GRAVITY CAST PVT. LTD.
GRAVITY GROUP OF COMPANIES

# Material - ASTM A508 Grade 22 Class 4

## Standard Specification for Quenched and Tempered Vacuum-Treated Carbon and Alloy Steel Forgings for Pressure Vessels

**Group - Ferrous Mild Steel Alloys**

**Sub Group - ASTM A508 Grade 22 Class 4 Quenched and Tempered Vacuum-Treated Carbon and Alloy Steel Forgings for Pressure Vessels**

**Application - Intended for Valve, Pump, General Engineering, Automotive and other Industries**

**Grade Belongs to the Industry - Forging**

| Chemical Composition | | |
|---|---|---|
| Carbon | C % | 0.110 - 0.150 |
| Manganese | Mn % | 0.300 - 0.600 |
| Phosphorus | P % | 0.015 max. |
| Sulphur | S % | 0.015 max. |
| Silicon | Si % | 0.350 max. |
| Nickel | Ni % | 0.250 max. |
| Chromium | Cr % | 2.000 - 2.500 |
| Molybdenum | Mo % | 0.900 - 1.100 |
| Vanadium | V % | 0.020 max. |
| Aluminium | Al % | 0.025 max. |
| Iron | Fe % | Balance |
| - | - | - |
| - | - | - |
| - | - | - |
| - | - | - |

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

| Mechanical Properties | |
|---|---|
| Tensile Strength in Mpa | 585 - 760 |
| Yield Strength in Mpa | 415 min. |
| Elongation in % | 20 min. |
| Reduction of Area in % | 35 min. |
| Hardness in HB | - |
| Impact in Joule | 55 @ -60˚C |

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| Cross Reference Table | | | |
|---|---|---|---|
| **Material** | **Standard** | **Country** | **Grade Belong to the Industry** |
| k21390 | UNS | USA | Steel |
| 36-210 12 CD 9-10 | AFNOR NF | France | Steel and Plate |
| 36-603 12 CD 9-10 | AFNOR NF | France | Forging |
| G 5151 SCPH 32 | JIS | Japan | Casting |
| A 387 Grade 22 | ASTM | USA | Steel and Plates |
| A 182 F 22V | ASTM | USA | Steel and Pipe |
| SA-508 Grade 22 Class 4 | ASME | USA | Steel and 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.