Alloy 80A Data Sheet

Overview

Alloy 80A is a heat-treatable nickel based alloy with outstanding creep resistance properties and also has high resistance to fatigue under arduous conditions. These properties, combined with the high oxidation resistance inherent in the nickel-chromium alloy, make it the ideal material for gas turbine blades and other highly stressed components operating within the recommended limits of temperature and stress.

Typical Applications

Typical applications are for high temperature springs operating under continuous stress, aircraft, marine and land-based gas turbine rotor or stator blades, combustion chambers and associated parts. Alloy 80A is also extensively used for exhaust valves and diesel engine combustion chambers.

Industry Specifications

- UNS N07080
- ASTM B637 2018
- BS 3076 NA20 HR/HR 601 1989
- Werkstoff Nr. 2.4952/2.4631

Material may also be released to customer specifications, subject to enquiry.

Chemical Analysis

Typical analysis:

	C	Mn	Si	S	Ag	Al	B	Bi	Co	Cr	Cu	Fe	Pb	Ti	Ni	-
Min	0.040	-	-	-	-	1.0	-	-	-	18.0	-	-	-	1.8	BAL	%
Max	0.10	1.0	1.0	0.15	0.0003	1.8	0.006	0.0001	2.0	21.0	0.2	1.5	0.002	2.7	-	%

Mechanical Properties

Typical properties in the solution annealed and aged condition:

Tensile Min KSI (MPA)	Yield (0.2% offset), Min KSI (MPA)	Elongation in 2” or 4D min%	Reduction of Area Min%	Hardness Min Hv
145,000 (1000)	90,000 (620)	20	12	300

All material we supply has full traceability with inspection certification in accordance with BS EN 10402 3.1. We can supply material with intent of BS EN 10402 3.2 inspection certification on request.

We have onsite PCN and SNT Level II inspectors who can test material to your requirements.

All information included in this sheet is intended as a guide only and is correct to the best of our knowledge.