Lincore® 55

GENERAL DESCRIPTION

Lincore 55 is a self shielded, open arc, flux cored tubular electrode designed to provide a hardfacing overlay on new or old steel components. Although, Lincore 55 is primarily designed for the open arc operation, it may be used under a neutral flux for conditions requiring spatter elimination and removal of arc glare. A long stickout for maximum efficiency and minimum penetration.

WELDING POSITIONS

ISO/ASME PA/1G

CURRENT TYPE

DC+

CHEMICAL COMPOSITION (W%), TYPICAL, ALL WELD METAL

C	Mn	Si	Cr	Al	Mo
0.45	1.4	0.55	5.3	1.4	0.8

STRUCTURE

In the as welded condition the microstructure consists mainly of martensite with some retained austenite

MECHANICAL PROPERTIES, TYPICAL, ALL WELD METAL

	Typical hardness values
Layer 1	50 - 59 HRc
Layer 2	50 - 59 HRc

Welded on Mild Steel Plate (12mm)

PACKAGING AND AVAILABLE SIZES

Diameter (mm)	1.1	1.6	2.0	2.8
Unit : 6.35 kg coil 14C			X	
11.34 kg coil 22RR	X	X	X	
22.7 kg coil 50C			X	X

All information in this data sheet is accurate to the best of our knowledge at the time of printing. Please refer to www.lincolnelectric.eu for any udpated information.
Fumes: Material Safety Data Sheets (MSDS) are available on our website.

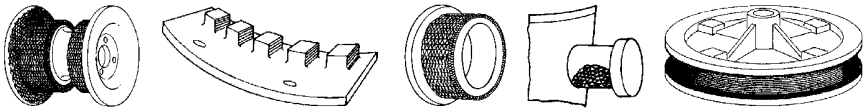
Lincore® 55

APPLICATION

Lincore 55 produces a martensitic and some retained austenite deposit with a hardness range of 50-59HRc. This microstructure makes Lincore 55 particularly suitable for APLs involving sliding, rolling and metal to metal wear, coupled with resistance to mild abrasion. Typical APLs include:

Typical applications include:

Crane and mine car wheels
Sprockets and gear teeth
Skip guides
Dredger buckets
Scrapper blades
Transfer tables
Cable sheaves



ADDITIONAL INFORMATION

All work-hardened base material and previously deposited material should be removed prior to applying a new deposit, since such areas are prone to embrittlement and possible cracking.
A preheat of up to 250°C is necessary to prevent cracking in situations of high restraint and/or heavy thicknesses. Interpass temperatures between 150 - 300°C do not adversely effect deposit hardness.
The deposit thickness is usually limited to 2 layers on high carbon or alloy steels and/or situations of high restraint and heavy sections due to the risk of cracking. Higher preheat and interpass temperatures coupled with slow cooling will minimise the risk of cracking.
The deposited weld metal is not machinable by conventional methods although the deposit can be shaped by grinding.
The deposit can be softened by annealing at 875°C for one hour and slow cooling (air cool 22- 43HRc, furnace cool 15-17HRc). The hardness can be restored by heating at 875°C followed by water quenching (50-59HRc). The component should then be tempered at 150-200°C for one hour (54-59HRc) to retain some toughness.

CALCULATION DATA

Diameter (mm)	Wire Feed Speed (cm/min)	Current (A)	Arc Voltage (V)	Deposition rate (kg/h)	Efficiency (%)
1.1	5.1 to 12.7	85-165	25-31	1.6-4.3	80-85
1.6	3.8 to 8.9	125-245	26-32	2.2-5.5	79-84
2.0	3.2 to 6.4	190-330	24-30	3.2-6.2	87-86

COMPLEMENTARY PRODUCTS

Wearshield® MM and Wearshield® MI(e)