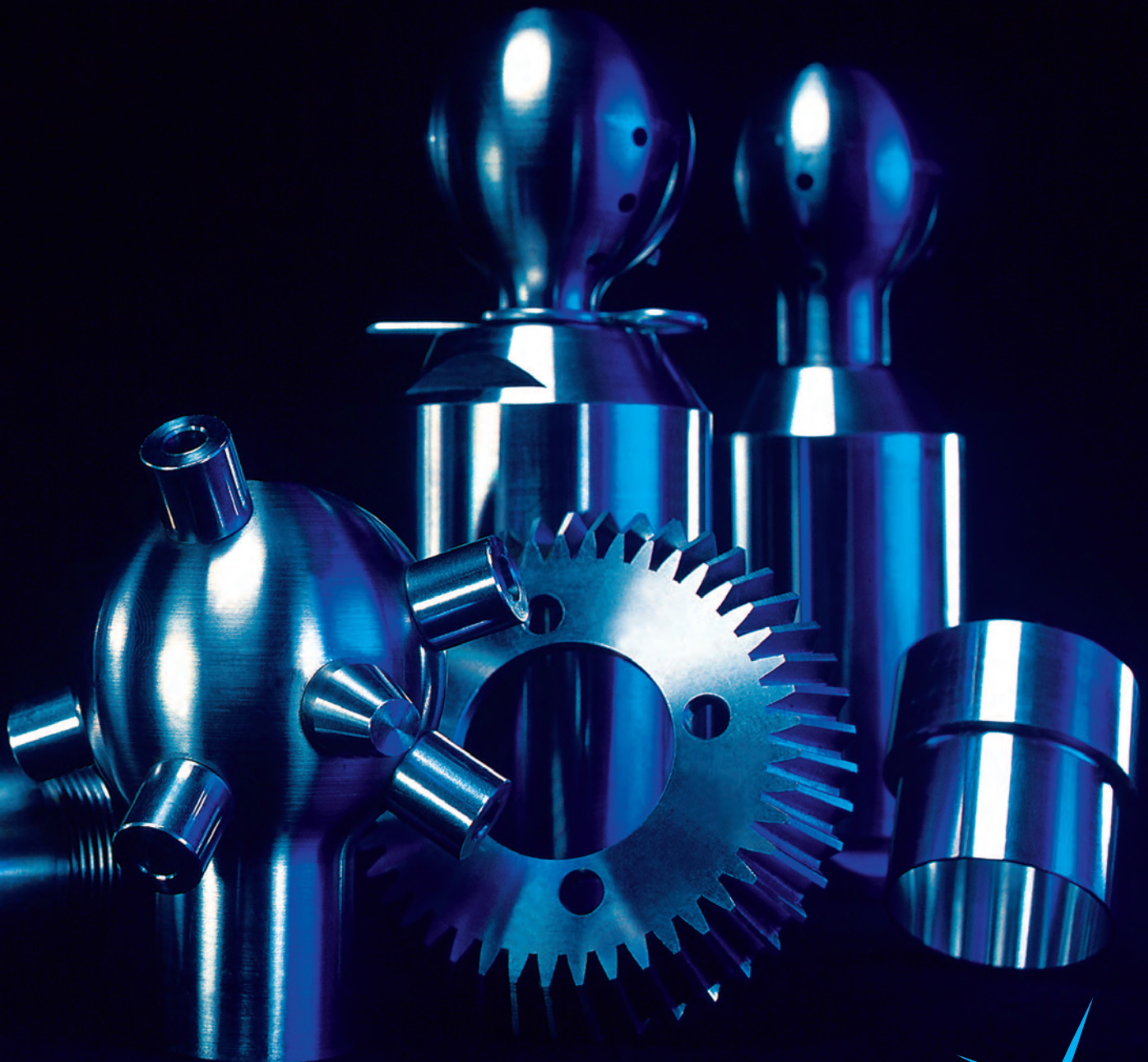
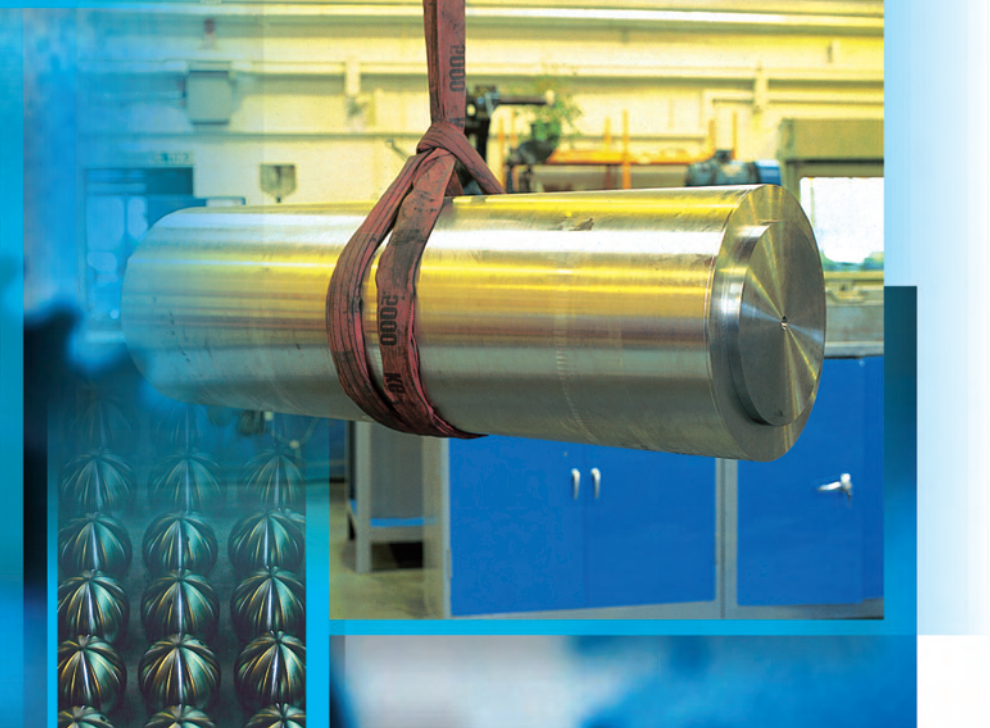
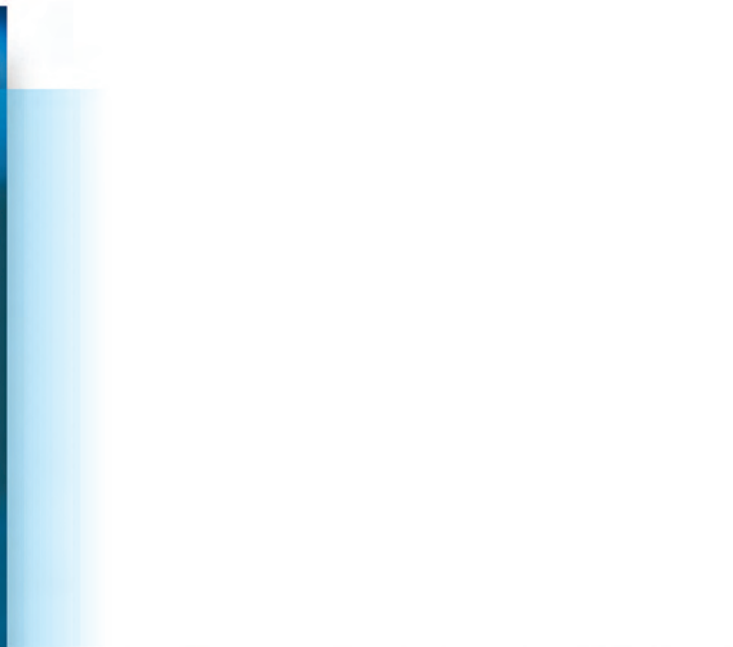
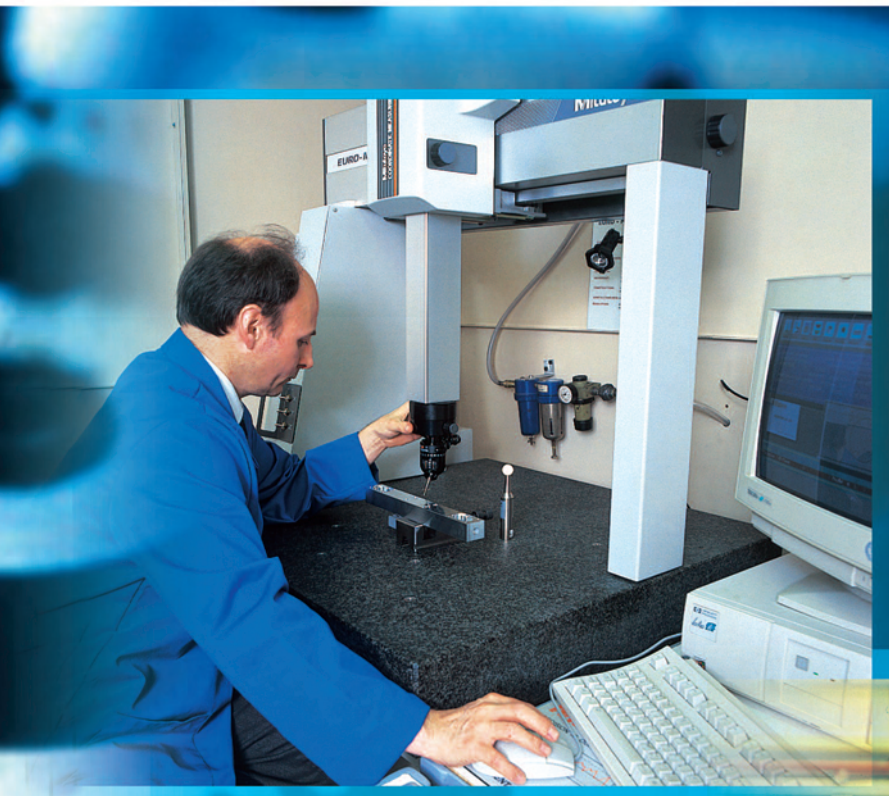


SURFACING SERVICES

wear solutions for a world of motion





FROM START TO FINISH

Deloro Stellite is the acknowledged market leader in surfacing technology. Our UK facility is amongst the most advanced in Europe, with skilled engineers and craftsmen, supported by the latest technology providing a unique range of surfacing processes. **Deloro Stellite** is able to supply finished surfaced components to customers specifications. Offering the complete service to all your surfacing needs, priding ourselves in our quality control and our ability to deliver on-time every-time.

Surfacing – the technique of applying a coating of a given alloy onto an underlying surface or substrate, provides a highly effective way of combating hostile environments such as wear, heat and corrosion.



Deloro Stellite is dedicated to the field of engineering services. Our extensive machining and hardfacing facilities enable us to provide the "One Stop Shop" facility for surfaced components, together with tool making we are able to offer support for all our customers needs.

All our services are backed up with a fully equipped measurement and inspection department which include the latest CMM Technology, metallurgical capabilities and NDT facilities.

Quality has been our foundation of success, **Deloro Stellite** prides itself in meeting the most stringent approvals in the world.

These include:

- ISO 9002
- Rolls Royce CQC103
- DQAB
- Ministry Of Defence AQAP 4
- Civil Aviation Authority



Deloro Stellite offers a professional response and being a careful, dedicated listener, ensures that we remain the market leader in wear resistant products and services.

Our customers can rely on our experience in hardfacing, surfacing and machining technologies, combined with our highly flexible production facilities for single or multiple quantities to provide the right product, at the right cost, on time.

Our Scope:

- Preparation of customer components and blanks
- Capacity to handle small precision components as well as components up to many tonnes
- Extensive component manipulation equipment
- Coating and Weld Overlay/ Hardfacing Facilities
- Chemically remove sprayed cobalt based coatings
- Stress relief and heat treatment furnaces
- Full Machining and Finishing capability, including super finishing

Deloro Stellite has over eighty years of experience in the field of wear resistant products and services, enabling us to offer the optimum solution to all of our customers.

Today's technology is constantly changing and as a result **Deloro Stellite** is continually developing and evolving new solutions for the challenge of today's dynamic and changing world.

COATINGS

Many industrial applications demand materials capable of combating specific environmental conditions, however such materials can be cost prohibitive.

Surfacing, the technique of applying a coating of a given alloy onto an underlying surface or substrate, provides a highly effective way of combating hostile environments such as wear, heat and corrosion.

Jet Kote High Velocity Oxy-Fuel

The Jet Kote process is suitable for most cobalt and nickel based alloys, including carbide composites.

Using powders specifically designed by **Deloro Stellite** for the system, the process produces consistently high performance thermal spray coatings with excellent bond strength, density, hardness, low oxide content and wear resistant properties. Bond strengths of more than 90 Mpa with porosity of <1% are achievable with Wc/Co based coatings.

High velocity combustion gases heat and propel surfacing powders onto the workpiece at an initial velocity of 1,350m/sec [4,500ft/sec] and a temperature of 3000°C. Powder particles are introduced into the gas stream, heated, and propelled on the substrate.

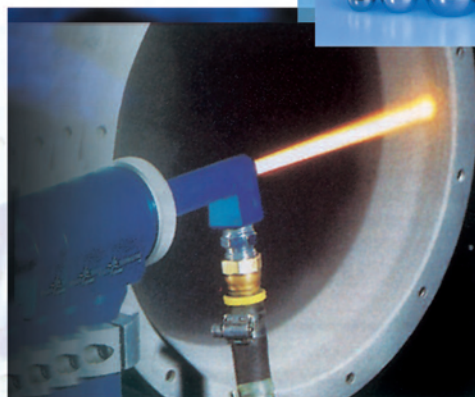
The unique Jet Kote is a well proven system repeatedly reproducing reliable coatings.

Spray and Fuse (SF)

Spray and fuse is a two stage process, the powder alloy being sprayed into position with a flame spray and then fused with an oxy-acetylene torch, or in a vacuum furnace. The process uses specially modified cobalt and nickel base alloys and carbide containing grades of powders, depositing smooth, thick [up to approx 2 mm] layers of Stellite or Deloro or Stelcar alloys, metallurgically bonded to the substrate.

Although generally used for cylindrical objects such as pump shafts, packing gland sleeves and rolls, this method can also be used on suitable flat or contoured surfaces.

Fusing is carried out immediately after spraying. When the temperature exceeds 1000°C the rough sprayed surface becomes molten reflecting the torch flame [glazing].



HARDFACING / WELDING



Gas Tungsten Arc [TIG]

This process is ideally suited to facing small components, since it allows a high degree of control over heat input and the positioning of the arc and weld deposit. Acceptable levels of dilution are generally considered to be less than 15%.



Oxy-Acetylene Welding

Suitable for most steels and good quality cast iron, oxy-acetylene may be used to apply most cobalt and nickel alloys.

Metal Inert Gas [MIG]

The MIG process is suitable for cobalt and nickel base alloys. The process lends itself to facing small components, allowing a high degree of precision to be achieved.

Submerged Arc Welding [SAW]

The submerged arc technique is suitable for cobalt and nickel base alloys.

Using continuous wire, the process is ideal for large area coverage at high surfacing speeds. Clean, porosity free surfaces are achieved at low cost, whilst multiple layers counteract the dilution effect.

Manual Metal Arc [MMA]

The MMA process, using coated electrodes, is suitable for facing heavy section of substrate and for carrying out simple repairs in situ. The electric arc can be set up to cause a greater than normal dilution of the substrate, softening and toughening the first layer of deposit which is particularly advantageous for impact resistance in such items as shear blades.

Powder Welding [PW]

Used for depositing nickel base and carbide containing alloys. The process is suitable for facing most steels, cast iron, nickel base and some copper base alloys. This process is ideal for applications such as narrow bead or edge build up to provide small wear resistant areas, and for the surfacing of cast iron.

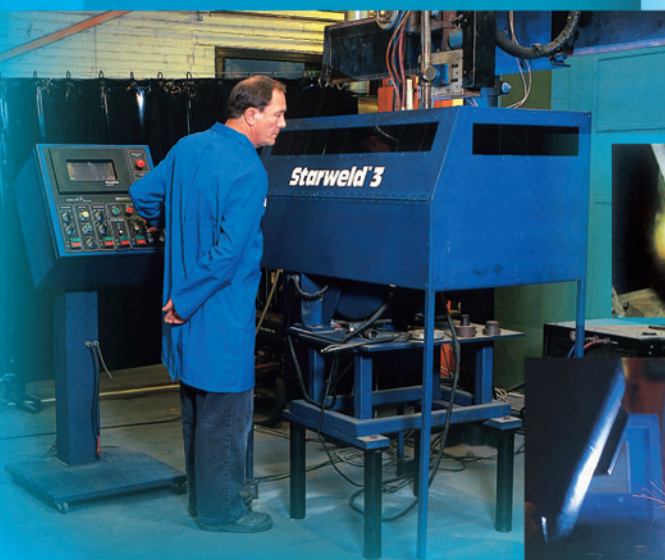
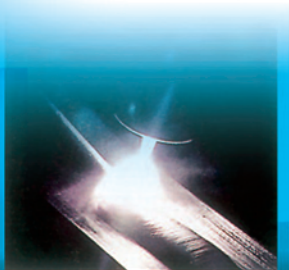
Plasma Transferred Arc [PTA]

PTA is suitable for cobalt, nickel, iron base alloys and carbide containing grades, using specially formulated surfacing powders, and is suitable for most steel and nickel alloy substrates.

PTA produces a low dilution zone with a smooth deposit and controlled thickness.

Hot Isostatic Pressing [HIP]

This process is ideally suited for the production of components that require a very fine microstructure with improved toughness and strength when compared to their cast equivalents.



MACHINING



Precision Engineering

Deloro Stellite are specialist in the production of high precision batch components in all materials including, aluminium, stainless steel, carbon steels and alloy steels.

One of the major characteristics of the **Deloro Stellite** range of alloys is, the extended life, as a result of their specially formulated metallurgical properties. These hard alloys require specialised machine tools, equipment, processing parameters and experience.

Tool Making

Deloro Stellite have considerable experience in the manufacture of Tool holding systems, jigs, fixtures and gauges. We also undertake, research and development, special purpose machinery and prototype work.

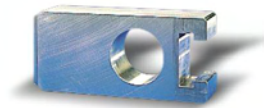
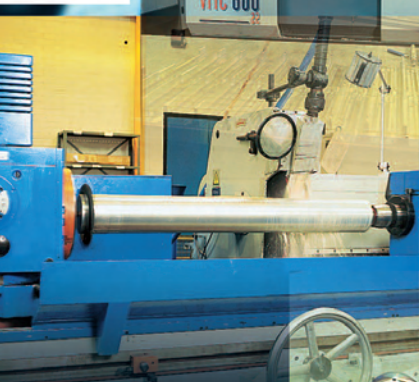
Machining Capacity

- CNC Milling
- CNC Turning
- Cylindrical Grinding
- Centreless Grinding
- Surface Grinding
- Honing
- Flat Lapping
- Diamond Super Finishing
- Drilling
- Spark Erosion
- EDM

The CNC machine shop is fully computer linked to our CAD / CAM system, operated by microstations in PC format.

Deloro Stellite is able to supply either finish machined or surfaced components to customers specifications.

We are involved with many industries from Food and Drink, to Chemical and Motor Vehicle Manufactures.





Deloro Stellite

Cheney Manor Industrial Estate
Unit 103
SWINDON
Wiltshire
SN2 2PW
England
Tel: +44 (0)1793 498500
Fax: +44 (0)1793 498501

Stellite Coatings

1201 Eisenhower Drive N.
Goshen, Indiana
46526 USA
Tel: +1 219 534 2585
800 235 9353
Fax: +1 219 534 3417

Deloro Stellite

P.O. Box 5300
(471 Dundas Street E.)
Belleville, Ontario
K8N 5C4 (K8N 1G2)
Canada
Tel: +1 613 968 3481
800 267 2886
Fax: +1 613 966 8269
800 565 4407

Deloro Stellite AB

Hörnagtan 19
SE-461 50 Trollhättan
Sweden
Tel: +46 (0)520 81250
Fax: +46 (0)520 37035

Microfusione Stellite

Via 1° Maggio, 1/4
40044 Pontecchio Marconi
Bologna, Italy
Tel: +39 (0)51 846 049
Fax: +39 (0)51 846 839

Microfusione Stellite

Via G. Di Vittorio, 24
20090 Pieve Emanuele
Milan, Italy
Tel: +39 (0)2 907 871
Fax: +39 (0)2 907 23220

Deloro Stellite GmbH

Zur Bergpflege 53
D-56070 Koblenz
Germany
Tel: +49 (0)261 80880
Fax: +49 (0)261 808823

Shanghai Stellite Co. Ltd.

P.O. Box 800-233
No. 1799, Jia-luo Highway
Jia-Ding County, 201800 Shanghai
People's republic of China
Tel: +86 (0)21 59553188
Fax: +86 (0)21 59553961

Hettiger Stellite GmbH

Am Biotop 3
97259 Greußenheim
Germany
Tel: +49 (0)9369 9073 30
Fax: +49 (0)9369 9073 40

ATS Stellite S.A.

Z.I. de Bruèges – Avenue Monge B.P. 286
30106 Alès Cédex
France
Tel: +33 (0)4 66304703
Fax: +33 (0)4 66787564

Deloro Stellite Inc.

Executive Offices
12312 Olive Blvd., Suite 255
St. Louis, Missouri
63141 USA
Tel: +1 (0)314 514 7665
Fax: +1 (0)314 514 7674

DELORO STELLITE, DELORO,
DELCROME, STELLITE, TRIBALLOY,
NISTELLE, JET KOTE, STARWELD and
STELCAR are all registered trademarks
of Deloro Stellite Company, Inc.

The information given in this brochure
is considered accurate, but, does not in any
way constitute a specification for guarantee.
Deloro Stellite reserves the right to change
specifications without prior notification.



Visit our web site at: www.stellite.com

