

Classifications

EN ISO 3581-A	AWS A5.4
E Z17 4 Cu B 4 3 H5	E630-15 (mod.)

Characteristics and typical fields of application

Basic electrode with strength properties for joint and fabrication welding of analogous precipitation hardening Cr-Ni-Cu alloyed rolled-, forged- and cast steels.

Popular for components in the paper industry, rotors of compressors, fan blades, press plates in the plastic processing industry and for the aerospace industry.

The electrode shows very good features in regard to arc stability, weld puddle control, slag detachability and seam cleanliness. Lowest hydrogen content in the deposit is a prerequisite (HD < 5 ml/100 g). The electrode is suitable for welding in all positions except vertical down.

The interpass temperature has to be kept very low (maximum 80°C). With the use of the proper PWHT (solution annealing + precipitation hardening impact values down to -50°C are still achievable.

Base materials

precipitation hardening forged steels and cast steels, same-alloyed

1.4540 X4CrNiCuNb16-4, 1.4540 GX4CrNiCuNb16-4, 1.4542 X5CrNiCuNb16-4 1.4548 X5CrNiCuNb17-4-4

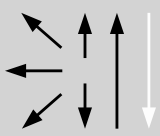
J92180 Gr. CB Cu-1, S17400 Type 630, SAE J467 17-4PH

Typical analysis of all-weld metal (wt.-%)

	C	Si	Mn	Cr	Ni	Mo	Cu	Nb
wt.-%	0.03	0.3	0.6	16.0	4.9	0.4	3.2	0.2

Mechanical properties of all-weld metal

Condition	Yield strength R _{p0,2}	Tensile strength R _m	Elongation A (L ₀ =5d ₀)	Hardness HRC	Impact work ISO-V KV J	
	MPa	MPa	%		+20 °C	-50 °C
u	440	800	4	32 – 39	35 – 40	
a1	940	1030	10	37 – 40	20	
a2	830	1110	8		15	
a3	630	940	15	29 – 31	24 – 30	
s1	920	1030	17		60 – 66	
s2	650	890	18	27 – 29	69 – 75	55
u untreated, as welded		a1 540 °C/3h / air		a2 480 °C/1h / air	a3 760 °C/2h / air + 620 °C/4h / air	
s1 solution annealed 1040 °C 0.5h / air + 580 °C/4h / air				s2 solution annealed 1040 °C/0.5h / air + 620 °C/4h / air		

Operating data						
	Polarity: DC (+)	Redrying if necessary: 300 – 350 °C, min. 2 h	Electrode identification: FOX CN 17/4 PH E Z 17 4 Cu B	ø (mm) 3.2	L mm 350	Amps A 90 – 110
				ø (mm) 4.0	L mm 350	Amps A 120 – 140
Approvals						
SEPROZ						