



SANDVIK 20.25.5.LCuR COVERED ELECTRODES

DATASHEET

Sandvik 20.25.5.LCuR (385-16) is a covered electrode with type with rutile-basic coating and normal recovery, used for welding of high-alloy austenitic stainless of UNS N08904 type, also known as 904L (e.g. Sandvik 2RK65).

Sandvik 20.25.5.LCuR (385-16) gives a fully austenitic chromium-nickel-molybdenum weld metal with especially low carbon content and copper addition. Spray transfer gives a bead with a finely rippled surface, little spatter and good slag removal.

STANDARDS

- ISO 3581: 20 25 5 Cu N L R
- AWS A5.4/ASME SFA-5.4: E385-16
- W.Nr.: (1.4519)*

Contact your nearest sales office for full details.

Please note that the Werkstoff Nr. corresponds to the base material of the grade.

* nearest equivalent

CHEMICAL COMPOSITION (NOMINAL) %

Chemical composition (nominal) %

C	Si	Mn	Cr	Ni	Mo	Cu
≤0.025	0.9	1	20	25	4.7	1.5

Fully austenitic.

APPLICATIONS

Sandvik 20.25.5.LCuR (385-16) is suitable for joining steels of the 20Cr/25Ni/4.5Mo/1.5Cu type such as 2RK65 and 904L used in many areas of the process industry, such as in the production of acetic acid, sulfuric acid, terephthalic or tartaric acid and vinyl chloride as well as other chloride containing media. It is also suitable for use in cooling operations involving sea water or heavily polluted river water.

Sandvik 20.25.5.LCuR (385-16) may also be used to join 317L where improved corrosion resistance in specific media is required.

These electrodes may be used to join 2RK65, 904L, and 317L to other grades of stainless steel.

FORMS OF SUPPLY

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

The electrodes are delivered in hermetically sealed metal cans.

MECHANICAL PROPERTIES

Temperature,	°C (°F)	20 (68)
Proof strength, R _{p0.2}	MPa (ksi)	350 (51)
Tensile strength, R _m	MPa (ksi)	550 (80)
Elongation, A	%	35
Hardness	HV10	210
Impact strength (KV)	J (ft/lb)	65 (50)

CORROSION PROPERTIES

Resistant to intergranular corrosion according to DIN50914 and ASTM A262 practice E.

FABRICATION

Welding data

Welding positions	Diameter <3.2 mm (~1/8 in.)	All except vertical down
	Diameter >3.2 mm (~1/8 in.)	Preferably flat position
Current/polarity	Direct current/electrode positive or alternating current at an open circuit voltage of at least 70V	
Diameter, mm (in.)	Current, A	
2.50 (~3/32)	40-75	
3.2 (~1/8)	60-110	
4.00 (~5/32)	80-140	

Redrying electrodes when necessary: 300°C (570°F)/2h

Thermal data

- Interpass Temperature: 150°C (300°F)
- Heat input: 1.0 kJ/mm (25 kJ/in.) max

PRODUCTIVITY DATA

Electrode diameter mm (in.)	2.50 (~3/32)	3.2 (~1/8)	4.00 (~5/32)
Length, mm (in.)	300 (~12)	350 (~14)	350 (~14)
Deposition rate			
kg weld metal/h (approx.)	0.6	1.2	1.8
lb weld metal/h (approx.)	1.30	2.6	4.0
Effective value			
kg weld metal/kg electrodes	0.63	0.60	0.65
lb weld metal/lb electrodes	0.63	0.60	0.65

Change value			
Electrodes/kg weld metal	80	51	32
Electrodes/lb weld metal	36	23	15
Burn-off time per electrode at max current, s	79	53	60
Weight/1000 pcs, kg (lb)	21 (46)	31 (68)	47 (103)

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.