# **DAVINCI QUALITY CERTIFIED**

All our valves undergo tests for working pressure, leakage, and functionality. In addition to these standard tests, we offer various specialized testing methods to ensure the quality of our products.

#### Coating Thickness Testing

We utilize the magnetic induction method to measure the thickness of coatings or corrosion-resistant agents. This allows for non-destructive testing of the coating's thickness, with a minimum requirement of 250 µm for our products. No bubbles should form during this testing.

## Paint Adhesion Testing

The Pull-off test assesses the adhesion of the coating to the substrate. A pulling force greater than 12 N/mm<sup>2</sup> is applied to test adhesion on both the core and molding sand sides. Test samples are immersed in deionized water at 90°C for seven days, followed by drying in an oven for three hours. They are then conditioned in normal atmosphere for 3 to 5 days. No bubbles should form during immersion. The surface of the samples is degreased, roughened with abrasive paper, and cleaned with oil-free compressed air.

### Impact Resistance Testing

A pendulum strikes the coated surface with 5 Nm of energy from a fixed distance for impact testing. Each time, the component is electrically tested to ensure there are no electrical failures.

### Porosity Testing

We check the coating for porosity using a high-voltage testing device at a specific voltage, employing a rubber electrode. The coating must be free from penetrating pores to prevent corrosion of the underlying casting.

#### Infiltration Testing

This cathodic infiltration test, conducted at 23°C for 30 days, involves creating a defect on the coated surface of the specimen, which is then subjected to cathodic polarization in a sodium chloride solution throughout the test.

#### **Cross-Linkage Testing**

At room temperature, a drop of methyl isobutyl ketone is placed on the horizontal epoxy-coated sample. After 30 seconds, the area is wiped with a clean white cloth. The test is considered successful if the surface remains neither dull nor stained, and the cloth remains clean. This test occurs 24 hours post-coating.

If you require specific certification for various tests verifying measurements, quantities, and weights, along with evaluations of both components and finished products. **DAVINCI VALVES** guarantees that the order you receive aligns with your contract, just as per your speci(c needs.

#### **NEED VALVE QUALITY INSPECTION SERVICES?**

Choose **DAVINCI VALVES** for assured orders through enhanced quality control management. All parameters requested by our clients are meticulously documented prior to shipping.

#### Photo Report:

During inspections, photos will be taken in compliance with legal requirements and industrial con(dentiality, provided to you the same day. Video Report:

We can also produce a brief video or multiple videos for you to review the test results firsthand.

#### Audit Report:

You have the option to receive a comprehensive audit report regarding the quality control veri(cation, available in English or Spanish, either before or after shipment.



















# **VALVES, FITTINGS AND PIPE ACCESORIES** with DAVINCI VALVES

Main Services

davincivalves.com



# MANUFACTURING water connections



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**STAY IN TOUCH** (in) DavinciValves



# **DAVINCI VALVES LTD**

We manage and operate three technologically advanced manufacturing facilities with its own foundries. We count with multilingual and high talented technical department in charge of all production line and assure the highest standard quality conditions and ensure that our customer relations reach the higher level of satisfaction.

Our headquarters are located in Chengdu in China - province of very reach resources of pig iron, steel and other industrial raw materials and european of(ces in Madrid in Spain. DAVINCI VALVES combines the expertise of a manufacturer with the flexibility of a trade enterprise to offer comprehensive and very interesting solutions to our international customers' needs.







DAVINCI VALVES has positioned itself not only as a supplier of solutions but also and above all as a great quality manufacturer when it comes to durable valves, great functionality and very competitive range of pricing suitable for full package projects and also stocking provisions.

We pride ourselves on our commitment to excellence and our ability to provide reliable, high-performance valves that meet the stringent demands of today's standards in water, wastewater and irrigation engineering. Completing our manufacturing program for HVAC, mining, and industrial applications too.

Our valves are meticulously designed and manufactured to withstand the rigors of various fluid management applications, ensuring longevity and optimal performance. DAVINCI VALVE's product range encompasses a variety of valves and accessories that cater to the speci(c needs of valves, (ttings and pipe systems. Each product undergoes rigorous testing and quality control to meet international standards and certi(cations,

ensuring our clients receive the best possible solutions for their projects.



















valve-making tradition with cutting-edge technology. Our commitment to excellence is reflected in every step of our manufacturing process, where we not only meet industry standards but consistently exceed them. While our basic manufacturing principles have stood the test of time, we continuously invest in advanced quality control systems and innovative engineering solutions to deliver superior products at competitive prices.

### The DAVINCI VALVES Manufacturing Excellence

Our manufacturing methodology is built on the foundation of customer satisfaction and product reliability. Each step is meticulously monitored by our expert team, ensuring that every valve that leaves our facility meets our rigorous quality standards and your exact specifications.

## 1. Engineering Design Phase

CAD/CAM systems

- Material selection based on: - Chemical compatibility
- Pressure-temperature ratings - Mechanical properties (yield strength, tensile strength, hardness)
- Corrosion resistance requirements
- Cost-effectiveness analysis

#### 2. Mold Engineering

superior mold quality.

# 3. Foundry Operations

#### Metallurgical Processes

exceeding 1,500°C - Precise temperature control assurance.

#### Mold Production

material combinations: - Utilization of guality silica sand

- Implementation of automated sand mixing systems

## Casting Process

- and precision:

### At DAVINCI VALVES, we pride ourselves on combining centuries of

At **DAVINCI VALVES**, we believe excellence begins at the design stage. Our experienced engineering team works closely with customers to ensure every specification is understood and incorporated into the final design. Development of precise technical drawings utilizing state-of-the-art

Our engineering team provides comprehensive technical support throughout the design phase, ensuring optimal solutions for your specific applications.

Our mold engineering process represents DAVINCI VALVES' commitment to precision. We invest in the quality materials and latest technologies to ensure

- Production of precision-engineered aluminum male molds
- Implementation of dimensional tolerance controls
- Surface finish speci(cation according to ISO standards
- Each mold undergoes rigorous quality checks before production, ensuring consistent product quality throughout manufacturing.

**DAVINCI VALVES** maintains one of the industry's most advanced foundry facilities, where we combine traditional expertise with modern technology.

- Our metallurgical expertise ensures optimal material properties: - Metal heating in state-of-the-art induction furnaces at temperatures
- Continuous chemical composition analysis during melting process We maintain detailed metallurgical records for complete traceability and quality

The creation of the female molds is a precise process requiring specific

- Two-part female mold production through compression molding
- Flask assembly with proper gating and risering systems

The actual pouring and cooling of metal is a critical phase requiring patience

- Controlled pouring temperature maintenance
- Implementation of proper venting systems
- Solidi(cation period: 24-48 hours minimum under controlled conditions
- Temperature monitoring during cooling phase















#### 4. Surface Preparation

After casting, each component must be thoroughly cleaned to ensure perfect surface quality. This step is essential for both functionality and appearance.

- Automated shot blasting process
- Utilization of metallic media (typically steel shot)
- Surface roughness achievement
- Quality control through visual and mechanical inspection

#### 5. Precision Machining

Machining transforms raw cast parts into precise components that will work together seamlessly. This step ensures all parts fit perfectly and function as designed.

- CNC machining of critical surfaces
- Implementation of precise dimensional tolerances
- Surface finish requirements for sealing surfaces
- Thread cutting and finishing operations

#### 6. Complementary Components Manufacturing

Not all valve components require casting. This step focuses on creating or sourcing additional parts needed for complete valve assembly.

- Production of elastomeric seals through injection molding
- · Vulcanization process control
- Manufacturing of auxiliary components
- Quality control of all components

#### 7. Assembly Operations

Assembly is where individual components come together to create

- a functioning valve. This step requires skilled technicians and precise procedures.
- Alignment veri(cation
- Component cleanliness veri(cation

#### 8. Surface Treatment

Proper surface treatment ensures long-term protection and durability of the valve. This step is crucial for preventing corrosion and extending product life. Epoxy Coating Process

- Surface preparation to SA 2.5 standard
- Component pre-heating (typically 180-200°C)
- Electrostatic powder coating application
- Paint thickness control (\*250 µm)
- Curing process monitoring
- Adhesion testing according to ISO standards

#### 9. Quality Assurance and Testing

As the final step in our manufacturing process,

- **DAVINCI VALVES** implements one of the industry's most rigorous testing protocols.
- Hydrostatic testing exceeding industry standards
- Multiple-point quality inspections
- Comprehensive documentation including
- Material certificates (WRAS, AWWA, CE, UL/FM, ISO 9001)
- Test reports and Quality control documents (2.2, 3.1, etc)
- Detailed packing lists and complete shipping documentation

Every valve is personally inspected by our quality control team and comes with our comprehensive warranty (1,2,5 YEARS WARRANTY)

#### The DAVINCI VALVES difference is our CUSTOMER COMMITMENT to excellence extends beyond manufacturing:

We stand behind every valve we produce with: Customer Service Excellence. Dedicated project managers for each order. 24/7 technical support availability. Rapid response to inquiries and concerns. Comprehensive after-sales service. Comprehensive product warranties. Technical support throughout the product lifecycle. Rapid response maintenance services. Spare parts availability guarantee. Regular product training and support.

## At DAVINCI VALVES, we don't just manufacture valves, fittings and pipe accesories;

we build lasting partnerships with our customers through superior products, exceptional service, and unwavering commitment to quality. **Every valve that leaves our** facility carries our reputation for excellence and our promise of reliability. This comprehensive manufacturing process, combined with our dedication to customer service and quality assurance, ensures that when you choose DAVINCI VALVES, you're choosing a long-lasting partner committed to win-win success: valves@davincivalves.com