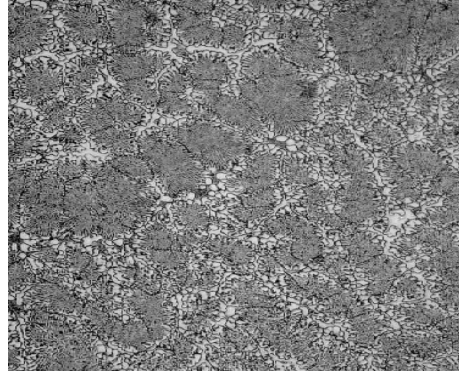


## W150 Metallurgical Description & Application

W150 (Tribaloy T400) is an intermetallic type cobalt base alloy with excellent frictional properties used in both heavy duty intake and exhaust applications. The microstructure is composed of approximately 50% CoSiMo type Laves phase and solid solution atom strengthened matrix. The excellent wear resistance of the alloy is achieved when coupled with a similar alloy hardfaced or surface treated valve.

### Chemistry & Microstructure

Carbon	0.08 Max.
Silicon	2.20 – 2.60
Molybdenum	26.50 – 29.500
Chromium	7.50 – 8.50
Nickel + Iron	3.00 Max.
Cobalt	Remainder



Murakami's Reagent 500X

### Physical Properties

#### Thermal Expansion Coefficient (um/m °C)

RT to 204 °C	RT to 427 °C	RT to 538 °C	RT to 649 °C
11.08	11.53	12.11	12.83
$\alpha = 11.26 - 0.0026(T) + 8.0 \times 10^{-6}(T^2)$			

#### Thermal Conductivity (W/mK)

RT	200 °C	400 °C	600 °C
12.2	15.5	19.5	23.0
$\lambda = 11.70 + 0.0199(T) - 2.0 \times 10^{-6}(T^2)$			

#### Compressive Yield Strength 0.2% (MPa)

RT 1,896 at 24°C

#### Elastic Modulus (GPa)

RT 266.0

#### Density

8.78 g/cm<sup>3</sup>

#### Hardness Range

HRc 50 – 60

#### Hot Hardness (HRc)

