Lincore® 420

GENERAL DESCRIPTION

Metal-cored wire that is most widely used for caster roll rebuilding

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

<table>
<thead>
<tr>
<th>C</th>
<th>Mn</th>
<th>Si</th>
<th>Cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.2</td>
<td>1.2</td>
<td>0.5</td>
<td>12.0</td>
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MECHANICAL PROPERTIES, TYPICAL, ALL WELD METAL

Typical hardness values
Layer 1 52 HRc
Layer 2 51 HRc
Layer 3 53 HRc
Welded on Mild Steel Plate (12mm)

STRUCTURE

In the as welded condition, the microstructure consists of a soft chromium manganese alloy austenite which rapidly work hardens under impact loading

WELDING POSITIONS (ISO/ASME) CURRENT TYPE

PA/1G

DC+

PACKAGING AND AVAILABLE SIZES

Diameter (mm) 4.0
272.2 kg speed Feed® Drum X
Lincore® 420

APPLICATION

Lincore 420 is martensitic stainless hardfacing electrode designed to provide overlay deposits that resists metal wear under corrosion.

Typical applications include:
Caster rolls

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.

Areas that contain irregularaties such as cracks and deep gouges can be repaired locally using Wearshield® BU30 or Wearshield® 15CrMn prior to hardfacing with Lincore 420.

Preheat would be needed if the welding is done over either highly restrained material or martensitic stainless base metal.

A preheat and interpass temperature in the range of 200-300°C can be used depending on the nature of the material to be welded.

Under conditions of low dilution, the microstructure is similar to that of AISI 420 martensitic stainless steel. This structure provides good abrasion resistance under conditions of severe corrosion and high impact. At higher dilutions, when overlaid on mild steel or low alloy steel, the weld metal microstructure will retain it’s martensitic stainless structure. But the reduced chromium level might adversely affect the corrosion resistance of the deposit.

The Lincore 15CrMn deposit can not be cut using the oxy-fuel process due to the high chromium content, however, plasma arc and air carbon arc processes are appropriate.

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>4.0</td>
<td>1.4-2.9</td>
<td>475-800</td>
<td>27-32</td>
<td>5.9-12.4</td>
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