



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

Source: Concept Laser GmbH

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	

17-4 PH Precipitation hardening stainless steel

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 DMLM.

