



SANICRO® 54 COVERED ELECTRODES

DATASHEET

Sanicro® 54 is a nickel-chrome-molybdenum alloy of type alloy UNS N06022. It is a versatile alloy with excellent wet corrosion resistance in oxidizing and reducing media. It has better overall corrosion resistance than other Ni-Cr-Mo alloys such as alloy UNS N10276 (2.4819) and alloy UNS N06626 (2.4856). However, in severely reducing media alloy UNS N10276 is preferred where Sanicro 56 is a better matching consumable.

Sanicro® 54 is used for joining alloy UNS N06022 (2.4602) and is widely used as overmatching filler material for alloy UNS N10276 (2.4819) and other nickel-chrome-molybdenum alloys for better weld metal properties.

STANDARDS

- ISO: 14172: ENi6022
- AWS: A5.11/ASME SFA-5.11: ENiCrMo-10

APPLICATIONS

Applications for Sanicro® 54 are found in components for organic synthesis, flue gas scrubber systems, electrolytic galvanizing, plate heat exchangers, phosphoric acid production, wet chlorine gas, hypochlorite and chlorine dioxide atmosphere. Sanicro® 54 is also used in combustion-resistant components for high pressure oxygen service and ferric and cupric chloride environments.

FORMS OF SUPPLY

Diameter, mm	Length, mm	Diameter, in.	Length, in.
2.50	300	~3/32	~12
3.2	300	~1/8	~12
4.00	350	~5/32	~14

The electrodes are delivered in hermetically sealed metal cans.

WELD METAL CHARACTERISTICS

The following data is valid for non heat treated all-weld metal made by the MMA method.

CHEMICAL COMPOSITION (NOMINAL) %

C	Si	Mn	Cr	Ni	Mo	W	Co	Fe
0.02	0.15	0.5	21	57	14.0	3	0.25	4

The microstructure is fully austenitic.

MECHANICAL PROPERTIES

Temperature	°C (°F)	20 (68)	-196 (-321)
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Yield strength, R _{P0.2}	MPa (ksi)	510 (74)	-
Tensile strength, R _m	MPa (ksi)	760 (110)	-
Elongation, A ₅	%	36	-
Reduction in area, Z	%	33	-
Impact strength (KV)	J (ft lb)	-	45 (33)
Hardness, Vickers	HV10	250	-

CORROSION RESISTANCE

The grade has excellent resistance in aggressively corrosive media such as chlorination systems.

FABRICATION

Welding data

Welding positions	Diameter ≤3.2 mm (~1/8 in.)	All except vertical down
	Diameter ≥4.00 mm (~5/32 in.)	Horizontal
Current/polarity	DC+	

PRODUCTIVITY DATA

Electrode diameter, mm (in.)	2.50 (~3/32)	3.2 (~1/8)	4.00 (~5/32)
Length, mm (in.)	300 (~12)	300 (~12)	350 (~14)
Deposition rate			
kg weld metal/h (approx.)	≤0.9	≤1.2	≤2.2
lb weld metal/h (approx.)	≤2.0	≤2.6	≤4.9
Effective value			
kg weld metal/kg electrodes	0.66	0.69	0.67
lb weld metal/lb electrodes	0.66	0.69	0.67
Change value			
Electrodes/kg weld metal	103	56	30
Electrodes/ lb weld metal	47	25	14
Burn-off time per electrode at max current, s	41	44	71

Disclaimer: Recommendations are for guidance only, and the suitability of a material for a specific application can be confirmed only when we know the actual service conditions. Continuous development may necessitate changes in technical data without notice. This datasheet is only valid for Sandvik materials.