



核工业焊接材料

voestalpine Böhler Welding
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ONE STEP AHEAD.

Joining

Steam Generator, Pressurizer Piping and Reactor Pressure Vessel			Welding Consumable Standard	Welding Consumable Selection	
	Base Metal	Weld/Cladding	Welding Process	ASME II-C	Suzhou Product Name
Pressure retaining parts base metal Tube sheet base metal	SA-516 Gr.70	SG and PRZ: Shell to shell welds SG: Channel head to tubes-sheet Bundle wrapper to Lower shell weld Feed-water nozzle to conical shell PRZ: Man-way, safety valve, venting nozzle Surge nozzle Shell to shell welds	SMAW	E7018	T Phoenix 120 K Mo
			GTAW	ER70S-6	T Union GT 76
			SAW	EM12K	T Union SA EM12K
	T-UV 620 NR				
	18MND5 SA-508 Gr. 3 Cl. 2	SG and PRZ: Shell to shell welds SG: Channel head to tubes-sheet Bundle wrapper to Lower shell weld Feed-water nozzle to conical shell PRZ: Man-way, safety valve, venting nozzle Surge nozzle Shell to shell welds SG and PRZ: Subsequent layer cladding: - Pressure boundary - Nozzles SG: Tube sheet cylindrical shell	SAW	EG (EF3-mod)	T Union SA 3NiMo1
					T-UV 620 NR
			SAW	EG (EF6-mod)	T Union SA 3NiMoCr
					T-UV 620 NR
			SMAW	E9018-G	T Phoenix 3 K Ni
				E309L-16	BöHLER FOX 309L
GTAW	ER308L	BöHLER GTA 308L			
	ER309L	BöHLER GTA 309L			
SMAW	E308L-16	BöHLER FOX 308L			
PRZ surge-line Piping, fittings	Z2CND18-12 AISI 316 L	PRZ: Branch connections, safe ends, heater elements, connection parts Piping: Weld joining surge line with main coolant line	GTAW	ER316L	BöHLER GTA 316L
			SMAW	E316L-16	BöHLER FOX 316L
Main coolant line	Z2CN19-10 AISI 304L	Pipes, elbows	GTAW	ER308L	BöHLER GTA 308L
			SMAW	E308L-16	BöHLER FOX 308L
Pressure boundary base cladding materials	16MND5 SA-508 Gr. 3 CL. 1 20 MnMoNi5-5	First layer cladding of pressure boundary	GTAW	ER309L	BöHLER GTA 309L
			SMAW	E309L-16	BöHLER FOX 309L
	Subsequent layers cladding of pressure boundary	GTAW	ER308L	BöHLER GTA 308L	
		SMAW	E308L-16	BöHLER FOX 308L	
Internals base metals	Z2CN19-10 AISI 304L	Welding consumables for reactor internals	GTAW	ER308L	BöHLER GTA 308L
			SMAW	E308L-15	BöHLER FOX 308L-15
	Z2CND18-12 AISI 316L		GTAW	ER316L	BöHLER GTA 316L
			SMAW	E316L-15	BöHLER FOX 316L-15