

Inductotherm Group



Leading Manufacturers of Melting, Thermal Processing & Production Systems for the Metals and Materials Industry Worldwide

What We Do

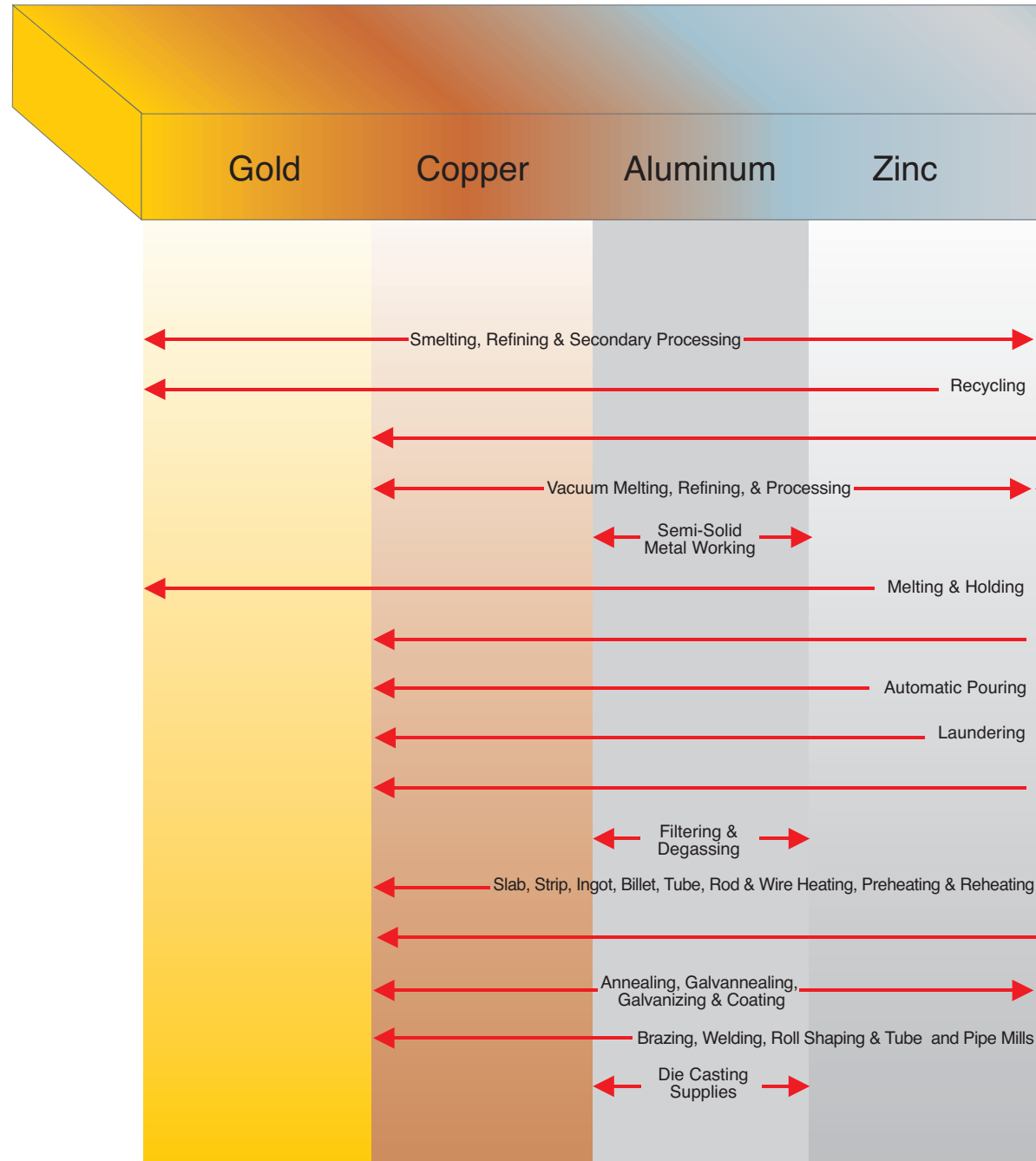
From the brilliant yellow of gold and the warm glow of copper to the cold gray of iron and steel, no matter what metal you melt, heat treat, hot forge, hot roll or otherwise process, there's an Inductotherm Group company with the equipment, technology or services that may benefit you.

The Inductotherm Group brings together 40 companies, which are strategically located around the world. All cooperate and share a commitment to serving the metals and materials industry and all are leaders in their respective disciplines.

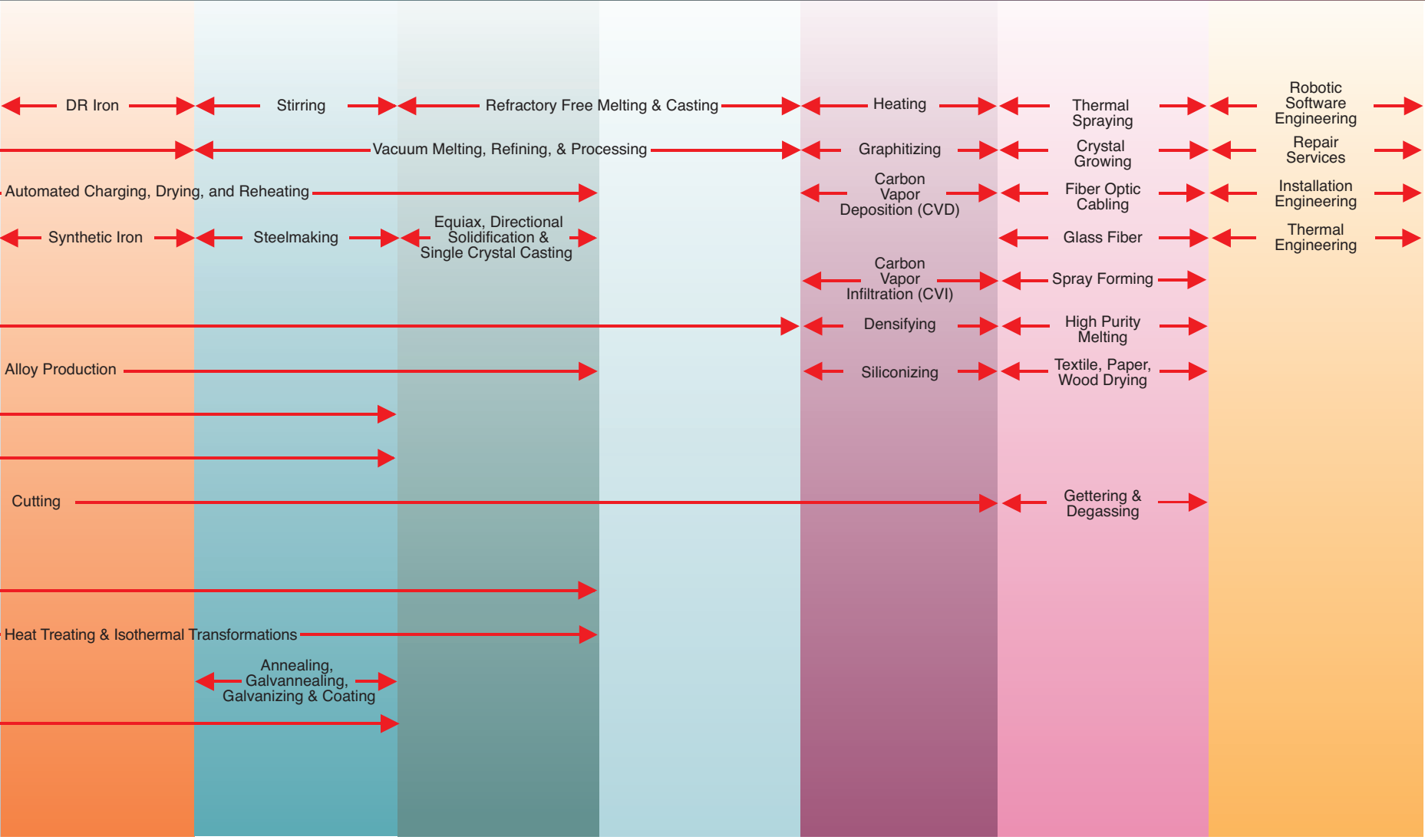
As a multi-technology organization, the Inductotherm Group offers many advantages:

- The unique ability to offer the best solution from a broad range of available technologies.
- The support of a global network of manufacturing and service facilities.
- Access to a full range of engineering, installation and repair services.

While you probably already know some of our companies by their individual brand names, this brochure introduces you to all product lines of the Inductotherm Group.



Iron Steels Super Alloys Reactive Metals Composites Other Metals Services





For most metals, melting is the first step in producing a useful product. Four Inductotherm Group companies are leading manufacturers of melt shop and automatic pouring systems for a full range of ferrous, non-ferrous, precious and reactive metals.



Three 16,500 kW 20T furnaces pouring 80T iron/hr

Inductotherm is the world's leading manufacturer of induction melting systems. Its furnaces range from coffee cup size for melting precious metals to furnaces holding hundreds of tons of iron. Inductotherm is the most recognized brand name in foundries for the production of iron, copper and aluminum.



Acutrak® Direct Electric Heat (DEH) for aluminum and non-ferrous melting



Charging a 100T aluminum melter



110,000 kg capacity aluminum tilting holding furnace

Bricmont offers thermal equipment and consulting services to primary and secondary metal producers worldwide. Its expertise encompasses large capacity fuel-fired melting/holding furnaces, including some of the world's largest aluminum holders and slab reheating furnaces. Bricmont also produces rotary hearth furnaces used for the production of direct reduced iron (DRI).



High efficiency mini stack melter



1,800 kg/hr integrated aluminum treatment & casting line

HI T.E.Q. specializes in engineering and building turn-key systems to provide consistently high quality metal to the casting station. Its products include fuel-fired, electric and regenerative aluminum melting, holding, degassing and filtration furnaces and heated launders.



Visipour® Automatic Pouring System for precision pouring control to meet the high industry standards

Inductotherm is recognized as the world's leading supplier of foundry automation systems. These include: charge handling conveyors, supervisory melt assist computers and automatic metal pouring systems with real-time vision controls.



Time-saving lining push-out mechanism



Molten aluminum transfer line



Vibratory conveyor loading charge materials into the induction furnace



In the foundry, automated systems built by an Inductotherm Group company reduce labor costs, increase production and enhance quality. These include automated charging systems, computerized controls, push-out lining removal mechanisms and automatic pouring systems.



Many metals require heating and/or heat treating to achieve their optimum physical properties. Heating also is used as part of other metal forming processes. The Inductotherm Group companies manufacture heating and/or heat treating equipment.



Non-rotational crankshaft hardening and tempering system

Inductoheat, the world's largest manufacturer of induction heating equipment, offers general purpose through fully customized heat treating and annealing machines, pipe end heaters, crankshaft and camshaft heating machines and copper tube annealing plants. Manufacturing at more than 20 locations around the world, it is a recognized leader in the automotive and machine tool industries.



Compact, dual in-line induction tempering system

Inductoheat HWG, based in Germany, manufactures both highly customized and standardized induction heat treating systems. It also operates two commercial heat treat shops in Europe.



The InductoScan® modular heat treat system allows for scanning, rotary table heating and large part hardening



Single-shot induction hardening and tempering of a 1040 SAE stub shaft



Stress relieving before threading of premium casing and tubing



Induction push-through billet heater

Inductotherm Heating and Welding Technologies

(HWT), based in the United Kingdom, builds Radyne brand wire heat treatment systems used worldwide for automotive spring, tire cord and construction markets. It also builds Radyne brand pipe coating systems which are used for coating thousands of miles of off-shore gas and oil distribution pipeline.



InductoForge® billet heaters can be built with any number of modules

Inductotherm HWT serves all non-ferrous manufacturers by producing Banyard brand induction units for applications, such as pre-heaters for extrusion plants, in-line annealing systems for tube production, pre-heaters for rolling mills and stub heaters for smelter rod production.

Inductotherm HWT manufactures Newelco brand large capacity induction billet and bar heating equipment used with major forming machine manufacturers worldwide.



Flexitune® IGBT power supplies



Unitized high production SSM billet heater



Complete wire annealing or heating line



Plasticity of metals changes with its temperature. Whenever a part has to be formed, the workpiece is heated. Inductotherm Group companies manufacture a wide range of standard and specialized equipment to precisely preheat metal blanks for forging, extrusion and shaping.



Rolling mills require a wide range of thermal processes from heating and reheating slab, bar and rod source materials to melting, holding and heating zinc and aluminum coatings. Inductotherm Group Mass Heating & Coating companies manufacture thermal equipment for both hot and cold rolling mill applications.



Coreless coating pot for a continuous strip line

Inductotherm brings the world's most advanced induction technology to the coating line.

It supplies the steel industry with inductively heated coreless, channel and premelt pots for galvanizing, galvannealing, Galfan® and Galvalume® product lines. It also manufactures strip heaters, boost heaters and tin reflow, as well as systems for paint drying and polymerization of coatings.



High frequency strip heater for tin reflow



Advanced induction technology for galvannealing



Induction reheating of slab prior to rolling

Inductotherm induction mass heating systems for bars, blooms, billets, plate and slabs are used prior to rolling operations. These compact and In-Line or oscillating heaters include the world's largest and most technologically advanced induction reheater - an oscillatory 500 ton-per-hour system designed to boost the temperature of steel slabs by 500°F (260°C) prior to rolling.



Coating dryer



High-speed induction tube welding

Thermatool is the global leader in production technology and equipment for the pipe and tube industry, serving the automotive, oil/gas exploration, recreational equipment, electrical construction, furniture, structural and industrial utility boiler markets.

T&H Lemont is a leading supplier of form and weld mills, roll forming mills, and roll tooling solutions for the tube, pipe and roll form industries. It is the preferred choice for reliable designs for equipment and tooling.



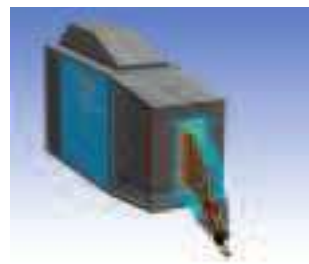
Alpha 20 cm shear for cutting tube for hydroform applications at 100 M/min

Inductotherm HWT produces Thermatool brand pipe and tube welders and Alpha brand tube cutoff equipment in Europe.

W. J. Savage designs, builds and services high performance spindle saws. These high production saws cut tubes, plates or formed shapes of ferrous alloys, non-ferrous alloys, or nonmetallics. They can be designed for cutting hot or cold product, wet or dry. They can utilize carbide, abrasive or diamond blades.



Saw with carbide tip cutoff wheel designed to chamfer copper bus bar and edge for use as fuse blades



Thermatool high frequency solid-state tube welding unit



Alpha Flying Sheer cutoff

The application of heat is often key to many manufacturing processes, such as welding, cutting, bending, shaping, fitting and sealing, to name just a few. Inductotherm Group companies build equipment to perform a variety of thermal processing functions.

The creation and casting of superalloys and many other advanced and reactive metals requires sophisticated vacuum or controlled atmosphere melting and remelting systems. Three Inductotherm Group companies are world leaders in the manufacture of these technologically advanced systems and related materials.



900 mm VAR furnaces for steels and superalloys



6T VIM for master alloy production

Consarc manufactures a complete line of vacuum and controlled atmosphere systems including:

- VIM, VAR, ESR and Induction Vacuum Ladle (IVL) refining for production of superalloys, stainless and specialty steels and electronic alloys.
- Refractory-free Induction Skull Melting (ISM) for titanium and reactive alloy casting.
- Vacuum Precision Casting (VPC) furnaces for casting superalloy parts using equiax, DS and SC processes.

- Vacuum Brazing and de-oiling systems for radiators, cold plates and heat exchangers.

Consarc uses Inductotherm® multi-output (patented) power supplies with zoned coil in its Vacuum Heating furnaces for densification, CVI and specialty heat treatment of composite materials such as carbon-carbon.

Calcarb produces carbon bonded carbon fiber, a high temperature rigid insulation, for use in controlled atmosphere and vacuum furnaces.



110T ESR with 5T ESR in background



10 kg ISM crucible with charging cup



Small vacuum precision investment casting system



Inductoheat Mark 250 Motor Rotor Heater

Radyne, the industry leader for high frequency (HF) induction applications, builds systems for brazing and soldering, heat treating, curing, wire heating, coating, crystal growing, bonding and getter flashing.

Inductoheat, in addition to heat treating, builds Ross 60 cycle and MF equipment for motor and stator heating, shrink fit and copper tube annealing equipment.



Thermatool HF Plasma Generator

Thermatool manufactures advanced power supplies designed specifically for Inductively Coupled Plasma applications, including the manufacture of nanopowders, material coating, material separation processes, and waste processing.



Radyne FlexScan™ heat treating system



In-house inductor design, build and repair departments



Radyne atmosphere brazing system



While most Inductotherm Group companies manufacture equipment for the thermal processing of metals, several companies in the Group build equipment for the thermal processing of other materials.



Walking hearth mechanism moves slab through reheat furnace



Automated welding line for white body welding

Bricmont is a full-service, international engineering company with special expertise in thermal engineering applications for the metals industry. It designs, builds and installs custom furnace systems; provides comprehensive engineering studies; and offers in-depth training and training systems. Bricmont designs and builds turn-key installations for billets, blooms, slabs or near net shape reheating and heat treating applications.

Its products include tunnel, pusher, car, walking hearth and walking beam furnaces.

ABPLAN is a European-based electrical engineering company specializing in integration and automation control. It has extensive experience in complete process line automation of robot-based automotive machinery, welding and assembly lines, both inside and outside Europe.

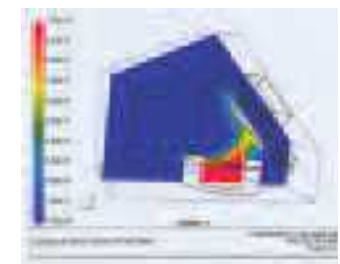
All Inductotherm Group companies offer their customers the industry's highest level of technical support and service. Providing such services is also the principal business of several companies in the Group.



System automation to reduce cost and improve quality



Testing a level 1 & 2 reheat furnace control program



Furnace exhaust fume fluid dynamic analysis



Induction furnace installation in a major foundry

EMSCO specializes in the installation and repair of induction melting furnaces and associated systems. It operates U.S. regional service facilities in New Jersey, Ohio, Alabama and California, as well as in the U.K.

Inductotherm Group Canada offers complete induction repair, retrofit, rebuild and installation services in Canada.

Alpha I Induction Service Center specializes in the manufacture and repair of coils to customer



EMSCO's installation expertise extends from civil construction through final system commissioning

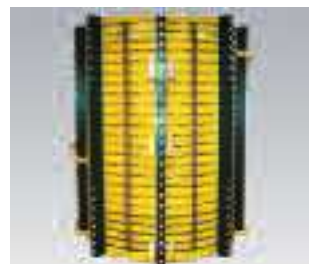
specifications for induction heating applications. Material handling equipment, transformer repairs and field service are also provided.

ServMelt, based in Brazil, offers a full range of upgrade and repair services to induction melting and heating customers throughout Latin America.

Ondarlan is based in Spain where it provides retrofit, rebuild and repair services for induction furnaces and related systems on the Iberian Peninsula.



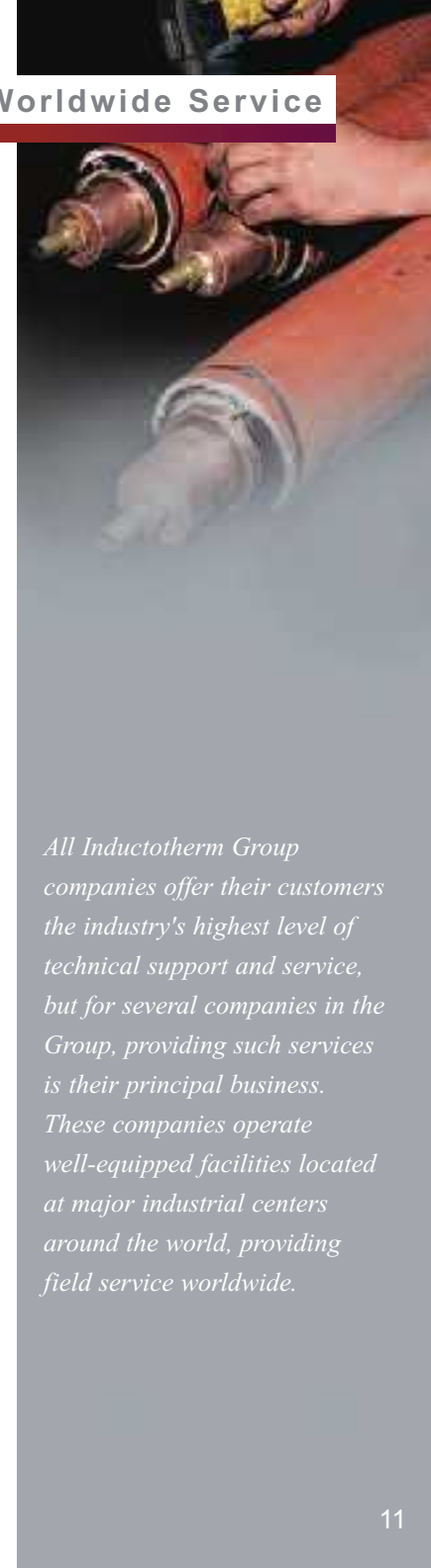
Construction and installation of a billet reheat furnace



Completely rebuilt induction furnace coil



Testing power leads for flow



All Inductotherm Group companies offer their customers the industry's highest level of technical support and service, but for several companies in the Group, providing such services is their principal business. These companies operate well-equipped facilities located at major industrial centers around the world, providing field service worldwide.



ABPLAN
Germany



Alpha 1
United States



Bricmont
United States



Calcarb
United Kingdom



Consarc
United States



Consarc Engineering
United Kingdom



EMSCO Central
United States



EMSCO Europe
United Kingdom



EMSCO Northeast
United States



EMSCO Southeast
United States



EMSCO West Coast
United States



Hi T.E.Q.
United States



HWG Inductoheat
Germany



Inductoheat
United States



Inductotherm
United States



Inductotherm HWT
Basingstoke
United Kingdom



Inductotherm HWT
Newport
United Kingdom



Inductotherm
Australia



Inductotherm
Belgium



Inductotherm/Servmelt
Brazil



Inductotherm Group
Canada



Inductotherm Shanghai
China



Inductotherm Wuxi
China



Inductotherm Europe
United Kingdom



Inductotherm
France



Inductotherm
Germany



Inductotherm
India



Inductotherm
Japan



Inductotherm
Korea



Inductotherm
Mexico



Inductotherm
Russia



Inductotherm
Taiwan



Inductotherm
Turkey



Ondarlan
Spain



PV/T
United States



Radyne
United States



Savage Saws
United States



T&H Lemont
United States



Thermatool
United States





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