









HEAT TREATING







Since 2017, Heat Management Services has been committed to providing safe, high-quality heat treatment services to our customers in the refining, petrochemical, power generation, fabrication, off-shore, and pulp & paper industries.

TRIED-AND-TRUE METHODS

We focus on tried-and-true, proven heat treatment methods while incorporating the industry's most robust training programs, largest company-owned equipment fleet, and strictest quality assurance standards.

QUALITY ASSURANCE

- Q.A. Q.C. normal procedure at Heat Management Services ... simply guaranteed.
- Meeting the customer's requirements in every respect with fully traceable documented work records.
- Our quality assurance division ensures that our Q.A. Q.C. manuals are regularly updated in terms of code and procedure compliance. Refinery or nuclear power, and their governing codes and standards, are as much a part of our team concept as the heat treating techniques we use.

PROJECT EXPERIENCE

The Heat Management Services team of dedicated professionals have many years of involvement in contract heat treatment and machining, working in numerous countries on onshore and offshore projects, including:

- · Grass roots construction projects, expansions and maintenance
- Power, fossil, nuclear and hydro
- Petrochem, oil, gas and chemical plants
- Mining, pulp and paper
- Marine, shipbuilding, oil rig fabrication
- Mechanical contractors, utility companies, pressure vessel and piping fabricators.

Heat Management Services is a high-technology company with a strong commitment to research and development. Combined with the engineering disciplines used, the result is a more productive, more efficient, more reliable and safer contract completion.

Heat Management Services's involvement in the processing industries covers a wide and varied field, including electric and gas heat treating services.

Heat Management Services stands ready to assist you in developing the most efficient and cost-effective plans for your specific heat treatment project.



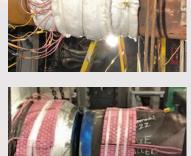


At Heat Management Services, we are laser-focused on proven Heat Treatment Processes that are conducted by well-trained, highly skilled technicians who are committed to delivering the safest, highest quality services in the heat treatment industry.

POST WELD HEAT TREATMENT

Post Weld Heat Treatment (PWHT) is designed to achieve a desired improvement in the characteristics of a material or to regain characteristics that may have been affected by welding, bending or forming activities. One of the primary benefits of PWHT is to relieve the affected material's residual stresses and reduce the danger of cracking in the weld.

- Reduced residual stresses
- Lower hardness
- Resistance to corrosion and caustic effects
- Increased dimensional stability
- Improved ductility
- Improved machining ability
- · Less risk of brittle failure













SPLITTER CABLE

Available from 3 way to 4 way, these splitters are used to connect heaters to the distribution cables and are available in various lengths.

PREHEATING

Preheating is a process of heating a weld's surrounding metal before and during the welding procedure. As a weld cools, thermal stresses are always induced and may cause cracking. If cooling it too rapid, it results in the entrapment of stresses and hardening of the material with a loss of ductility. If the rate of cooling is reduced by preheating, it reduces the chances of thermal cracking.

BAKE-OUT/DEGASSING

Bake-out/Degassing is a heating process commonly used to remove contaminants and gases from a material prior to fabrication or repair welding. The most common source of hydrogen is in the service environment, known as wet H²S. Heat specifications vary but are typically moderate in temperatures and time.

LINE THAW

Line thaw refers to the heating of component parts in a process system containing material or product that has begun to solidify due to mechanical or operational error. Because the product being processed has fallen below the minimum temperature needed to maintain a fluid state, heating the product to an adequate temperature can return it to a more liquid state and allow flow within the equipment used for the process.

REFRACTORY CURES/DRY-OUT

Refractory curing is a controlled process of removing moisture from a lining without causing damage to the refractory materials. All residual, absorbed or induced moisture must be removed to prevent cracking and compromising the lifespan of the lining. The process involves a delicate and sometimes challenging thermal cycle of applying forced hot air throughout a refractory lining. Heat Management technicians have the skill, experience and expertise needed to perform this sensitive process with accuracy and precision.

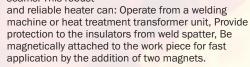


HEATER DISTRIBUTION CABLE

Available in various lengths and amp size.

FLEXIBLE CERAMIC PAD HEATER

Particularly suitable for preheating pipework, welded fabrications and vessels having either longitudinal or circumferential seams. This robust





With over 45 years combined experience in the heat treating field, Heat Management Services has produced power, control, recording and monitoring systems second to none. Our range of equipment is being continually extended and updated as new technology, materials and components are being developed and introduced. Heat Management Services standard six-way control consoles represent the best value available in today's market. They are available with a complete range of options, from manual to semi-automatic to fully computerized operation.

RENTALS

Heat Management Services has available, at each of our listed locations, a complete line of equipment for immediate rental on daily, weekly or monthly agreements for most items.

RENTAL ITEMS INCLUDE:

- Gas or electrical control systems
- Gas burners or electrical resistance heating equipment
- Recording and monitoring systems
- All related associated primary and secondary cables

The heat treatment control consoles have been designed featuring a master and slave facility, whereby one or more units can be utilized without the expense of additional programmers or recording equipment. Further economical advantages are that all associated equipment is fully compatible with our competitors' products. We can upgrade your existing heat treatment equipment to the latest state-of-the-art technology.

Heat Management Services contractual services within the industry include heat treating on contracts awarded for new construction projects, ongoing maintenance work, and scheduled plant turnaround, emergencies, and power plant outages. During or prior to our involvement with the site work, Heat Management Services may well have contracted to the fabricating companies of pressure vessels and piping, also involved in these projects.

INDEPENDENT OR INTEGRATED SERVICES

Heat Management Services can support awarded heat treatment contracts independently using skilled, experienced work teams and self-powered mobile control units.

The same teams can be fully integrated to become part of the customer's workforce, conforming to construction schedules or

target dates for completion of planned outages. Heat Management Services can also be built into critical path schedules to ensure the total effectiveness of the team work.

Recorders tested every six months for accuracy can assure you an accurate readout every time. Our technicians use these readouts to put together detailed and accurate reports.

OTHER SERVICES:

- Turnkey contracts inclusive of all project supervision, technicians and all support labor.
- Supply of equipment and supervision, utilizing the customer's labor as required.
- Sales and rental of equipment, custom manufacturing, and upgrading of obsolete systems.

ELECTRICAL CONTROLLED PRE-HEATING

Electrical controlled preheating is as important as the post weld heat treatment.

In today's quality-oriented industries, the demand for these services is ever-increasing. Expert and professional techniques by Heat Management Services have also been put to the test to meet the demand.

Today's priority: consider electrical controlled preheating as part of your welding procedure to ensure the quality of your welding.

Setting up electrical heating elements for post-weld heat treatment to heavy wall valve.

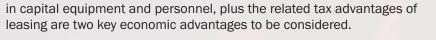




ULTIMATE FLEXIBILITY & ECONOMY

There are many reasons why using Heat Management Services makes sense. One of the most important is the flexibility Heat Management Services affords you, the customer. Our company tailors services to your needs, whether you need Heat Management Services equipment, personnel, or expertise, we can help. The option is yours.

Significant savings can be obtained as a result of using Heat Management Services to reduce your total investment





HEAT MANAGEMENT SERVICES TECHNICAL SERVICES

In order to satisfy the need for specialized on-site heat treating, Heat Management Services has assembled a team of industrial professionals whose primary focus is the commitment to our clients ... to get the job done right. Whether it be rapid deployment of on-site heat treating, engineering support, customized machinery, or complete turnkey services ... Heat Management Services can supply it!

FULL TURNKEY SERVICE

PROJECT SCHEDULING: From planning to execution? Heat Management Services adheres to your time-sensitive schedules, manpower, equipment and budget requirements.

COMPLETE ENGINEERING SERVICES: Design Engineering, special application tooling and machining, including complete mock-up.

HEAT TREATING EQUIPMENT LEASE OR RENTAL: A large well-maintained inventory of machines, tooling and equipment available for immediate delivery.

SKILLED CERTIFIED TECHNICIANS: Trained, tested and certified by Heat Management Services facilities to comply with site codes, procedure qualifications, security and safety programs.

HEAT TREATING CAPABILITIES: Whether you need our services to train, supervise, operate equipment or for complete job responsibilities, our qualified and dedicated staff is ready to help.

MACHINING

Heat Management Services is fully capable of supporting all of your on-site machining needs. Whether you need us to perform the work or simply supply the tools to get the job done, we provide highly experienced technicians and superior equipment to deliver quality results in a timely fashion. Our knowledgeable machinists represent decades of experience and can handle anything from boiler tubes to turbine shafts.

SERVICES

Among some of the many services we offer are:

- Cutting and beveling of high energy piping including P9I
- Flange facing
- Waterwall header tube extractions
- Hand hole inspection plate removal
- Shaft turning
- Hole boring
- Custom machining

These are but a few of the on-site operations that we perform.

SPLIT FRAMES

The portable pipe lathe is at the core of our equipment arsenal. Commonly known as split frames or clamshells, these durable machines are an invaluable tool on jobsites throughout the world. Ranging from 4" to 60" standard, and higher in custom applications, split frames cover the full spectrum of your pipe machining needs. Heat Management Services has taken its own steps to improve on an already proven design, making our equipment even more formidable than any available on the market today.





WHY USE US?

- Highly skilled technicians (both in the field and behind the scenes)
- Quality equipment
- and Competitive rates

HEAT TREATMENT SERVICES TRAINING

The Mission of Heat Management Services is to support the Construction, Maintenance and Modification industry with State-of-the-art equipment and experienced aggressive personnel. Our goal is repeat business based on integrity, performance, safety, quality and cost.

Heat Management Services is also involved in the training of our clients' employees on the use of our equipment. Training involves learning the proper ways of handling our equipment, safety standards to comply with site specific safety regulations and technical training on better ways to utilize our equipment. With the training of an Heat Management Services master technician, you can be assured that your employees will have the knowledge and know how to complete any task required in the heat treating industry. If you are interested in our rates or more information about our training program, please feel free to contact us.

WE ATTRIBUTE OUR RAPID GROWTH TO TWO CLOSELY RELATED FACTORS:

- Heat Management Services has established a strong reputation for quality and timely service at fair and competitive prices.
- Heat Management Services commitment to service and ongoing research and development has been the beneficial influence behind our continued growth and success.





