

Thermal Spray Coating vs. Industrial Hard Chrome Plating

At Industrial Service Technologies Inc. (IST), hard chrome plating has been a trusted industry solution for wear, erosion, corrosion resistance and dimensional reclamation for many years. It can be applied at a reasonable cost per unit of surface area, but has limitations on thickness build-up, part size, and in some instances reduced performance in service.

Over the past number years, costs have been steadily escalating due to the growing environmental pressures and legislation imposed on the chrome plating process and the disposal of its by-products. It therefore became critical for us to find alternative processes that offer similar characteristics to hard chrome plating, but without the consequent risks. Thermal Spray Technology not only offers an increasingly viable alternative to this traditional technology; it is also providing us with complimentary processes for part protection and reclamation.

Both hard chrome and thermal coating processes come with advantages and disadvantages; however the use of Thermal Coating Technology is increasing at a rapid rate and becoming widespread in applications normally done with hard chrome.



At IST, we are advancing with the new Thermal Coating technology so you can take advantage of its numerous benefits, such as increased quality and cost effectiveness.

Today's industries are using Thermal Spray Coatings



Heavy Duty Equipment

Industry worldwide continues to explore the advantages in using Thermal Coating repairs in their maintenance programs



Oil & Gas



Mining



Pulp & Paper Mill



Hydro Electric and Renewable Energy

Aerospace

40% of all global Thermal Coating is performed in the Aerospace Industry



Landing Gear



Jet Engines

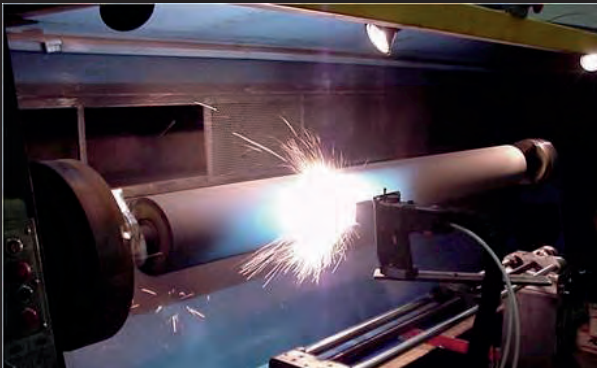
Numerous applications are used for Aerospace:

Landing gear (bearings, axles, pins)

Jet engines (*turbine blades, vanes, combustion liners, compressor casings, turbine nozzles*)

Actuation systems (pistons, pumps, flaps)

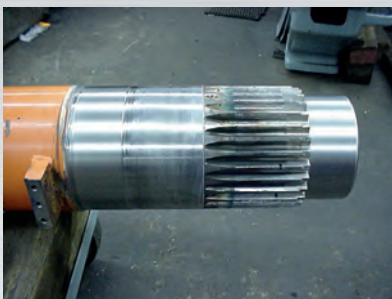
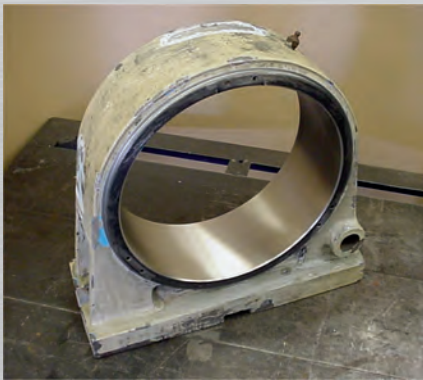
Engine cowling, wing structure



Twin Wire Arc Spray System

- Highly efficient & cost effective repairs
- Substrate is kept below 65C on application
- Over 60 different alloys available
- Large build ups of up to .250/side
- Repairs to all metal alloys including cast iron

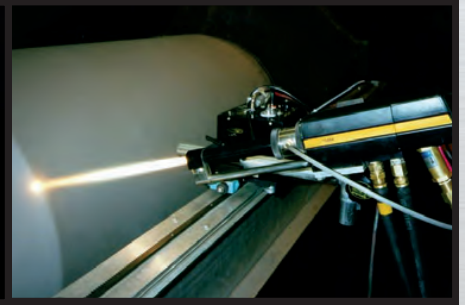
Virtually all internal and external worn metal alloy components can be repaired with Arc Spray



Metalized Thermal Spray Coatings



Twin Wire Arc Spray



Certified by Lloyd's Register Marine

for all marine repairs using Thermal Spray Coating Technologies

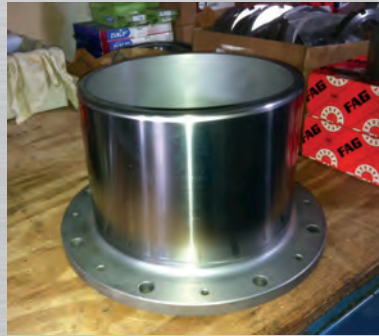
Below is a small sampling of marine component repairs using our Thermal Coating processes at IST



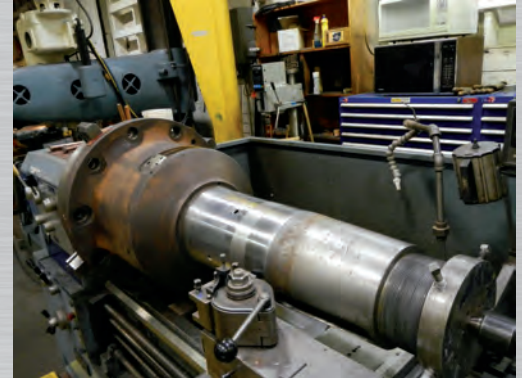
Rudder Stock



Inner Seal Sleeve



Seal Liner



O/D Marine Box Shaft



Housing ID Bearing Fit Repairs



Hard Surfaced Sleeves



Tail Shaft

Repairs to: Housings, Drive Components, Internal Bores, Pump Sleeves, Shafting

All alloys: Ferrous, nonferrous and cast ductile iron

To get more information and see many more examples of marine repairs please visit our web site:

Sample Job Pictures...

HEAVY DUTY EQUIPMENT COMPONENTS

Most components that have excessive wear tolerances can be repaired and brought back to new condition, yielding substantial savings over the cost of new replacement.

- Repairs to...*
- Transmission Parts
 - Torque Converter Parts
 - Final Drive Parts
 - Compressor Parts
 - Drive Line Parts
 - Brake Parts
 - Clutch Parts

We Guarantee all our rebuilds 100%

Just a few examples of Heavy Duty Equipment components repaired with Thermal Coatings



Brake Housing



Axle Trunion



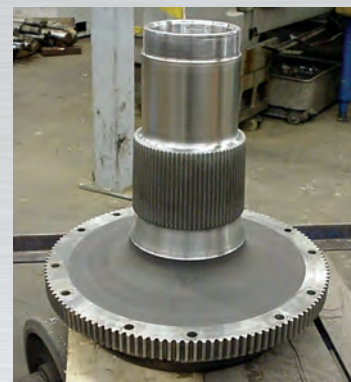
Brake Anchor



Transmission Housing



Rear Axle Support



Sprocket Hub

Visit our Web Site for many more examples at: www.istech.ca

Sample Job Pictures...

PULP & PAPER MILL INDUSTRY

Most anything that has excessive wear tolerances can be repaired and brought back to new condition with Thermal Coatings. You get a quality repair far superior to conventional methods such as sleeving.

We Guarantee all our rebuilds 100%

Repairs to... • Rolls • Feed Screws • Screen Housings • Bearing Housings • Suction Rolls
• Reducer Housings • Steam Turbine Shafts • Roll Journals • Pump Components

A few examples of Pulp & Paper Mill components repaired with Thermal Coatings



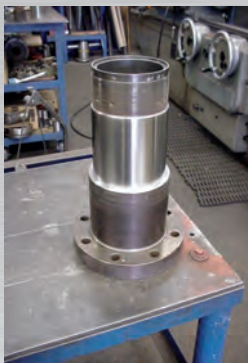
Feed Screw



Roll Housings



Roll Journal



Felton Joint



Pump Housings



Reducer Housing



Suction Roll



Pump Shaft

Visit our Web Site for many more examples at: www.istech.ca

On site Restoration and Repair on large components

Complete **On Site Service** for those large jobs that are costly to ship off Site

Procedures Involved:

- On Site consultation to view and evaluate job
- Detailed quote outlining procedures, materials and specifications
- Pre machining of area to be built up and repaired
- Set up of equipment and preparation
- Thermal Coating application as required
- Finish machining and clean up

