# INCON,INC.

| Z9600<br>CONTACT – HARDWARE MATERIAL SPECIFICATION | REVISION<br>L |
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## SCOPE

The purpose of this document is to provide a central listing for material type, specification, and required physical properties for contact and hardware components.

## APPLICABILITY

This specification is applicable to all F-series contact and hardware components.

## DEFINITIONS

The material will be defined on the component drawing using the following format:

**Z9600 – XXX** where XXX is the Material code from the table below

| MATERIAL CODE | ALLOY / TYPE | APPLICABLE SPECIFICATION | TEMPER | TENSILE STRENGTH |
|---|---|---|---|---|
| B01 | Brass / C36000 | ASTM B16 | N/A | 65 – 80 KSI<br>(448 – 552 N/mm^2)[1] |
| B02 | Brass / C36000 | ASTM B16 | ½ Hard<br>( for reference only) | 57 – 67 KSI<br>(393 – 462 N/mm^2)[1] |
| B03 | Brass / C36000 | ASTM B16 | ½ Hard<br>( for reference only) | 57 – 78 KSI<br>(393 – 538 N/mm^2)[1] |
| B04 | Brass / C26000 | ASTM B134 | N/A | 102 – 125 KSI<br>(703 – 862 N/mm^2)[1] |
| B05 | BRASS / C36000 | ASTM B16 | FULL HARD (H04) | 80 – 87 KSI<br>(552 – 600 N/mm^2)[1] |
| C01 | Beryllium Copper / C17200 | ASTM B194 | TD01 [2] | 75 - 88 KSI<br>(520 – 610 N/mm^2)[1] |
| C02 | Beryllium Copper / C17200 | ASTM B194 | TD02 [2] | 85 - 100 KSI<br>(590 – 690 N/mm^2)[1] |
| C03 | Beryllium Copper / C17300 | ASTM B196 | TD04 [2] | 90 – 130 KSI<br>(660 – 900 N/mm^2)[1] |
| C04 | Beryllium Copper / C17200 | ASTM B196, B197 | TD02 [2] | 85 - 100 KSI<br>(590 – 690 N/mm^2)[1] |
| C05 | Beryllium Copper / C17200<br>Beryllium Copper / C17300 | ASTM B196<br>ASTM B197 | TD04 [2]<br>TD01 [2] | 95 – 115 KSI [3]<br>(655 – 758 N/mm^2)[1] |
| C06 | Beryllium Copper / C17200<br>Beryllium Copper / C17300 | ASTM B197 | TD02 [2] / TD03 [2] | 110 - 155 KSI<br>(758 – 1069 N/mm^2)[1] |
| C07 | Beryllium Copper / C17200<br>Beryllium Copper / C17300 | ASTM B196<br>ASTM B197 | TD04 [2]<br>TD02 [2] | 90 – 135 KSI<br>(660 – 931 N/mm^2)[1] |
| P01 | Phosphor Bronze / C51000 | ASTM B159 | H02 | 80 – 97 KSI<br>(552 – 669 N/mm^2)[1] |
| S01 | S30300 | ASTM A582 | N/A | N/A |
| S02 | S30500 | ASTM A240<br>or<br>SAE-AMS5514 | Soft Annealed<br>or<br>88 Max Rockwell B<br>or<br>183 Max HBW | N/A |

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| MATERIAL CODE | ALLOY / TYPE | APPLICABLE SPECIFICATION | TEMPER | TENSILE STRENGTH |
|---|---|---|---|---|
| S03 | S30400 | ASTM A580 | N/A | N/A |
| S05 | S30200 | ASTM A240 | N/A | N/A |
| S06 | 300 Series Stainless Steel / magnetic permeability < or = 2.0[4] | | N/A | N/A |
| S07 | 300 Series Stainless Steel - Low Magnetic Permeability[4] | ASTM A276<br>ASTM A484 / A484M<br>ASTM A580 / A580M<br>ASTM A581 / A581M<br>ASTM A582 / A582M | N/A | N/A |
| S08 | S30300 | ASTM A581 | N/A | N/A |
| S09 | S30300 | ASTM A581 / A582 | N/A | N/A |
| S04 | S30400 | ASTM A240 | N/A | N/A |

1. The metric units N/mm^2 are equivalent to Mpa units. Example: 590 N/mm^2 = 590 Mpa

2. The tempers listed are the “as received” from the Mill tempers, not necessarily the final temper of the product as received by Incon. Parts may be heat treated prior to shipment to Incon. See individual drawing for Heat Treating requirements.

3. Elongation to be 6% minimum.

4. 300 Series (Austenitic) are classified as “Nonmagnetic” or having “Low Magnetic Permeability” Provided the Certificate of Material Analysis states the material is a 300 series stainless steel alloy, listing of the Magnetic Permeability on the C of A or C of C is not required.

| | DESCRIPTION | ECO NO | DRAWN BY | APPROVED BY | DATE |
|---|---|---|---|---|---|
| A | INITIAL RELEASE | 10079 | JPL | GJB | 3/18/10 |
| B | REVISED | 10134 | JPL | GJB | 7/6/10 |
| C | REVISED | 10274 | GJB | JPL | 9/1/11 |
| D | REVISED | 10601 | GJB | JPL | 11/7/13 |
| E | REVISED | 10693 | GJB | JPL | 9/15/14 |
| F | REVISED | 10747 | GJB | JPL | 5/27/15 |
| G | REVISED | 10854 | GJB | JPL | 9/28/16 |
| H | REVISED | 10905 | JPL | JJC | 4/25/17 |
| J | REVISED | 10982 | JJC | JPL | 12/11/17 |
| K | REVISED | 11071 | JJC | JPL | 9/27/18 |
| L | ADDED MAT’L B05 & FOOTER WITH PAGE #S AND UNCONTROLLED NOTE | 11446 | BJB | ECO 11446 | 11/12/2025 |