

AUSTENITIC STAINLESS STEEL EXCELLENT IN FINE BLANKABILITY

Abstract

The newly proposed austenitic stainless steel has composition consisting of (C+1/2N) up to 0.060 mass %, Si up to 1.0 mass %, Mn up to 5 mass %, S up to 0.006 mass %, 15-20 mass % Cr, 5-12 mass % Ni, Cu up to 5 mass %, 0-3.0 mass % Mo and the balance being Fe except inevitable impurities under the condition that a value Md₃₀ (representing a ratio of a strain-induced martensite) defined by the under-mentioned formula is controlled within a range of -60 to -10. Hardness increase of the steel sheet after being cold-rolled is preferably 20% or more as Vickers hardness. A metallurgical structure of the steel sheet is preferably adjusted to grain size number of #8 to #11 in a finish annealed state. The steel sheet is blanked with high dimensional accuracy, and a die life is also prolonged.

$$\text{Md}_{30} = 551 - 462(\text{C} + \text{N}) - 9.2\text{Si} - 29(\text{Ni} + \text{Cu}) - 8.1\text{Mn} - 13.7\text{Cr} - 18.5\text{Mo}$$

No Suitable Figure