

Specifications: AMS 5659-Bars, AMS 5862-Sheets and Plates, UNS S 15500

Applications: 15-5 PH Stainless Steel is the ferrite-free version of 17-4 PH Stainless Steel. Both alloys are widely used in the aerospace, chemical, petrochemical, food processing, paper and general metalworking industries with applications like valves, pumps and fasteners.

AMS 5659 / 15-5PH

Condition		Cond A typical values	H900 Min values AMS 5659	H1025	H1075	H1100	H1150
Min tensile properties							
Tensile Ksi		161,000	190	155	145	140	135
Tensile MPa		1100	1310	1069	1000	965	931
Yield Ksi		140,000	170	145	125	115	105
Yield MPa		965	1172	1000	862	793	724
Elongation %		7,60%	6%	8%	9%	10%	11 %
Hardness Brinell		363 max	388 min	331 min	331 min	311 min	277 min
Hardness Rockwell		C35	C40	C36	C36	C32	C28

We can heat treat your material to your preferred condition.

Type 15-5 PH is a martensitic precipitation-hardening stainless steel that provides high strength, good corrosion resistance, good mechanical properties at temperatures up to 316°C and good toughness in both the longitudinal and transverse directions.

The general level of corrosion resistance exceeds that of Types 410 and 431, and is approximately equal to that of Type 17-4 PH. To reach a higher ductility and homogeneity material is ESR or Vacuum remelted.

The 15-5 PH alloy was designed to have greater toughness than 17-4 PH, especially in the through-thickness (short transverse) direction. This improved toughness is achieved by reduced delta ferrite content and control of inclusion size and shape. The composition and processing of 15-5 PH alloy is carefully controlled to minimize its content of delta ferrite, which is present in the 17-4 PH stainless steel material. Inclusion control is done by consumable electrode remelting using the electro-slag remelting (ESR) process. The 15-5 PH alloy is martensitic in structure in the annealed condition and is further strengthened by a relatively low temperature heat treatment which precipitates a copper containing phase in the alloy.

15-5 PH VAC MELT to the following specifications:

AMS 5659 TYPE 1

ASTM-A-484

15-5 ESR to the following specifications:

AMS 5659 TYPE 2

ASTM-A-484

Every effort is made to ensure that technical specifications are accurate. However, technical specifications included herein should be used as a guideline only. All specifications are subject to change without notice

AMS 5659 / AMS 5862 Chemical analysis weight %

Element	Min	Max
Carbon	-	0,07
Manganese	-	1,00
Silicon	-	1,00
Phosphorus	-	0,030
Sulfur	-	0,015
Chromium	14,00	15,50
Nickel	3,50	5,50
Columbium/Niobium	5xC	0,45
Copper	2,50	4,50
Molybdenum	-	0,50

Hardness AMS 5862- sheets and Plates

Condition	HB	HRC
H900	375-444	40-47
H925	352-415	38-45
H1025	331-388	35-42
H1075	311-363	33-39
H1100	302-352	32-38
H1150	269-341	28-37

Specifications

AMS 5862 – Sheets, Strips and Plates

AMS 5659 Bars, Forgings, Tubes and Rings