CLAIMS

[Claim 1]

A hot-rolled steel sheet for coiled tubing, the steel sheet having

a chemical composition containing, by mass%,

C: 0.10% or more and 0.16% or less,

Si: 0.1% or more and 0.5% or less,

Mn: 0.8% or more and 1.8% or less,

P: 0.001% or more and 0.020% or less,

S: 0.0050% or less,

Al: 0.01% or more and 0.08% or less,

Cu: 0.1% or more and 0.5% or less,

Ni: 0.1% or more and 0.5% or less,

Cr: 0.5% or more and 0.8% or less,

Mo: 0.10% or more and 0.5% or less,

Nb: 0.01% or more and 0.05% or less,

Ti: 0.01% or more and 0.03% or less,

N: 0.001% or more and 0.006% or less, and

a balance of Fe and inevitable impurities,

a microstructure at a position located at 1/2 of a thickness of the steel sheet including bainite and bainitic ferrite in a total amount of 80% or more in terms of area fraction, in which an amount of solid solution Nb is 20% or more of a total Nb mass content,

a yield strength of 480 MPa or more,

a tensile strength of 600 MPa or more,

a yield-strength difference (ΔYS) of 100 MPa or more, where the yield-strength difference is defined as a difference in yield strength between before and after a prestrain-heat treatment, in which the steel sheet is subjected to a heat treatment at a temperature of 650°C for 60 seconds after 5% pre-straining, and

a yield strength of 620 MPa or more after the prestrain-heat treatment,

wherein the yield strength and the tensile strength are obtained by performing a tensile test on a JIS No. 5 tensile test piece taken from the hot-rolled steel sheet so that the tensile direction is the L-direction.

[Claim 2]

The hot-rolled steel sheet for coiled tubing according to Claim 1, wherein the chemical composition further contains, by mass%, one, two, or more selected from

B: 0.0005% or more and 0.0050% or less,

V: 0.01% or more and 0.10% or less,

Ca: 0.0005% or more and 0.0100% or less,

REM: 0.0005% or more and 0.0200% or less,

Zr: 0.0005% or more and 0.0300% or less, and

Mg: 0.0005% or more and 0.0100% or less.

[Claim 3]

A method for manufacturing the hot-rolled steel sheet

for coiled tubing according to Claim 1 or 2, the method comprising heating a steel slab having the chemical composition to a temperature of 1100°C or higher and 1250°C or lower, performing rough rolling on the heated steel slab, performing finish rolling on the rough-rolled steel slab under a condition of a finish rolling temperature of 820°C or higher and 920°C or lower, cooling the finish-rolled steel sheet to a temperature of 600°C or lower at an average cooling rate of 30°C/s or higher and 100°C/s or lower in terms of a temperature in a central portion in a thickness direction of the steel sheet, and coiling the cooled steel sheet at a temperature of 450°C or higher and 600°C or lower.