



## TAMBOLI CASTINGS LIMITED

ISO 9001 : 2015, EN 9100D : 2018, IATF 16949 : 2016, ISO 14001: 2015, ISO 45001 : 2018, PED & AD 2000 - Merkblatt W0, NORISO M-650 & EN 15085-2 BY TUV-NORD, ECOVADIS



# Material - ASTM A732 Grade 13Q

Standard Specification for Castings, Investment, Carbon and Low Alloy Steel for General Application, and Cobalt Alloy for High Strength at Elevated Temperatures

## MATERIAL DATASHEET

### GROUP

**Ferrous Mild Steel Alloys**

### SUB GROUP

**ASTM A732 / A732M**

### INDUSTRY

**Investment Casting**

ASTM A732 Grade 7Q is a chromium-molybdenum alloy investment cast steel engineered for high-strength structural and pressure-containing components. The addition of chromium and molybdenum significantly enhances hardenability, wear resistance, and fatigue strength, while quench and temper heat treatment delivers exceptional mechanical properties. It is commonly selected for heavy-duty valves, pumps, mining equipment, oil & gas components, industrial machinery, and power generation applications where high strength and durability are required under demanding service conditions.



## CHEMICAL COMPOSITION

| ELEMENT        | SYMBOL | COMPOSITION   |
|----------------|--------|---------------|
| Carbon         | C %    | 0.150 – 0.250 |
| Silicon        | Si %   | 0.200 – 0.800 |
| Manganese      | Mn %   | 0.650 – 0.950 |
| Phosphorus     | P %    | 0.040 max.    |
| Sulphur        | S %    | 0.045 max.    |
| Chromium       | Cr %   | 0.400 – 0.700 |
| Nickel         | Ni %   | 0.400 – 0.700 |
| Molybdenum     | Mo %   | 0.150 – 0.250 |
| Copper         | Cu %   | 0.500 Max     |
| Tungsten       | W      | 0.10          |
| Other Elements |        | 1.000 Max     |
| Iron           | Fe %   | Balance       |



## MECHANICAL PROPERTIES

### PERFORMANCE SPECIFICATIONS

**Tensile Strength** 724  
Minimum Value MPa

**Yield Strength** 586  
Minimum Value MPa

**Elongation** 10  
Minimum Value %

✓ **HEAT TREATMENT**  
**Normalising/Harding & Tempering**



## INDUSTRY APPLICATIONS

**Industrial valves**



**Pump casings**



**Petrochemical plants**



**Steam service**



**Piping**



**DISCLAIMER:** All information in this datasheet is indicative only and is not intended to be a substitute for the full specification. It provides typical values for comparison between metal alloy options rather than a definitive statement of mechanical performance. Values may vary with temperature, product type, and application. This data does not constitute any guarantee of properties.

**Tamboli Castings Limited**

Bhavnagar, Gujarat, India

**Phone:** +91 278 2541000

**Email:** info@tambolicastingslimited.com