UTP AF 6808 Mo PW

stainless steels

Classifications	Gas-shielded flux-cored wire
EN ISO 17633-A	AWS A5.22
T 22 9 3 N L P M21 1 / T 22 9 3 N L P C1 1	E2209T1-4 / E2209T1-1

Characteristics and field of use

UTP AF 6808 Mo PW is a duplex steel rutile flux-cored wire for position welding of duplex steels in the chemical apparatus, plant and container construction, for chemical tankers and in the offshore industry. The support provided by the fast-hardening slag allows out-of-position welding with high current magnitudes and high welding speeds. The advantage of the slag is its supporting effect on the weld pool. This permits, for example, welding with the stringer bead technique at a correspondingly high welding speed even in difficult pipe welding positions (5G, 6G). The fine droplet, low-spatter, very powerfully welding spray arc, the reliable fusion penetration, the self-releasing slag and the effectively wetting seam formation result in a high weld quality at the same time as short welding times. Additional advantages to its application result from the ease of handling, the low heat input due to the high welding speed, and the small amounts of cleaning and pickling required.

The structure of the weld metal consists of austenite and ferrite (FN 30 - 50). The pitting resistance equivalent is $PRE_N \geq 35$ (% Cr+3.3 % Mo+16 % N). Testing the weld metal in accordance with ASTM G48 Method A resulted in a CPT (critical pitting temperature) of 25 °C. Also suited to joining different materials and to weld cladding. Usable between -46 °C and +250 °C.

Base materials

Same and similar alloyed duplex steels, as well as dissimilar joints or weld claddings.
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; 1.4462 X2CrNiMoN22-5-3 with 1.4583 X6CrNiMoNb17-13-3, 1.4462 X2CrNiMoN22-5-3 with P235GH/ P265GH, S255N, P295GH, S460N, etc.

Typical analysis in %

C	Si	Mn	Cr	Ni	Mo	N	PRE_N	Fn
≤ 0.03	0.8	0.9	22.7	9.0	3.2	0.13	≥ 35	30 – 50

Mechanical properties of the weld metal

Welded condition	*Yield strength $R_{p0.2}$*	*Tensile strength R_m*	*Elongation A*	*Impact toughness K_V*			
	MPa	*MPa*	*%*	*J [RT]*	*– 20 °C*	*– 40 °C*	*– 46 °C*
untreated	600	800	27	80	65	55	45

shielding gas Ar + 18 % CO_2

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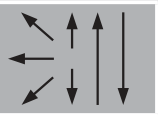
Welding instructions

Welding with conventional MAG devices, slightly trailing torch position (angle of incidence about 80°) ; slight weaving of the torch is recommended in all positions; with 100 % CO_2 the voltage must be 2 V higher. The gas quantity should be 15 – 18l / min.

Welding positions



Current type DC (+)
Shielding gases: Argon + 15 - 25 % CO_2, 100 % CO_2

Approvals

TÜV-D (07666.), ABS (E 22 09 T1-4(1)), CWB (E2209T1-1(4)), DNV GL, LR (X (M21,C1)), RINA (2209 S), CE

Form of delivery and recommended welding parameters

Wire diameter [mm]	*Amperage [A]*	*Voltage [V] [V]*
1.2	100 – 220	20 – 31