# **CL 92PH** Precipitation hardening stainless steel



## 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.

26 **Fe** 55,847

### CHEMICAL COMPOSITION

Component	Indicative value (Weight in %)				
С	0 - 0,07				
Mn	0 - 1,00				
Р	0 - 0,04				
5	0 - 0,03				
Si	0 - 1,00	7.73		14	23-
Cr	15,00 - 17,50	10000		-11	115
Ni	3,00 - 5,00	2333333		11/1	111
Cu	3,00 - 5,00	-161910	180	11	
Nb+Ta	0,15 - 0,45	77/0//	- 11990		
Fe	Balance	700			
3/1			V	0	
				0	

# scified figures are approximate figures. The figures which are provided urrent level of our knowledge and are dependent on process and ameters. The information provided on this material data sheet is

17-4 PH
Precipitation
hardening

stainless steel

### **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 <sup>1</sup>	Heat Treatment <sup>2</sup>
Yield Strength R <sub>p0,2</sub>	1250 ± 50 N/mm <sup>2</sup>	820 ± 50 N/mm <sup>2</sup>
Tensile Strength R <sub>m</sub>	1350 ± 50 N/mm <sup>2</sup>	900 ± 60 N/mm <sup>2</sup>
Elongation A	5 ± 2 %	13 ± 2 %
Thermal Conductivity λ <sup>3</sup>	16 W/mK³	16 W/mK³
Hardness	43 – 46 HRC	31 – 35 HRC
	<ul> <li>Specification according to ASTM A564/A564M - 13 UNS S17400 for maximum elong</li> <li>Specification according to ASTM A564/A564M - 13 UNS S17400 for maximum strenger</li> <li>Specification according to the material manufacturer's data sheet</li> </ul>	

### **HEAT TREATMENT 1**

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

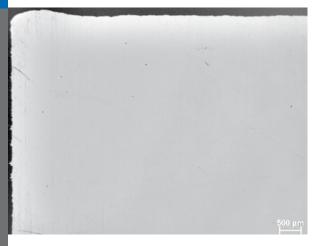
### **HEAT TREATMENT 2**

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

### **MICROSECTION**

Test piece (x 20 magnification)







### **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.

