

CL 92PH Precipitation hardening stainless steel

Precipitation hardening stainless steel powder (17-4 PH),
chemical composition according to ASTM A564 / A564M – 13 UNS S17400

CL 92PH is a precipitation hardening stainless steel for the
production of functional parts or medical instruments.

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Fe

55,847

CHEMICAL COMPOSITION

Component	Indicative value (%)
Fe	Balance
C	0 – 0,07
Mg	0 – 1,00
P	0 – 0,04
S	0 – 0,03
Si	0 – 1,00
Cr	15,00 – 17,50
Ni	3,00 – 5,00
Cu	3,00 – 5,00

RANGE OF APPLICATION

The material is used for manufacturing acid- and corrosion resistant prototypes, unique or series production parts in the following fields: Plant engineering, automotive industry, medical technology, jewellery and components for moulds.

TECHNICAL DATA AFTER RECOMMENDED HEAT TREATMENT

Yield point $R_{p0,2}$ ¹	1170 N/mm ²
Tensile Strength R_m ¹	1310 N/mm ²
Elongation A ¹	10 %
Thermal conductivity λ ²	16 W/mK
Hardness ¹	388 HB

¹ Preliminary, specification according to ASTM A564/A564M – 13 UNS S17400

² Preliminary, specification according to the material manufacturer's data sheet

CL 92PH

Precipitation
hardening
stainless steel

MICROSECTION

Test piece
(x 20 magnification)



Test piece
(x 100 magnification)



HEAT TREATMENT¹

CL 92PH is solution annealed at temperatures of 1025 – 1055°C, followed by a rapid cooling down in water, air or oil. Heat up to 480°C and maintain temperature for 1 hour. Subsequently allow the component cooling down at ambient atmosphere.

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MICROSTRUCTURE

Components made from precipitation hardening stainless steel CL 92PH display a homogeneous, dense structure after they are manufactured by means of the metal laser melting process LaserCUSING®.