

ATI Allegheny Ludlum Martensitic Stainless Steel Type 420, Hardened + 649°C (1200°F) Temper

Category : Metal , Ferrous Metal , Stainless Steel , T 400 Series Stainless Steel

Material Notes:

Allegheny Ludlum Type 420 is a hardenable straight-chromium stainless steel which combines superior wear resistance of high carbon alloys with the excellent corrosion resistance of chromium stainless steel. Oil quenching this alloy from temperatures between 1800°F and 1950°F produces the high strength and/or wear resistance as well as corrosion resistance. A major use for this grade of heat treatable stainless steels is in cutlery. When blanking cutlery parts from annealed raw material stock, Type 420 will usually exhibit hardness, yield strength, and tensile strength that are low enough for fine blanking purposes. UTS, TYS, and hardness values below obtained after austenitizing at 1800-1950°F (982-1066°C) followed by an oil quench and two hour temper as above. Information provided by Allegheny Ludlum Corporation.

Order this product through the following link:

http://www.lookpolymers.com/polymer_ATI-Allegheny-Ludlum-Martensitic-Stainless-Steel-Type-420-Hardened-649C-1200F-Temper.php

| Physical Properties | Metric | English | Comments |
|---------------------|-----------|--------------------------|----------|
| Density | 7.73 g/cc | 0.279 lb/in ³ | |

| Mechanical Properties | Metric | English | Comments |
|----------------------------|----------------------------|------------------------------|----------|
| Hardness, Rockwell C | 23 | 23 | |
| Tensile Strength, Ultimate | 838 MPa | 122000 psi | Typical |
| Tensile Strength, Yield | 652 MPa @Strain 0.200 % | 94600 psi @Strain 0.200 % | typical |
| Modulus of Elasticity | 200 GPa | 29000 ksi | |

| Thermal Properties | Metric | English | Comments |
|----------------------|--|---|----------|
| CTE, linear | 11.2 µm/m-°C @Temperature 20.0 - 200 °C | 6.22 µin/in-°F @Temperature 68.0 - 392 °F | |
| | 12.5 µm/m-°C @Temperature 20.0 - 600 °C | 6.94 µin/in-°F @Temperature 68.0 - 1110 °F | |
| Thermal Conductivity | 24.207 W/m-K @Temperature 100 °C | 168.00 BTU-in/hr-ft ² -°F @Temperature 212 °F | |
| Melting Point | 1454 - 1510 °C | 2649 - 2750 °F | |
| Solidus | 1454 °C | 2649 °F | |

| Thermal Properties | Metric | English | Comments |
|--------------------|---------|---------|----------|
| Liquidus | 1510 °C | 2750 °F | |

| Component Elements Properties | Metric | English | Comments |
|-------------------------------|---------------|---------------|------------|
| Carbon, C | 0.15 - 0.40 % | 0.15 - 0.40 % | |
| Chromium, Cr | 12 - 14 % | 12 - 14 % | |
| Iron, Fe | 86 % | 86 % | as balance |
| Manganese, Mn | <= 1.0 % | <= 1.0 % | |
| Nickel, Ni | <= 0.50 % | <= 0.50 % | |
| Phosphorous, P | <= 0.040 % | <= 0.040 % | |
| Silicon, Si | <= 1.0 % | <= 1.0 % | |
| Sulfur, S | <= 0.030 % | <= 0.030 % | |

| Electrical Properties | Metric | English | Comments |
|------------------------|------------------|------------------|----------|
| Electrical Resistivity | 0.0000560 ohm-cm | 0.0000560 ohm-cm | |

Contact Songhan Plastic Technology Co.,Ltd.

Website : www.lookpolymers.com

Email : sales@lookpolymers.com

Tel : +86 021-51131842

Mobile : +86 13061808058

Skype : lookpolymers

Address : United North Road 215,Fengxian District, Shanghai City,China