



## INCOLOY<sup>®</sup> A-286

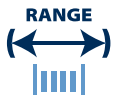
### Key Features

- High strength and good corrosion resistance at high temperatures
- Age hardenable
- Good for high temperature fasteners
- \*\*High temperature static applications

### IMPORTANT

We will manufacture to your required mechanical properties.

## key advantages to you, *our customer*



0.025mm to 21mm  
(.001" to .827")



Order 3m to 3t  
(10 ft to 6000 Lbs)



Delivery:  
within 3 weeks



Wire to your spec



E.M.S available



Technical support

### INCOLOY<sup>®</sup> A-286 available in:-

- Round wire
- Bars or lengths
- Flat wire
- Shaped wire
- Rope/Strand

### Packaging

- Coils
- Spools
- Bars or lengths



\*\*Trade name of Special Metals Group of Companies.

# INCOLOY® A-286



| Chemical Composition |       |       | Specifications  | Key Features  | Typical Applications  |
|----------------------|-------|-------|---|---|---|
| Element              | Min % | Max % | AMS 5731<br>AMS 5734<br>AMS 5737<br>AMS 5853<br>ASTM A453<br>BS HR 52<br>BS HR 650<br>ISO 15156-3<br>(NACE MR 0175)<br><b>Designations</b><br>W.Nr. 1.4944<br>W.Nr. 1.4980<br>UNS S66286<br>AWS 023 | High strength and good corrosion resistance at high temperatures<br>Age hardenable<br>Good for high temperature fasteners<br>**High temperature static applications | Jet Engines<br>Super Chargers<br>Afterburner Parts<br>Fasteners |
| C                    | 0.03  | 0.08  |   |   |   |
| Mn                   | 1.00  | 2.00  |   |   |   |
| Si                   | -     | 0.50  |   |   |   |
| P                    | -     | 0.02  |   |   |   |
| S                    | -     | 0.015 |   |   |   |
| Cr                   | 13.50 | 16.00 |   |   |   |
| Ni                   | 24.00 | 27.00 |   |   |   |
| Mo                   | 1.00  | 1.50  |   |   |   |
| Ti                   | 1.90  | 2.30  |   |   |   |
| B                    | 0.003 | 0.01  |   |   |   |
| V                    | 0.10  | 0.50  |   |   |   |
| Co                   | -     | 1.00  |   |   |   |
| Al                   | -     | 0.35  |   |   |   |
| Cu                   | -     | 0.50  |   |   |   |
| Pb                   | -     | 0.005 |   |   |   |

|                                 |                            |   |
|---------------------------------|----------------------------|---|
| <b>Density</b>                  | 7.94 g/cm <sup>3</sup>     | 0.287 lb/in <sup>3</sup>                      |
| <b>Melting Point</b>            | 1430 °C                    | 2600 °F                                       |
| <b>Coefficient of Expansion</b> | 16.4 µm/m °C (20 – 100 °C) | 9.1 x 10 <sup>-6</sup> in/in °F (70 – 212 °F) |
| <b>Modulus of Rigidity</b>      | 71.5 kN/mm <sup>2</sup>    | 10370 ksi                                     |
| <b>Modulus of Elasticity</b>    | 205 kN/mm <sup>2</sup>     | 29733 ksi                                     |

| Heat Treatment of Finished Parts    |            |             |             |           |         |
|-------------------------------------|------------|-------------|-------------|-----------|---------|
| Condition as supplied by Alloy Wire | Type       | Temperature |             | Time (Hr) | Cooling |
|                                     |            | °C          | °F          |           |         |
| Annealed or Spring Temper           | Age Harden | 705 – 760   | 1300 – 1400 | 16        | Air     |

| Properties           |                          |           |   |              |
|----------------------|--------------------------|-----------|---|--------------|
| Condition            | Approx. tensile strength |           | Approx. operating temperature depending on load** and environment |              |
|                      | N/mm <sup>2</sup>        | ksi       | °C  | °F           |
| Annealed             | 600 – 750                | 87 – 109  | -200 to +400  | -330 to +750 |
| Annealed + Aged      | 1100 – 1300              | 159 – 188 | -200 to +400  | -330 to +750 |
| Spring Temper        | 1050 – 1250              | 152 – 181 | -200 to +400  | -330 to +750 |
| Spring Temper + Aged | 1300 – 1500              | 188 – 218 | -200 to +400  | -330 to +750 |

The above tensile strength ranges are typical. If you require different please ask.

\*\*Static applications = still/fixed/motionless/rigid