

## ABSTRACT

### H-SHAPED STEEL AND METHOD FOR PRODUCING SAME

Proposed is a method for ensuring a high strength of YP 355 MPa or more and the low-temperature toughness at -40 °C in a flange portion of  
5 H-shaped steel without increasing production costs, the H-shaped steel  
containing C: 0.08 % to 0.16 %, Si: 0.05 % to 0.60 %, Mn: 0.10 % to 1.80  
%, Nb: 0.005 % to 0.060 %, Ti: 0.001 % to 0.020 %, Al: 0.080 % or less, N:  
0.0010 % to 0.0060 %, P: 0.030 % or less, and S: 0.030 % or less in a range in  
which  $C_{eq}$  is 0.44 % or less with the balance being Fe and inevitable  
10 impurities, and having a microstructure containing ferrite having a grain size  
of 15  $\mu\text{m}$  or less as a main phase, pearlite and/or bainite as a secondary phase,  
and martensite austenite constituent in an amount of 3 % or less.