

## Wire Welding alloys



IMPHY 718 is an age-hardenable Nickel Chromium Alloy which combines high corrosion resistance and mechanical properties with good behavior during forming:

- Outstanding resistance to a wide range of highly corrosive media.
- High creep-rupture strength at high temperature till about 700°C.
- Very high strength after aging treatment due to Ti, Al and Nb addition.

### Typical analysis

C	Mn	Fe	P	S	Si	Cu	Ni	Al	Ti	Cr	Nb-Ta	Mo
0.08	0.35	Bal	<0.015	<0.015	0.35	0.3	50	0.2	0.65	17	4.75	2.8
							55	0.8	1.15	21	5.5	3.3

### Specifications

AWS A5.14 – ERNiFeCr-2 ; UNS N07718 ; WNr 2.4667 & 2.4668  
AMS 5662, 5663, 5832, 5962 ASTM B637

### Typical heat treatments

Solution annealed at 980°C and water quenched  
Age hardened at 720°C for 8 hours, furnace cooled to 620°C and hold at 620°C for a total age hardening time of 18 hours and air cooled.

### Mechanical properties

Condition	UTS (MPa)	Elongation	Red. of area
Annealed	900 MPa	50 %	70 %
Aged	> 1300 MPa	> 15 %	> 20 %

### Welding

IMPHY 718 has very good weldability and is widely used for welding of Nickel base Alloys such as 718, 720 or 706 grades by every usual automatic welding methods (MIG, TIG, ...)

### Typical applications

Petrochemical, Automotive or Aircraft industries

*The data enclosed in this document are only given as indicative values and correspond to our standard product. Different specific requirements are subject to discussion and formal approval by Aperam Alloys Imphy. For further information or special request, please contact us.*

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