Technical Data Sheet
Aluminum Alloy Filler Metal

PM NORWAY A/S

686

Comparable specifications

ASME SFA A 5.14: ERNiCrMo-14 (UNS N06686)
EN ISO 18274: Ni 6686 (NiCr21Mo16W4)
Werkstoff Nr.: ≈ 2.4606

Description and applications*

* *Illustrative, not-exhaustive list*

Nickel-based filler metal used for welding nickel-chromium-molybdenum alloy UNS N06686 to itself, to steel and to other nickel-base alloys. Also used for cladding steel: it provides a corrosion-resistant overlay.
Characterized by outstanding resistance to a wide range of corrosive media under oxidizing and reducing conditions due to the association of high chromium content with molybdenum and tungsten. Excellent resistance to pitting and crevice corrosion, to stress corrosion cracking in chloride environment, and to intergranular attack in oxidizing environment. The weld metal maintains strength over a large temperature range.

This grade may be used for:
- welding of similar and dissimilar joints, mainly of duplex, super-duplex and super austenitic stainless steels;
- surfacing of steels, particularly in aggressive environments;
- applications in chemical and petrochemical processing, pollution control, oil and gas extraction, oil refining, and in marine environments.

Weldable base materials*

* *Illustrative, not-exhaustive list*

Duplex, super-duplex, super austenitic stainless steels. Nickel alloys such as UNS N06686, N06059 and N06022.

All-weld metal mech. properties*

* *For reference only values*

Tensile strength (Rm): ≥ 760 N/mm^2

Chemical composition*

* *For reference only values*

C	Mn	Si	Ni	Cr	Mo	Cu	Fe	Ti	Al	W
max	max	max	Rem.	19.00	15.00	max	max	max	max	3.00
0.01	1.00	0.08		23.00	17.00	0.50	5.00	0.25	0.50	4.40

Standard packaging data*

Welding process	Product type	Ø mm (inches)	Packing type	Weight kg (lbs)	Length mm (inches)
GMAW **	filler wire	0.80 - 1.20 (0.030 - 0.047)	spools BS300 / D300	15 (33)	n.a.
GTAW **	filler rod	1.60 - 4.00 (1/16 - 5/32)	cardboard boxes / tubes	5 (11)	1000 (39.4)
SAW **	filler wire	1.60 - 4.00 (1/16 - 5/32)	basket rims B450	25 (55)	n.a.

* *Other sizes and packing types are available upon request*
** *GMAW: gas metal arc welding; GTAW: gas tungsten arc welding; SAW: submerged arc welding*

Marking

Each filler rod for GTAW welding is durably marked with an identification traceable to the unique product type. Welding filler materials wound on spools or in coils are durably marked on the coil or spool with an identification traceable to the unique product type.

The outside of each unit package is suitably labelled with at minimum the following data: grade, diameter, heat, lot no., classifications.

Customized labels are available upon request.

Lot classification

All our productions fulfil the **Class S3** requirements acc. to EN ISO 14344.

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