



Canada  
SPECIAL STEEL INC



15 - 5 PH

PLATE AND SHEET



## Applications

Shafts, Gears, Aircraft Structural parts, Fittings, Fasteners, Valve parts

## Features

- 15-5 PH is a martensitic precipitation-hardening stainless steel that offers excellent corrosion resistance, high strength, and good toughness. This alloy conforms to AMS 5659 and AMS 5862 and is commonly used in aerospace and power generation applications where the combination of high strength and corrosion resistance is essential.
- One of the benefits of 15-5 PH is that it is relatively easy to work with and can be readily machined, welded, and formed. However, to optimize the mechanical properties of this alloy, heat treatment may be necessary. The heat treatment process for 15-5 PH typically involves two steps: solution annealing and precipitation hardening.
- It can be produced either through consumable electrode melting (*ESR*) or Vacuum Arc Remelting (*VAR*). 15-5 PH stainless steel offers very good transverse properties and is corrosion resistant.

## Standard

AMS 5659 / AMS 5862

## Material

15-5 PH / UNS S15500 / W.Nr 1.4545

## Chemical composition (Nominal) %

Grade	C	Mn	Si	P	S	Cr
15-5 PH	0.07 max	1.00 max	1.00 max	0.030 max	0.015 max	14.00-15.50
	Ni	Nb	Cu	Mo	Fe	
	3.50-5.50	5xC%-0.45	2.50-4.50	0.50-max	Bal	

## Physical properties

Density 7.8 g/cm<sup>3</sup>

## Size range

Product	Material	WD Range	Length Range	WT Range
PLATE & SHEET	15-5 PH	1000~2000mm	2000~4000mm	0.5~150mm

## Mechanical properties

Condition	Specimen Orientation	Tensile Strength, min, MPa	Yield Strength, min. (0.2 % offset), min, MPa	Elongation in 2 in. or 50 mm (or 4D), %	Reduction of Area, min,%	Hardness, min, HB
H900	L	1310	1172	10	35	388
	T	1310	1172	6	20	
H925	L	1172	1069	10	38	375
	T	1172	1069	7	25	
H1025	L	1069	1000	12	45	331
	T	1069	1000	8	32	
H1075	L	1000	862	13	45	311
	T	1000	862	9	33	
H1100	L	965	793	14	45	302
	T	965	793	10	34	
H1150	L	931	724	16	50	277
	T	931	724	11	35	