BH DÖVME METAL SANAYİ ve TİCARET LTD. ŞTİ.
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Grade	W.Nr.	UNS	Nickel Alloys
Nimonic 75	Alloy 75 (2.4951 / 2.4630)	N06075	

Nickel Alloy Properties

Nimonic 75 / Alloy 75 is a nickel-based alloy that maintains structural stability at high temperatures and offers a balanced combination of oxidation resistance and mechanical strength. In the annealed condition, it provides good ductility and is suitable for forming and welding operations. Its ability to retain useful strength under elevated temperature, withstand thermal cycling and deliver reliable performance in long-term service makes this grade a preferred option for high-temperature applications.

Chemical Analysis (Nimonic 75 / Alloy 75 - BS HR 203 / Special Metals reference)

Ni %	Cr %	C %	Mn %	Si %	Ti %	Cu %	Fe %	S %
Balance	18.00 - 21.00	0.08 - 0.15	1.00 max.	1.00 max.	0.20 - 0.60	0.50 max.	5.00 max.	0.015 max.

Mechanical Properties (Solution Annealed)

Product Form	Size Range	Rp0.2 MPa	Rm MPa	Elongation [%]	Hardness [HB]	Density [g/cm³]
Round Bar	≤ 100 mm	≥ 240	≥ 650	≥ 25	≤ 230	8.4
Plate	≤ 20 mm	≥ 240	≥ 650	≥ 25	≤ 230	8.4
Sheet / Strip	≤ 2.5 mm	≥ 240	≥ 650	≥ 25	≤ 230	8.4

Application Area

Industry / Application Area	Products
Aerospace and aircraft gas turbines	Combustion chamber components, hot gas ducting components, turbine casing components
Industrial gas turbines and energy	Turbine casing components, combustion-zone components, hot air / exhaust ducting components
Industrial furnaces and heat-treatment equipment	Furnace internal support and carrying parts, heat-treatment jigs / fixtures, high-temperature furnace components
High-temperature fasteners	Bolts, studs, nuts / special fasteners
Springs, dies and hot-work components	High-temperature springs, die components, core parts
Measurement and instrumentation	Thermocouple sheaths, sensor protection sleeves, high-temperature probe sheaths

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Description

Nimonic 75 / Alloy 75 shows good ductility in the annealed / solution annealed condition and is suitable for hot and cold forming operations. Due to its nickel-based structure, it tends to work harden during machining; therefore, sharp tools, rigid machine setup, controlled cutting parameters and adequate cooling are recommended. Intermediate annealing may be required if heavy deformation is applied during cold forming. The alloy is generally weldable and can be joined by common welding methods such as TIG, MIG and shielded metal arc welding. Before welding, the surface should be clean and free from oxide, grease and paint residues; low heat input is preferred and interpass temperature should be controlled. In most applications, preheating or post-weld heat treatment is not required. These characteristics make Nimonic 75 a balanced option in terms of manufacturability and service reliability for high-temperature components.

Specification

Nimonic 75, Alloy 75, HAYNES® 75 Alloy, VDM® Alloy 75, Nicrofer 7520, UNS N06075, W.Nr. 2.4951, W.Nr. 2.4630, NiCr20Ti, DIN NiCr20Ti, AFNOR NC20T, AICMA Ni-P91HT

Standards

Product Form	Standards
Round Bar	BS HR 5, BS HR 504, DIN 17752, ISO 9723-25
Plate	BS HR 203, DIN 17750, ISO 6208
Sheet	BS HR 203, DIN 17750, ISO 6208
Strip	BS HR 203, DIN 17750, ISO 6208
Wire	BS HR 5, DIN 17752, ISO 9723-25
Tube-Pipe	BS HR 403, DIN 17751, ISO 6207

Alternative Grades

1. Nimonic 80A
2. Nimonic 90
3. Inconel 601

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