

## Material: CSN CuZn37Mn3Al2PbSi

### Standard Specification for Copper and Copper Alloy Rod for Free Machining Purpose

**Group:** Non Ferrous Copper Alloys

**Sub Group:** CSN CuZn37Mn3Al2PbSi Copper and Copper Alloy Rod for Free Machining Purpose

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

**Grade Belongs to the Industry:** Rod

| Chemical Composition |      |                 | Heat Treatment                  |           |
|----------------------|------|-----------------|---------------------------------|-----------|
| Aluminium            | Al % | 1.300 - 2.300   | As Raw or Solution Heat Treated |           |
| Iron                 | Fe % | 1.000 max.      |                                 |           |
| Manganese            | Mn % | 1.500 - 3.000   |                                 |           |
| Nickel               | Ni % | 1.000 max.      |                                 |           |
| Lead                 | Pb % | 0.200 - 0.800   |                                 |           |
| Silicon              | Si % | 0.300 - 1.300   |                                 |           |
| Tin                  | Sn % | 0.400 max.      |                                 |           |
| Other                | Ot % | 0.300 max.      |                                 |           |
| Copper               | Cu % | 57.000 - 59.000 | Mechanical Properties           |           |
| Zinc                 | Zn % | Balance         | Tensile Strength in Mpa         | 540 min.  |
| -                    | -    | -               | Yield Strength in Mpa           | 200 min.  |
| -                    | -    | -               | Elongation in %                 | 5 min.    |
| -                    | -    | -               | Reduction of Area in %          | -         |
| -                    | -    | -               | Hardness in HV                  | 140 - 200 |
| -                    | -    | -               | Impact in Joule                 | -         |

| Cross Reference Table |          |                |                              |
|-----------------------|----------|----------------|------------------------------|
| Material              | Standard | Country        | Grade Belong to the Industry |
| CuZn37Mn3Al2PbSi      | DIN      | Germany        | Rod                          |
| CuZn37Mn3Al2PbSi      | AFNOR NF | France         | Rod                          |
| CW713R                | AFNOR NF | France         | Rod                          |
| CuZn37Mn3Al2PbSi      | MSZ      | Hungary        | Rod                          |
| CW713R                | MSZ      | Hungary        | Rod                          |
| CW713R                | CSN      | Czech Republic | Rod                          |
| CW713R                | DIN      | Germany        | Rod                          |

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