[Document Name] Claims

[Claim 1]

A duplex stainless steel containing, by mass%:

C: not more than 0.03%, Si: not more than 0.3%, Mn: not more than 3.0%, P: not more than 0.040%, S: not more than 0.008%, Cu: 0.2 to 2.0%, Ni: 5.0 to 6.5%, Cr: 23.0 to 27.0%, Mo: 2.5 to 3.5%, W: 1.5 to 4.0%, and N: 0.24 to 0.40%, the balance being Fe and impurities,

wherein a σ phase susceptibility index X represented by the following Formula (1) is not more than 52.0;

a strength index Y represented by the following Formula (2) is not less than 40.5; and

a pitting resistance equivalent PREW represented by the following Formula (3) is not less than 40:

$$X = 2.2Si + 0.5Cu + 2.0Ni + Cr + 4.2Mo + 0.2W \quad (1)$$

$$Y = Cr + 1.5Mo + 10N + 3.5W \quad (2)$$

$$PREW = Cr + 3.3(Mo + 0.5W) + 16N \quad (3)$$

where a symbol of each element in the Formulas (1), (2), and (3) denotes a content (mass%) of the element.

[Claim 2]

The duplex stainless steel according to claim 1, further containing, by mass%, one or more elements selected from among Ca: not more than 0.02%, Mg: not more than 0.02%, B: not more than 0.02%, and rare earth elements: not more than 0.2%, in lieu of part of Fe.

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where a symbol of each element in the Formulas (1), (2), and (3) denotes a content (mass%) of the element.

[Claim 2]

The duplex stainless steel according to claim 1, further containing, by mass%, one or more elements selected from among Ca: not more than 0.02%, Mg: not more than 0.02%, and B: not more than 0.02%, in lieu of part of Fe.