

Title (en)
HIGH-STRENGTH MARTENSITIC STAINLESS STEEL WITH EXCELLENT RESISTANCES TO CARBON DIOXIDE GAS CORROSION AND SULFIDE STRESS CORROSION CRACKING

Title (de)
HOCHFESTER MARTENSITISCHER EDELSTAHL MIT HERVORRAGENDER BESTÄNDIGKEIT GEGEN KOHLENSÄUREKORROSION UND SULFID-SPANNUNGSRISSKORROSION

Title (fr)
ACIER INOXYDABLE MARTENSITIQUE A HAUTE RESISTANCE PRESENTANT UNE EXCELLENTE RESISTANCE A LA CORROSION DU GAZ CARBONIQUE ET A LA FISSURATION PAR CORROSION SOUS CONTRAINTE DUE AU SULFURE

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Application
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Abstract (en)
The present invention provides a martensitic stainless steel in which specified elements in a steel composition are limited. The martensitic stainless steel can have high strength of 0.2 % proof stress of 860 MPa or more and excellent carbon dioxide gas corrosion resistance and sulfide stress-corrosion cracking resistance by limiting the steel composition of specified elements and defining Mo content in the steel by relationships with IM values as well as by forming microstructure of the steel with main tempered martensite, carbide precipitated during tempering, and intermetallic compounds such as a Laves phase, a sigma phase and the like. As a result the martensitic stainless steels of the present invention can be applied to practical steels, which can be widely used in oil well tubes and the like under environment including carbon dioxide gas, hydrogen sulfide, chlorine ions or two or more of them, in wide fields. <IMAGE>

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