



Sandvik 20.25.5.LCu

(Welding strip)

Sandvik 20.25.5.LCu is a strip electrode used to obtain a 904L/E385 of corrosion resistant overlay weld deposit on C-, CMn- and low-alloy steels using submerged-arc welding (SAW) with the flux Sandvik 10SW or electroslag welding (ESW) with the flux Sandvik 47S. There are also other possible combinations and conditions.

STANDARDS

- AWS EQ385
- EN number B 20 25 5 Cu L

Product standards

- EN ISO 14343
- ASME/AWS SFA5.9

CHEMICAL COMPOSITION - STRIP ELECTRODE

CHEMICAL COMPOSITION, WT%

C max	Si	Mn	P max	S max	Cr	Ni	Mo	Cu
0.020	0.4	1.8	0.015	0.015	20	25	4.5	1.5

Ferrite content

Fully austenitic micro structure.

CHEMICAL COMPOSITION OF OVERLAY

Typical chemical composition of overlays in three layers obtained on C-Mn steel and low-alloy steel.

Two layer welding procedures are also possible. Contact Sandvik for details and guidelines.

CHEMICAL COMPOSITION, WT%

	Type of overlay	C	Cr	Ni	Mo	Cu
SAW 10SW 20.25.5.LCu+20.25.5.LCu+20.25.5.LCu	904L, E385	max 0,03	19,5-20,5	24-25	4,2-4,5	1,2-1,6
SAW 10SW 21.13.3.L+20.25.5.LCu+20.25.5.LCu	904L, E385	max 0,03	19,5-20,5	23,5- 24,5	4-4,5	1,2-1,5
ESW 47S 20.25.5.LCu+20.25.5.LCu+20.25.5.LCu	904L	max 0,02	19-20	24-25	4,2-4,5	1,2-1,6
ESW 47S 22.11.L+20.25.5.LCu+20.25.5.LCu	904L	max 0,02	19-20	24-25	4-4,5	1,2-1,6
ESW 47S 21.13.3.L+20.25.5.LCu+20.25.5.LCu	904L	max 0,02	19-20	24-25	4,2-4,5	1,2-1,6

The micro structure of the weld overlay is fully austenitic.

Consider the figures as examples. Parameters selected and conditions influence on the result. Please contact Sandvik for details and guidelines.

MECHANICAL PROPERTIES OF OVERLAY

Passes side bend testing according to ASME Section IX.

CORROSION PROPERTIES OF OVERLAY

Equal to the base metal 904L (UNS N08904). The resistance to pitting corrosion is better than for 317L.

Good resistance to stress corrosion cracking.

The resistance to intergranular corrosion is good.

In constructions that have to be post-weld-heat-treated 22.11.L or 21.13.3.L should be used for the first layer and the heat treatment be carried out before welding the subsequent layer(s).

WELDING DATA

Process/Flux	Size	Current, A	Voltage, V	Travel speed, mm/min
SAW/10SW	30 x 0.5 mm	300 - 425	28-30	80 - 160
SAW/10SW	60 x 0.5 mm	650 - 850	28-30	80 - 160
SAW/10SW	90 x 0.5 mm	975 - 1275	28-30	80 - 160
ESW/47S	60 x 0.5 mm	1100 - 1400	23 - 26	130 - 220
ESW/47S	90 x 0.5 mm	1650 - 2100	23 - 26	130 - 220

Direct current, with electrode positive is normally used.

The welding data in the table represent the operation capability of the flux. The desired properties of the overlay are obtained by proper selection of the settings within the ranges.

APPLICATIONS

20.25.5.LCu is used for weld surfacing of components in the chemical, petrochemical, marine industry where corrosion resistance on level with UNS N08904 is required. Typical components are heat exchangers, pressure vessels, shafts etc.

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.