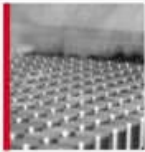


**Bodycote Mexico**

# Bodycote at a glance...


As the world's leading provider of classical heat treatments and specialist technologies, Bodycote provides its customers with value-adding services which improve their components and make them fit for purpose.

BODYCOTE'S TECHNOLOGIES



Classical Heat Treatments

A group of heat treatment processes used to improve the properties of metals and alloys, and metal joining technologies which are used to join and assemble parts.



Specialist Technologies

A group of highly differentiated and proprietary technologies which enable our customers to produce unique high value-adding products.

MARKETS

Aerospace & Defence


Energy

Automotive

General Industry

Addressing demanding markets that require innovation, high quality, consistency, and improved performance.


Market leaders choose Bodycote because we help strengthen and extend the life of their products in a variety of applications.



Over 22 Countries  
Over 165 Locations

Final OEM's.


Over 40,000 customers, including:



2



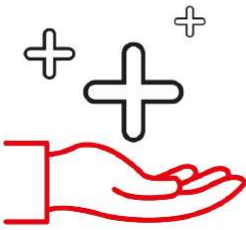
BOY

Listed on the London Stock Exchange since 1972





# Bodycote Core Values

<b>HONESTY &amp; TRANSPARENCY</b>		We cultivate a culture of transparency, where honesty and integrity are at the foundation of our business and our relationships. Trust is at the heart of everything we do.
<b>RESPECT &amp; RESPONSIBILITY</b>		We behave individually and collectively with respect for each other, our stakeholders and the environment, conducting business responsibly, taking ownership of our actions.
<b>CREATING VALUE</b>		We create value for our employees, customers and shareholders, and this is the very essence of Bodycote.



# Our technology – Classical Heat Treatments

Classical Heat Treatment is the controlled heating and cooling process of metals in order to obtain the desired mechanical, chemical and metallurgical properties during the manufacturing of a product.

It provides wear resistance, strength or toughness depending on the application. Surface hardness can be controlled by diffusing elements such as carbon and nitrogen into the metal during the heating stages of the process. Classical Heat Treatments are an indispensable set of processes within the manufacturing chain of most of the products used in life. A seat belt buckle, for example, hardens after heat treatment so that it keeps the passenger safe during an accident. A screwdriver lasts longer without wear or a screw fastens components together without fail only after heat treatment.

Classical Heat Treatments are carried out in precisely controlled industrial furnaces which can heat up to temperatures above 1000°C and use quenchants like oil, water or nitrogen gas to cool the heated material. During the process the microstructure of the metal transforms into a different structure which results in hardening or softening of the material depending on the process. Engineers can design thinner, lighter but stronger components with the help of Classical Heat Treatment.



# Our technologies - Specialist Technologies

Bodycote's Specialist Technologies refer to a group of highly differentiated processes which offer unique solutions for a variety of applications.

## Hot Isostatic Pressing (HIP) Services

- Improves component integrity and strength by application of extreme pressure and heat.

## HIP Product Fabrication inc. Powdermet®

- Additive manufacturing of often complex components in conjunction with HIP.

## Surface Technology

- Enhances component life using ceramic and metal coatings.

## Specialty Stainless Steel Processes (S<sup>3</sup>P)

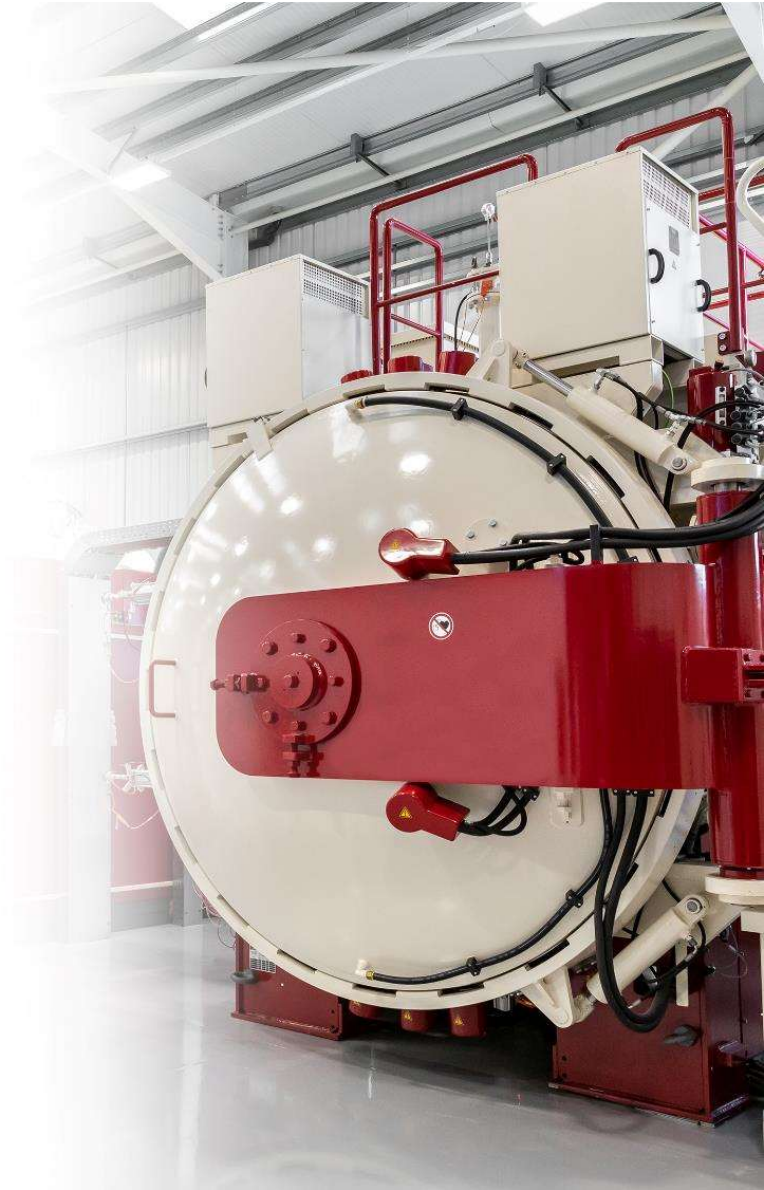
- Improves the strength, hardness and wear resistance of stainless steels without affecting their corrosion resistance.

## Low Pressure Carburizing (LPC)

- Provides a hardened surface and tough core in a 'clean' process under vacuum.

## Corr-I-Dur® (CiD)

- Improves corrosion resistance and wear properties without use of chrome.





# Customer-focused businesses – ADE & AGI

Aligning the way we do business with our customers



**ADE: Aerospace, Defence & Energy**



**AGI: Automotive & General Industrial**

Bodycote has more than 40,000 customers serviced by more than 180 facilities around the world. These facilities are organised into two customer-focused businesses – ADE and AGI.

Our ADE business is globally organised, with relevant quality certifications, to reflect customer operations in these markets.

Our AGI business includes many multinational, medium-sized and smaller companies, and is regionally and locally oriented to better serve this customer base.

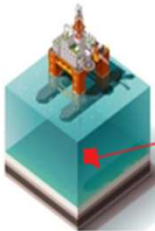


# Why do we need Bodycote's services?

Virtually every type of metal component, whatever its application, has received some form of treatment to enable it to perform to the required standard and last longer once it's put into service.

**In a world without Bodycote's services...**

An automotive gearbox might last only a week



Subsea systems would have a much shorter lifespan

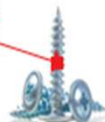


The finish on this watch would quickly become scratched

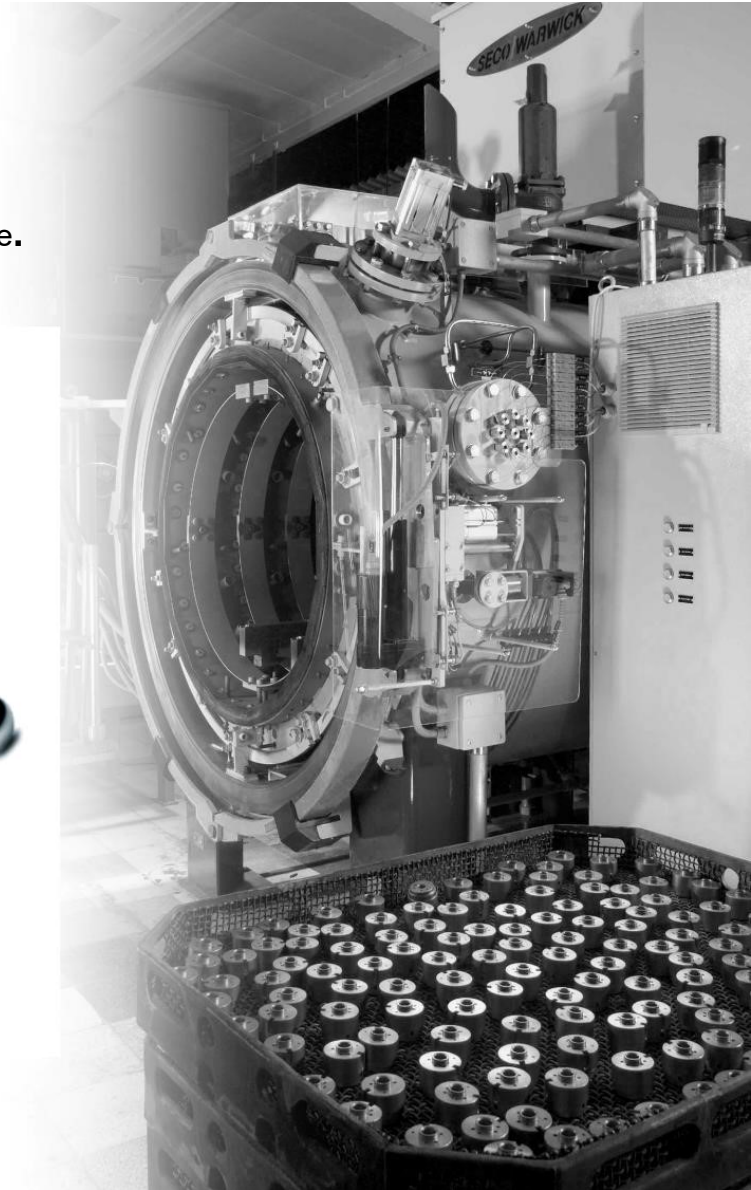


An aircraft engine would not last a single flight

Fasteners would damage and corrode more quickly



Medical implants would not have the strength or corrosion resistance they need





# AGI NA Foot Print

- Burlington, ON
- Kitchener, ON
- Canton, MI
- Livonia, MI
- Romulus, MI
- Grand Rapids, MI
- Holland, MI
- Sturtevant, WI
- New Berlin, WI
- Eden Prairie, MN
- Elgin, IL
- Indianapolis, IN
- Fort Wayne, IN
- Greensburg, IN
- Highland Heights, OH
- Columbus, OH
- York, PA
- Rochester, NY
- Roselle, NJ
- Syracuse, NY
- Winchester, KY
- Morristown, TN
- Fountain Inn, SC
- Covington GA
- Silao, MX
- SLP MX



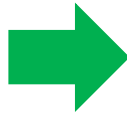


# Mexico Operations

2 Automotive plants in production

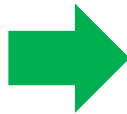
## ■ 2007 Silao, Mexico

- Low pressure carburizing
- Batch furnaces
- Shot peen
- Nitriding/FNC/Cor-I-Durr™
- Vacuum Degrease
- Car-Bottom: SR & FNC
- Deep Freeze



## ■ 2015 SLP, Mexico

- Low pressure carburizing
- Nitriding/FNC/Cor-I-Durr™
- Shot peen
- BIQ Furnaces





**Mexico – SLP facility**



# San Luis Potosi Mexico - 100% Automotive

## Available processes:

- Low Pressure Carburizing
- Corr-I-Dur™
- Ferritic Nitrocarburizing
- Nitriding

## **Low Pressure Carburizing**

- Pre wash
- Pre-Oxidizing Furnace
- Carburizing Cells/Gas Quenching
- Tempering
- Rust Prevention Dip and Dry

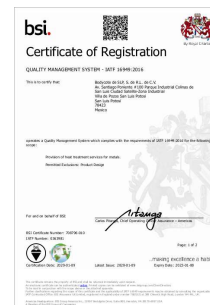
## **FNC and Nitriding**

- Pre wash
- Pre-Oxidizing
- Nitriding (48 X 72 x 36 / 3Tons)
- Rust Preventive



## Quality certifications:

IATF 16949:2016  
certified since 2020



# Low Pressure Carburizing



Quench cell is capable of 20 bar gas quench with variable speed fan control



Carburizing cells are capable of 1,000°C and can process load sizes of 23.5" W x 26" T x 40" deep.





# Nitriding

## Core process:

- Gas Nitriding
- Ferritic Nitrocarburizing
- Corr-I-Dur™

## Special processes:

- Vacuum Stress Relieve
- Vacuum Subcritical Anneal
- Vacuum Temper



## Applications (examples)

- Ball studs
- Brake rotors
- Springs
- Brake Pistons



# BIQ Furnaces

Available area for new projects

- 2 BIQ available furnaces for:
- Carbonitriding
- Carburizing
- Quenching & Tempering
- Ferritic nitrocarburizing (FNC)

- Everything prepared for 2 additional BIQ furnaces installation.

