

Setting Standards in Heat Treatment



What you need. **Exactly.**

Bodycote offers a complete portfolio of treatment services – Heat Treatment, Surface Technology and Hot Isostatic Pressing (HIP).

We will match your requirements with the proper treatment.

Our **quality** meets your standard.

We maintain the highest production standards for quality, safety and efficiency, earning ISO 9001, ISO 14001, ISO 50001, ISO/TS 16949, OHSAS 18001, Nadcap and AS 9100 accreditations.

Anywhere in the world.

With quality processes, consistent on-time delivery and an international network of accredited facilities, Bodycote provides what you need, when you need it.

We deliver on time. **Anytime.**

Our customers count on us for a broad range of reliable services, but they also turn to Bodycote because we offer 24/7 support in every region of the globe. With more than 189 facilities in 23 countries, Bodycote is the world's largest provider of thermal processing services and the partner of choice for the most respected and innovative engineering companies.

Thermal processing services worldwide:

Heat Treatments & Metal Joining

Heat Treatments:

- Hardening and tempering under protective atmospheres
- Carburising and case hardening under protective atmospheres
- Bainitic hardening
- Low Pressure Carburising (LPC) with high pressure gas quenching
- Vacuum hardening with high pressure gas quench
- Vacuum hardening with oil quenching
- Vacuum annealing
- Low pressure nitriding
- Gas & plasma nitriding and nitrocarburising
- Corr-I-Dur®
- Salt bath nitrocarburising (Tenifer®, QPQ®)
- BoroCote (High speed boronising)
- Induction hardening
- Hydrogen annealing
- Specialty Stainless Steel Processes (S³P) featuring Kolsterising® and Nivox®
- Aluminium heat treatment
- Browning/phosphating

Metal Joining:

- Electron Beam Welding (EBW)
- Mesh belt brazing
- Honeycomb brazing
- Vacuum brazing

Other Processes:

- Cryogenic treatments
- Automatic shaft straightening
- Thermal deburring

Hot Isostatic Pressing (HIP)

Densification:

- Superalloy castings
- Titanium castings
- Steel alloy castings
- Aluminium castings (DENSAL®/DENSAL®II)
- Medical implants (Ti & Co/Cr)
- Ceramics
- Glass
- Infra-red windows
- Tungsten carbide

Powder Metallurgy:

- Bi-metallic and multi-metallic materials
- Simple shape billets
- Complex shape assemblies
- Near Net Shape (NNS) components
- Net Surface (NS) HIPped components
- Capsule design and HIP modelling

Composites:

- Novel materials
- Metal Matrix Composites
- Diamond tools
- Diffusion bonding
- HIP brazing

Surface Technology

Thermal Spray Coatings:

- HVOF (High Velocity Oxy-Fuel)
- Plasma spray
- Arc wire spray
- Combustion spray
- Cold gas dynamic spray
- Flame spray

Other Coatings:

- Thermochemically formed ceramic coatings (K-Tech)
- Ceramic densification
- Polymer and hybrid coatings
- CompCote® (Anodising-polymer composite)
- Nedox® (Electroless nickel-polymer)
- Tuftram® (Hard anodising-polymer)
- Anodising (aluminium and titanium)



Processes



Germany

| | Vacuum hardening and tempering | Vacuum brazing and sintering | Vacuum Annealing | Hardening and tempering under protective atmosphere | Brining and sintering under protective atmosphere | Bainitic hardening | Annealing under protective atmosphere | Case hardening | Carburising and carbonitriding | Nitriding and nitrocarburising | Phosphorising | Gas nitrocarburising and oxidising salt bath processes | Tenifer® DPu® and/or other Coat-Dur® | Induction hardening | LPC – Low Pressure Carburising | |
|---|--------------------------------|------------------------------|------------------|---|---|--------------------|---------------------------------------|----------------|--------------------------------|--------------------------------|---------------|--|--------------------------------------|---------------------|--------------------------------|--|
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| LANDSBERG Bodycote Specialist Technologies GmbH Max-Planck-Straße 9 · 86899 Landsberg Phone: +49 8191 91 79 0 · Fax: +49 8191 91 79 50 eMail: landsberg@bodycote.com | | | | | | | | | | | | | | | | ISO 9001 ISO 14001 ISO 50001 |
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| LÜDENSCHIED Bodycote Wärmebehandlung GmbH Nottebohmstraße 7 · 58511 Lüdenscheid Phone: +49 2351 93 94 95 · Fax: +49 2351 93 94 99 eMail: luedenscheid@bodycote.com | ● | ● | ● | | | | | | | | | ● | ● | ● | | ISO 9001 ISO 14001 ISO 50001 ISO/TS 16949 |

VACUUM DOUBLE CHAMBER FURNACE WITH N₂ QUENCHING

EXCLUSIVE: HIP, DENSAL®, PM

EXCLUSIVE: S³P – SPECIALTY STAINLESS STEEL PROCESSES KOLSTERISING®

CONTINUOUS FURNACE WITH ADDITIONAL WATER QUENCHING

EXCLUSIVE: S³P – SPECIALTY STAINLESS STEEL PROCESSES KOLSTERISING®

VACUUM FURNACE XXL Ø 2100 MM X 2100 MM, 4500 KG

Processes

| | Vacuum hardening and tempering | Vacuum brazing and sintering | Vacuum Annealing | Hardening and tempering under protective atmosphere | Brining and sintering under protective atmosphere | Bainitic hardening | Annealing under protective atmosphere | Case hardening | Carburising and carbonitriding | Nitriding and nitrocarburising | Phosphorising | Gas nitrocarburising and oxidising salt bath processes | Tenifer® DPu® and/or other Coat-Dur® | Induction hardening | LPC – Low Pressure Carburising | |
|--|--------------------------------|------------------------------|------------------|---|---|--------------------|---------------------------------------|----------------|--------------------------------|--------------------------------|---------------|--|--------------------------------------|---------------------|--------------------------------|---|
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| SPROCKHÖVEL Bodycote Wärmebehandlung GmbH Bochumer Straße 68 · 45549 Sprockhövel Phone: +49 2324 9 73 00 · Fax: +49 2324 97 30 97 eMail: sprockhoevel@bodycote.com | | | ● | | | ● | ● | ● | | | | | | | | ISO 9001 ISO 14001 ISO 50001 |
| STEINBACH-HALLENBERG Bodycote Flachstahl-Härterei Köllner GmbH Am Schertzer 19 · 98587 Steinbach-Hallenberg Phone: +49 3684 75 05 0 · Fax: +49 3684 75 05 20 eMail: fhk-steinbach-hallenberg@bodycote.com | | | | | | | | | | | | | | | | ISO 9001 |
| SCHMERBACH Bodycote Vakuum-Härterei Köllner GmbH Waltershäuser Landstraße 1 · 99880 Schmerbach Phone: +49 3625 95 28 0 · Fax: +49 3625 95 28 12 eMail: vkh-schmerbach@bodycote.com | ● | | ● | ● | | ● | ● | ● | ● | ● | ● | ● | ● | ● | | ISO 9001 ISO 50001 ISO/TS 16949 |
| WEHINGEN Bodycote Wärmebehandlung GmbH Wengenstraße 4 · 78564 Wehingen Phone: +49 7426 96 21 0 · Fax: +49 7426 96 21 501 eMail: wehingen@bodycote.com | ● | ● | ● | | | ● | ● | ● | ● | ● | | ● | ● | | | ISO 9001 ISO 14001 ISO 50001 ISO/TS 16949 |

CONTINUOUS FURNACE WITH OIL QUENCHING




LOW DISTORTION HEAT TREATMENT OF PART UP TO 3400 MM LONG ROLLER HEARTH FURNACE WITH PRESS QUENCHING

ALUMINIUM HEAT TREATMENT, BROWNING/PHOSPHATING



VACUUM HARDENING WITH OIL QUENCHING, DOUBLE CHAMBER VACUUM FURNACE WITH N₂ QUENCHING



Processes

| | Vacuum hardening and tempering | Vacuum brazing and sintering | Vacuum Annealing | Hardening and tempering under protective atmosphere | Brining and sintering under protective atmosphere | Bainitic hardening | Annealing under protective atmosphere | Case hardening | Carburising and carbonitriding | Nitriding and nitrocarburising | Phosphorising | Gas nitrocarburising and oxidising salt bath processes | Tenifer® PCU® and/or other | Coat-Dur® | Induction hardening | LPC – Low Pressure Carburising |
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|  Austria | | | | | | | | | | | | | | | | |
| KAPFENBERG Bodycote Austria GmbH Böhlerdurplatz 1 · 8605 Kapfenberg Phone: +43 3862 33 70 00 · Fax: +43 3862 33 70 05 eMail: kapfenberg@bodycote.com | ● | | ●● | | | | ●●●●●●●● | | | | | | | | ●●● | ISO 9001 ISO 14001 ISO 50001 |
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|  Liechtenstein | | | | | | | | | | | | | | | | |
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| BRNO Bodycote HT s.r.o. CTPark Brno · Tuřanka 112 · 627 00 Brno-Slatina Phone: +420 737 270 855 · Fax: +420 516 102 425 eMail: brno@bodycote.com | ●●●● | | | | | | ●●●●●●●● | | | | | | | | ● | ISO 9001 ISO 14001 |
| KRNOV Bodycote HT s.r.o. Červený dvůr 1130/39 · 794 01 Krnov Phone: +420 554 684 269 · Fax: +420 554 684 268 eMail: krnov@bodycote.com | | | | | | | | | | | | | | | ● | ISO 9001 ISO 14001 ISO/TS 16949 |
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Processes

| | Vacuum hardening and tempering | Vacuum brazing and sintering | Vacuum Annealing | Hardening and tempering under protective atmosphere | Brining and sintering under protective atmosphere | Bainitic hardening | Annealing under protective atmosphere | Case hardening | Carburising and carbonitriding | Nitriding and carbonitriding | Phosphorising | Gas nitrocarburising and oxidising salt bath processes | Tenifer® PCU® and/or other | Coat-Dur® | Induction hardening | LPC – Low Pressure Carburising |
|---|--------------------------------|------------------------------|------------------|---|---|--------------------|---------------------------------------|----------------|--------------------------------|------------------------------|---------------|--|----------------------------|-----------|---------------------|-------------------------------------|
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