

CL 92PH Precipitation hardening stainless steel

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

With an appropriate approval* CL 92 PH can be used for
production of functional parts or medical instruments.

26

Fe

55,847

CHEMICAL COMPOSITION

Component	Indicative value (Weight in %)
Fe	Balance
C	0 – 0,07
Mn	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
Nb+Ta	0,15 – 0,45

RANGE OF APPLICATION

With an appropriate approval* 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

	Heat Treatment ¹	Heat Treatment ²
Yield point $R_{p0,2}$	1200 – 1300 N/mm ²	770 – 870 N/mm ²
Tensile Strength R_m	1300 – 1400 N/mm ²	840 – 960 N/mm ²
Elongation A	3 – 7,5 %	10 – 15 %
Thermal conductivity λ^3	16 W/mK ³	16 W/mK ³
Hardness	43 – 46 HRC	31 – 35 HRC
	¹ Specification according to ASTM A564/A564M – 13 UNS S17400 for maximum Strength ² Specification according to ASTM A564/A564M – 13 UNS S17400 for maximum Elongation ³ Specification according to the material manufacturer's data sheet	

HEAT TREATMENT 1

Heat Treatment according to ASTM A564/A564M – 13 UNS S17400: solution annealing + age hardening (H900)

HEAT TREATMENT 2

Heat Treatment according to ASTM A564/A564M – 13 UNS S17400: age hardening (H1150)

MICROSECTION

Test piece (x 20 magnification)



Test piece (x 100 magnification)



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®.

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CL 92PH

Precipitation
 hardening
 stainless steel

All of the specified figures are approximate figures. The figures which are provided reflect the current level of our knowledge and are dependent on process and machine parameters. The information provided on this material data sheet is therefore not binding and is not deemed to be certified.
 * The approval is branch-specific and/or application-specific and it must be, therefore, carried out by the consumer/user. Approval of materials by Concept Laser GmbH is not available.