TECHNICAL DATA

TRIBALOY™ T-400 ALLOY

TRIBALOY™ COBALT-BASED ALLOYS consist of a hard, intermetallic (Laves) phase dispersed in a softer matrix of eutectic or solid solution. They exhibit outstanding resistance to wear and galling, high corrosion resistance and are particularly suitable where lubrication is a problem. Wear resistance of Tribaloy™ alloys is highly dependent on the volume percentage of Laves phase.

TRIBALOY™ T-400 combines excellent mechanical wear resistance with good corrosion resistance. T-400 contains hard intermetallic phases of Mo and Si which impart excellent surface properties over a wide temperature range. Often used in similar applications to Stellite™ 12 or Stellite™ 1. T-400 exhibits outstanding resistance to galling and corrosion.

CORROSION RESISTANCE

T-400 shows excellent corrosion resistance in Acetic Acid (concentration 50%, boiling) and in Formic Acid (concentration 45%, boiling). Also in Phosphoric Acid (concentration 85%, 66°C) excellent corrosion resistance has been observed.

NOMINAL CHEMICAL COMPOSITION (MASS%)

ALLOY	Co	Cr	Mo	C	Si	Others
T-400	Bal.	8,5	28,5	<0,1	2,6	Ni, Fe

PHYSICAL PROPERTIES

ALLOY	Hardness	Density	Melting Range
T-400	48 - 58 HRC	~ 8,9 g/cm^3	~ 1290 – 1340°C

NOMINAL HOT HARDNESS (HV resp. DPH) AS CAST

20°C	100°C	200°C	300°C	400°C	500°C	600°C	700°C
680	665	660	650	620	585	495	385

EXAMPLE FOR TENSILE PROPERTIES AT ROOM TEMPERATURE

PRODUCT FORM	Ultimate Tensile Strength Rm	Yield Stress Rp (0,2%)	Elongation A
Investment Casting, As cast	~ 690 MPa	N.A.	<< 1%

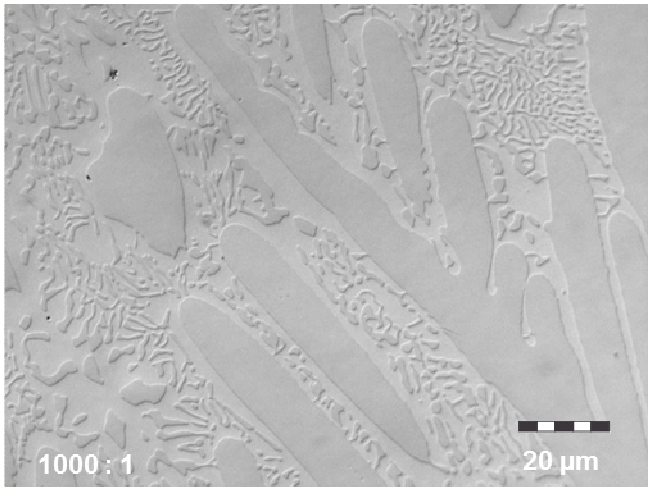
PRODUCT FORMS

Components			
Castings	Cladded / Hardfaced	PM / HIP parts*	ALM parts*

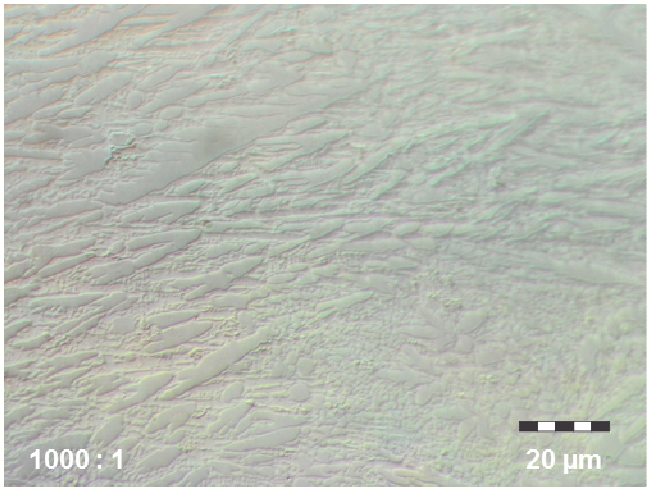
* On special request.

Consumables for Cladding / Hardfacing and Additive Layer Manufacturing (ALM)				
Rods	TIG-Welding		Oxy-Acetylene Welding	
Powder	PTA Cladding	Laser Cladding	HVOF Spraying	ALM

TYPICAL STRUCTURES



Casted T-400 Alloy (Investment Casting)



Selective Melted T-400 Alloy (Electron Beam Melting)

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