

AIM 70 Fusible Alloy

Category : Metal , Nonferrous Metal , Bismuth Alloy , Solder/Braze Alloy

Material Notes:

Uses: punch and die in short run sheet metal forming; external and internal support for bending tubing extrusions; holding jet engine blades for machining and broaching; annealing and nitriding seals; nests for feeding stations. These silvery white alloys expand only ~3.3% of their volume when changing from liquid to solid form, which makes these alloys ideal for many industrial applications. AIM fusible alloys are rarely consumed in an operation and therefore can be remelted and used multiple times. These alloys are normally used in gravity casting but also can be used in other casting methods. Information provided by AIM Specialty Materials.

Order this product through the following link:

http://www.lookpolymers.com/polymer_AIM-70-Fusible-Alloy.php

| Physical Properties | Metric | English | Comments |
|---------------------|-----------|--------------------------|----------|
| Density | 9.38 g/cc | 0.339 lb/in ³ | |

| Mechanical Properties | Metric | English | Comments |
|----------------------------|----------|----------|----------|
| Hardness, Brinell | 9.2 | 9.2 | |
| Tensile Strength, Ultimate | 41.3 MPa | 5990 psi | |
| Elongation at Break | 200 % | 200 % | |

| Thermal Properties | Metric | English | Comments |
|------------------------|---|---|----------|
| Heat of Fusion | 32.6 J/g | 14.0 BTU/lb | |
| CTE, linear | 22.0 $\mu\text{m}/\text{m}\cdot\text{°C}$ | 12.2 $\mu\text{in}/\text{in}\cdot\text{°F}$ | |
| | @Temperature 20.0 °C | @Temperature 68.0 °F | |
| Specific Heat Capacity | 0.167 J/g-°C | 0.0400 BTU/lb-°F | Liquid |
| | 0.167 J/g-°C | 0.0400 BTU/lb-°F | Solid |
| Melting Point | 158 °C | 316 °F | |

| Component Elements Properties | Metric | English | Comments |
|-------------------------------|--------|---------|----------|
| Bismuth, Bi | 50 % | 50 % | |
| Cadmium, Cd | 10 % | 10 % | |
| Lead, Pb | 26.7 % | 26.7 % | |
| Tin, Sn | 13.3 % | 13.3 % | |

| Electrical Properties | Metric | English | Comments |
|------------------------|------------------|------------------|----------|
| Electrical Resistivity | 0.0000430 ohm-cm | 0.0000430 ohm-cm | |

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