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A New Rolling Method of Slab into Beam Blanks for Large H-shapes

Tadaaki Yanazawa, Teruaki Tanaka, Masashi Yamashita, Hiroshi Okumura, Takashi Kusaba

Synopsis:

A new beam blank rolling method has been developed to produce H-shapes from CC slabs instead of ingots. The method comprises a forming of an even-shaped dog-bone by edging a slab through a convex-shape (belly) pass (e.g. through the box pass with belly) and an expansion of web height of the dog-bone by a partial web rolling which gives the web little longitudinal elongation and does not reduce the sectional area of both flanges of the dog-bone. This method has been proved useful in producing all series of large H-shapes from CC slab on the wide flange beam mill at Mizushima Works without going through the blooming mill. The effects of the new method are as follows: (a) Improvement in yield (product/crude steel):12% (b) Energy saving: 150 x 10 3 kcal/t (c) Improvement in H-shape quality: Few surface and internal defects

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The body can be viewed from the next page.



 Series rolled from CC-blooms Series rolled from CC-beam blank 	Profile before pass rolling
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 Table 1
 Summary of the application of new B. B. rolling method from slabs for large H-shapes

	3.2.2 Application of partial web method As a result of practical use of the partial web	width actively. At this time the blank is not con- strained by the side walls of the pass, but is guided only by the belly.
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Since the non-reduced portion constrains elongation in the rolling direction at this time, deformation due to reduction is centered on width spreadof H-shapes. As a result of this investigation it was possible to obtain deformation characteristics which will be useful background information in determining

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affect changes in shapes during partial web rolling

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