

CL 92PH Precipitation hardening stainless steel



GE Additive

GE Additive **17-4 PH**

*Precipitation hardening stainless steel powder (17-4 PH),
chemical composition according to ASTM A564/A564M - 13 UNS S17400 / SUS 630*

With an appropriate approval* 17-4 PH can be used for production of functional parts or medical instruments.

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Fe

55,847

CHEMICAL COMPOSITION

Component	Indicative value (Weight in %)
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
Fe	Balance

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 Strength R _{p0,2}	1250 ± 50 N/mm ²	820 ± 50 N/mm ²
Tensile Strength R _m	1350 ± 50 N/mm ²	900 ± 60 N/mm ²
Elongation A	5 ± 2 %	13 ± 2 %
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 elongation ² Specification according to ASTM A564/A564M – 13 UNS S17400 for maximum strength 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 17-4 PH display a homogeneous, dense structure after they are manufactured by means of the metal laser melting process LaserCUSING.

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.



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 hardening
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