

TECHNICAL DATA

# Delcrome™ 316L ALLOY

**IRON BASED DELCROME 300 SERIES ALLOYS** offer outstanding resistance to sliding wear and cavitation erosion and are inherently resistant to corrosion. The key elements in the alloys are Chromium and Nickel which impart improved sliding wear and cavitation resistance.

**Delcrome™ 316L** is one of the most widely used austenitic stainless steels which is characterized by the low carbon content to restrict the formation of the undesirable grain boundary carbide precipitation. The refined microstructure of the laser clad parts and low dilution can achieve the same properties or even better than the bulk material. Moreover, better impact resistance at elevated temperature and corrosion resistance could be achieved. It is "welder friendly" with various product forms (powder, rod, wire) and can easily be deposited on substrates using conventional welding processes. Other applications of hardfacing alloys make use of non-fusion processes, such as thermal spray technology, to effect mechanical bonding between the hardfacing and the substrate. A laser, rather than a conventional welding torch, can also be used as a heat source to deposit hardfacing alloys.

## CORROSION RESISTANCE

Thank Molybdenum exhibits Delcrome™ 316L good pitting and crevice resistance. The alloy resists wet chlorine at ambient temperatures and is resistant to nitric and hydrochloric acids under certain conditions. It is recommended for corrosion overlay deposits on components used in the oil, gas and marine industries Exposure testing is recommended to verify performance.

## NOMINAL CHEMICAL COMPOSITION (MASS%)

ALLOY	Fe	C	Cr	Ni	Mo	Others
Delcrome™ 316L	Bal.	Max.0,03	16,0-18,0	11,0-14,0	2,0-3,0	Si, Mn

## PHYSICAL PROPERTIES

ALLOY	Hardness	Density	Melting Range
Delcrome™ 316L	150 - 170 HV	~ 4,30 g/cm <sup>3</sup>	~ 1375 – 1430°C

## EXAMPLE FOR TENSILE PROPERTIES AT ROOM TEMPERATURE

PRODUCT FORM	Ultimate Tensile Strength Rm	Yield Stress Rp (0,2%)	Elongation A
As deposited	~570 MPa	~480 MPa	~42%

## PRODUCT FORMS

Components		
Cladded / Hardfaced	PM / HIP parts*	AM parts*

\* On special request.

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

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