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Fixed Outer Dimension' and 'Steel Pipe'

Development of a Process for Manufacturing Rolled H-Shapes with Light-Webs

Development of a Process for Manufacturing Rolled H-Shapes with Light-Webs*

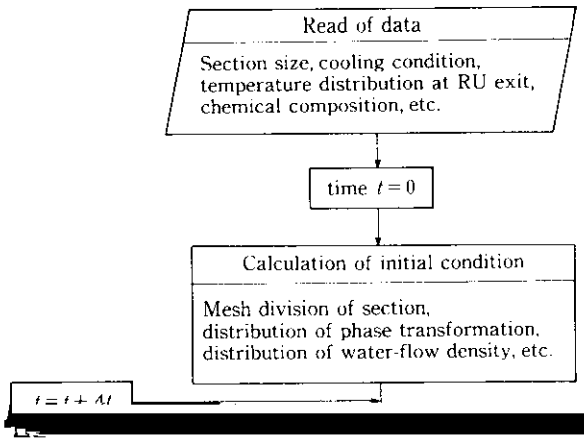
Synopsis:

A process for manufacturing light-web rolled H-shape

cool the upper surface of the web and increase the tem-

heating suffers from a decrease in the rolling efficiency due to the heating time required and an increase in the

Flat water-cooling


Read of data
Section size, cooling condition, temperature distribution at RU exit, chemical composition, etc.
time $t=0$
Calculation of initial condition
Mesh division of section, distribution of phase transformation, distribution of water-flow density, etc.
$t=t+\Delta t$

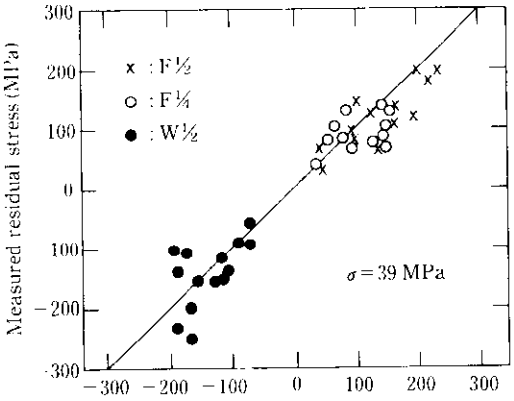

Measured residual stress (MPa)
× : F½
○ : F¼
● : W½
$\sigma=39$ MPa
300
200
100
0
−100
−200
−300
−300 −200 −100 0 100 200 300

Table 1 Dimension of light-web H-shapes

Thickness ratio (t_f/t_w)	≤3.0
Web depth (H)	490 – 900

4 Study on Tandem Rolling in Roughing Universal Mills

web, in addition to the above-mentioned residual stress problem that causes web buckling. Here, a deterioration of the material quality means an increase in the yield

the web reduction in a usual FU rolling is as low as a few percent.

ties (H: 550 × 200 × 6 × 16 mm)

the FU mill.

(3) The web temperature was maintained by tandem