CLAIMS

1. A welded steel H-section comprising a steel material having a yield point strength of 325 N/mm^2 or more and an equivalent carbon content Ceq of 0.43 or less, wherein the welded steel H-section has a longitudinal length L, a web height H, a flange width B, a flange thickness tf, a web thickness tw, α defined as L/(H-tf), β defined as B/(H-tf), γ defined as tf/B, and δ defined as tw/tf which satisfy the following formulas (1) to (8):

$$H \geq 400 \text{ mm} \quad (1)$$

$$B \geq 400 \text{ mm} \quad (2)$$

$$H \leq B \quad (3)$$

$$\alpha \geq 10 \quad (4)$$

$$B/16 \leq tf \leq H/4 \quad (5)$$

$$\max[tf/3, H/37] \leq tw \leq \min[tf, tf \times \delta req(\gamma = 1/16)] \quad (6)$$

$$1.0 \leq \beta \leq 1.6 \quad (7)$$

$$\delta \geq \delta req \quad (8)$$

where δreq is defined by the following formula (9) and δreq (γ=1/16) refers to a value of δreq when 1/16 is substituted for γ:

$$\delta req = (2.58\beta - 1.12) + (17.2\beta^2 - 52.8\beta + 18.0) \times \gamma \quad (9).$$

2. The welded steel H-section according to claim 1, comprising a web cross-sectional area ratio of 20 % or less as defined as a ratio of a web cross-sectional area to a total cross-sectional area.

3. The welded steel H-section according to claim 1 or 2, comprising a steel material having a yield point strength of 385 N/mm^2 or more.

4. A method of manufacturing the welded steel H-section according to any one of claims 1 to 3, comprising:

joining a flange material and a web material which are made of a steel material having a yield point strength of 325 N/mm^2 or more and an equivalent carbon content Ceq of 0.43 or less into an H-shape; and

welding the flange material and the web material to form a welded steel H-section.