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Technical Bulletin

TB-H08CL

Heat Up Schedules

Schedule CL (Linear)

This is an alternate schedule applicable for field installation bake out of:

Plicast HyMOR, Plicast Super HyMOR and Plicast HyRezist Castable Refractories

Instructions

After the castable is installed, a 24 hr moist curing period is recommended. After curing, follow the heating rate shown on the chart. Use Schedule CL-1 for total refractory lining thicknesses up to 12" (300mm). Use Schedule CL-2 for total lining thicknesses greater than 12" (300mm). The cool down rate (both initial and subsequent) should not exceed 200°F (110°C) per hour to minimize thermal stress.

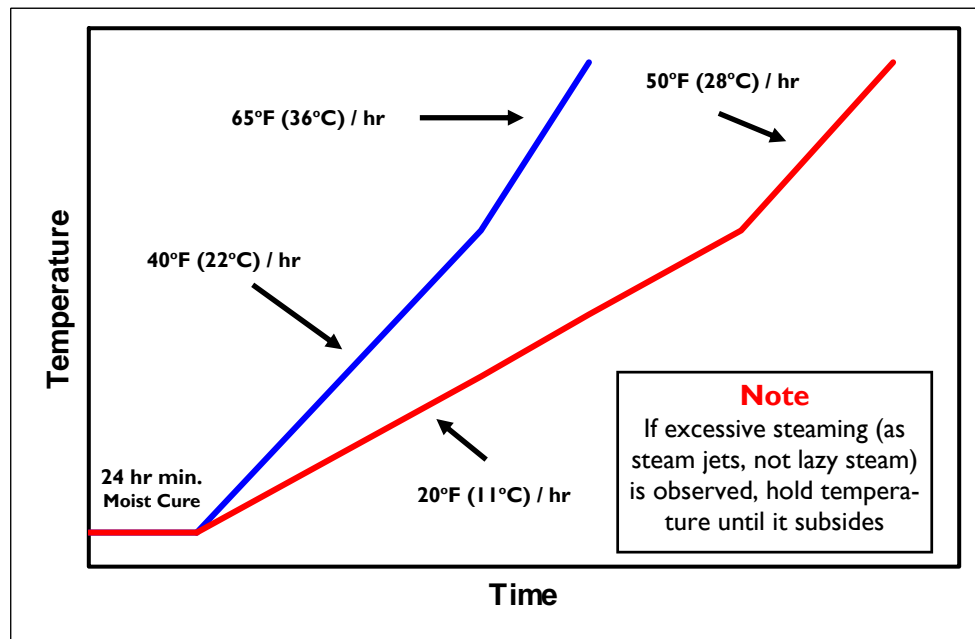
This schedule is especially suitable for heating complex furnace arrangements where uniform heating and temperature holds in different furnace zones or areas are not achievable. The temperature ramp increase at 1000°F should be based on the furnace zone or area with lowest measured temperature.

Schedule CL-1

- Ambient Moist Cure -24 hr
- Ambient to 1000°F (540°C)
@ 40°F (22°C) / hr
- 1000°F (540°C) to Operating
@ 65°F (36°C) / hr
- Hold at Operating
1 hr per 1 in (25mm)

Schedule CL-2

- Ambient Moist Cure -24 hr
- Ambient to 1000°F (540°C)
@ 20°F (11°C) / hr
- 1000°F (540°C) to Operating
@ 50°F (28°C) / hr
- Hold at Operating
1 hr per 1 in (25mm)



WARNING

Note that the target control temperatures are to be measured by thermocouple placement on or within 1/2 in. (12 mm) of the **hot face surface** of the refractory and must be monitored at multiple locations on the refractory within the furnace. Care should be taken to not exceed the heating rates or cause excessive thermal gradients (>50°F (28°C)) throughout the furnace during bake out. The refractory during bake out should not be exposed to

flame impingement or spot heating and there should be sufficient air circulation through the furnace. This schedule also assumes that there is path for the moisture driven through the refractory to escape the furnace or vessel such as weep holes or venting. Failure to take any of these parameters into account may result in lining damage or explosion. For questions, please consult your Plibrico representative or the Plibrico Technical or Engineering department.