

KAWASAKI STEEL GIHO

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2-1/4 3Cr-1

High Strength 2-1/4 and 3%Cr-1%Mo Steels with Excellent Hydrogen Attack Resistance

(Jun-ichi Shimomura)

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Excellent Hydrogen Attack Resistance

要旨

高強度鋼の製造技術と品質管理 第 10 巻 第 1 号 1975 年 1 月

Table 1 Chemical compositions of laboratory steels used

(mass %)

Steel	C	Si	Mn	P	S	Cr	Mo	V	Nb	Ti	Al	B	REM*
A	0.13	0.05	0.52	0.004	0.001	2.37	1.09	0.25	0.021	—	0.03	—	—
B	0.13	0.06	0.52	0.004	0.001	2.37	1.09	0.31	0.021	—	0.03	—	0.004
C	0.13	0.06	0.53	0.003	0.001	2.43	1.10	0.35	0.021	—	0.03	—	0.006
D	0.13	0.06	0.51	0.003	0.001	2.33	1.07	0.30	0.021	0.010	0.03	0.0010	0.004

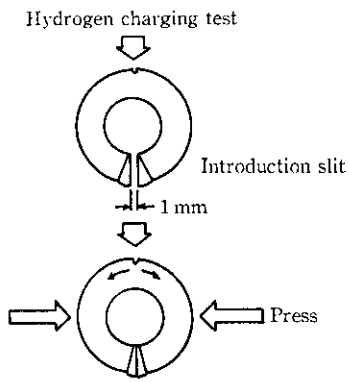
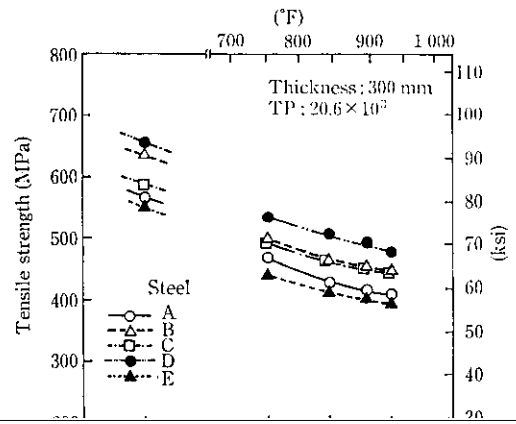
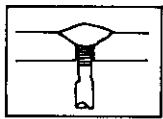


Fig. 1 Hydrogen attack test using cylinder type restraint crack.



ing specimen (IHI[®])

R.T. 400 450 500 550
Test temperature (°C)



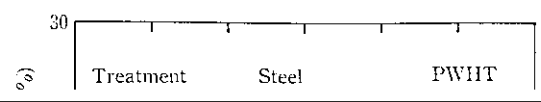
Submerged-arc
weld bead

Base plate and test
specimens after welding



steel

Cr-1 Mo 鋼(鋼 E), 3 Cr-1 Mo 鋼(鋼 F) はいずれも短時間の暴露により水素侵食を受け、 vE_0^*/vE_0 が大きく低下する。両者の比較では、Cr-1 Mo 鋼の方が 3 Cr-1 Mo 鋼に比べ、 vE_0^*/vE_0 の低下が短時



Tempering parameter, $T (R)[20 + \log t(h)] \times 10^{-3}$

