## Material - MSZ Ao X 10 CrNiMoCuNb 18-18

## Standard Specification for Steel Casting

Group - Ferrous Stainless Steel Alloys
Sub Group - MSZ Ao X 10 CrNiMoCuNb 18-18 Steel Casting
Application - Intended for Valve, Pump, General Engineering, Automotive and Other Industries
Grade Belongs to the Industry - Casting

| Chemical Composition |  |  |
| :---: | :---: | :---: |
| Carbon | $\mathrm{C} \%$ | 0.120 max. |
| Silicon | $\mathrm{Si} \%$ | 1.500 max. |
| Manganese | $\mathrm{Mn} \%$ | 2.000 max. |
| Phosphorus | $\mathrm{P} \%$ | 0.040 max. |
| Sulphur | $\mathrm{S} \%$ | 0.030 max. |
| Chromium | $\mathrm{Cr} \%$ | $17.000-19.000$ |
| Nickel | $\mathrm{Ni} \%$ | $17.000-19.000$ |
| Molybdenum | $\mathrm{Mo} \%$ | $2.500-3.500$ |
| Copper | $\mathrm{Cu} \%$ | $1.800-2.300$ |
| Niobium | $\mathrm{Nb} \%$ | $8 \mathrm{C}<\mathrm{Nb}<1.1 \%$ |
| Iron | $\mathrm{Fe} \%$ | Balance |
| - | - | - |
| - | - | - |
| - | - | - |
| - | - | - |


| Heat Treatment |
| :---: |
|  |
| Solution Annealing |
|  |


| Mechanical Properties |  |
| :---: | :---: |
| Tensile Strength in Mpa | 550 min. |
| Yield Strength in Mpa | 260 min. |
| Elongation in \% | 35 min. |
| Reduction of Area in \% | - |
| Hardness in BHN | - |
| Impact in Joule | - |


| Cross Reference Table |  |  |  |
| :---: | :---: | :---: | :---: |
| Material | Standard | Country | Grade Belong to the Industry |
| 1.4585 | DIN | Germany | Casting |
| J94651 | UNS | USA | Casting |
| SA-351 CN3MN | ASME | USA | Casting |
| G X 7 CrNiMoCuNb 18-18 | DIN | Germany | Casting |
| A351 CN3MN | ASTM | USA | Casting |
| A743 CN3MN | ASTM | USA | Casting |
| A744 CN3MN | ASTM | USA | Casting |

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