

Mechanical Properties of 9% Ni Steel Plates Produced from Continuously Cast Slabs*



Synopsis:

From a low P (0.0060% max), low S (0.0020% max) con

process (MACS-T) was investigated, and the applicability of the 9% Ni steel plates produced by the above-men-

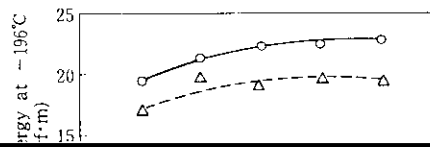
Table 1 Chemical composition of steel tested (%)

Element	0.06	0.24	0.59	0.002	0.001	8.98	0.029	0.0037
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This paper presents the results of such investigation and evaluation.

0.06	0.24	0.59	0.002	0.001	8.98	0.029	0.0037
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2 Optimum Manufacturing Conditions for MACS-T Process



(1) ductile fracture energy increases when the slab reheating and finish-rolling temperatures are raised, and that (2) the strength and toughness of base metal are good when the cooling rate after rolling ranges from 10



10 mm

prestrain aging, the degree of this decrease was low; the critical COD value was 0.35 mm or more in all the

test was conducted using specimens taken at the center of the weld metal the bond (WM/RM = 1) and the

cases at -170°C and it was found that the steel in question met the requirements for LNG storage tank steel

HAZ-2-mm (2 mm from the bond toward the base metal side). The test results are shown in Figs. 6 and 7.

toughness.

Although the COD test results showed that the RQ-T

Table 5 Mechanical properties of welded joints

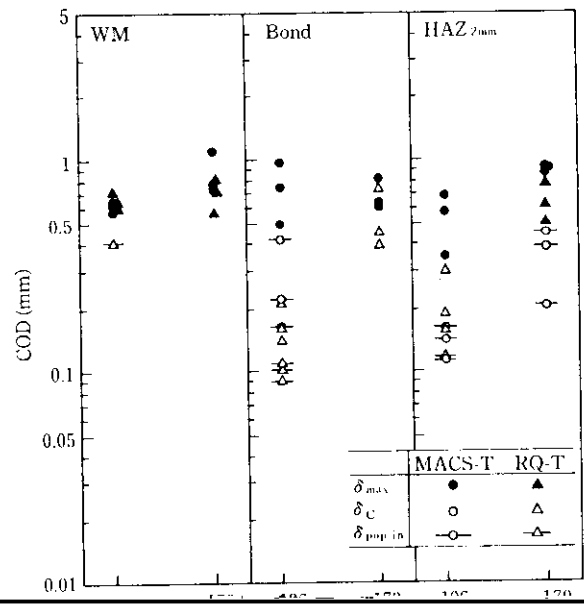
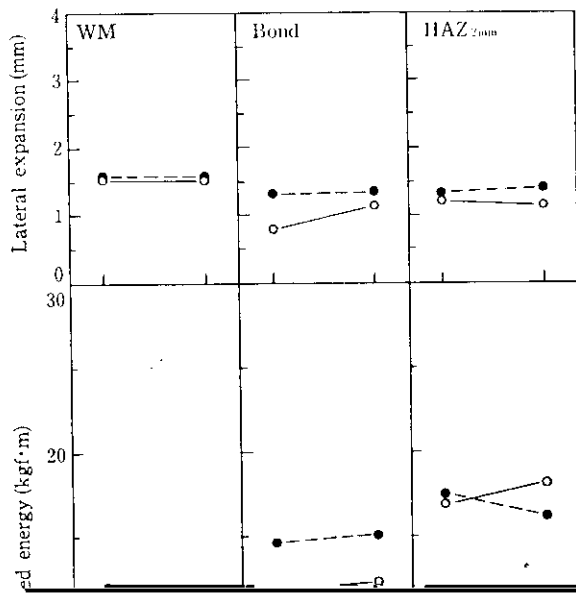


Table 6. Center-notched cross-welded joints

Specimen	Geometry	Material	Welding
1	100 × 100 × 10	A507	E7018
2	100 × 100 × 10	A507	E7018
3	100 × 100 × 10	A507	E7018
4	100 × 100 × 10	A507	E7018
5	100 × 100 × 10	A507	E7018
6	100 × 100 × 10	A507	E7018
7	100 × 100 × 10	A507	E7018
8	100 × 100 × 10	A507	E7018
9	100 × 100 × 10	A507	E7018
10	100 × 100 × 10	A507	E7018
11	100 × 100 × 10	A507	E7018
12	100 × 100 × 10	A507	E7018
13	100 × 100 × 10	A507	E7018
14	100 × 100 × 10	A507	E7018
15	100 × 100 × 10	A507	E7018
16	100 × 100 × 10	A507	E7018
17	100 × 100 × 10	A507	E7018

test results

Item	Value
1	[REDACTED]
2	[REDACTED]
3	[REDACTED]
4	[REDACTED]
5	[REDACTED]
6	[REDACTED]
7	[REDACTED]
8	[REDACTED]
9	[REDACTED]
10	[REDACTED]
11	[REDACTED]
12	[REDACTED]
13	[REDACTED]
14	[REDACTED]
15	[REDACTED]
16	[REDACTED]
17	[REDACTED]
18	[REDACTED]
19	[REDACTED]
20	[REDACTED]
21	[REDACTED]
22	[REDACTED]
23	[REDACTED]
24	[REDACTED]
25	[REDACTED]
26	[REDACTED]
27	[REDACTED]
28	[REDACTED]
29	[REDACTED]
30	[REDACTED]
31	[REDACTED]
32	[REDACTED]
33	[REDACTED]
34	[REDACTED]
35	[REDACTED]
36	[REDACTED]
37	[REDACTED]
38	[REDACTED]
39	[REDACTED]
40	[REDACTED]
41	[REDACTED]
42	[REDACTED]
43	[REDACTED]
44	[REDACTED]
45	[REDACTED]
46	[REDACTED]
47	[REDACTED]
48	[REDACTED]
49	[REDACTED]
50	[REDACTED]
51	[REDACTED]
52	[REDACTED]
53	[REDACTED]
54	[REDACTED]
55	[REDACTED]
56	[REDACTED]
57	[REDACTED]
58	[REDACTED]
59	[REDACTED]
60	[REDACTED]
61	[REDACTED]
62	[REDACTED]
63	[REDACTED]
64	[REDACTED]
65	[REDACTED]
66	[REDACTED]
67	[REDACTED]
68	[REDACTED]
69	[REDACTED]
70	[REDACTED]
71	[REDACTED]
72	[REDACTED]
73	[REDACTED]
74	[REDACTED]
75	[REDACTED]
76	[REDACTED]
77	[REDACTED]
78	[REDACTED]
79	[REDACTED]
80	[REDACTED]
81	[REDACTED]
82	[REDACTED]
83	[REDACTED]
84	[REDACTED]
85	[REDACTED]
86	[REDACTED]
87	[REDACTED]
88	[REDACTED]
89	[REDACTED]
90	[REDACTED]
91	[REDACTED]
92	[REDACTED]
93	[REDACTED]
94	[REDACTED]
95	[REDACTED]
96	[REDACTED]
97	[REDACTED]
98	[REDACTED]
99	[REDACTED]
100	[REDACTED]

immediately after they reached the tested plates. The _____ for RQ-T steel can be allowed at the design stress.