



## Material - AS 1020

## Standard Specification for Carbon Steels and Carbon Manganese Steels - Hot Rolled Bars and Semi Finished Products

**Group - Ferrous Mild Steel Alloys** 

Sub Group - AS 1020 Carbon Steels and Carbon Manganese Steels - Hot Rolled Bars and Semi Finished Products Application - Intended for Valve, Pump, General Engineering, Automotive and Other Industries Grade Belongs to the Industry - Bar, Wire, Tube and Forging

| Chemical Composition |      |               | Heat Treatment   |                        |
|----------------------|------|---------------|--|------------------------|
| Carbon               | C %  | 0.180 - 0.230 |  |                        |
| Silicon              | Si % | 0.100 - 0.350 | As- Cast or Normalising or Annealing or Hardening +<br>Tempering |                        |
| Manganese            | Mn % | 0.300 - 0.600 |  | nooling or Hardoning I |
| Phosphorus           | P %  | 0.040 max.    |  | •                      |
| Sulphur              | S %  | 0.040 max.    |  |                        |
| Chromium             | Cr % | 0.300 max.    |  |                        |
| Molybdenum           | Mo % | 0.100 max.    |  |                        |
| Nickel               | Ni % | 0.350 max.    |  |                        |
| Copper               | Cu % | 0.350 max.    | Mechanical Properties  |                        |
| Iron                 | Fe % | Balance       | Tensile Strength in Mpa  | 330 - 690              |
| -                    | -    | -             | Yield Strength in Mpa  | 195 min.               |
| -                    | -    | -             | Elongation in %  | 5 min.                 |
| -                    | -    | -             | Reduction of Area in %   | 40 - 50                |
|                      | -    | -             | Hardn <mark>ess in HB</mark>                                     | 111 - 121              |
|                      | -    | -             | Impa <mark>ct in Joule</mark>                                    | 47.6 - 69.7 J @ RT     |

| Cross Reference Table |          |                                      |                            |  |
|-----------------------|----------|--------------------------------------|----------------------------|--|
| Material              | Standard | Country Grade Belong to the Industry |                            |  |
| A915 Grade SC 1020    | ASTM     | USA                                  | Bar, War, Tube and Forging |  |
| J02003                | UNS      | USA                                  | Casting                    |  |
| 1020                  | AISI     | USA                                  | Bar, War, Tube and Forging |  |
| 1020                  | SAE      | USA                                  | Bar, War, Tube and Forging |  |
| 1020                  | AMS      | USA                                  | Bar, War, Tube 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

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