

Standards

Material No.	2.4858
DIN 1736	EL-NiCr 21 Mo

Characteristics

Carbo F-Ni 825 is a NiFeCr alloy with additions of Mo, Cu and Ti. The alloy is designed to provide exceptional resistance to many corrosive environments. The nickel content is sufficient for resistance to chloride-ion stress corrosion cracking. The nickel, in conjunction with the molybdenum and copper, also gives outstanding resistance to reducing environments such as those containing sulfuric and phosphoric acids. The molybdenum also aids resistance to pitting and crevice corrosion. The alloy's chromium content confers resistance to a variety of oxidizing substances such as nitric acid, nitrates, and oxidizing salts. The titanium addition serves, with an appropriate heat treatment, to stabilize the alloy against sensitization to intergranular corrosion. The resistance to general and localized corrosion under diverse conditions gives the alloy broad usefulness. Applications include chemical processing, pollution control, oil and gas recovery, acid production, pickling operations, nuclear fuel reprocessing and handling of radioactive wastes.

Applications

Phosphoric acid evaporators; pickling-tank heater, pickling equipment; chemical process equipment; tank trucks; propeller shafts

Mechanical properties of all-weld metal (typical values)

Tensile strength R_m N/mm ²	Yield strength $R_{p0,2}$ N/mm ²	Elongation A_5 %
690	310	45

Weld metal analysis (typical, wt. %)

C	Si	Mn	Mo	Cr	Ni	Cu	Fe	Ti
<0,025	< 0,5	< 1	2,5-3,5	19,5-23,5	38-46	1,5-3,0	Bal. > 22	0,6-1,2

Gas types EN 439

I1, Argon

Current

= +

Current intensity

DIA (mm)	DIA (inch)	Volt	Amps	Delivering form
1,2	3/64	19 - 22	120 - 220	G
1,6	1/16	20 - 26	160 - 260	G
2,0	5/64	22 - 27	220 - 280	G
2,4	3/32	24 - 28	260 - 340	G

Delivering form

O = Flux cored wire self shielding
G = Flux cored wire for shielded arc welding
S = Flux cored wire for submerged arc welding

Coils, weight

B/BS 300 = 15 kg B 450 = 30 kg pay off pack = 150 / 300 kg

Rev. 000

Statements on composition and application are just for the applier's information. Statements on mechanical properties always refer to the all-weld-metal according to valid standards. Carbo-Weld may change the characteristics of its products without notice. We recommend the applier to check our products for their special application autonomously.