

Title (en)  
High-nitrogen austenitic stainless steel

Title (de)  
Austenitischer rostfreier Stahl mit hohem Stickstoffgehalt

Title (fr)  
Acier austénitique inoxydable à haute teneur en azote

Publication  
**EP 1626101 A1 20060215 (EN)**

Application  
**EP 05107313 A 20050809**

Priority  
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Abstract (en)

This invention provides a high-nitrogen austenitic stainless steel superior to the conventional one both in the corrosion resistance and strength, despite a low Ni content, characterized in having a Fe content of 50 % by mass or more; containing Cr: 15.0% by mass to 35.0% by mass, Mo: 0.05% by mass to 8.0% by mass %, Mn: 0.2% by mass to 10.0% by mass, Cu: 0.01% by mass to 4.0% by mass and N: 0.8% by mass to 1.5% by mass, both ends inclusive, having a C content of 0.20% by mass or less, a Si content of 2.0% by mass or less, a P content of 0.03% by mass or less, a S content of 0.05% by mass or less, a Ni content of 0.5% by mass or less, an Al content of 0.03% by mass or less, and an O content of 0.020% by mass or less; wherein the contents of Cr, Mo, N and Mn are adjusted so that a compositional parameter - expressed by the equation:  $\frac{W_{Cr} + 3.3W_{Mo} + 16W_N}{W_{Mn}}$  where  $W_{Cr}$  is Cr content (% by mass),  $W_{Mo}$  is Mo content (% by mass)  $W_N$  is N content (% by mass) and  $W_{Mn}$  is Mn content (% by mass) has a value of 5 or above. and optionally further containing either one of, or both of: W: 0.01% by mass to 1.0% by mass; and Co: 0.01% by mass to 5.0% by mass, both ends inclusive ; and optionally further containing at least one of: Ti: 0.01% by mass to 0.5% by mass; Nb: 0.01% by mass to 0.5% by mass; V: 0.01% by mass to 1.0% by mass; and Ta: 0.01% by mass to 0.5% by mass, both ends inclusive ; and optionally further containing at least one of: B: 0.001 % by mass to 0.01 % by mass; Zr: 0.01 % by mass to 0.50% by mass; Ca: 0.001% by mass to 0.01% by mass; and Mg: 0.001% by mass to 0.01% by mass, both ends inclusive ; and optionally further containing either one of, or both of: Te: 0.005% by mass to 0.05% by mass; and Se: 0.01% by mass to 0.20% by mass, both ends inclusive.

IPC 8 full level

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Citation (search report)

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