Lincore® M

GENERAL DESCRIPTION
Lincore M is a self shielded, open arc, flux cored tubular electrode
Deposition of austenitic manganese steel with 14% manganese.

WELDING POSITIONS
ISO/ASME PA1G

CURRENT TYPE
DC+

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

<table>
<thead>
<tr>
<th>C</th>
<th>Mn</th>
<th>Si</th>
<th>Cr</th>
<th>Ni</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.6</td>
<td>13.0</td>
<td>0.4</td>
<td>4.9</td>
<td>0.5</td>
</tr>
</tbody>
</table>

STRUCTURE
Martensitic + ferritic

MECHANICAL PROPERTIES, TYPICAL, ALL WELD METAL

Typical hardness values
As deposited: 18-28 Rc
Work Hardened: 30-48 Rc

PACKAGING AND AVAILABLE SIZES

<table>
<thead>
<tr>
<th>Diameter (mm)</th>
<th>1.1</th>
<th>1.6</th>
<th>2.0</th>
<th>2.8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11.34 kg coil 22RR</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>22.7 kg coil 50C</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>272.2 kg speed Feed Drum</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

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 updated information.
Fumes: Material Safety Data Sheets (MSDS) are available on our website.
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APPLICATION

Lincore M is designed for rebuilding and hardfacing of manganese steel, carbon steel and low alloy steel parts. Typical applications include:

Rail crossovers, frogs and switchpoints

Typical applications include:

- Rail crossovers, frogs and switches
- Dipper teeth and lips
- Crusher hammers
- Crushers screens and grizzlies
- Chain hooks
- Dredge parts, pump shells
- Parts for safes and vaults
- Manganese bucket fronts
- Crusher rolls
- Dragline pins and links
- Rolling mill parts
- Drive sprockets
- Shovel tracks

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.

No preheat is required on austenitic manganese steels although a preheat of between 150-200°C may be necessary on carbon and low steels to prevent heat affected zone cracking.

Narrow stringer beads are preferred to avoid excessive heat build up in the base material. High heat input welds and interpass temperatures above 260°C causes manganese carbide precipitation resulting in embrittlement.

There is no definite limitation to the number of passes that may be deposited, however, it is good practise to peen each pass immediately after welding to minimise internal stresses and possible distortion and cracking.

Lincore M deposits work harden rapidly making them difficult to machine. For best results carbide or ceramic cutting tools and rigid tooling should be used. Grinding can also be successfully employed.

CALCULATION DATA

<table>
<thead>
<tr>
<th>Diameter (mm)</th>
<th>Wire Feed Speed (cm/min)</th>
<th>Current (A)</th>
<th>Arc Voltage (V)</th>
<th>Deposition rate (kg/h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.0</td>
<td>3.2-6.4</td>
<td>240-360</td>
<td>24-29</td>
<td>2.9-6.2</td>
</tr>
</tbody>
</table>

COMPLEMENTARY PRODUCTS

Complementary products include Wearshield® Mangjet(e)