

Common Alloys From Qnnect's Hi-Rel Alloys Division

| F Degrees Liquidus | F Solidus | F Eutectic or Melt Point | Composition | C Degrees Liquidus | C Solidus | C Eutectic or Melt Point | Density gm / cm | Density Troy Oz / In |
|--------------------|-----------|--------------------------|-----------------------|--------------------|-----------|--------------------------|-----------------|----------------------|
| 244 | 244 | x | 52In, 48Sn | 118 | 118 | x | 7.3 | 3.85 |
| 268 | 244 | | 52Sn, 48In | 131 | 118 | | 7.3 | 3.85 |
| 280 | 280 | x | 58Bi, 42Sn | 138 | 138 | x | 8.56 | 4.51 |
| 289 | 289 | x | 97In, 3 Ag | 143 | 143 | x | 7.38 | 3.89 |
| | | 315 | 100 In | | | 157 | 7.31 | 3.85 |
| 361 | 361 | x | 63 Sn, 37 Pb | 183 | 183 | x | 8.4 | 4.43 |
| 365 | 345 | | 60 In, 40 Pb | 185 | 174 | | 8.52 | 4.49 |
| 370 | 361 | | 60 Sn, 40 Pb | 188 | 183 | | 8.5 | 4.48 |
| 408 | 356 | | 50 In, 50 Pb | 209 | 180 | | 8.86 | 4.67 |
| 414 | 361 | | 50 Sn, 50 Pb | 212 | 183 | | 8.87 | 4.67 |
| 415 | 361 | | 90 Sn, 10 Pb | 213 | 183 | | 7.55 | 3.98 |
| 424 | 361 | | 52 Pb, 48 Sn | 218 | 183 | | 8.95 | 4.72 |
| 430 | 430 | | 96.5 Sn, 3.5 Ag | 221 | 221 | | 7.36 | 3.88 |
| 432 | 361 | | 95 Sn, 5 Pb | 222 | 183 | | 7.42 | 3.91 |
| 437 | 383 | | 60 Pb, 40 In | 225 | 195 | | 9.3 | 4.9 |
| 460 | 361 | | 60 Pb, 40 Sn | 238 | 183 | | 9.28 | 4.89 |
| 536 | 536 | x | 80 Au, 20 Sn | 280 | 280 | x | 14.51 | 7.64 |
| | | 558 | 90 Pb, 5 Ag, 5 Sn | | | 292 | 11 | 5.8 |
| 565 | 549 | | 92.5 Pb, 5 Sn, 2.5 Ag | 296 | 287 | | 11.02 | 5.81 |
| | | 572 | 92.5 Pb, 5 In, 2.5 Ag | | | 300 | 11.02 | 5.81 |
| 597 | 558 | | 95 Pb, 5 In | 314 | 292 | | 11.06 | 5.83 |
| 597 | 590 | | 95Pb, 5Sn | 314 | 310 | | 11.06 | 5.83 |
| 612 | 590 | | 98.5 Pb, 1.5 Sb | 322 | 310 | | 11.23 | 5.92 |
| 673 | 673 | x | 88Au/12Ge | 356 | 356 | x | 14.67 | 7.73 |
| | | 621 | 100 Pb | | | 327 | 11.35 | 5.98 |
| 1436 | 1436 | x | 72 Ag, 28 Cu | 780 | 780 | x | 10.01 | 5.27 |
| | | 1762 | 100 Ag | | | 961 | 10.5 | 5.53 |
| | | 1945 | 100 Au | | | 1063 | 19.3 | 10.17 |
| | | 2826 | 100 Pd | | | 1552 | 12.02 | 6.33 |

Other Products & Services:

Hermetic Electronic Packaging

We bring customers' hermetic electronic package designs to life and use unique materials and manufacturing processes to help optimize for weight savings, footprint reduction, thermal transfer and more. Our precision machining capabilities allow us to meet very tight tolerances for Kovar, aluminum and titanium housings. We deliver the custom packaging solutions that ensure the electronics within those devices are unaffected by whatever extreme environmental condition they operate in.

Enabling Components

There's more to a reliable hermetic package solution than a box and connectors and we manufacture components to ensure a module's long term viability. We produce: getters to prevent build-up of contaminants; solder preforms that aid in attaching electronic circuitry; ring frames that become integral side walls of a hermetic package; and custom thermal spreaders that ensure heat from a chip or substrate is efficiently dissipated. To top things off, we also manufacture package lids.

Laser and Integration Services

We provide high-speed laser welding, sealing and marking with consistent accuracy. Our laser welding expertise also extends to the manufacture of custom designed/build laser welding, cutting & sealing systems for customers who wish to bring those capabilities in house.

The Qnnect logo features the word "Qnnect" in a bold, white, sans-serif font. The letter "Q" is stylized with a thick, rounded tail that loops back towards the top of the letter.The Hi-Rel Alloys logo consists of the words "HI-REL" in a large, serif font, with "ALLOYS" in a smaller, sans-serif font below it. A horizontal line separates the two words. Above the "HI-REL" text is a small diamond-shaped icon. Below the "ALLOYS" text, in a very small font, is the phrase "A Qnnect Company".

For Product Info:
hermeticsolutions.com

For Company Info:
qnnectnow.com