

Meltio Nickel 718

Material Group: Nickel Alloys

Nickel 718 is a high-strength, corrosion-resistant nickel-chromium material used at -252°C to 705°C. Poor thermal conductivity, high toughness and strong work hardening tendency adversely affect its machinability, creating a very good business case for additive manufacturing.

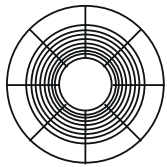
Nomenclature Standards

AWS A 5.14	ERNiFeCr - 2
EN 18274	S Ni 7718 (NiCr19Fe19Nb5Mo3)
Material N°	2.4667

Chemical Composition

Ni	C	Mn	Si	Cr	Mo	Fe	Ti	Al	Nb+Ta
Base	0,05	0,2	0,2	19	3	20	0,9	0,5	5,2

Spool Specs



Diameter	1 mm
Weight	15 kg
Volume	1829 cm ³
Density	8.2 g/cm ³
Spool Type	BS300

Applications



Aerospace industries



Chemical industries



Automotive industries



Energy industries

Mechanical Properties

Results show Meltio's wire LMD 3D printed specimens to perform at the same level as conventional manufacturing methods, with low deviations and near isotropic properties between horizontal (XY) and vertical (XZ) print orientations.

	Wrought Properties	Cast Properties	Meltio XY Properties	Meltio XZ Properties
Tensile Strength (MPa)	1241	802	1308 ± 10	1235 ± 11
Yield Strength (MPa)	1034	758	1128 ± 20	1040 ± 12
Elongation (%)	10	5	6,6 ± 2,1	8,5 ± 0,7

Shielding gas: Argon > 99.996% purity.

Data represents typical reference values from Wrought (AMS 5662) and Cast (AMS 5383) material classification compared to Meltio horizontal (XY) and vertical (Z) specimens extracted from 3D printed walls and tensile tested according to ASTM E8.

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