

## Indefinite Chilled Iron Rolls

### Hitachi Roll Material

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

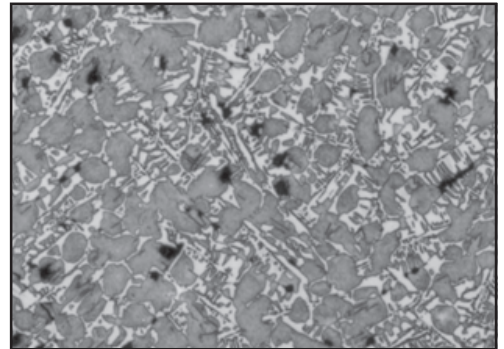


Indefinite chilled iron rolls are cast high-nickel grain rolls with fine deposits of graphite on the surface. The hardness of these rolls can be changed by adjusting the chemical composition or by changing the casting method, making it possible to adapt the roll hardness to particular applications. Because of the presence of graphite, these rolls have a strong resistance to thermal shock. Indefinite chilled rolls produce excellent results in plate and section finishing. The various applications of these rolls include:

**7X and 7A:** Plate intermediate finishing; section, strip and bar finishing.

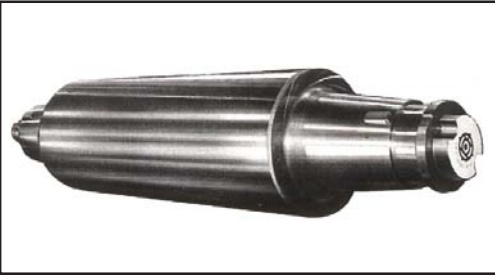
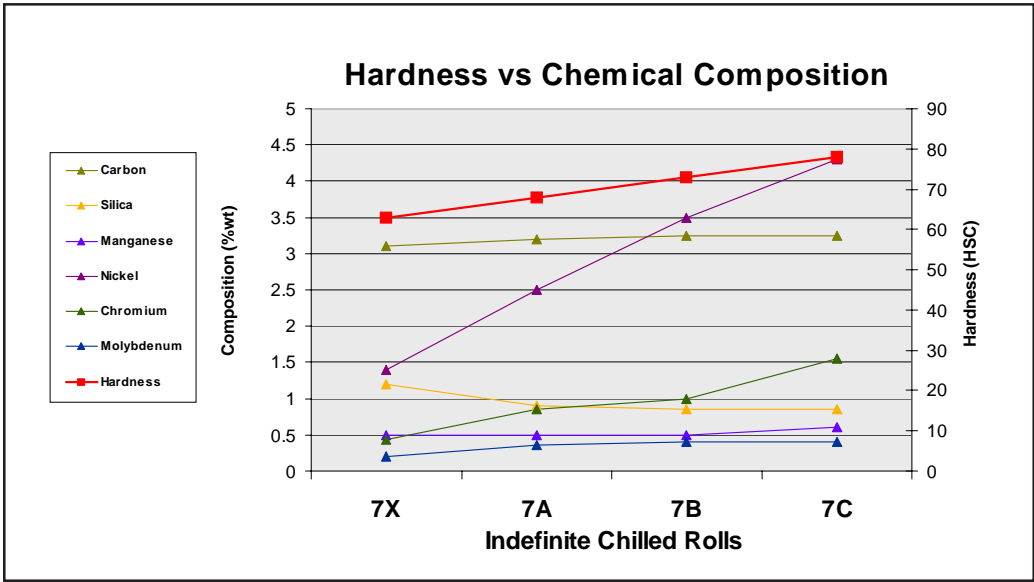
**7B:** Plate finishing; spring flat finishing.

**7C:** Plate and strip finishing.



7C Metal Structure

Indefinite Chilled Iron Rolls	7X	7A	7B	7C
Hardness (HSC)	60-65	65-70	70-75	75-80
Composition (% wt)				
Carbon (C)	2.9-3.3	3.0-3.4	3.0-3.5	3.0-3.5
Silica (Si)	1.0-1.4	0.8-1.0	0.7-1.0	0.7-1.0
Manganese (Mn)	0.4-0.6	0.4-0.6	0.4-0.6	0.5-0.9
Nickel (Ni)	1.0-1.6	2.2-2.8	3.0-4.0	4.0-4.6
Chromium (Cr)	0.7-1.0	0.7-1.3	1.4-1.7	1.5-2.0
Molybdenum (Mo)	<0.3	0.2-0.5	0.3-0.5	0.3-0.5



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.

Hitachi Metals America, Ltd.  
 Materials Trading Division  
 222 North Park Drive, Suite 2  
 West Hills Industrial Park  
 Kittanning, PA 16201-8883  
 Toll Free: 1.877.787.3120  
 Phone: 724.545.3161  
 Fax: 724.545.3164  
[www.hitachimetals.com](http://www.hitachimetals.com)

