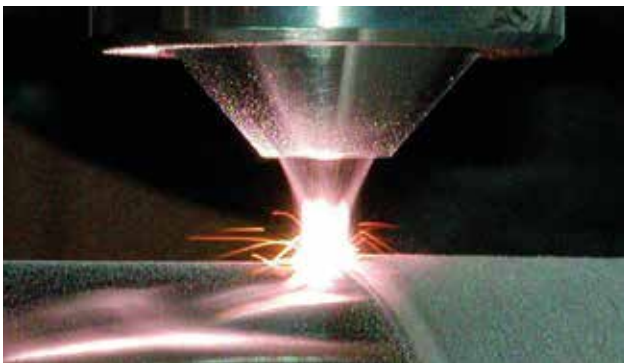


# LASER CLADDING WITH DELORO AND STELLITE ALLOYS

## METALLURGICAL BONDING WITH MINIMAL DILUTION

With over 100 years of providing solutions to wear and corrosion problems, Stellite™ has progressed from originally manufacturing high-quality Stellite™ hardfacing powders, rods, and wires to providing powders for your laser cladding needs.

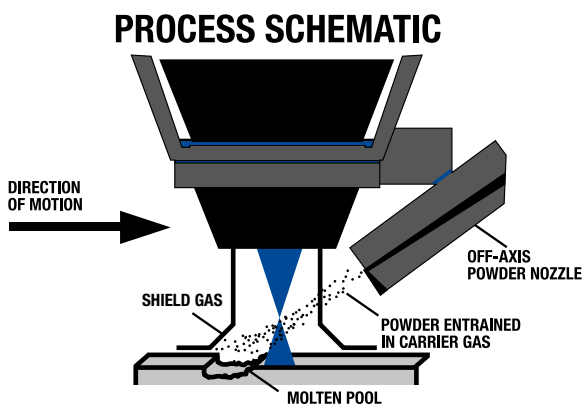


### LASER CLADDING – PRECISION HARDFACING SOLUTIONS.

- Minimal dilution due to low heat output
- Controlled energy supply possible
- High heating and cooling rates for better microstructure
- No tool wear
- Compact technology
- Providing superior results of hardness, homogeneity, purity, and microstructure

### DELORO WEAR SOLUTIONS – THE RIGHT CHOICE.

- Solution providers rather than just manufacturers
- Proven technology and quality for over a century
- Technical experts for support
- Wide range of alloys
- Customized alloys for your applications\*



LASER CLADDING WITH STELLITE™ ALLOYS have found a wide range of applications across industries. Some of the key applications / industries where we have had success are high pressure gas turbines, diesel engine valves, drainage plough blade, aerospace, deep drawing tool, mining support braces, hydraulic cylinder hardfacing, and stainless steel runners.

**IF YOU HAVE AN APPLICATION PROBLEM TO SHARE WITH US, OUR EXPERTS WILL BE EAGER TO RESOLVE IT.**

\* Note: Customized alloys are based on discussions with company's representatives.

Stellite™ is a global provider of solutions to wear, heat, and corrosion problems and is a world-class manufacturer of alloy-based materials and components. Stellite™, Tribaloy™, Nistelle™, Stelcar™, Jet Kote™, and Delchrome™, are registered trademarks of Kennametal Inc.

DELORO WEAR SOLUTIONS HAS A FULL RANGE OF LASER CLADDING POWDERS TO MEET THE INDUSTRIES' GROWING NEEDS. TYPICAL LASER POWDERS COME IN THE FOLLOWING MESH SIZES:

PROCESS	GRADE	NOMINAL PARTICLE RANGE
PTA AND LASER DEPOSITION	W	150 / 45 µm
	WM	180 / 53 µm
	HD	250 / 45 µm
	G	125 / 45 µm
POWDER WELDING	K	75 / 20 µm
	KS	63 / 20 µm
	KX	106 / 20 µm
	KG	45 / 20 µm

NOMINAL COMPOSITIONS OF OUR STANDARD ALLOYS ARE LISTED BELOW. THESE PRODUCTS REPRESENT A SMALL PORTION OF OUR ALLOY REPERTOIRE. IF YOU DON'T SEE IT LISTED, PLEASE ASK.

ALLOY	NOMINAL ANALYSIS OF POWDER								OTHERS	UNS	HARDNESS (HRC)
	Co	Cr	W	C	Ni	Mo	Fe	Si			
<b>COBALT-BASED ALLOYS (GAS ATOMIZED POWDERS)</b>											
Stellite 1	Bal.	30	13	2.5	<2.0	<1.0	<2.0	<2.0	<1.0	R30001	51-60
Stellite 6	Bal.	28.5	4.6	1.2	<2.0	<1.0	<2.0	<2.0	<1.0	R30106	40-46
Stellite 12	Bal.	30	8.5	1.45	<2.0	<1.0	<2.0	<2.0	<1.0	R30012	43-53
Stellite 21	Bal.	27.5	–	0.25	2.6	5.4	<2.0	<2.0	<1.0	R30021	27-40
<b>COBALT-BASED TRIDALLOY ALLOYS (GAS ATOMIZED POWDERS)</b>											
Tribaloy T-800	Bal.	8.5	–	<0.08	<1.5	29	<1.5	2.6	<1.0	–	49-55
<b>NICKEL-BASED SUPERALLOYS (GAS ATOMIZED POWDERS)</b>											
Nistelle C22	<2.0	21.5	3	–	Bal.	13.5	4	–	0.15% V	–	–
Nistelle 625	–	21.5	–	<1.0	Bal.	9	<1.0	<0.5	3.5% Nb	N06625	–
<b>NICKEL-BASED HARDFACING ALLOYS (GAS ATOMIZED POWDERS)</b>											
Deloro 40	–	7.5	–	<0.3	Bal.	–	2.5	3.5	1.7% B	N99644	38-42
Deloro 50	–	11	–	0.45	Bal.	–	3.3	3.9	2.3% B	N99645	48-52
Deloro 55	–	12	–	0.6	Bal.	–	4.0	4.0	2.7% B	–	52-57
Deloro 60	–	15	–	0.7	Bal.	–	4.0	4.4	3.1% B	N99646	57-62
<b>IRON-BASED HARDFACING ALLOYS (GAS ATOMIZED POWDERS)</b>											
Delchrome 316LC	–	17	–	<0.03	12	2.5	Bal.	1.0	–	S31603	–
Delchrome 410	–	13	–	0.10	–	–	Bal.	–	–	S4100	–
Delchrome 90	–	27	–	2.75	–	–	Bal.	0.5	0.5	–	–
Delchrome 92	–	–	–	3.8	0.8	9.8	Bal.	0.5	0.5	–	–

Deloro Wear Solutions GmbH manufactures and markets sophisticated alloys in the form of castings, powders, coatings, consumables, and machined parts that resist wear, corrosion, and abrasion. Information provided in this document is intended only for general guidance about Deloro Wear Solutions™ products and is the best information in our possession at the time. Product users may request information about their individual use of our products, but Deloro Wear Solutions™ does not warrant or guarantee this information in any way. Selection and purchase of Deloro Wear Solutions™ products is the sole responsibility of the product user based on the suitability of each use. Individual applications must be fully evaluated by the user, including compliance with applicable laws, regulations, and non-infringement. Deloro Wear Solutions™ cannot know or anticipate the many variables that affect individual product use and individual performance results may vary. For these reasons, Deloro Wear Solutions™ does not warrant or guarantee advice or information in this document, assumes no liability regarding the same, and expressly disclaims any warranty of any kind, including any warranty of fitness for a particular purpose, regarding the same.