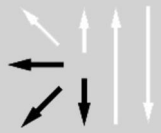


Classifications										
EN ISO 17633-A				EN ISO 17633-B				AWS A5.22		
T 22 9 3 N L R M21/C1 3				TS 2209-F M21/C1 0				E2209T0-4/1		
Characteristics and typical fields of application										
Primarily designed for welding 22Cr duplex stainless steels used in offshore, shipyards, chemical tankers, chemical/petrochemical, pulp & paper, etc. Avesta FCW-2D 2205 provides excellent weldability in flat as well as horizontal-vertical position. Welding in vertical-up and overhead positions is preferably done using FCW 2205-PW. The weld metal has very good resistance to pitting and stress corrosion cracking in chloride containing environments and meets the corrosion test requirements per ASTM G48 Methods A, B and E (22°C), ASTM G36 and NACE TM 0177 Method A. Over-alloyed in nickel to promote austenite formation. Duplex alloys have good weldability, but the welding procedure should be adapted to the base material considering fluidity, joint design, heat input, etc.										
Base materials										
EN 1.4462 X2CrNiMoN22-5-3, EN 1.4362 X2CrNiN23-4, EN 1.4162 X2CrNiMoN21-5-1 UNS S32205, S31803, S32304, S32101 Outokumpu 2205, 2304, LDX 2101 [®] , SAF 2205, SAF 2304										
Typical analysis of all-weld metal									Ferrite WRC-92	
	C	Si	Mn	Cr	Ni	Mo	N	PREN	FN	
wt.-%	0.027	0.7	0.9	22.9	9.2	3.2	0.13	> 35	45 – 65	
Mechanical properties of all-weld metal – typical values (minimum values)										
Heat treatment	Yield strength R _{p0.2}		Tensile strength R _m		Elongation A (L ₀ =5d ₀)		Impact work ISO-V KV J		Hardness	
	MPa		MPa		%		20°C	–30°C	HB	
u	620 (≥ 450)		800 (≥ 690)		27 (≥ 20)		60	45 (≥ 32)	240	
u	untreated, as-welded – shielding gas Ar + 18 % CO ₂									
Operating data										
	Polarity DC+		Wire feed m/min 6.5 – 15.5		Current A 150 – 280		Voltage V 24 – 30		Arc length mm ~ 3	Ø (mm) 1.2
DC+ polarity. Ar + 15 – 25 % CO ₂ offers the best weldability. 100 % CO ₂ can be also used, but the voltage should be increased by 2 V and the weld metal austenite content increases somewhat. Gas flow rate 20 – 25 l/min. Suggested heat input is 0.5 – 2.5 kJ/mm, interpass temperature max. 150°C and wire stick-out 15 – 20 mm. The scaling temperature is approx. 850°C in air. Post-weld heat treatment generally not needed. In special cases, solution annealing can be performed at 1100 – 1150°C followed by water quenching. Ferrite measured with Fischer Feritescope 39 – 47 FN.										
Approvals										
TÜV (10742.), BV (C1), CWB, DNV GL, LR, RINA (M21), DB (43.014.44), CE, ABS										