

Brand name | 17-7PH®

Standards	Material No.	EN Designation	AISI/SAE	UNS
	1.4564	X7CrNiAl17-7	631	S17700

Description | 1.4564 / 17-7PH® is an austenitic chromium-nickel stainless steel with aluminum addition.

Special properties | Excellent fatigue properties, good corrosion resistance, good formability and minimum distortion upon heat treatment. It is easily formed in the annealed condition, hardened to high strength levels by heat treatments to condition CH900, RH950 or TH1050. The exceptional high strength of condition CH900 offers many new advantages where limited ductility and workability are permissible. In its heat treated condition, this alloy provides exceptional mechanical properties at temperatures up to 480 °C.

Chemical Composition	C %	Si ≤ %	Mn ≤ %	P ≤ %	S ≤ %
	≤ 0.09	1.00	1.00	0.04	0.03
	Cr %	Ni %	Cu %	Al %	
	16.0-18.0	6.50-7.75	≤ 0.50	0.75-1.50	

Mechanical Properties 20°C	Hardness HB 30 ≤ HB	0.2% Yield strength R _p ≥ N/mm ²	Tensile strength R _m N/mm ²	Elongation A ₅ ≥ %	Modulus of elasticity kN/mm ²
	230	280	900-1100	35	200

Physical Properties 20°C	Density g/cm ³	Thermal conductivity W/m K	Electrical resistivity Ω mm ² /m
	7.81	16	0.8

Suitable welding filler materials | 1.4564

Application | Aircraft industry, high strength corrosion resistant parts

Available forms for 1.4564 / AISI 631	Sheets/Plates	Bars	Wire	Forged / cast parts	Finished part (drawing)
					