



History of Hot Rolling

-The rolling of nonferrous metals (lead, tin, copper, and alloys used in coinage) was definitely practiced before the rolling of iron.

-The earliest document describing a machine used in rolling is a captioned drawing made by Leonardo da Vinci in 1495, which shows a device used to roll tin.

-Until approximately the end of the 17th century, rolling mills were manually operated.

-The industrial rolling of iron began in about the 18th century.

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Invented by H. Cort of Great Britain in 1783. In time, rolling mills were subdivided into cogging, sheet, and section mills.
In the 1830's and 1840's, the rapid development of railroads in

- various countries led to the use of rolling in the manufacture of rails.
- In 1856 and 1857 the first mill for rolling large beams was set up in the Saar, Germany

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Section Rolling

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Rolling mills processes includes rolling the billets, blooms, slab and beam blanks into the prescribed size and correcting any roughing, edging and finishing. Blooms are took a control and rolled it into an I-beam.



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	Reheating	İTÜ 🖲				
≻Slabs ar	≻Slabs are heated at 1150-1270 °C.					
➢Reheate strength	Reheated reduces the deformation of strength of steel.					
The furnace incorporates machinery to transport a stream of slabs through it, and is usually fired by gas burners.						

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Descaling

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- ➤ Removing of the oxide layer to build up on the outer surfaces of the slab.
- ➢ High pressure water sprays (200 bar) are used to remove it.











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		CSA/AWG & IP RATIN	GS		
	Metric	CSA (mm ²)		AWG	
	1/0.25	0.049	30		
	1/0.32	0.080	28		
	19/0.08	0.096	28		
	7/0.16	0.141	26		
	1/0.50	0.196	24		
	7/0.20	0.220	24		
	1/0.64	0.322	22		
	7/0.25	0.344	22		
	16/0.2	0.503	22		
	7/0.32	0.563	20		
	10/0.25	0.491	20		
	24/0.2	0.754	20		
	1/1.13	1.003	18		
	19/0.25	0.993	18		
	32/0.2	1.000	18		
	26/0.25	1.276	16		
	30/0.25	1.473	16		
	41/0.25	2.013	14		
	50/0.25	2.455	14		
	43/0.25	3.459	12		
	65/0.25	3.191	12		
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	Simu	lation	İTÜ 🕚		İTÜ 🖲
steeluniversi	ity				
Hot rolling					
Summary of Res Rolling processes co	mpleted				
Final beam dimensions					
		145 m 300 mm 65.2 mm	137 mm		Thank you for listening
		Tarpet			
Well done, you have comp	Total time 00.0954	10m ± 30s			
14.04.2015			45	14.04.2015	