

Nimonic 80A, Nickel Alloy 80A

Alloy 80A (alternatively known by Special Metals trade name Nimonic 80A) is a nickel chromium alloy similar to Alloy 75 but made precipitation hardenable by additions of aluminium and titanium. Alloy 80A has good corrosion and oxidation resistance and high tensile and creep rupture properties at temperatures up to 1500 deg F.

| Specific Gravity | | | | | | | | | | | | | |
|--|-----|----|-----|------|-----|------------------|------------------------|------------|-----|-------------------|-------|----------|-----|
| 8.19 g/cm3 | | | | | | | | | | | | | |
| Typical Applications | | | | | | | Related Specifications | | | | | | |
| Bolts Exhaust valves Gas turbine components Tube supports in nuclear steam generators | | | | | | | BS 3076 (NA20) | | | | | | |
| | | | | | | | BS HR1 | | | | | | |
| | | | | | | | BS HR601 | | | | | | |
| | | | | | | | ASTM B637 | | | | | | |
| | | | | | | | UNS N07080 | | | | | | |
| | | | | | | | MSRR 7011 | | | | | | |
| | | | | | | | W.Nr 2.4952 | | | | | | |
| | | | | | | | W.Nr 2.4631 | | | | | | |
| DIN 17742 | | | | | | | | | | | | | |
| Chemical Composition (Wt %) | | | | | | | | | | | | | |
| | Ni | Cr | Fe | C | Mn | Si | S | Ti | Al | Cu | B | Zr | Co |
| Min | Bal | 18 | – | – | – | – | – | 1.8 | 1.0 | – | – | – | – |
| Max | – | 21 | 3.0 | 0.10 | 1.0 | 1.0 | 0.015 | 2.7 | 1.8 | 0.2 | 0.008 | 0.15 | 2.0 |
| Typical Mechanical Properties | | | | | | | | | | | | | |
| 0.2% Proof Stress | | | | | | Tensile Strength | | Elongation | | Reduction of area | | Hardness | |
| MPA | | | | | | MPA | | % | | % | | HV | |
| Min | | | | | | Min | | Min | | Min | | Min | |
| | | | | | | | | | | | | | |

| | | | | |
|-----|------|----|----|-----|
| 620 | 1000 | 20 | 12 | 300 |
|-----|------|----|----|-----|

* This data has been supplied in good faith and is indicative only. It has been provided for general information purposes only and is not to be relied upon in place of the full specification. Mechanical properties can vary considerably with different supply conditions such as heat treatment or temper and product dimensions.

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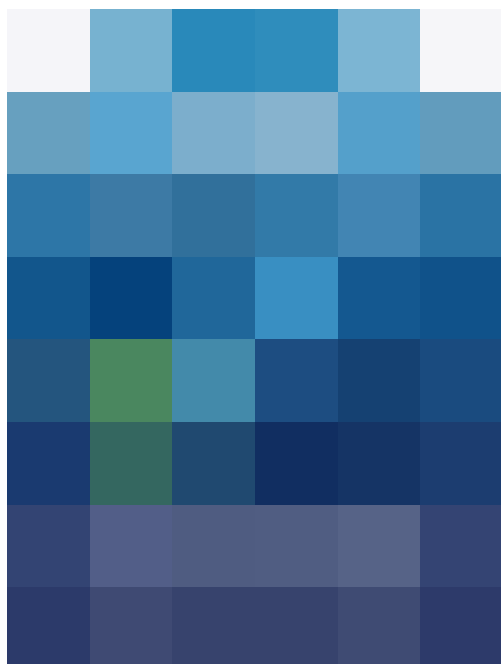
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