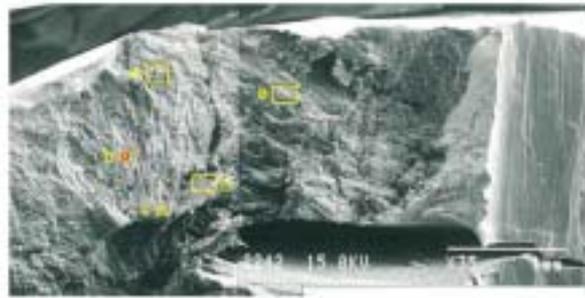


圖 34 疊接銲道缺陷顯示有雜質偏析現象及樹枝狀熱裂特徵圖



Dendritic feature was observed on fracture surface.

Results of FPM6 (%)								
Composition	Si	P	S	Cl	Cr	Mn	Fe	Ni
Approximate quantitative analysis (%)	1.3	0.06	0.67	0.16	28.6	0.79	61.6	6.8

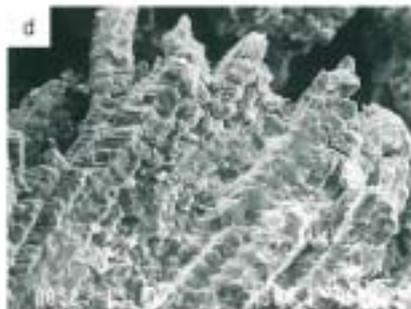
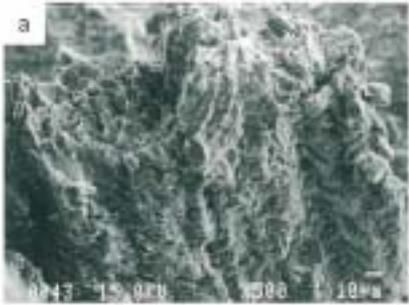


圖 35 鐳道缺陷顯示樹枝狀熱裂特徵

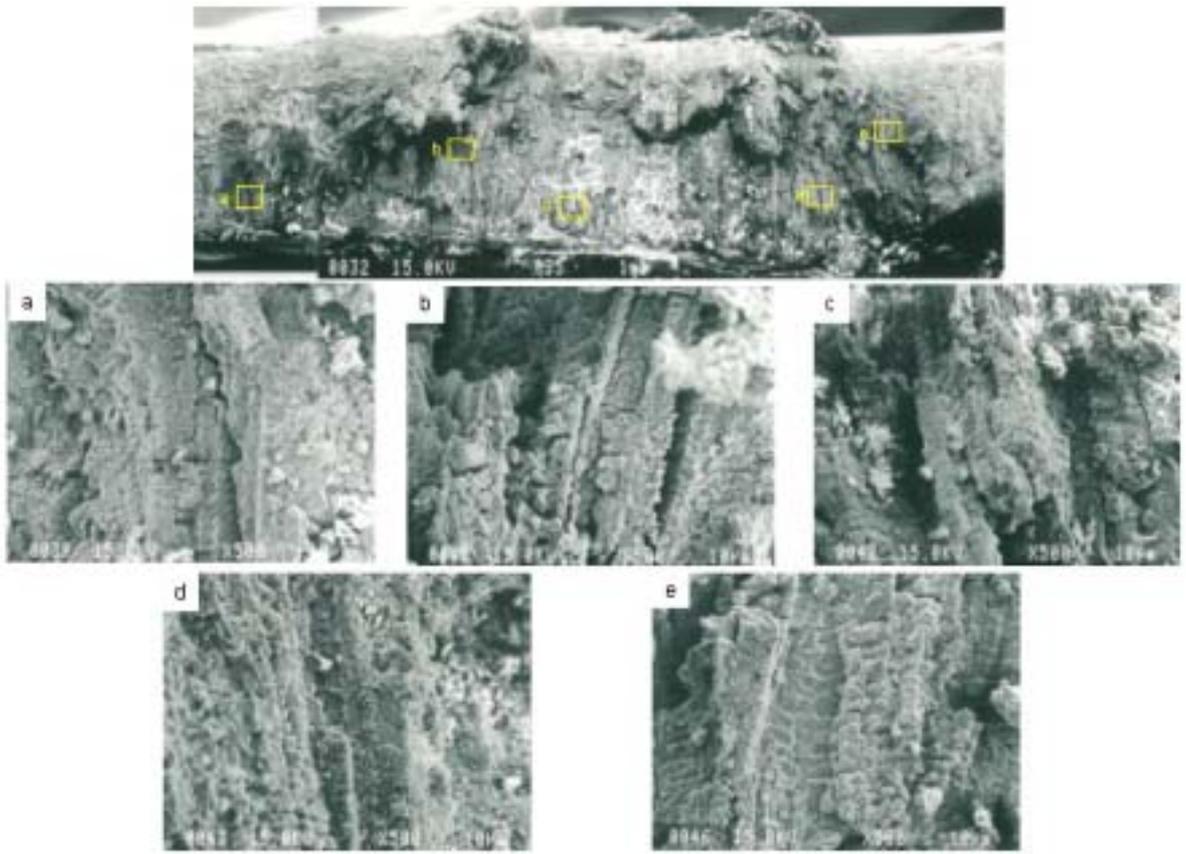
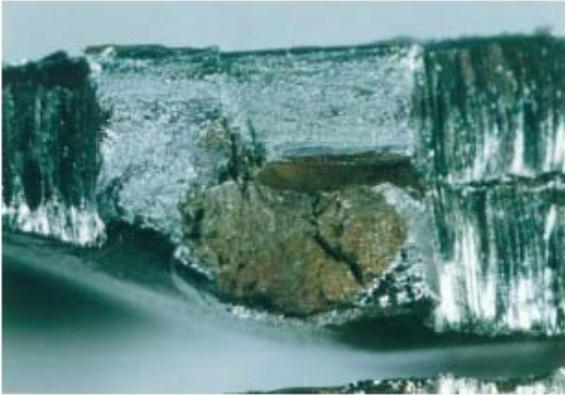


圖 36 疊接銲道缺陷型態

疊接銲道(lap weld)

垂直於銲道裂紋



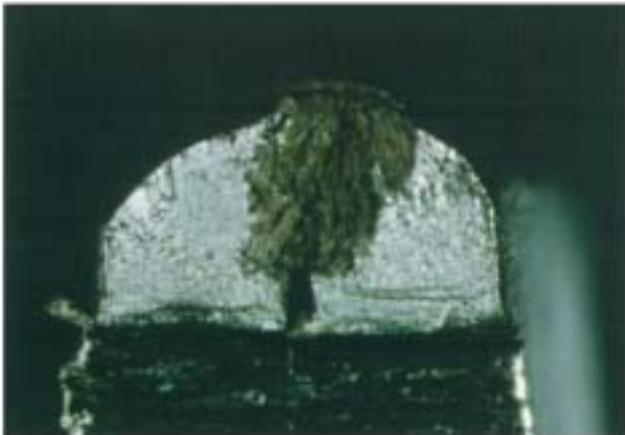
平行於銲道裂紋



圖 37 邊緣銲道缺陷型態

邊緣銲道(edge weld)

垂直於銲道裂紋



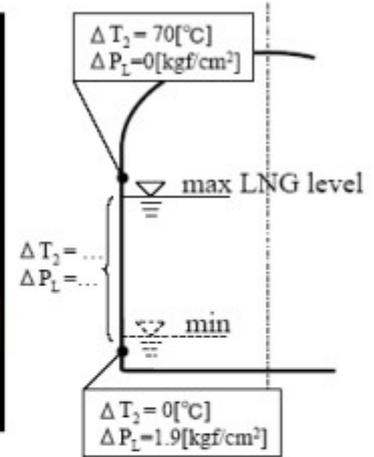
平行於銲道裂紋



圖 38 LNG 儲存槽運轉期負載狀況

薄膜型LNG儲存槽使用期間負荷週期預估

Operation process	The kind of load					
	Thermal		Gas pressure		Liquid pressure	
	T	ΔT	P_g	ΔP_g	P_L	ΔP_L
Construction	RT	—	0 [kgf/cm ²]	—	0 [kgf/cm ²]	—
Cooldown	-162 [°C]	ΔT_1 = 190[°C]	0.2 [kgf/cm ²]	0.2 [kgf/cm ²]	0 [kgf/cm ²]	—
Loading	-162 [°C]	0	0.2 [kgf/cm ²]	0 [kgf/cm ²]	max 1.9 [kgf/cm ²]	max 1.9 [kgf/cm ²]
Unloading	max θ_2 [°C]	max ΔT_2 = 70[°C]	0.2 [kgf/cm ²]	0 [kgf/cm ²]	min 0 [kgf/cm ²]	max 1.9 [kgf/cm ²]
⋮						



Design load cycle \Rightarrow Calculation of fatigue crack propagation

