GRAVITY CAST PVT. LTD.
GRAVITY GROUP OF COMPANIES

# Material - ASTM A471 Class 1

## Standard Specification for Vacuum-Treated Alloy Steel Forgings for Turbine Rotor Disks and Wheels

**Group - Ferrous Mild Steel Alloys**
**Sub Group - ASTM A471 Class 1 Vacuum-Treated Alloy Steel Forgings for Turbine Rotor Disks and Wheels**
**Application - Intended for Valve, Pump, General Engineering, Automotive and other Industries**
**Grade Belongs to the Industry - Forging**

| Chemical Composition | | |
|---|---|---|
| Carbon | C % | 0.280 max. |
| Manganese | Mn % | 0.700 max. |
| Phosphorus | P % | 0.012 max. |
| Sulphur | S % | 0.015 max. |
| Silicon | Si % | 0.150 - 0.350 |
| Nickel | Ni % | 2.000 - 4.000 |
| Chromium | Cr % | 0.750 - 2.000 |
| Molybdenum | Mo % | 0.200 - 0.700 |
| Vanadium | V % | 0.050 min. |
| Iron | Fe % | Balance |
| - | - | - |
| - | - | - |
| - | - | - |
| - | - | - |
| - | - | - |

| Heat Treatment |
|---|
| As-Raw or Quenching & Tempering |

| Mechanical Properties | |
|---|---|
| Tensile Strength in Mpa | 690 min. |
| Yield Strength in Mpa | 550 - 690 |
| Elongation in % | 20 min. |
| Reduction of Area in % | 50 min. |
| Hardness in HB | - |
| Impact in Joule | 50 @ RT |

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| Cross Reference Table | | | |
|---|---|---|---|
| **Material** | **Standard** | **Country** | **Grade Belong to the Industry** |
| K42365 | UNS | USA | Steel |
| A 372 Grade M Class 85 | ASTM | USA | Forging |
| A 508 Grade 5 Class 1 | ASTM | USA | Forging |
| A 508 Grade 5 Class 2 | ASTM | USA | Forging |
| A 541 Grade 4N Class 1 | ASTM | USA | Forging |
| A 541 Grade 4N Class 2 | ASTM | USA | Forging |
| A 541 Grade 4N Class 3 | ASTM | USA | Forging |

**Further any inquiry to discuss with Gravity Cast Pvt. Ltd. – Gravity Group of Companies team member Call on +918469160029, or email marketing@gravitycastindia.com**

All information in our data sheets and website is indicative only and is not intended to be a substitute for the full specification from which it is extracted. It is intended to provide typical values to allow comparison between metal alloy option rather than a definitive statement of mechanical performance or suitability for a particular application as these will vary with temperature, product type and product application. It is presented apart from contractual obligations and does not constitute any guarantee of properties or of processing or application possibilities in individual cases. Our warranties and liabilities are stated exclusively in our terms of business.