CLAIMS

1. A steel-framed concrete beam comprising:

a steel form having a bottom plate portion and a pair of side plate portions extending upward from both ends of the bottom plate portion; and

concrete placed in a groove portion configured by the bottom plate portion and the pair of side plate portions of the steel form,

wherein an allowable bending moment or an allowable shear force of the steel-framed concrete beam is calculated by Equation (1) below:

$$F_a = F_{RC} + \beta \cdot F_S \qquad \text{(Equation 1)}$$

wherein,

F_a: an allowable bending moment or an allowable shear force of the steel-framed concrete beam,

F_{RC}: an allowable bending moment or an allowable shear force of the concrete,

β: a burden factor of an allowable bending moment or an allowable shear force of the steel form, which is 0.5 or less, and

F_S: an allowable bending moment or an allowable shear force of the steel form.

2. The steel-framed concrete beam according to claim 1, wherein

a part of the steel-framed concrete beam is joined to a girder, and

the steel form is provided with an end portion on the girder side in a longitudinal direction of the steel form, accommodated in the girder via a notch formed in a side surface of the girder, and having a length equal to or greater than a cover thickness of the girder.

3. The steel-framed concrete beam according to claim 1, wherein the side plate portion and the concrete have a web opening forming portion allowing formation of a web opening penetrating the side plate portion and the concrete.

4. The steel-framed concrete beam according to claim 1, wherein a non-opening member for fixing the pair of side plate portions to each other is provided in a range from an upper end position of the pair of side plate portions to a position below the upper end position by one-third of a height of the pair of side plate portions.

5. The steel-framed concrete beam according to claim 1, wherein the steel form is provided with a flange portion extending outward from an upper end of the side plate portion.

6. The steel-framed concrete beam according to claim 5, wherein the steel form is provided with a reinforcing portion extending downward or upward from an outer end of the flange portion.

7. A method for constructing a steel-framed concrete beam comprising:

a steel form installation comprising installing a steel form having a bottom plate portion and a pair of side plate portions extending upward from both ends of the bottom plate portion; and

a placement comprising placing concrete in a groove portion configured by the bottom plate portion and the pair of side plate portions of the steel form installed in the steel form installation,

wherein an allowable bending moment or an allowable shear force of the steel-framed concrete beam is calculated by Equation (1) below:

$$F_a = F_{RC} + \beta \cdot F_S \qquad \text{(Equation 1)}$$

wherein,

F_a: an allowable bending moment or an allowable shear force of the steel-framed concrete beam,

F_{RC}: an allowable bending moment or an allowable shear force of the concrete,

β: a burden factor of an allowable bending moment or an allowable shear force of the steel form, which is 0.5 or less, and

F_S: an allowable bending moment or an allowable shear force of the steel form.

8. The steel form according to claim 1, wherein a joining surface of the bottom plate portion is formed by superposing a part of the bottom plate portion of a first of a pair of frame members of the steel form and a part of the bottom plate portion of a second of the pair of frame members over each other.