

KAWASAKI STEEL GIHO

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LPG

AI-Killed Steel Plates of Low Temperature Service for LPG Storage Tanks

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Al-Killed Steel Plates of Low Temperature Service for LPG Storage Tanks

要旨

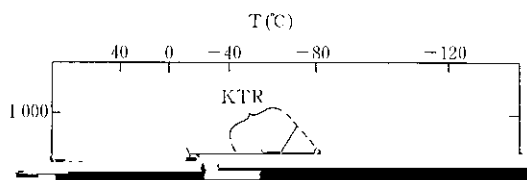
LPG タンク用鋼材として連続鋳造製 38 mm 厚の SLA 37 厚鋼

化学組成分析結果

Table 1 Characteristics of chemical composition

Element	Content (%)
Al	99.95
Fe	0.02
Cu	0.01
Mg	0.01
Mn	0.01
Zn	0.01
Pb	0.01
Sn	0.01
Si	0.01
Ca	0.01
Na	0.01
K	0.01
S	0.01
P	0.01
Cl	0.01
F	0.01
O	0.01
H	0.01
N	0.01
As	0.01
Sb	0.01
Bi	0.01
Se	0.01
Te	0.01
Mo	0.01
Cr	0.01
B	0.01
Li	0.01
Be	0.01
Sc	0.01
Ti	0.01
V	0.01
Cr	0.01
Mn	0.01
Fe	0.01
Ni	0.01
Cu	0.01
Zn	0.01
Ga	0.01
Ge	0.01
As	0.01
Se	0.01
Br	0.01
Kr	0.01
Rb	0.01
Sr	0.01
Zr	0.01
Nb	0.01
Mo	0.01
Tc	0.01
Ru	0.01
Rh	0.01
Pd	0.01
Ag	0.01
Cd	0.01
Hg	0.01
Tl	0.01
Pb	0.01
Bi	0.01
Po	0.01
At	0.01
Rn	0.01
Ac	0.01
Th	0.01
Pa	0.01
U	0.01
Np	0.01
Pu	0.01
Am	0.01
Cm	0.01
Bk	0.01
Cf	0.01
Es	0.01
Fm	0.01
Mendelevium	0.01
Nobelium	0.01
Lanthanum	0.01
Cerium	0.01
Praseodymium	0.01
Neodymium	0.01
Europium	0.01
Gadolinium	0.01
Terbium	0.01
Dysprosium	0.01
Ytterbium	0.01
Lutetium	0.01
Hafnium	0.01
Tantalum	0.01
Tungsten	0.01
Rhenium	0.01
Osmium	0.01
Iridium	0.01
Rhodium	0.01
Palladium	0.01
Silver	0.01
Cadmium	0.01
Mercury	0.01
Thallium	0.01
Lead	0.01
Bismuth	0.01
Antimony	0.01
Arsenic	0.01
Selenium	0.01
Chromium	0.01
Manganese	0.01
Zinc	0.01
Copper	0.01
Nickel	0.01
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Iron	0.01
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Copper	0.01
Nickel	0.01
Cobalt	0.01
Iron	0.01
Chromium	0.01
Manganese	0.01
Zinc	0.01

Process	Sample	C	Si	Mn	P	S	Cu	Ni	V	Nb	Al	Ti	REM	N	C _{eq} *
QT	Ladle	0.08	0.22	1.54	0.005	0.004	0.16	0.22	0.026		0.037	0.008	0.006	0.0036	0.36
	Product	0.08	0.22	1.54	0.006	0.004	0.17	0.22	0.026		0.038	0.007	0.006	0.0040	0.36



4 溶接継手性能

4.1 溶接条件 _____

Table 6 Welding conditions

Welding	Symbol	Welding	Side	Current	Voltage	Speed	Heat input	Shape of groove
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造した鋼材の疲労き裂伝播試験で得られた材料定数 C および m の

4.4 溶接継手部の疲労き裂伝播性能

Fig. 5 に一例として QT 38 mm 鋼の EGW 継手部における疲労伝播速度 da/dN (mm/cycle) と応力拡大係数 ΔK (kgf/mm^{3/2}) の関係を示す。溶接継手部における疲労き裂伝播速度は、

大係数範囲 ΔK (kgf/mm^{3/2}) の間の関係として、本供試材の平均として求められている $da/dN=1.4 \times 10^{-10} (\Delta K)^{3.03}$ を用いると、板厚疲労き裂が存在し、1日に2回内容物の完全な出し入れが行われ