

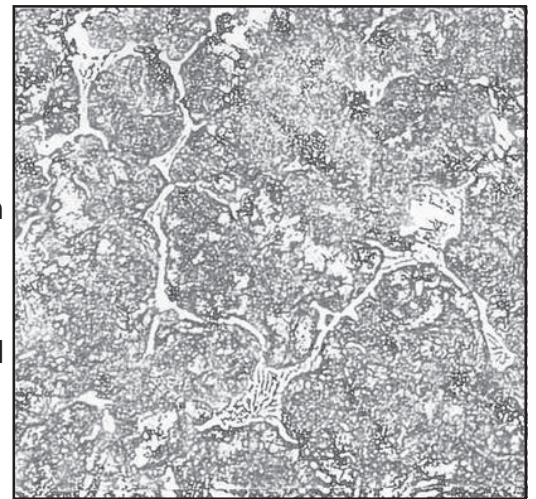
## Chromium Steel Rolls

### Hitachi Roll Material

- Adamite Steel
- Cr Iron
- Cr Steel**
- Definite Chilled Iron
- High Speed Steel
- Indefinite Chilled Iron
- Nodular Iron
- Special Cast Steel



**H**igh chromium steel rolls have a low carbon content (0.8-1.5%) and are composed of a bainite matrix with a small amount of chromium carbide in the structure. The bainite matrix is made by a special heat treatment procedure, making the hardness and tensile strength of chromium steel rolls higher than that of other low alloy rolls such as adamite. Chromium carbide is higher in hardness than ferrous carbide. Therefore, these rolls perform better than low alloy rolls.



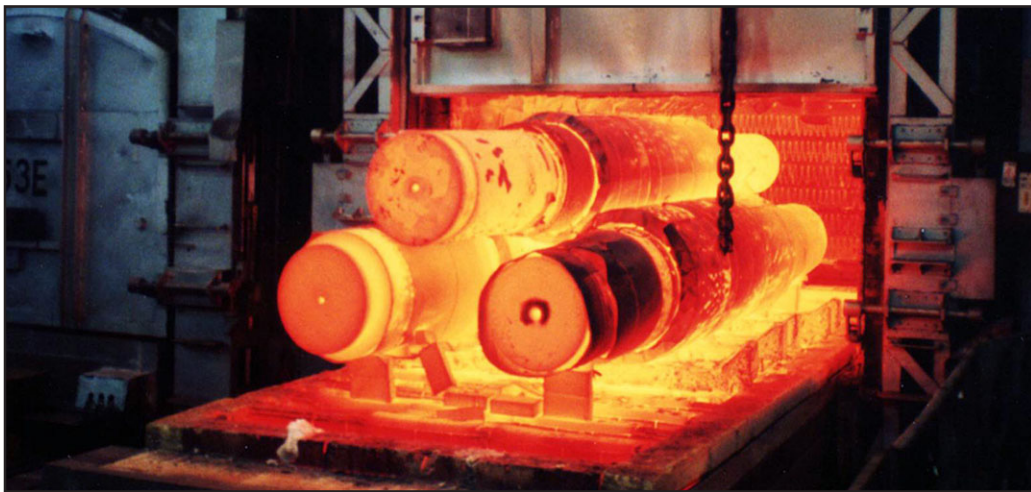
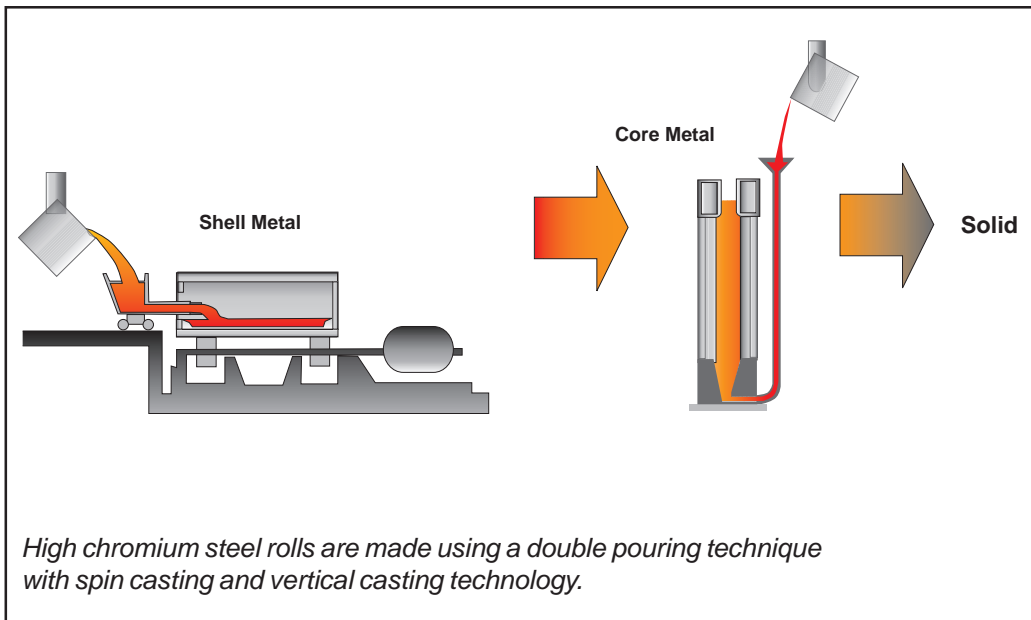
1HC Metal Structure

High chromium steel rolls are spin cast. The high spinning speed creates a centrifugal force to push the molten metal to fill the mold. Vertical casting technology provides excellent bonding between dissimilar shell and core

metals. These double poured rolls have high wear resistance properties.

Cr Steel Rolls	1HC
<b>Hardness (HSC)</b>	<b>65-75</b>
Composition (% wt)	
Carbon (C)	1.4-1.8
Silica (Si)	0.5-1.2
Manganese (Mn)	0.5-1.5
Nickel (Ni)	0.5-1.5
Chromium (Cr)	9.0-15.0
Molybdenum (Mo)	1.0-3.0

Applications for these rolls include rougher work rolls, edger rolls, straightener rolls and horizontal rolls for universal mills and work rolls for initial stands of hot strip finishing mills.



Since 1915, Hitachi Metals, Ltd. has been a leading roll manufacturer. Through constant study and research, Hitachi has kept abreast of the demands and advances of the industry. Today, Hitachi is a full-line roll manufacturer, second to none in the world. With its innovative roll manufacturing techniques, Hitachi supplies all types of mill rolls to industries in all parts of the world, meeting the special demands of each industry.

This information does not constitute a warranty or guarantee.

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