

# 海洋構造物の溶接材料

## Welding Consumables for Offshore Structures



Photo source: Kansai Design Co., Ltd., Japan  
Jack-up rig



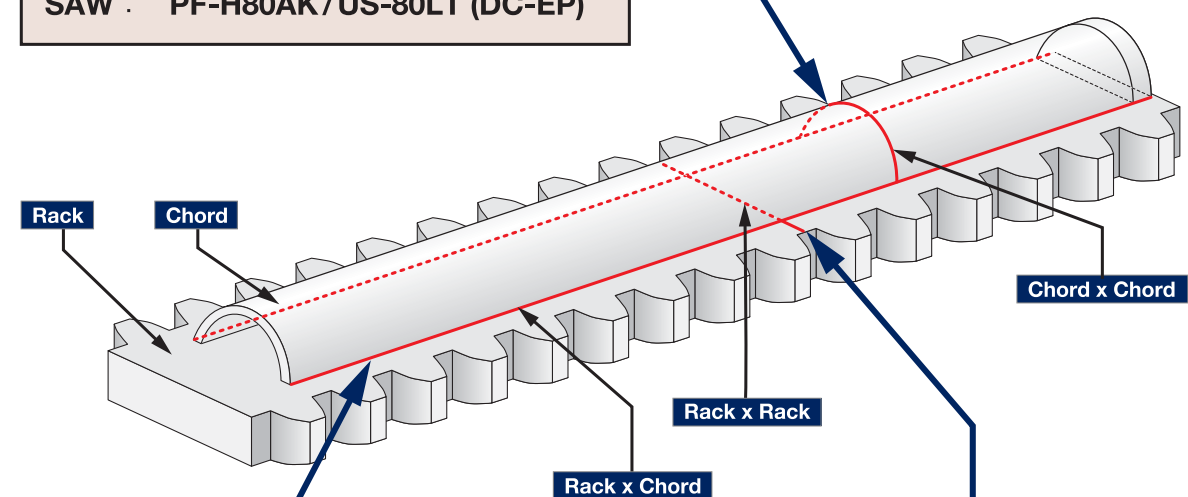
Jacket  
Original jacket photo source: www.biinternet.com



Photo source: Kansai Design Co., Ltd., Japan  
Jack-up rig

### Jack-up rig の溶接箇所 Welding parts of Jack-up rig

- TRUSTARC SMAW : LB-88LT (AC), LB-80L (DC-EP)
- TRUSTARC GMAW : MG-S88A (Ar+20%CO<sub>2</sub>)
- TRUSTARC SAW : PF-H80AK / US-80LT (DC-EP)



- TRUSTARC SMAW : LB-88LT (AC)
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- TRUSTARC GMAW : MG-S88A (Ar+20%CO<sub>2</sub>)

### AWS 規格および機械的性質の一例 AWS classification and example of mechanical properties

Welding process	Welding consumable	AWS classification	YS level (MPa)	√E Temp. ≥ 27J (°C)				CTOC Temp. ≥ 0.25mm (°C)				Note
				-20	-40	-60	-80	-20	-40	-60	-80	
SMAW	TRUSTARC LB-52NS	A5.5 E7016-G	400	■	■	■	■	■	■	■	■	AC Power
SAW	TRUSTARC LB-H55LT/US-38	A5.17 F7A8-EH14, F7P8-EH14	400	■	■	■	■	■	■	■	■	AC Power
GMAW	TRUSTARC US-36	A5.18 ER70S-G	400	■	■	■	■	■	■	■	■	Ar+20%CO <sub>2</sub> shielding gas
FCAW	TRUSTARC MG-S50LT	A5.29 E81T1-K2	400	■	■	■	■	■	■	■	■	CO <sub>2</sub> shielding gas
	TRUSTARC DW-55L	A5.29 E81T1-K2	420	■	■	■	■	■	■	■	■	
SMAW	TRUSTARC DW55;SR	A5.5 E11016-G	700	■	■	■	■	■	■	■	■	AC Power source
SAW	TRUSTARC LB88LT	A5.23 F12A10-EG-G	700	■	■	■	■	■	■	■	■	AC Power source
	TRUSTARC PF-H80AK/US-80LT	A5.23 F11A10-EG-G	700	■	■	■	■	■	■	■	■	DC-EP Power source
GMAW	TRUSTARC MG-S88A	A5.28 ER120S-G	700	■	■	■	■	■	■	■	■	Ar+20%CO <sub>2</sub> shielding gas

# ペンストックの溶接材料

## Welding Consumables for Penstocks

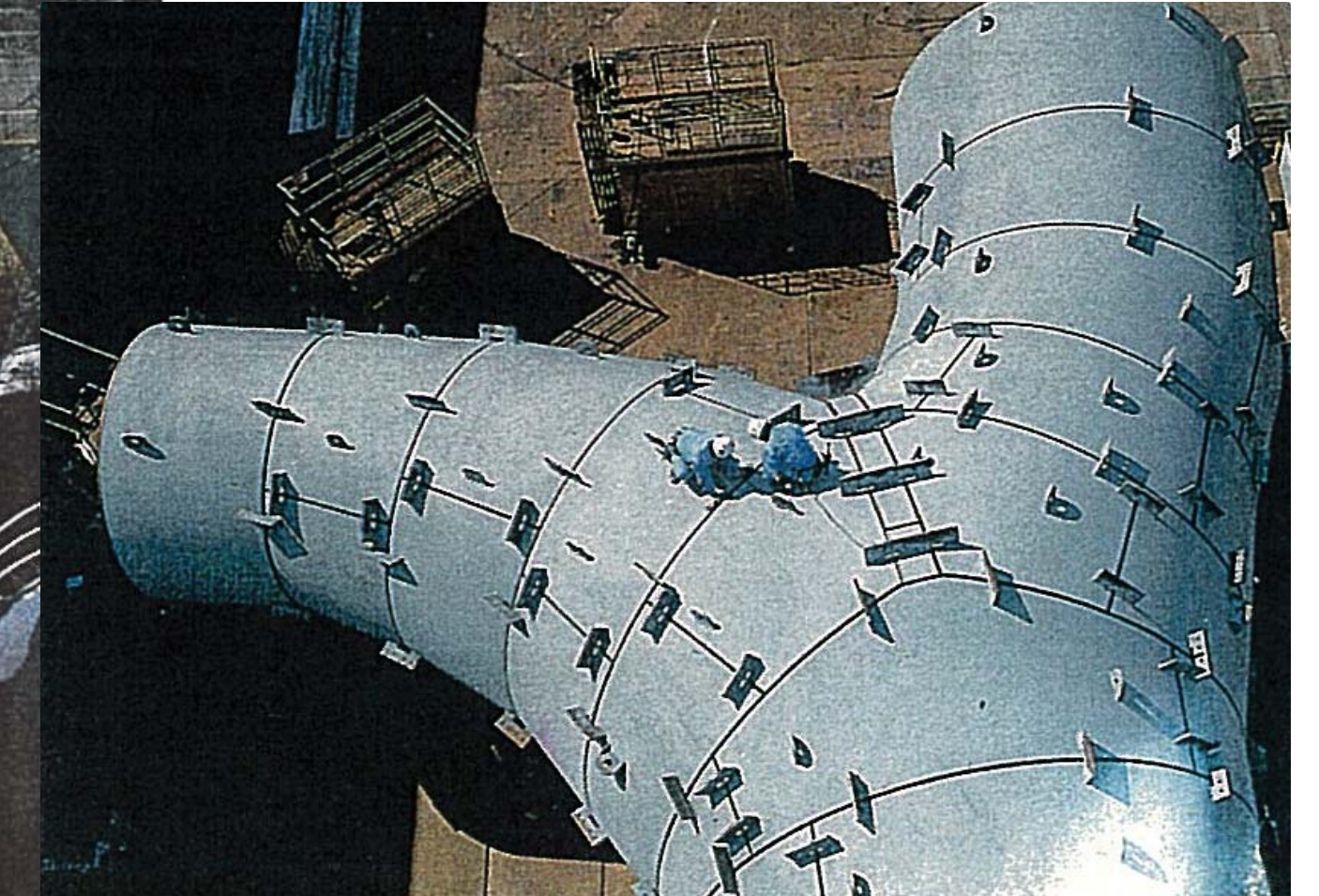
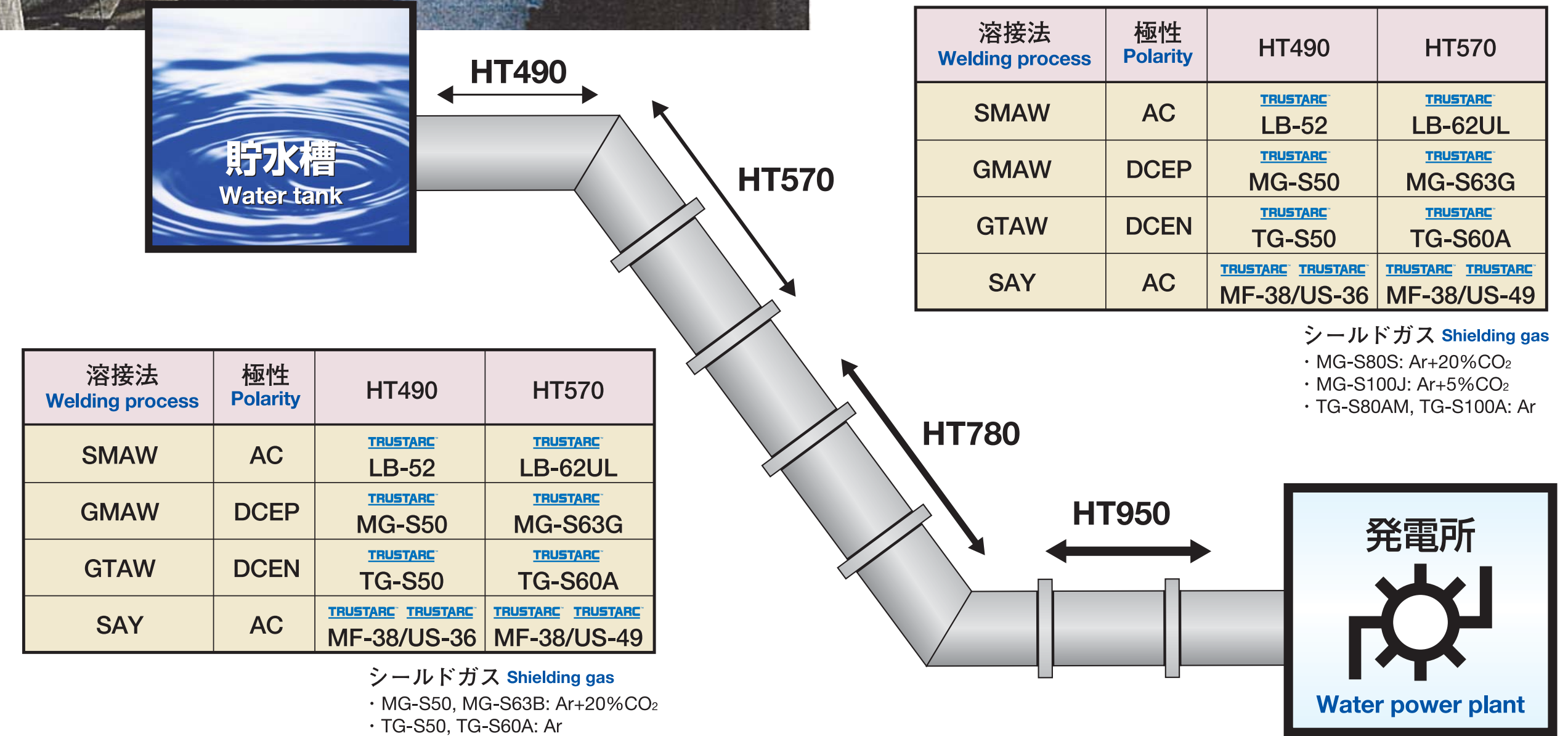
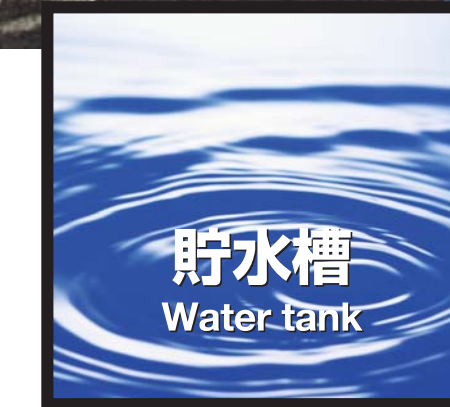


写真: 土木学会誌, Vol.91, No.2 (2003.6) 世界最大規模の揚水式発電プロジェクト



溶接法 Welding process	極性 Polarity	HT490	HT570
SMAW	AC	TRUSTARC LB-52	TRUSTARC LB-62UL
GMAW	DCEP	TRUSTARC MG-S50	TRUSTARC MG-S63G
GTAW	DCEN	TRUSTARC TG-S50	TRUSTARC TG-S60A
SAY	AC	TRUSTARC MF-38/US-36	TRUSTARC MF-38/US-49

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GTAW	DCEN	TRUSTARC TG-S50	TRUSTARC TG-S60A
SAY	AC	TRUSTARC MF-38/US-36	TRUSTARC MF-38/US-49

シールドガス Shielding gas  
 ・ MG-S50, MG-S63G: Ar+20%CO<sub>2</sub>  
 ・ TG-S50, TG-S60A: Ar

シールドガス Shielding gas  
 ・ MG-S80S: Ar+20%CO<sub>2</sub>  
 ・ MG-S100J: Ar+5%CO<sub>2</sub>  
 ・ TG-S80AM, TG-S100A: Ar