

## Material - ASTM A 513 Grade 1040

**Standard Specification For Carbon Steel Compositions For Forging To Hot-Rolled And Cold-Finished Tubing**

**Group - Ferrous Mild Steel Alloys**

**Sub Group - ASTM A 513 Grade 1040 Carbon Steel Compositions For Forging To Hot-Rolled And Cold-Finished Tubing**

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

**Grade Belongs to the Industry - Tubing**

| Chemical Composition |      |               | Heat Treatment                                                                                                                                                                                          |  |
|----------------------|------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Carbon               | C %  | 0.370 - 0.440 | As Raw or Annealing or Normalizing or Hardening and Tempering                                                                                                                                           |  |
| Manganese            | Mn % | 0.600 - 0.900 |                                                                                                                                                                                                         |  |
| Phosphorus           | P %  | 0.040 max.    |                                                                                                                                                                                                         |  |
| Sulphur              | S %  | 0.050 max.    |                                                                                                                                                                                                         |  |
| Iron                 | Fe % | Balance       |                                                                                                                                                                                                         |  |
| -                    | -    | -             | <b>Mechanical Properties</b><br>Tensile Strength in Mpa 450 min<br>Yield Strength in Mpa 310 min.<br>Elongation in % 5 min.<br>Reduction of Area in % -<br>Hardness in HRC 75 - 90<br>Impact in Joule - |  |
| -                    | -    | -             |                                                                                                                                                                                                         |  |
| -                    | -    | -             |                                                                                                                                                                                                         |  |
| -                    | -    | -             |                                                                                                                                                                                                         |  |
| -                    | -    | -             |                                                                                                                                                                                                         |  |
| -                    | -    | -             |                                                                                                                                                                                                         |  |
| -                    | -    | -             |                                                                                                                                                                                                         |  |
| -                    | -    | -             |                                                                                                                                                                                                         |  |
| -                    | -    | -             |                                                                                                                                                                                                         |  |
| -                    | -    | -             |                                                                                                                                                                                                         |  |

| Cross Reference Table |          |         |                                                   |
|-----------------------|----------|---------|---------------------------------------------------|
| Material              | Standard | Country | Grade Belong to the Industry                      |
| G10400                | UNS      | USA     | Bars, Wire Rods, Plates, Strip, Sheets and Tubing |
| 1040                  | SAE      | USA     | Steel                                             |
| 1040                  | AISI     | USA     | Tubing                                            |
| A 1040 1040           | ASTM     | USA     | Steel                                             |
| A 108 Grade 1040      | ASTM     | USA     | Bar                                               |
| A 29 1040             | ASTM     | USA     | Steel                                             |
| A 510 1040            | ASTM     | USA     | Wire Rod and Round Wire                           |

**For any further inquiries, please do not hesitate to contact us. You may visit our website at [AMTECH TECHNOCAST PVT. LTD.](http://AMTECH TECHNOCAST PVT. LTD.), call us at [+91 9879817994](tel:+919879817994), or email us at [manish@amtechtechnocast.com](mailto:manish@amtechtechnocast.com)**

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