Hardfacing cored wire

Classification

DIN 8555-83 : MF1-GF-350-GPS

General description

Lincore 33 is a self shielded, open arc, flux cored tubular electrode designed primarily for the build-up of steel parts or as a buttering layer prior to hardfacing. Arc characteristics are excellent producing a soft low penetration arc (ideal for build-up) that exhibits low spatter levels and excellent slag removal. Although, Lincore 33 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

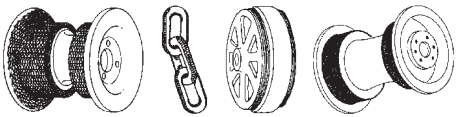
Application

Lincore 33 produces a crack-free wear resistant deposit with a hardness range of 25-35 HRc depending on material dilution and number of layers. Designed primarily as a final overlay on steel parts which need to be machined or as a build-up layer of other hardfacing materials. It is particularly suitable of conditions of moderate abrasion and friction, coupled with resistance to impact such as applications involving rolling, sliding and metal to metal wear.

Typical applications include:

Buildup:
Shovel and bucket lips
Pump impellers and housings
Dredge and shovel bucket teeth
Mill and crushing hammers

HARDFACING:
Crane and mine car wheels
Tractor rolls, idlers, links and sprockets
Cable drums
Shafts
Roller guides



FCAW

Mechanical properties, all weld metal

	Typical hardness values
Layer 1	21-30 HRc (230-290HB)
Layer 2	26-32 HRc (260-300HB)
Layer 3	25-35 HRc (250-330HB)

Welded on Mild Steel Plate (12mm)

Packaging and available sizes

Unit type	Net weight/unit (kg)	Diameter (mm) 1.1	1.6	2.0	2.8
Spool 14C	6.35			X	
Spool 22RR	10	X	X	X	
Spool 50C	22.68			X	X

Lincore® 33: rev. EN 20

Additional information

All work-hardened base material should be removed prior to applying Lincore 33 to prevent embrittlement and cracking.

Preheat and postweld heat treatment is not generally necessary on C/Mn steels, however, preheat up to 260°C may be necessary on high carbon steels or large complex or restrained components.

The weld metal can be machined to exact dimensions using high speed or carbide cutting tools.

There is no limit to the deposit build-up with this electrode.

Welding positions

ISO/ASME PA/1G

Current type

DC +

Chemical composition (w%) typical, all weld metal

C	Mn	Si	Cr	Al
0.14	2.2	0.55	1.3	1.8

Structure

In the as welded condition the microstructure consists mainly of a mixture of ferrite and bainite

Calculation Data

Diameter (mm)	Wire Feed Speed (m/min)	Current (Amps)	Arc Voltage (volts)	Deposition Rate (kg/h)	Efficiency (%)
1.1	5.1 to 12.7	80-150	25-31	1.5-3.9	80-85
1.6	3.8 to 8.9	125-225	26-32	2.1-5.0	79-84
2.0	3.2 to 6.4	200-325	23-29	3.1-6.1	87-86

Complementary products

Complementary products include Wearshield® BU30