

] i0 5r •

KAWASAKI STEEL GIHO

Vol.8 (1976) No.1

« , á Þ «-ç*x5ð'ö b #” v È _ P M ••8x ö

On the Corrosion Behaviour of Stainless Steel Tubes in Circulating Hot Water

Q • (Makoto Masuo) `5 (Yutaka Ono) ± « μ (Nobuo Ohashi)

0[” :

SUS430>*SUS304>*R430LT > |g R434LT « , á Þ «-ç*x'ö †#Ý 8 Z>* 30>| 100ppm Cl-
 † μ t 80 ¥ b #” v È p [q ± 40 4 6ë r [b+l8x0è9, †/œ 8>* d b+l8x0è9,) ç ‹ b
 Í8x" g # \0è9, †6ë p b+l8x7Á) b š ì _ X 8 Z è0! K S ë w ^/28 b'ö c 100ppm Cl-
 † μ t È4(È _ P K Z v (^*•8x ö †&g K S @>* « £ î Ý g ~ b 6 • | : ^ O 88 b'ö
 c>*30ppm Cl- † μ t È4(È _ | W Z v Í8x †#Õ L S 7Á) b) ì š ì b0Ž Ò ? } c>* 30ppm
 Cl- † μ t È4(È _ | • Í8x c 40 4 6ë b0è9, †6ë b 6 †_#Õ L S v b [>* Q € è ‹ c q • †
 ò F K Z 8 • 60ppm è V b Cl- † μ t È4(È [c>* 40 4 6ë †3û L Z q • K Z 8 S \ s }
 € • Í8x @ Ñ ~ K S

Synopsis :

Corrosion tests of SUS430, SUS304, R430L T and R434LT stainless steel tubes have been carried out using circulating water containing about 30-100ppm Cl- at 80 ¥ for max. 40 weeks. The tests have been performed not only on the observation of pitting corrosion, but also on the change in the corrosion potential of specimens during corrosion test periods. Clean surface tubes have a good corrosion resistance even in the water containing 100ppm Cl-, but in abnormally dirty surface tubes such as those poorly descaled, pitting corrosion takes place in the water containing only 30ppm Cl-. According to the analysis of corrosion potential-time curves, it is estimated that corrosion pits in the water containing 30ppm Cl- nucleated and grew early in the test period and became inactive thereafter. On the other hand, some corrosion pits in the water containing more than 60ppm Cl- still remained active through 40 test weeks.

(c)JFE Steel Corporation, 2003

ステンレス薄肉鋼管の循環温流水に対する耐食性

On the Corrosion Behaviour of Stainless Steel Tubes in
Circulating Hot Water

Mikata Masuo

Yoshida Osamu

大橋 延夫**

Nobuo Ohashi

Synopsis:

Corrosion tests of SUS430, SUS304, R430LT and R434LT stainless steel tubes have been carried out using circulating water containing about 30~100ppm Cl^- at 80°C for max. 40 weeks. The tests have

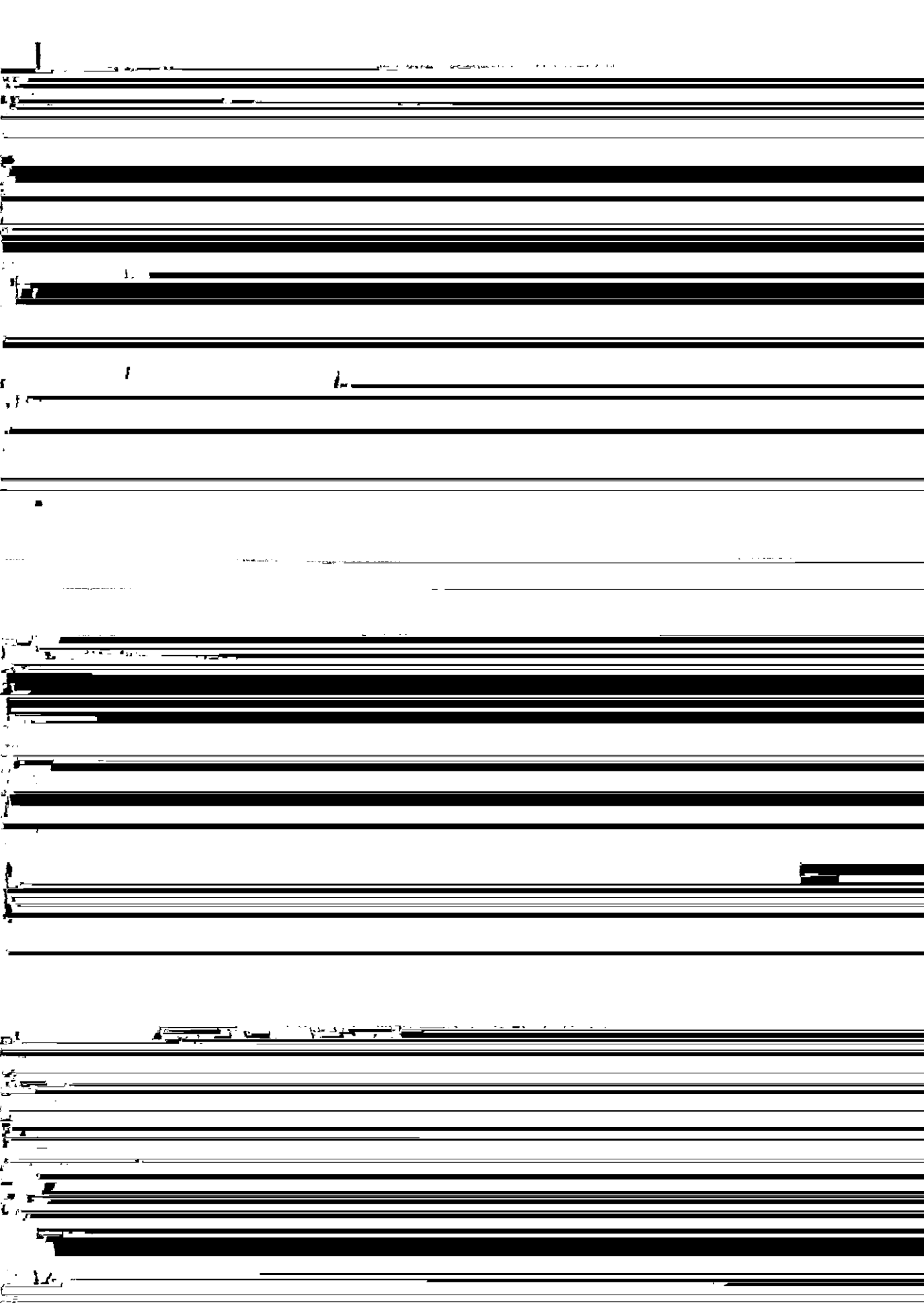
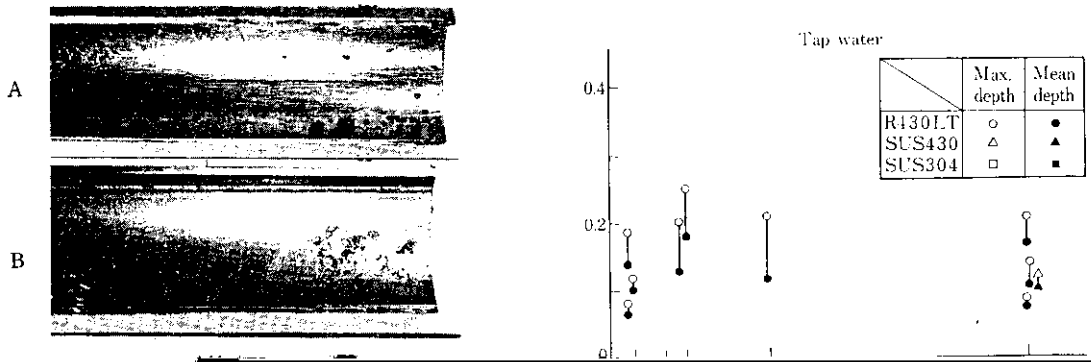


Table 2 Water quality (June, 1973~May, 1974)

	Mean	Range
pH	6.9	6.7~ 7.4
M-alkalinity (ppm)	39.8	22 ~ 59
Cl ⁻ (ppm)	27	20 ~ 34
Hardness (ppm)	92	79 ~104
Calcium hardness (ppm)	59	50 ~ 70
Total dissolved solids (ppm)	189	158 ~233
SO ₄ ²⁻ (ppm)	57	36 ~ 89
Specific conductance (μ U)	261	203 ~310

試験用工業用水の水質を Table 2 に示す。



○● Clean surface

● Dirty surface

○ Clean surface

● Dirty surface

Table 5 Estimation for the existence of corrosion pits* living at the end of 40weeks test

		Tap water	Tap water
--	--	-----------	-----------

.....

今回の試験ではこのような割合の起点が存在 発生量が 100mm (C1) 程度の水滴水に対して