

## Material: SAE J403 | SAE J1397 UNS G10190 - Cold Drawn Standard Specification For Carbon Steel Compositions For Forging To Hot-Rolled And Cold-Finished Bars, To Wire Rods, Plates, Strip, Sheets and Tubing

**Group:** Ferrous Mild Steel Alloys

**Sub Group:** SAE J403 | SAE J1397 UNS G10190 - Cold Drawn Carbon Steel Compositions For Forging To Hot-Rolled And Cold-Finished Bars, Wire Rods, Plates, Strip, Sheets and Tubing

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

**Grade Belongs to the Industry:** Bars, Wire Rods, Plates, Strip, Sheets and Tubing

| Chemical Composition |      |               | Heat Treatment                                                                                                                                                                                                  |  |
|----------------------|------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Carbon               | C %  | 0.150 - 0.200 | As Raw or Annealing or Normalizing or Hardening and Tempering                                                                                                                                                   |  |
| Manganese            | Mn % | 0.700 - 1.000 |                                                                                                                                                                                                                 |  |
| Phosphorus           | P %  | 0.030 max.    |                                                                                                                                                                                                                 |  |
| Sulphur              | S %  | 0.050 max.    |                                                                                                                                                                                                                 |  |
| Iron                 | Fe % | Balance       |                                                                                                                                                                                                                 |  |
| -                    | -    | -             |                                                                                                                                                                                                                 |  |
| -                    | -    | -             |                                                                                                                                                                                                                 |  |
| -                    | -    | -             | <b>Mechanical Properties</b><br>Tensile Strength in Mpa 460 min.<br>Yield Strength in Mpa 380 min.<br>Elongation in % 15 min.<br>Reduction of Area in % 40 min.<br>Hardness in HB 131 max.<br>Impact in Joule - |  |
| -                    | -    | -             |                                                                                                                                                                                                                 |  |
| -                    | -    | -             |                                                                                                                                                                                                                 |  |
| -                    | -    | -             |                                                                                                                                                                                                                 |  |
| -                    | -    | -             |                                                                                                                                                                                                                 |  |
| -                    | -    | -             |                                                                                                                                                                                                                 |  |
| -                    | -    | -             |                                                                                                                                                                                                                 |  |

| Cross Reference Table |          |         |                              |
|-----------------------|----------|---------|------------------------------|
| Material              | Standard | Country | Grade Belong to the Industry |
| 1019                  | SAE      | USA     | Steel                        |
| 1019                  | AISI     | USA     | Tubing                       |
| A 1040 1019           | ASTM     | USA     | Steel                        |
| A 29 1019             | ASTM     | USA     | Steel and Bar                |
| A 510 1019            | ASTM     | USA     | Wire Rod and Round Wire      |
| A 512 Grade 1019      | ASTM     | USA     | Tubing                       |
| A 513 1019            | ASTM     | USA     | Tubing                       |

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