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(54) **Ferritic free-cutting stainless steel excellent in surface roughness and outgass resistance**

(57) A ferritic free-cutting stainless steel excellent in surface roughness and outgass resistance is disclosed which comprises in weight percentage, 0.06% or less of C, 0.05 to 1.0% of Si, 2.0% or less of Mn, 0.050% or less of P, 0.05 to 0.50% of S, 2.0% or less of Cu, 2.0% or less of Ni, 9.0 to 25.0% of Cr, 4.0% or less of Mo, 0.065 to 2.0% of Ti, 0.0150% or less of O, 0.020% or less of N, 0.001 to 0.100% of Al, and Fe and inevitable impurity in the rest portion, wherein the steel satisfies Equations (1) and (2) of the equations,

$$[\text{Ti}] \geq 1.3 \times [\text{S}] \quad \dots \quad \text{Equation (1)}$$

$$[\text{Mn}]/[\text{Ti}] \leq 3 \quad \dots \quad \text{Equation (2)}$$

$$(\text{WTi} + \text{WCr}) > 2 \times \text{WMn} \quad \dots \quad \text{Equation (3)}$$

where the amount of Ti contained in the steel is represented by [Ti], that of S is represented by [S] and that of Mn is represented by [Mn], and wherein the steel satisfies Equation (3) where the amount of Ti contained in sulfide produced in the texture of the steel is represented by WTi, that of Cr is represented by WCr and that of Mn is represented by WMn.

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Place of search The Hague		Date of completion of the search 27 May 2008	Examiner Ugarte, Eva
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