

DATA SHEET N. 1051

DAIKO 59

MIG, TIG & SAW Wire

Description / Alloy type: Solid wire for Nickel base alloy 59

Specifications: **AWS A5.14** **EN ISO 18274**
ERNiCrMo-13 Num. Symbol: Ni6059 Chem. Symbol: NiCr23Mo16

Applications: It is designed to match the nickel base alloy commonly known as alloy 59. The high level of Mo is similar to alloys C276 and C4 but performance in a wide range of more oxidising media is significantly enhanced in alloy 59 by increasing Cr to 23%. This alloy also provides a tough Nb-free weld metal for dissimilar welds in superaustenitic and superduplex stainless steel or combinations of these with Ni base alloys. Applications of Daiko 59 in aggressively corrosive media include scrubbers for flue gas desulphurisation (FGD), digesters and papermaking equipment, chemical process plant, corrosion resistant overlays and in severe offshore and petrochemical environments.

Materials to be welded: **Matching Alloy 59**
ASTM: UNS N06059. DIN: 2.4605 (NiCr23Mo16Al);
Proprietary Alloy: Hastelloy™ C-2000 +Cu; Nicrofer™ 5923hMo; Inconel™ 686 +W
Matching Alloy C22
ASTM: UNS N06022; A494 gr. CX2MW (cast); DIN: 2.4602 (NiCr21Mo14W); 2.4811, 2.4836 (NiCr20Mo15);
Proprietary Alloy: Hastelloy™ C-22; Nicrofer™ 5621hMoW; Inconel™ 622
Superaustenitics: UNS S31254, S32654, S34565, 654SMO; Uranus B66.
Dissimilar joints: any combination of the above; any combination of the above and superduplex.

Composition:
(weight %)

	C	Mn	Si	S	P	Cr	Ni	Mo	Co	Al	Fe
Min	-	-	-	-	-	22	56	15	-	0.1	-
Max	0.010	0.5	0.10	0.005	0.015	24	Bal.	16.5	0.3	0.4	1.5
Typ	0.003	0.2	0.03	0.003	0.003	23	56	15.5	0.1	0.3	0.4

Typical parameters:

	TIG	MIG
Shielding	Argon	Ar or Ar-He
Diameter	2.4 mm	1.2 mm
Parameters	(DC-) 100A, 12V	(pulsed) 160A, 28V

All-weld properties:

As welded	Typical TIG	Typical MIG
Tensile strength [MPa]	740	790
0.2% proof stress [MPa]	500	570
Elongation [%]	44	38
Impact Energy -196°C [J]	130	-
Hardness HV (HB)	220	-

Complementary products: SMAW covered electrodes (AWS A5.11 ENiCrMo-13)