

## Material: JIS G 3539 SWCH 15R

### Standard Specification for Carbon Steel Wire Rods for Cold Heading and Cold Forging

**Group:** Ferrous Mild Steel Alloys

**Sub Group:** JIS G 3539 SWCH 15R Carbon Steel Wire Rods for Cold Heading and Cold Forging

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

**Grade Belongs to the Industry:** Wire Rod and Forging

| Chemical Composition |      |               | Heat Treatment                                                                                                                                                                                     |  |
|----------------------|------|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Carbon               | C %  | 0.130 - 0.180 | As Raw or Normalizing or Annealing or Hardening and Tempering                                                                                                                                      |  |
| Manganese            | Mn % | 0.300 - 0.600 |                                                                                                                                                                                                    |  |
| Phosphorus           | P %  | 0.040 max.    |                                                                                                                                                                                                    |  |
| Sulphur              | S %  | 0.040 max.    |                                                                                                                                                                                                    |  |
| Iron                 | Fe % | Balance       |                                                                                                                                                                                                    |  |
| -                    | -    | -             | <b>Mechanical Properties</b><br>Tensile Strength in Mpa 340 min.<br>Yield Strength in Mpa -<br>Elongation in % -<br>Reduction of Area in % 45 min.<br>Hardness in HRC 90 max.<br>Impact in Joule - |  |
| -                    | -    | -             |                                                                                                                                                                                                    |  |
| -                    | -    | -             |                                                                                                                                                                                                    |  |
| -                    | -    | -             |                                                                                                                                                                                                    |  |
| -                    | -    | -             |                                                                                                                                                                                                    |  |
| -                    | -    | -             |                                                                                                                                                                                                    |  |
| -                    | -    | -             |                                                                                                                                                                                                    |  |
| -                    | -    | -             |                                                                                                                                                                                                    |  |
| -                    | -    | -             |                                                                                                                                                                                                    |  |
| -                    | -    | -             |                                                                                                                                                                                                    |  |

| Cross Reference Table |          |         |                              |
|-----------------------|----------|---------|------------------------------|
| Material              | Standard | Country | Grade Belong to the Industry |
| SWRCH 15R             | JIS      | Japan   | Wire Rod and Forging         |
| SWRM 15               | KS       | Korea   | Wire Rod and Forging         |
| SWRCH15R              | KS       | Korea   | Wire Rod and Forging         |
| -                     | -        | -       | -                            |
| -                     | -        | -       | -                            |
| -                     | -        | -       | -                            |
| -                     | -        | -       | -                            |

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