

**AS-352 (DZR Brass)****Chemical Composition**

(% max., unless shown as range or min.)

|            | Cu        | As      | Pb <sup>(1)</sup> | Zn   |
|------------|-----------|---------|-------------------|------|
| Min. /Max. | 59.5-64.0 | .02-.25 | 0.5-3.0           | Rem. |
| Nominal    | 61.7      | .13     | 2.5               | -    |

(1) Pb may be reduced to 1.0% by agreement.

Note: Cu + Sum of Named Elements, 99.5% min.

**Applicable Specifications**

| Product | Specification |
|---------|---------------|
| Bar     | AS1567        |
| Rod     | AS1567        |

**Common Fabrication Processes**

No information available.

**Fabrication Properties** No information available.**Mechanical Properties (measured at room temperature, 68 F (20 C))**

| Temper              | Section Size | Cold Work | Temp Min | Temp | Yield Strength   |                                 |                        | Elongation | Rockwell Hardness | Vickers Hard. | Brinell Hard. | Shear Strength | Fatigue Strength* | Izod Impact Strength |
|---------------------|--------------|-----------|----------|------|------------------|---------------------------------|------------------------|------------|-------------------|---------------|---------------|----------------|-------------------|----------------------|
|                     |              |           |          |      | Tensile Strength | Strength (0.5% ext. under load) | Strength (0.2% offset) |            |                   |               |               |                |                   |                      |
|                     | in. mm.      | %         |          | F C  | ksi MPa          | ksi MPa                         | ksi MPa                | % B        | CF30              | T500          |               | ksi MPa        | ksi MPa           | ft-lb J              |
| <b>Rod and Wire</b> |              |           |          |      |                  |                                 |                        |            |                   |               |               |                |                   |                      |
| H02                 | >2           | 0         | typ      | 68   | 40               | 25                              | -                      | -          | 35-               | ---           | -             | -              | -                 | 0.0                  |
|                     | >50          |           |          | 20   | 335              | 180                             | -                      | -          | 35-               | ---           | -             | -              | -                 | 0.0                  |
| O60                 | =<1          | 0         | min      | 68   | -                | -                               | -                      | -          | 40-               | ---           | -             | -              | -                 | 0.0                  |
|                     | =<25         |           |          | 20   | -                | -                               | -                      | -          | 40-               | ---           | -             | -              | -                 | 0.0                  |
| O60                 | =<1          | 0         | typ      | 68   | 40               | 25                              | -                      | -          | 25-               | ---           | -             | -              | -                 | 0.0                  |
|                     | =<25         |           |          | 20   | 345              | 140                             | -                      | -          | 25-               | ---           | -             | -              | -                 | 0.0                  |
| H02                 | 1 - 2        | 0         | max      | 68   | -                | -                               | -                      | -          | 65-               | ---           | -             | -              | -                 | 0.0                  |
|                     | 25 - 50      |           |          | 20   | -                | -                               | -                      | -          | 65-               | ---           | -             | -              | -                 | 0.0                  |
| H02                 | 1/2 - 1      | 0         | max      | 68   | -                | -                               | -                      | -          | 75-               | ---           | -             | -              | -                 | 0.0                  |
|                     | 12 - 25      |           |          | 20   | -                | -                               | -                      | -          | 75-               | ---           | -             | -              | -                 | 0.0                  |
| H02                 | 1 - 2        | 0         | min      | 68   | -                | -                               | -                      | -          | 40-               | ---           | -             | -              | -                 | 0.0                  |
|                     | 25 - 50      |           |          | 20   | -                | -                               | -                      | -          | 40-               | ---           | -             | -              | -                 | 0.0                  |
| H02                 | 1/2 - 1      | 0         | min      | 68   | -                | -                               | -                      | -          | 40-               | ---           | -             | -              | -                 | 0.0                  |
|                     | 12 - 25      |           |          | 20   | -                | -                               | -                      | -          | 40-               | ---           | -             | -              | -                 | 0.0                  |
| H02                 | =<1/2        | 0         | min      | 68   | -                | -                               | -                      | -          | 65-               | ---           | -             | -              | -                 | 0.0                  |
|                     | =<12         |           |          | 20   | -                | -                               | -                      | -          | 65-               | ---           | -             | -              | -                 | 0.0                  |
| O60                 | =<1          | 0         | max      | 68   | -                | -                               | -                      | -          | 70-               | ---           | -             | -              | -                 | 0.0                  |
|                     | =<25         |           |          | 20   | -                | -                               | -                      | -          | 70-               | ---           | -             | -              | -                 | 0.0                  |
| H02                 | =<1/2        | 0         | max      | 68   | -                | -                               | -                      | -          | 85-               | ---           | -             | -              | -                 | 0.0                  |
|                     | =<12         |           |          | 20   | -                | -                               | -                      | -          | 85-               | ---           | -             | -              | -                 | 0.0                  |
| H02                 | >2           | 0         | min      | 68   | -                | -                               | -                      | -          | 30-               | ---           | -             | -              | -                 | 0.0                  |
|                     | >50          |           |          | 20   | -                | -                               | -                      | -          | 30-               | ---           | -             | -              | -                 | 0.0                  |
| H02                 | >2           | 0         | max      | 68   | -                | -                               | -                      | -          | 55-               | ---           | -             | -              | -                 | 0.0                  |
|                     | >50          |           |          | 20   | -                | -                               | -                      | -          | 55-               | ---           | -             | -              | -                 | 0.0                  |
| H02                 | 1 - 2        | 0         | typ      | 68   | 45               | 30                              | -                      | -          | 30-               | ---           | -             | -              | -                 | 0.0                  |
|                     | 25 - 50      |           |          | 20   | 330              | 120                             | -                      | -          | 30-               | ---           | -             | -              | -                 | 0.0                  |
| H02                 | =<1/2        | 0         | typ      | 68   | 55               | 40                              | -                      | -          | 10-               | ---           | -             | -              | -                 | 0.0                  |
|                     | =<12         |           |          | 20   | 385              | 290                             | -                      | -          | 10-               | ---           | -             | -              | -                 | 0.0                  |
| H02                 | 1/2 - 1      | 0         | typ      | 68   | 50               | 35                              | -                      | -          | 20-               | ---           | -             | -              | -                 | 0.0                  |
|                     | 12 - 25      |           |          | 20   | 350              | 215                             | -                      | -          | 20-               | ---           | -             | -              | -                 | 0.0                  |

\*Fatigue Strength: 100 x 10<sup>6</sup> cycles,  
unless indicated as [N] X 10<sup>6</sup>.

**Physical Properties**

|                                  | US Customary                               | Metric                                    |
|----------------------------------|--------------------------------------------|-------------------------------------------|
| Melting Point - Liquidus         | 1660 F                                     | 905 C                                     |
| Melting Point - Solidus          | 1645 F                                     | 895 C                                     |
| Density                          | 8.450 lb/in <sup>3</sup> at 68 F           | 0.0 gm/cm <sup>3</sup> @ 20 C             |
| Specific Gravity                 | 8.450                                      | 8.45                                      |
| Electrical Resistivity           | 63.60 ohms-cmil/ft @ 68 F                  | 10.5 microhm-cm @ 20 C                    |
| Electrical Conductivity          | 26 %IACS @ 68 F                            | 0.15 MegaSiemens/cm @ 20 C                |
| Coefficient of Thermal Expansion | 12.40 · 10 <sup>-6</sup> per °F (68-572 F) | 21.5 · 10 <sup>-6</sup> per °C (20-300 C) |
| Modulus of Elasticity in Tension | 15000 ksi                                  | 103000 MPa                                |

**Tempers Most Commonly Used**

| Other        |
|--------------|
| R&W H02, O60 |

**Typical Uses****Plumbing**

Plumbers' Brass Goods, Plumbing Fittings

**Casting Characteristics**

No casting characteristics available for this alloy.