

## Material: UNS M11916

### Standard Specification for Magnesium Alloy, AZ91D, Die Casting

**Group:** Non-Ferrous Magnesium Alloy

**Sub Group:** UNS Magnesium Alloy, AZ91D, Die Casting

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

**Belongs to the Industry:** Casting

| Chemical Composition |      |               | Heat Treatment                                                                                                                                                                                                   |  |
|----------------------|------|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Aluminium            | Al % | 8.300 - 9.700 | As-Cast                                                                                                                                                                                                          |  |
| Zinc                 | Zn % | 0.350 - 1.000 |                                                                                                                                                                                                                  |  |
| Manganese            | Mn % | 0.150 max.    |                                                                                                                                                                                                                  |  |
| Silicon              | Si % | 0.100 max.    |                                                                                                                                                                                                                  |  |
| Iron                 | Fe % | 0.005 max.    |                                                                                                                                                                                                                  |  |
| Copper               | Cu % | 0.030 max.    |                                                                                                                                                                                                                  |  |
| Nickel               | Ni % | 0.002 max.    |                                                                                                                                                                                                                  |  |
| Other                | Ot%  | 0.020 max.    |                                                                                                                                                                                                                  |  |
| Magnesium            | Mg % | Balance       |                                                                                                                                                                                                                  |  |
| -                    | -    | -             | <b>Mechanical Properties</b><br>Tensile Strength in Mpa 230 min.<br>Yield Strength in Mpa 160 min.<br>Elongation in % 3 min.<br>Reduction of Area in % -<br>Hardness in HB 75 min.<br>Impact in Joule 3 min. @RT |  |
| -                    | -    | -             |                                                                                                                                                                                                                  |  |
| -                    | -    | -             |                                                                                                                                                                                                                  |  |
| -                    | -    | -             |                                                                                                                                                                                                                  |  |
| -                    | -    | -             |                                                                                                                                                                                                                  |  |
| -                    | -    | -             |                                                                                                                                                                                                                  |  |
| -                    | -    | -             |                                                                                                                                                                                                                  |  |

| Cross Reference Table |          |         |                              |
|-----------------------|----------|---------|------------------------------|
| Material              | Standard | Country | Grade Belong to the Industry |
| AZ91D                 | ANSI/AA  | USA     | Casting                      |
| AZ91D                 | SAE      | USA     | Casting                      |
| B94 AZ91D             | ASTM     | USA     | Casting                      |
| B275 AZ91D            | ASTM     | USA     | Casting                      |
| B951 AZ91D            | ASTM     | USA     | Casting                      |
| B951 M11916           | ASTM     | USA     | Casting                      |
| -                     | -        | -       | -                            |

**Disclaimer:** All information displayed in our data sheets are for reference purpose only and are sole property of their respective owners. Information and or material are used for educational purposes only. Data at actual may vary at actual and case to case basis. ICAST Alloys LLP does not guarantee validity of these parameters. Warranties and liabilities are exclusive to our terms and conditions of business.

Customer Care: +91-99090 45075 Email: [info@icastllp.com](mailto:info@icastllp.com)