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Development of High Strength Martensitic Stainless OCTG with Superior Corrosion Resistance

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:
API-13Cr ╔ ☼ ǂ ∂ ■ ╘ SSC ▪ ≠ ⌡ C, Ni ∂ ■ ╘ Mo ╔ HP13Cr ▪ ≠ ⌡ o ☼ ǂ ╒ C Ni = ■ ┐ ├ ∫ ▌▌ o ∟ ╔ ╒ 150 ∈ ☼ ǂ 5MPa ╔ ┤ ┤ ← ▌ o SSC ╔ ╒ Mo ∏ ≐ ┤ ← ▌ o13Cr ╔ SSC ╒ ╝ ╔ = ■ ┐ ├ ∫ ▌ Mo ╒ ╔ ▪ ≠ ▌ ∏ ← ▌ ∟ ╔ ╒ ╔ 13Cr ▪ ┤ ∑ ┼ Δ ┐ ⌡ ☼ ǂ ∂ ■ ╘ ╔ ▪ ╥ ◘ ◕ w ♫ ẇ ┐ ┤ ┤ ← ▌ o

Synopsis :
A new 13Cr martensitic stainless steel with excellent resistance to CO2 corrosion and good resistance to SSC has been developed and its application limit in oil and gas environment of the new steel has been clarified. The CO2 corrosion rate of the 13Cr steel is reduced with a decrease in C content and an increase in Ni content. The critical CO2 partial pressure for this new steel is 5MPa at 150 ∈ . The SSC resistance increases with an increase in Mo content. The SSC resistance of 13Cr steel depends on hydrogen

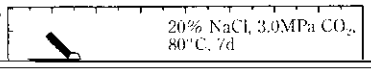
耐食性に優れる油井用高強度

マルテンサイト系ステンレス鋼管の開発*

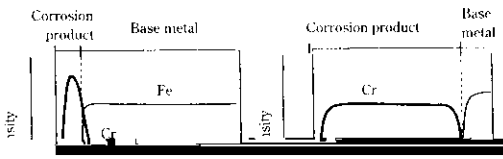
Development of High Strength Martensitic Stainless OCTG with Superior Corrosion Resistance

要旨

API 13Cr 鋼管の耐炭酸ガス腐食性および耐 SSC 性を改善した



用い、CO_2 圧を 3.0 MPa とした。試験温度は 150 ℃，試験時間は 168 h である。なお比較材として API 13Cr 鋼管も併せて試験した


Corrosion product
Base metal
Fe
Cr
Corrosion product
Base metal
Cr

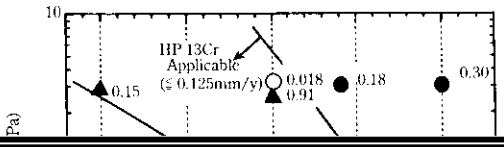
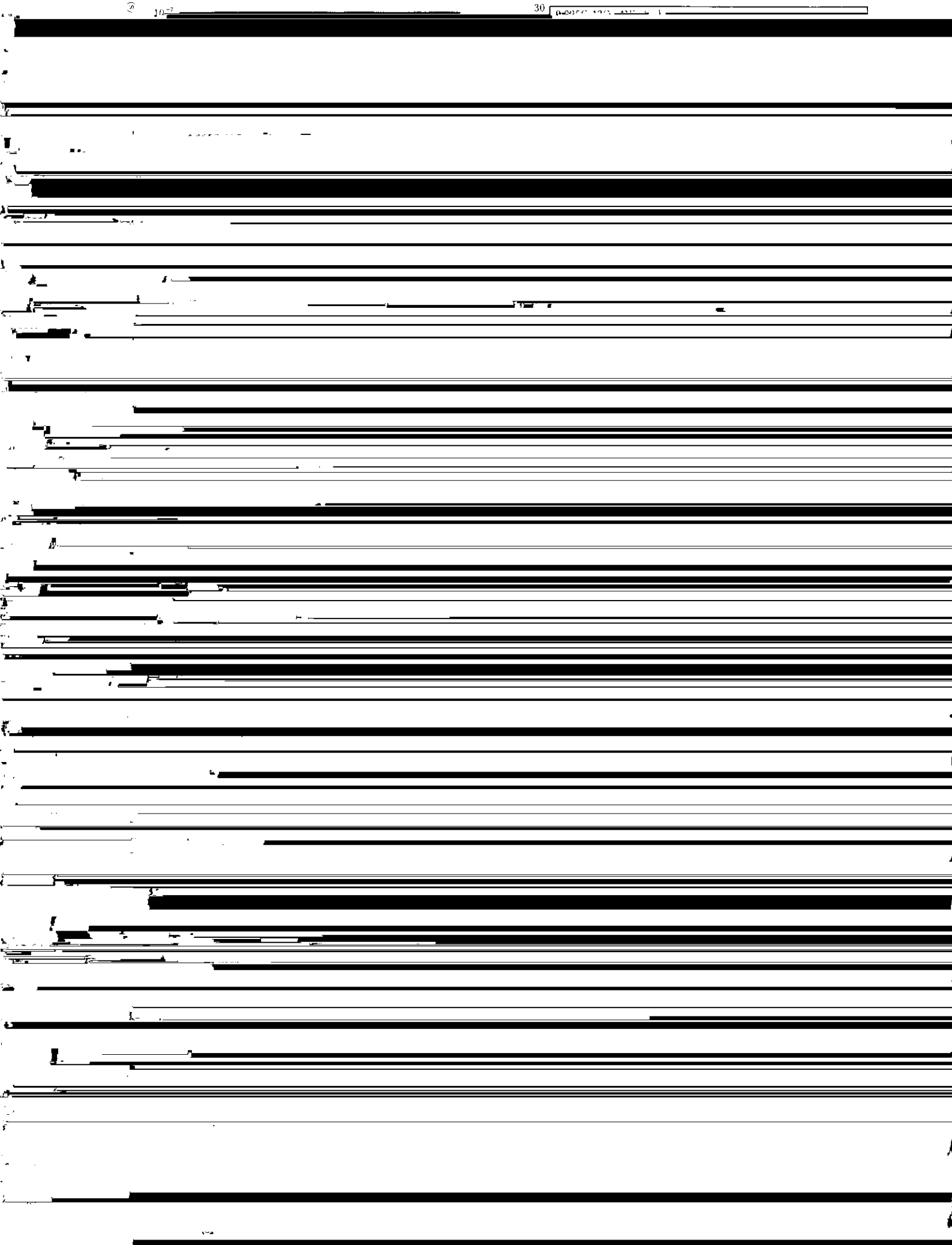

10
HP 13Cr
Applicable
(≦ 0.125mm/y)
0.15
0.018
0.91
0.18
0.30
Pa)

Table 4 Chemical composition of steels tested

(mass %)

Steel	C	Si	Mn	Cr	Ni	Mo	Cu



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