

## Material: ASTM A 713 G10650

### Standard Specification For Carbon Steel Compositions For Forging To Hot-Rolled Steel and wire

**Group:** Ferrous Mild Steel Alloys

**Sub Group:** ASTM A 713 G10650r Carbon Steel Compositions For Forging To Hot-Rolled Steel and wire

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

**Grade Belongs to the Industry:** Steel and Wire

| Chemical Composition |      |               | Heat Treatment                                                                                                                                                                                                    |  |
|----------------------|------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Carbon               | C %  | 0.600 - 0.700 | 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 630 - 690<br>Yield Strength in Mpa 380 min.<br>Elongation in % 10 min.<br>Reduction of Area in % 30 - 45<br>Hardness in HB 187 - 207<br>Impact in Joule - |  |
| -                    | -    | -             |                                                                                                                                                                                                                   |  |
| -                    | -    | -             |                                                                                                                                                                                                                   |  |
| -                    | -    | -             |                                                                                                                                                                                                                   |  |
| -                    | -    | -             |                                                                                                                                                                                                                   |  |
| -                    | -    | -             |                                                                                                                                                                                                                   |  |
| -                    | -    | -             |                                                                                                                                                                                                                   |  |
| -                    | -    | -             |                                                                                                                                                                                                                   |  |
| -                    | -    | -             |                                                                                                                                                                                                                   |  |
| -                    | -    | -             |                                                                                                                                                                                                                   |  |

| Cross Reference Table |          |         |                                                   |
|-----------------------|----------|---------|---------------------------------------------------|
| Material              | Standard | Country | Grade Belong to the Industry                      |
| G10650                | UNS      | USA     | Bars, Wire Rods, Plates, Strip, Sheets and Tubing |
| 1065                  | SAE      | USA     | Plate, Strip, Sheet and Tubing                    |
| 1065                  | AISI     | USA     | Steel and Bar                                     |
| A 830 G10650          | ASTM     | USA     | Plate and Steel                                   |
| A 682 G10650          | ASTM     | USA     | Steel and Strip                                   |
| A 682 Grade 1065      | ASTM     | USA     | Steel and Strip                                   |
| A 684 Grade 1065      | ASTM     | USA     | Steel and Strip                                   |

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