

Classifications

EN ISO 3581-A	AWS A5.4 / SFA-5.4
E Z 17 4 Cu B 4 3 H5	E630-15 (mod.)

Characteristics and typical fields of application

Basic coated electrode of E Z 17 4 Cu B / E630-15 (mod.) type with high strength for welding of similar precipitation hardening rolled, forged and cast CrNiCu-steels. Popular for components in the paper industry, rotors of compressors, fan blades, press plates in the plastic processing industry and in the aerospace industry. The electrode shows very good arc stability and weld puddle control as well as slag detachability and seam cleanness. Hydrogen content in weld deposit < 5 ml/100 g. Suitable for welding in all positions except vertical down. With the use of proper PWHT (solution annealing + precipitation hardening), impact values down to -50°C are achievable.

Base materials

Precipitation hardening forged steels and cast steels

1.4405 GX4CrNiMo16-5-1, 1.4418 X4CrNiMo16-5-1, 1.4525 GX5CrNiCu16-4, 1.4532 X8CrNiMoAl15-7-2, 1.4540 X4CrNiCuNb16-4,

1.4542 X5CrNiCuNb16-4, 1.4548 X5CrNiCu17-4

UNS S15700, S15500, S17400, S17480

AISI 630, 632

17-4 PH, 248 SV, XM12

Typical analysis

	C	Si	Mn	Cr	Ni	Mo	Nb	Cu
wt.-%	0.03	0.3	0.6	16.0	5.1	0.4	0.2	3.2

Mechanical properties of all-weld metal - typical values (min. values)

Condition	Yield strength $R_{p0.2}$ MPa	Tensile strength R_m MPa	Elongation A ($L_0=5d_0$) %	Impact energy ISO-V KV J		Hardness HRC
				20°C	-50°C	
u						32 – 39
a1	940	1030	10	20		37 – 40
a2	830	1110	8	15		
a3	630	940	15	24 – 30		29 – 31
a4	920	1030	15	60 – 66		
a5	550	880	18	69 – 75	55	27 – 29

u untreated, as-welded

a 540°C for 3 h / cooling in air


a1 480°C for 1 h / cooling in air

a2 760°C for 2 h / cooling in air + 620°C for 4 h / cooling in air

a3 solution annealed 1040°C for 0.5 h / cooling in air + 580°C for 4 h / cooling in air

a4 solution annealed 1040°C for 0.5 h / cooling in air + 620°C for 4 h / cooling in air

Operating data

	Polarity	DC+	Dimension mm	Current A
	Electrode identification	FOX CN 17/4 PH E Z 17 4 Cu B	2.5 × 300	65 – 85
			3.2 × 350	90 – 110
			4.0 × 350	120 – 140
			5.0 × 450	140 – 180

The interpass temperature has to be kept very low (max. 80°C).

Re-drying at 300 – 350°C for min. 2 h if necessary.

Approvals

CE