GRAVITY CAST PVT. LTD.
GRAVITY GROUP OF COMPANIES

# Material - ASME SA-234 WP22 CL1

## Standard Specification for Piping Fittings of Wrought Carbon Steel and Alloy Steel for Moderate and Hign Temperature Service

**Group - Ferrous Mild Steel Alloys**

**Sub Group - ASME SA-234 WP22 CL1 Piping Fittings of Wrought Carbon Steel and Alloy Steel for Moderate and Hign Temperature Service**

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

**Grade Belongs to the Industry - Steel and Pipe**

| Chemical Composition | | |
|---|---|---|
| Carbon | C % | 0.050 - 0.150 |
| Manganese | Mn % | 0.300 - 0.600 |
| Phosphorus | P % | 0.040 max. |
| Sulphur | S % | 0.040 max. |
| Silicon | Si % | 0.500 max. |
| Chromium | Cr % | 1.900 - 2.600 |
| Molybdenum | Mo % | 0.870 - 1.130 |
| Iron | Fe % | Balance |
| - | - | - |
| - | - | - |
| - | - | - |
| - | - | - |
| - | - | - |
| - | - | - |
| - | - | - |

| Heat Treatment |
|---|
| Annealing or Isothermal-Annealing or Normalizing or Normalizing & Tempering or As-Raw |

| Mechanical Properties | |
|---|---|
| Tensile Strength in Mpa | 415 min. |
| Yield Strength in Mpa | 205 min. |
| Elongation in % | 30 min. |
| Reduction of Area in % | - |
| Hardness in BHN | - |
| Impact in Joule | - |

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| Cross Reference Table | | | |
|---|---|---|---|
| **Material** | **Standard** | **Country** | **Grade Belong to the Industry** |
| SA-182 Grade F 22 | ASME | USA | Steel and Pipe |
| SA-182 Grade F 22a | ASME | USA | Steel and Pipe |
| SA-199 Grade T22 | ASME | USA | Steel and Tubing |
| SA-213 Grade T 22 | ASME | USA | Steel and Tubing |
| A 387 Grade 22 | ASTM | USA | Steel and Plate |
| A 250 Grade T22 | ASTM | USA | Steel and Tubing |
| A 335 Grade P22 | ASTM | USA | Steel and Pipe |

**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.