Materials Magic
Hitachi Metals

Hitachi Metals America, Ltd.

Special Cast Steel Rolls

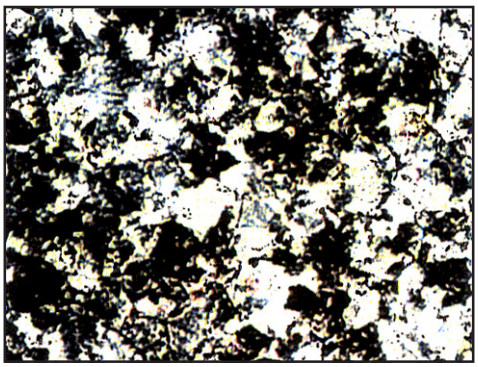
Hitachi Roll Material

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

To increase the toughness of Hitachi's Special Cast Steel Rolls, the carbon content of the rolls is lower than other cast rolls. This process makes these steel rolls, which can withstand heat and heavy rolling loads, suitable for work rolls and back-up rolls. Applications for Special Cast Steel Rolls include:

CPL, CP1 and CP2
Blooming, roughing and heavy section roll; toughness requirement.

CP3 and CP4
Blooming, roughing and heavy section rolls; toughness and wear-resistance requirements.



CP2 Metal Structure

Special Cast Steel Roll	CPL	CP1	CP2	CP3	CP4
Hardness (HSC)	**30-36**	**30-42**	**35-44**	**37-46**	**37-48**
Composition (% wt)					
Carbon (C)	0.4-0.6	0.6-0.8	0.8-1.0	1.0-1.2	1.2-1.4
Silicon (Si)	0.3-0.7	0.3-0.7	0.3-0.7	0.3-0.7	0.3-0.7
Manganese (Mn)	0.6-1.0	0.6-1.0	0.6-1.0	0.6-1.0	0.6-1.0
Nickel (Ni)	0.5-1.0	0.5-1.0	0.5-1.0	0.5-1.0	0.5-1.0
Chromium (Cr)	0.3-0.6	0.8-1.2	0.8-1.2	0.8-1.2	0.8-1.2
Molybdenum (Mo)	<0.5	<0.5	<0.5	<0.5	<0.5

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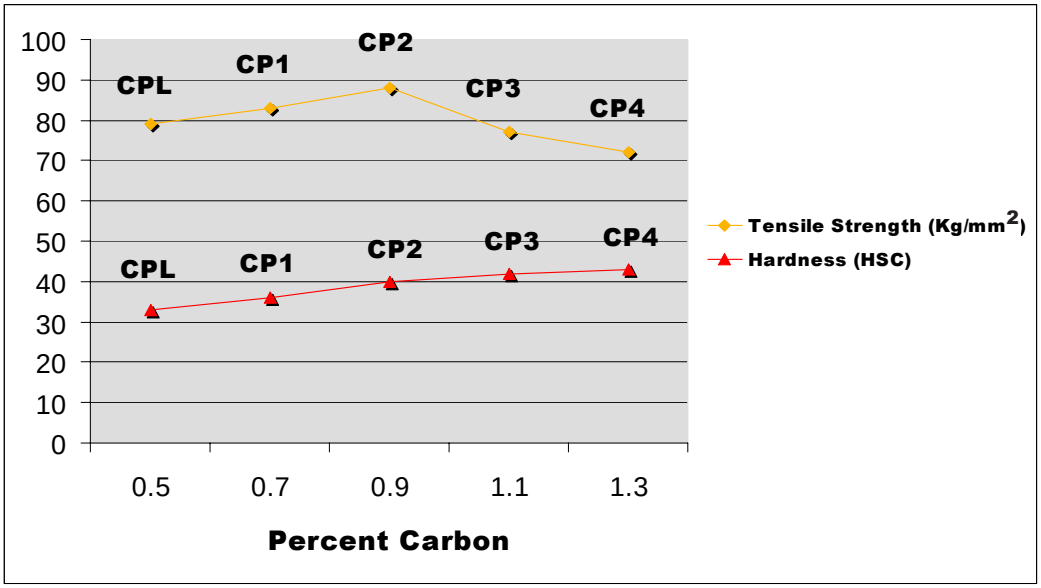
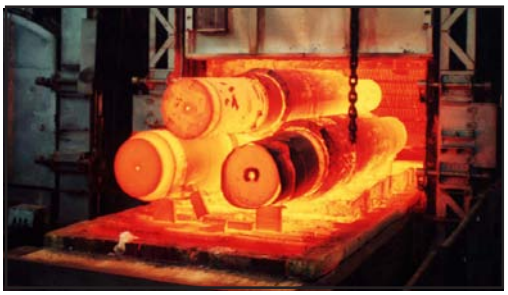
ISO 9001, ISO 14000 Certified





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.

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