



Overview

Alloy R41 is a Nickel based, precipitation hardening alloy with exceptionally high strength at room temperature and in the temperature range of 649 - 982°C (1200 - 1800°F). Mechanical properties can be tailored to specific applications by using various combinations of solution treating and aging treatments. It is produced by double vacuum melting (vacuum induction melting plus vacuum arc remelting).

Typical Applications

Major applications are hot components for jet engines and rocket engines, such as turbine blades, turbine wheels, torque rings, combustion chamber liners, afterburner parts, structural hardware and various airframe and missile components.

Industry Specifications

- UNS NO7041
- AMS 5712
- Werkstoff Nr. 2.4973

Material may also be supplied to Customer specifications, subject to enquiry

Chemical Analysis

Typical analysis:

	C	Cr	Co	Ti	Ni	Mo	Al	Fe	B	-
Min	-	18.0	10.0	3.0	BAL	9.0	1.4	-	0.003	%
Max	0.12	20.0	12.0	3.3	-	10.5	1.6	5.0	0.010	%



Mechanical Properties

Typical properties in the annealed and aged condition:

Tensile PSI (MPA) min	Yield (0.2% offset), PSI (MPA) Min	Elongation in 2" or 4D min%	Hardness HRC typical
206,000 (1420)	154,000 (1065)	14	40

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

We have onsite PCN and SNT Level III 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.