

TECHNICAL DATA

STELLITE™ 25 ALLOY

STELLITE™ COBALT-BASED ALLOYS consists of complex carbides in an alloy matrix. They are resistant to wear, galling, and corrosion and retain these properties at high temperatures. Their exceptional wear resistance is due mainly to the unique inherent characteristics of the hard carbide phase dispersed in a CoCr alloy matrix.

STELLITE™ 25 forms a protective oxide film during hot metal on metal wear which prevents metal transfer and damage due to adhesion. The alloy is resistant to thermal cracking and surface fatigue. Since the microstructure is relatively free of carbide reinforcement, it is not recommended for low stress or low angle particle erosion service. This tungsten strengthened cobalt-chromium alloy is the cast version of the wrought alloy L605.

CORROSION RESISTANCE

Stellite™ 25 exhibits good resistance to both air and combustion gas oxidizing environments, and can be used for long-term continuous exposure at temperatures up to 980°C.

The alloy resists wet chlorine at ambient temperatures and is resistant to nitric and hydrochloric acids under certain conditions. Exposure testing is recommended to verify performance.

NOMINAL CHEMICAL COMPOSITION (MASS%)

ALLOY	Co	Cr	W	Ni	C	Others
Stellite™ 25	Bal.	20,0	15,0	10,0	0,1	Fe, Mo, Mn, Si

PHYSICAL PROPERTIES

ALLOY	Hardness	Density	Melting Range
Stellite™ 25	20 - 45 HRC	~ 8,31 g/cm ³	~ 1330 – 1410°C

EXAMPLE FOR TENSILE PROPERTIES AT ROOM TEMPERATURE

PRODUCT FORM	Ultimate Tensile Strength Rm	Yield Stress Rp (0,2%)	Elongation A
Casting, As cast	~ 925 MPa	~ 895 MPa	1...2%

PRODUCT FORMS

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

* On special request.

Consumables for Cladding / Hardfacing and Additive Layer Manufacturing (ALM)				
Rods	TIG-Welding		Oxy-Acetylene Welding	
Electrode	MMA Welding			
Cored Wire	MIG Welding		Submerged Arc Welding	
Powder	PTA Cladding	Laser Cladding	HVOF Spraying	ALM

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