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Influence of Chloride Content and Temperature on Stress Corrosion Cracking of 304 Stainless Steel in Sodium Chloride Solution

(Makoto Masuo) (Yutaka Ono)

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304 ┤ ┴ ┤ ╔ TIG ╔ ┤ ╔ ▌ = ≠
Cl(-) ┬ ╔ 10 21000ppmCl(-) 40 80 ╔ ┤ ╔
☻ ת ┤ ≠ TIG = ≠▌┬ 80 ╔ 21000ppm Cl(-)┤ ╔
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≠▌┬ ▌╔ ■┼Δ ┤ ╔ ┤ ╔ 80 ╔ 1000
┬ 21000ppm Cl(-)= ▌ ≡ ╔ ▌■▉ ┤ ≡
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Synopsis :
The occurrence of stress corrosion cracking (SSC)in TIG butt-welded specimens and spot-welded specimens of Type 304 stainless steel was investigated by the use of sodium chloride solutions containing 10,100,1000 and 21000ppm Cl(-) at 40,60 and 80 . The

食塩水中の304ステンレス鋼の応力腐食割れにおよぼす塩素イオン濃度と温度の影響

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Synopsis:

The occurrence of stress corrosion cracking (SCC) in TIG butt-welded specimens and spot-welded specimens of Type 304 stainless steel was investigated by the use of sodium chloride solutions containing 10, 100, 1000 and 21 000 ppm Cl^- at 40, 60 and 80°C. The extent of corrosion activity during test period was examined by the measurement of galvanic pseudo-current between the welded specimen and the parent-metal specimen of the same

で重要である。しかし，低濃度における応力腐食割れの実験室的な再現が難しいことから，これらのことは主に事例の解析を中心として調べられてきている。このような低濃度塩化物環境における

Table 1 Chemical composition of Type 304 stainless steel specimens

(%)

	C	Si	Mn	P	S	Cu	Ni	Cr	Mo
SUS 304	0.06	0.52	1.46	0.031	0.005	0.12	9.01	18.35	0.13

溶接試験片のように隙間と残留応力のある試験片を用いると，304鋼では100°C以下の低濃度食塩水中でも容易に応力腐食割れを再現できることを