



Ni-Fe Filler Metal

NILO[®] Filler Metal CF36 & 365

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NILO Filler Metal CF36 is used for the gas-metal-arc, gas-tungsten-arc, and submerged-arc welding of NILO alloy 36. Filler Metal CF36 is formulated to have low thermal expansion characteristics similar to NILO alloy 36, while providing freedom from solidification and reheat cracking. Argon is recommended for the GMAW-Spray process, Argon/25% helium for the GMAW-Pulsed Arc and Short-Arc processes, and INCOFLUX NT100 for the SAW process.

NILO Filler Metal 365 offers further improvements in strength and performance, and is used to weld NILO alloy 365 for fiber-reinforced epoxy-resin tooling applications. NILO Filler Metal 365 has 43% nickel and is strengthened by additions of Ti and Nb. It is an age hardenable alloy, strengthened by heat treatment to reach property levels well above those of conventional nickel-iron alloys. NILO Filler Metal 365 is formulated to have low thermal expansion characteristics similar to NILO alloy 365, producing high-quality, crack-free, vacuum-tight welds by the submerged-arc process using INCOFLUX 6, the gas-metal-arc process-spray mode using Argon shielding gas, and the gas tungsten-arc process-pulsed mode using 75/25 Argon/Helium shielding gas, and the gas tungsten-arc process using Argon shielding gas. It also produces excellent quality welds in NILO 36 alloy with slightly overmatching mechanical properties in the as-welded condition. Higher values can be achieved by moderate stress-relief procedures. FM 365 also provides resistance to DDC during fabrication.

Specifications none

Approvals

Please confirm details of current scope of approvals with the Technical Department prior to order placement.

Typical Chemical Composition	NILO Filler Metal CF36	Limiting Chemical Composition	NILO Filler Metal 365
	Ni..... 36		Ni 42.0-45.0
	Fe..... 62		Fe Balance
	C..... 0.2		C0.04
	Mn 0.4		Si.....0.20
	Nb 1.6		Mn0.40
			Nb 1.6
			Al0.20
			Ti1.0-2.0

Typical Mechanical Properties	Tensile Strength, psi	80,000
	MPa	550
	Elongation, (4d) %	25

Filler metals available on spool and in cut straight lengths in a variety of sizes selected from the following diameters:

Available Product Forms

mm in	0.8 0.030	0.9 0.035	1.0 0.040	1.14 0.045	1.2 0.047	1.6 0.062	2.4 0.093	3.2 0.125
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Straight Lengths - 915 mm (36 in.) or 1000 mm (39 in.)