

Safety First

Competitive Pricing

Personalized Service

Fast and Accurate

Professional

Locally Owned

ON-SITE HEAT TREATING SERVICES: REFRACTORY CURES



*"The Industry Leader in Heat Treatment
of Pressure Vessels and Refractory Cures
with Direct Combustion Gas Fire"*

**GULF COAST
COMBUSTION**
SERVICES, LLC

GCC: The Industry Leader in Refractory Cures Using Direct Combustion Gas Fire Heat Treating

Established in 2013 in Houston, Texas, Gulf Coast Combustion (GCC) specializes in direct gas fire heat treating, where most other heat treating companies offer it as a secondary service. 95% of our total jobs are combustion gas jobs, primarily the on-site curing of Refractory and stress relieving of Pressure Vessels. With GCC's management team and highly trained Combustion

Technicians, we pride ourselves in being the fastest and safest mobile combustion Heat Treating company in the United States. We work meticulously with each customer to ensure that every refractory installation is completed accurately and to full satisfaction.

Refractory cure on Transition Cone.



Benefits of GCC's On-Site Refractory Cures:

The key to a long refractory life is a dry-out using GCC's High Velocity Gas Combustion Systems.

With Gulf Coast Combustion's dry-out knowledge and expertise, you and your clients will get a long-lasting life on your refractory.

Utilizing the on-site service GCC offers, the handling of your parts is kept to a minimum. The less you have to move parts with refractory, the better quality it remains and less repairs need to be made in the future. Cures using our procedures can ensure even heat by eliminating hot/cold spots to extend the life of your refractory.

The selection of the proper heating schedule is dependent on the design of the refractory lining and the particular type of unit. Based on manufacturer's specifications, Gulf Coast Combustion can advise clients of an appropriate dry-out schedule and/or develop an execution plan for your job.



Consider the Following Scenarios When Selecting a Dry-out Schedule:

1. If steam is seen during any hold period, the hold period will be held until steaming stops.
2. The temperature in the dry-out schedule refers to the temperature of the hot air. Thermocouples (T/C) may be

placed close to the refractory surface for reliable recording of temperature during heat up.

3. At least one T/C should be placed where the temperature of the hot air will be the highest to avoid localized overheating.

4. If the temperature cannot be controlled accurately or if there is a likelihood of localized overheating, castable linings can be heated at a slower rate.

5. Linings with two or more castable components may require a slower schedule. You will often see this when a lightweight castable is installed behind a dense castable lining.

6. If the unit is to be cooled before being put into service, the temperature should be held at service temperature until all moisture is removed and equilibrium is established in the lining prior to cool down.

Frequently Asked Questions: Refractory Cures/Dry-outs

Can GCC come to our shop and safely perform the gas fire process on our Refractory installs?

Yes. Most fabrication shops are built with highly ventilated air for the welding vapor. Our combustion systems are very efficient clean-burning gas equipment. With very little carbon emissions, the primary concern is the placement of the exhaust which can easily be manipulated to a safe location. Additionally, work performed on-site is monitored 24/7.

Can GCC provide bulkhead and materials prior to start of work?

Yes, we can provide all materials for bulkheads and set-up bulkheads upon customer request.

Will GCC travel to other states in the US?

Yes! We are available to mobilize anywhere in the United States.

Formal/Budgetary Estimations and Customized Procedure Writing:

After an inquiry for services has been made, a trained estimator and our quality control department will work together to find the optimal solution for your heat treating needs. Before this process begins there are a few details of the project we need from you to get started:

1. Project Scope

A detailed drawing of a work piece would be sufficient for GCC to determine a procedure structure, but if you are still working on drawings and just want a budgetary estimate for your bid, these are the details we will need for accuracy:

- Material/Refractory type
- Manufacturers Dryout Recommendations
- Length
- Diameter
- Wall Thickness



Multiple pieces ready for cure simultaneously often provide cost savings.

Once these items are determined, GCC can configure an estimate for your bidding/purchasing purposes.

2. Location and Resources

The location of service is very important for a more accurate bid and should be included with all estimations. GCC's combustion equipment needs both a dry gas and electrical power to operate. By using resources available in shops or plants (ie. Natural gas and/or 480 Volt 3 phase power) a customer can immediately save up to thousands of dollars. If natural gas and/or electrical power is not available at the location work is to be performed, GCC can accommodate and mobilize gas and power to your location.

3. Customized Procedures

GCC has developed its own quality control manual that can be viewed by any customer at any time. When a custom heat treating procedure is being built for a specific heat treatment, GCC identifies it as an execution plan. This execution plan is written in detail the steps taken to heat treat (1) work piece. A copy will be sent to the customer for approval before the start of work. A copy of the procedure will also stay on-site with a GCC shift supervisor to ensure quality control.

The customized procedure will detail: where and how burners will be installed, number of thermocouple (T/C) readings, and placement of thermocouples. The execution plan will include a Quality Control section on how the T/C's are applied

to the work piece and where to safely exhaust. The procedure will also include a heat cycle using manufacturer or customer specifications for a precise result. We strive to surpass all standards in our industry.



Refractory cure on Convection Box with Exhaust Stack Transition and Baffle System.

Call us at (713) 425-3773 or visit our website at www.gulfcoastcombustion.com to learn what we can do for you. See the back page for additional heat treatment services offered.

Contact GCC Today for a Solution to Your Heat Treating Needs

Sales & Technical Support:

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Owner/CEO
Direct: 832-797-3428
Office: 713-425-3773
James@gulfcoastcombustion.com

New Business Development:

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Visit us at: www.gulfcoastcombustion.com

Additional Services Offered by Gulf Coast Combustion:

- Coating/Paint Cures
- Consultation on Long and Short Term Projects
- Decontamination of Large Storage Vessels
- Expansions
- Full/Partial Refractory Dry-out
- Furnaced Post-Weld Heat Treatment
- Hardness Testing
- Hydrogen Bake-outs
- Hydrocarbon Bake-out
- Line Thawing
- Localized Post-Weld Heat Treatment
- Low-voltage electrical resistance
- PWHT of Pressure Vessels
- Service at GCC Shop in Spring, TX
- Space Heating
- Temporary and Permanent Furnace Operations
- Welding Pre-heats

Please contact us at 713-425-3773 for information or quotes on any of the services listed above.

