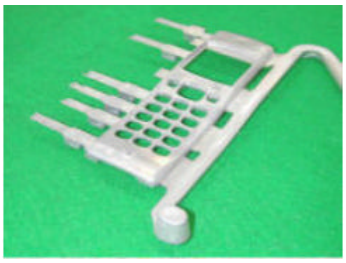
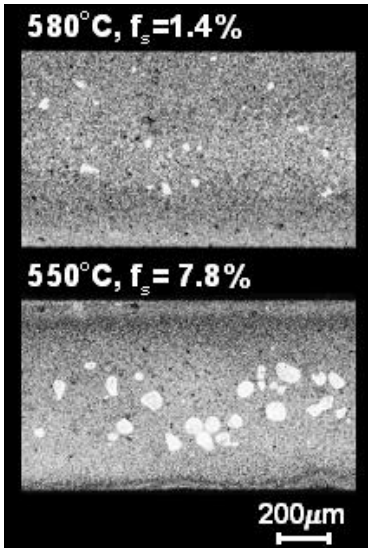
# HITMAG



**Sample Component made with HITMAG**

HITMAG is a new Magnesium Alloy developed by HITACHI with a lower melting temperature than AZ91, providing excellent fluidity, high creep strength and corrosion resistance with applications in Thixomolding® and Die Casting.




**HITMAG Microstructure**

**Applications:**

- Housing for Motor, Alternator, etc.
- Ignition Key Housing
- Valve Cover
- Engine Cover
- Steering Wheel Core
- Instrument Panel
- Seat Frame
- Oil Pan, etc.

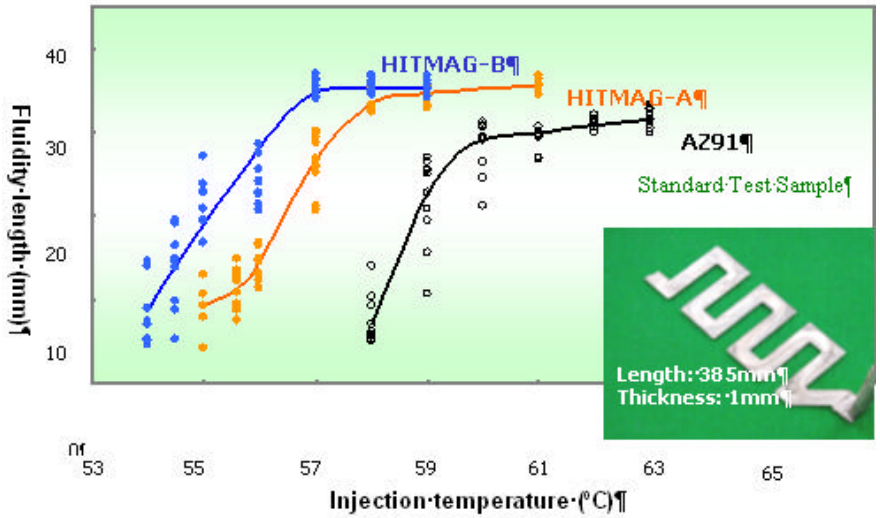
**Electronics:**

- Digital Camera Body
- PC Projector Body
- Mobile Phone Case
- Laptop Case, etc.

**Casting Process:**

- Thixomolding
- Die Casting

## Fluidity




## Material Properties

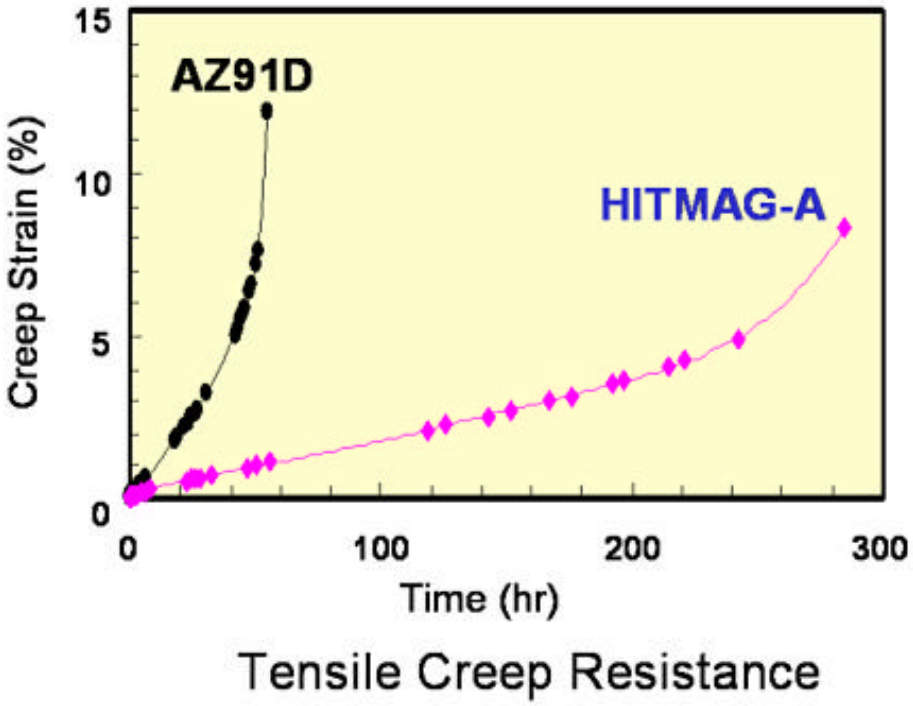
### Physical

| Alloy | Liquidus Temperature* (°C) | Solidus Temperature* (°C) | Density (g/cm³) | Thermal Conductivity (W/m·K) | Specific Heat (J/g·K) |
|---|---|---|---|---|---|
| AZ91D | 598 | 425* | 1.81 | 51.2* | 1.02* |
| HITMAG-A | 567 | 425* | 1.92 | 36.0* | 0.93* |
| HITMAG-B | 556 | 411* | 1.96 | 35.6* | 0.93* |

### Mechanical

| Alloy | Vickers Hardness (Hv 50g) | Tensile Strength (MPa) | Proof Stress (MPa) | Elongation (%) |
|---|---|---|---|---|
| AZ91D | 83 | 265 | 138 | 3.4 |
| HITMAG-A | 103 | 264 | 168 | 1.5 |
| HITMAG-B | 104 | 301 | 163 | 1.6 |

*1 : 0.7mm Sample




Tensile Creep Resistance

**Summary:**

?? HITMAG is good for thin wall castings
?? Ideally suited for Thixomolding®
?? Lower Melting Point as compared to AZ91, hence better fluidity
?? Better creep resistance as compared to AZ91D