

## Material: ANSI/AA AS41B

### Specification Standards for Die Castings

**Group:** Non-Ferrous Magnesium Alloy Sub

**Group:** ANSI/AA for Die Castings

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

**Belongs to the Industry:** Casting

| Chemical Composition |      |               | Heat Treatment                                                                                                                                                                                                      |  |
|----------------------|------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Aluminium            | Al % | 3.500 - 5.000 | As-Cast                                                                                                                                                                                                             |  |
| Zinc                 | Zn % | 0.120 max.    |                                                                                                                                                                                                                     |  |
| Manganese            | Mn % | 0.350 - 0.700 |                                                                                                                                                                                                                     |  |
| Silicon              | Si % | 0.500 - 1.500 |                                                                                                                                                                                                                     |  |
| Iron                 | Fe % | 0.0035 min.   |                                                                                                                                                                                                                     |  |
| Copper               | Cu % | 0.020 max.    |                                                                                                                                                                                                                     |  |
| Nickel               | Ni % | 0.002 max.    |                                                                                                                                                                                                                     |  |
| Other                | Ot%  | 0.020 max.    |                                                                                                                                                                                                                     |  |
| Magnesium            | Mg % | Balance       |                                                                                                                                                                                                                     |  |
| -                    | -    | -             | <b>Mechanical Properties</b><br>Tensile Strength in Mpa 225 min.<br>Yield Strength in Mpa 140 min.<br>Elongation in % 6 min.<br>Reduction of Area in % -<br>Hardness in BHN 75 min.<br>Impact in Joule 4.1 min. @RT |  |
| -                    | -    | -             |                                                                                                                                                                                                                     |  |
| -                    | -    | -             |                                                                                                                                                                                                                     |  |
| -                    | -    | -             |                                                                                                                                                                                                                     |  |
| -                    | -    | -             |                                                                                                                                                                                                                     |  |
| -                    | -    | -             |                                                                                                                                                                                                                     |  |
| -                    | -    | -             |                                                                                                                                                                                                                     |  |

| Cross Reference Table |          |         |                              |
|-----------------------|----------|---------|------------------------------|
| Material              | Standard | Country | Grade Belong to the Industry |
| B93 AS41B             | ASTM     | USA     | Ingot and Casting            |
| B951 M10413           | ASTM     | USA     | Casting                      |
| MD-AS41B              | JIS      | Japan   | Casting                      |
| M10413                | UNS      | USA     | Ingot and Casting            |
| MD3B                  | JIS      | Japan   | Casting                      |
| MD3B                  | KS       | Korea   | Casting                      |
| MC21310               | KS       | Korea   | Ingot and Casting            |

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