Hamilton Precision Metals
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TECHNICAL DATA SHEET

SS 17/7 PH

SS 17/7 PH is a precipitation hardenable stainless steel that is formable and also capable of meeting high strength requirements. It is utilized in applications that require both high strength and good corrosion resistance. The alloy is classified as semi-austenitic to distinguish the soft phase (austenite) available for ease of forming from the high strength phase (martensite) usually achieved by heat treatment.

NOMINAL COMPOSITION:

Chromium	16.8%	Carbon	.08%
Nickel	7.3%	Iron	Balance
Alumium	1.2%		

TYPICAL MECHANICAL PROPERTIES: [1]

	ANNEALED	ANNEALED HEAT TREATED	COLD ROLLED	COLD ROLLED **HEAT TREATED**
UltimateTensile Strength	130,000 PSI	235,000 PSI	220,000 PSI	265,000 PSI
Yield Strength (.2% Offset)	40,000 PSI	220,000 PSI	200,000 PSI	260,000 PSI
Elongation in 2" *	35%	5%	2%	1%
Modulus of Elasticity (Tension)	29 x 10^6 PSI			

*The measured elongation will be less as thickness decreases to .002" and less.

[1] These values may be adjusted by control of process variables – consult HPM for desired values.

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PHYSICAL PROPERTIES:[2]

Density (Heat Treated)	-	0.276 lb/cu.in.
Electrical Resistivity @ R.T.	-	83 Microhm· cm
Thermal Expansion Coefficient (Heat Treated) (21° to 93° C)	-	10.3 x 10^{-6}/°C
Thermal Conductivity @ 150° C	-	16.7 W/m· K
Magnetic Attraction	-	None

GENERAL INFORMATION:

The alloy can be formed from the annealed temper but due to a rapid work hardening rate may not be deep drawn without intermediate annealing. It is joined by most arc and resistance methods used for stainless steel. It should not be fusion welded unless shielded by inert gas to prevent oxidation of aluminum.

AVAILABILITY:

SS 17/7 PH is available from Hamilton Precision Metals as strip product in thicknesses from .001" to .040" in widths to 12.0". The material conforms to ASTM A693, AMS 5528, AMS 5529, FED QQS766, and MIL S 25043.

[2] Typical values to guide alloy selection but are not a guarantee of minimum or maximum.