

# 410L POWDER STAINLESS STEEL

## TECHNICAL DATA SHEET

### DESCRIPTION

410L is a magnetic grade of stainless steel. An excellent candidate for automotive sensor ring and mirror mount applications, 410L exhibits fair corrosion resistance and a decent high temperature sintering response. Major performance features of this stainless steel include green strength and high compressibility.

Carbon Additions: Fractions of graphite can be admixed for increase hardenability in 410 SS powder.

| PRODUCT | POWDER PROPERTIES        |                  | COMPACTING PRESSURE (TSI) | GREEN STRENGTH (PSI) | GREEN DENSITY (PSI) | SINTERED DENSITY (GM/CC) | SINTERED BREAKING STRENGTH (PSI) | DIMENSIONAL CHANGE FROM DIE SIZE (%) | UTS (PSI) | % ELONG | RB HARDNESS (APPARENT) |
|---------|--------------------------|------------------|---------------------------|----------------------|---------------------|--------------------------|----------------------------------|--------------------------------------|-----------|---------|------------------------|
|         | APPARENT DENSITY (GM/CC) | FLOW (SEC. /50G) |                           |                      |                     |                          |                                  |                                      |           |         |                        |
| 410L    | 2.8                      | 30               | 30                        | 1500                 | 6.00                | 6.13                     | 85,000                           | -0.31                                | 41,000    | 3.6     | 42.0                   |
|         |                          |                  | 40                        | 1800                 | 6.45                | 6.55                     | 105,000                          | -0.28                                | 54,000    | 4.8     | 71.0                   |
|         |                          |                  | 50                        | 2200                 | 6.60                | 6.67                     | 120,000                          | -0.24                                | 64,000    | 5.3     | 80.0                   |

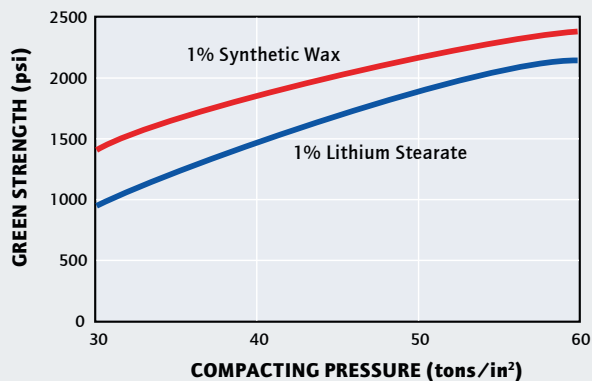
Compacting properties were measured on powder blended with 1% lithium stearate. Sintering was done in dissociated ammonia at 2050°F for 45 minutes.

### POWDER PROPERTIES

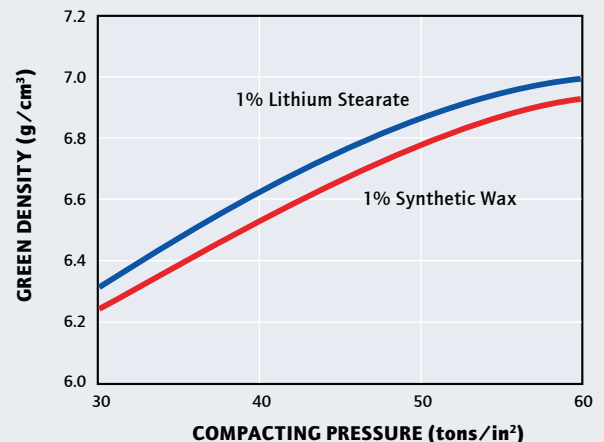
| CHEMICAL COMPOSITION |              |            |           |
|----------------------|--------------|------------|-----------|
| Chromium             | 11.5 - 13.5% | Sulfur     | 0.03% max |
| Manganese            | 2.0% max     | Phosphorus | 0.04% max |
| Silicon              | 1.0% max     | Iron       | Balance   |
| Carbon               | 0.03% max    |            |           |

| PHYSICAL PROPERTIES |                       |
|---------------------|-----------------------|
| Apparent Density    | 2.8 g/cm <sup>3</sup> |
| Flow Rate           | 30 sec/50g            |

### GREEN STRENGTH



### COMPACTIBILITY

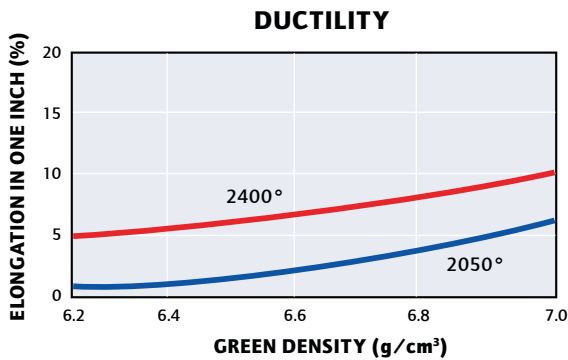
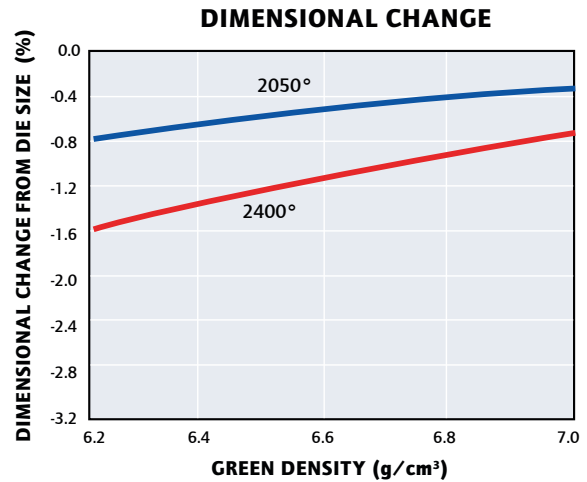
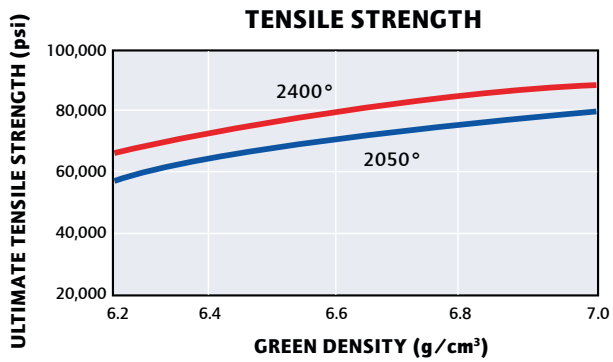


# 410L POWDER STAINLESS STEEL

## TECHNICAL DATA SHEET

### SINTERED PROPERTIES

Sintered properties were determined using test specimens that were sintered for 45 minutes in dissociated ammonia with a -40°F dew point.



1085 Route 519, Eighty Four, PA 15330, United States  
E: [EF.sales@ametek.com](mailto:EF.sales@ametek.com) | T: (+1) 724-225-8400

[www.powderclad.com](http://www.powderclad.com)

The data herein are subject to revision without notice. Since AMETEK products, and the information given and recommendations made herein, may be used under conditions beyond our control, AMETEK makes no guarantee, either express or implied, concerning the sustainability of our products, or the applicability and accuracy of the information, or recommendations, in any specific situation. User is solely responsible for determining the suitability of AMETEK products of any specific purpose.