

STAINLESS STEEL RAILCARS REDUCE WEIGHT SAVE ENERGY

N° 14025

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Build a railcar of Ni stainless, save four tonnes on every carbody

Railcars as a safe and high-speed means of transportation were initially built of wood and later of steel.

To prevent corrosion and to lighten weight, maintenance-free stainless steel cars have been developed. They save materials and energy.

Nickel-containing stainless steel is used for cladding and structural construction, including framing, beams, posts and floor members.

A lightweight stainless steel car weighs about four tonnes less than one made of steel.

Construction details are available in the extensive report, *Development of stainless steel railroad cars in Japan*, by Iseo Hatono, a free publication of the Nickel Development Institute – Review Series 13 006.

Illustrated from the report, and coded, are the carbody's main parts of high-strength stainless steel.

Carbon content of SUS 301, the S 30100 equivalent, is specified by

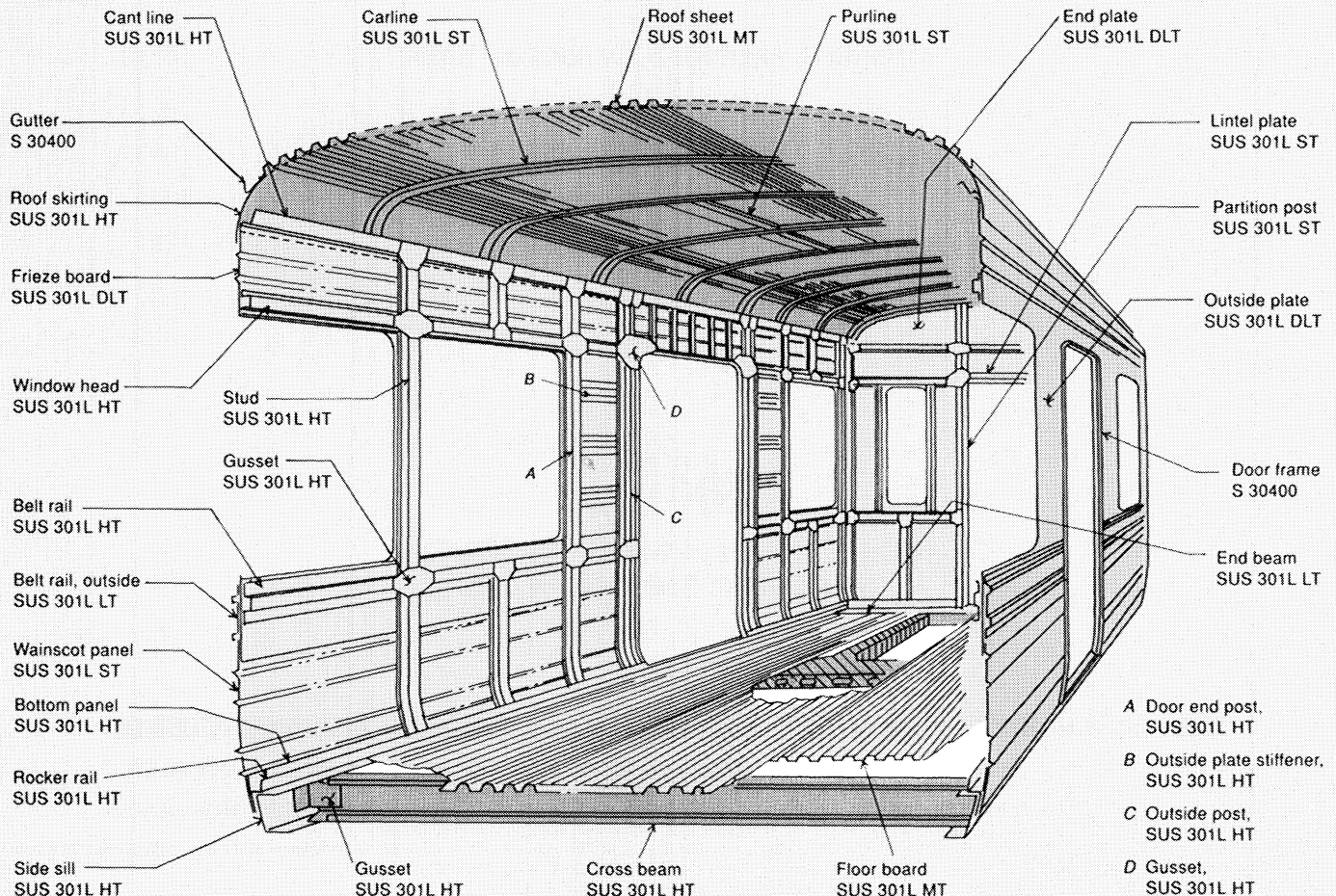
Japan Industrial Standard as 0.15%, maximum.

Formerly used, this high carbon-content stainless steel was not free of intergranular corrosion in zones heat-affected by welding.

SUS 301L, developed in 1983 with less carbon, is now used in place of S 30100. No equivalent to SUS 301L is listed in the Unified Numbering System.

SUS is the Japan Industrial Standard's abbreviation for Steel Use Stainless. **NIDI**

Main stainless steel carbody materials



Code: LT, low tensile; DLT, deadlite panel; ST, special tensile; MT, medium tensile; and HT, high tensile.