 96 – 1,000 hours in artificial atmosphere corrosion testing.

- Passivation
- Phosphating
- Spray Painting
- Hot Dip Galvanizing
- Nickel Plating
- Silver Plating
- Tin Plating
- Zinc Plating
- Copper Plating
- Powder Coating
- Anodizing
- Gold Plating
- Chemical Polishing
- More

CORE MANUFACTURING

Meeting global industry standards: Medical, Industrial, Aerospace, Food, and other industries.

- 3/5 Axis CNC Milling
- 3/7 Axis CNC Turning
- Fiber Laser Cutting
- Dual Servo Press-Brakes
- Aluminum & Zinc Die Casting
- Cable Assemblies
- Plastic & Metal Injection Molding
- Mechanical Assembly

Secondary processing equipment:

Sand Blasting, Grinding, Ultrasonic Welding, Pad Printing, Silk Screening, Laser Etch, and more.

PRODUCT DEVELOPMENT

- Product Design
- Research & Development
- Reverse Engineering
- Concept 3D Design
- Cost Reduction/ Material Selection
- Tool Design & Creation
- Packaging Design
- Kitting
- Production & Assembly
- Prototyping
- Testing

END-TO-END MANUFACTURING SUPPORT

- Design for Manufacturability (DFM)
- Standard Operating Procedure (SOP)
- Standard Inspection Procedure (SIP)
- Bill of Material (BOM)
- First Article Inspection (FAI)
- Failure Modes & Effects Analysis (FMEA)
- Lot Code Traceability (LCT)
- Corrective Action/Preventative Action (CAPA)

MATERIALS

STAINLESS STEEL					
SS201	SS202	SS301	SS304	SS304L	SS316
SS316L	SS321	SS410	SS430	SS18-8	
CARBON STEEL					
1005	1008	1010	1015	1020	1025
1030	1035	1040	1045	1050	1055
1060	1065	1016	1022	1026	1033
1037	1039	1046	1053	1062	
ALUMINUM ALLOY					
1030	1050	1060	1070	1100	2017
2117	2024	2014	2214	2018	2218
2219	2021	3003	5052	5154	5083
5456	5056	6101	6055	6063	6061
6165	7001	7178	7075	4032	7076
COPPER & COPPER ALLOY					
C28000	C27200	C27000	C26200	C26000	C22000
C10400	C12000	C12200	C11000	C10200	C51100
C51000	C51900	C52100			

QUESTIONS?

Reach out to our Sales Team

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Meeting Critical Quality Standards

Dalrada represents advanced technology and manufacturing – on another level. By providing access to the finest components in the global marketplace through exclusive manufacturing opportunities and effective global supply chains, Dalrada delivers supreme value and reduces cost and time to market.

Our products are rigorously-tested for performance as well as compliance. With in-house capabilities, we design, produce, and supply precision parts and assembly parts to original equipment manufacturer (OEM) standards, resulting in significant cost savings for our clients.

At all levels and all verticals of operations, Dalrada's mandate is the development of products that lessen the burden on engineering design, manufacturing processes, regulatory demands, cost, and distribution.

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