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Technical Bulletin TB-H07-C

Heat Up Schedules

Schedule C

This schedule is applicable for field installation bake out of:

Plicast HyMOR, Plicast Super HyMOR and Plicast HyRezist Castable Refractories

Instructions

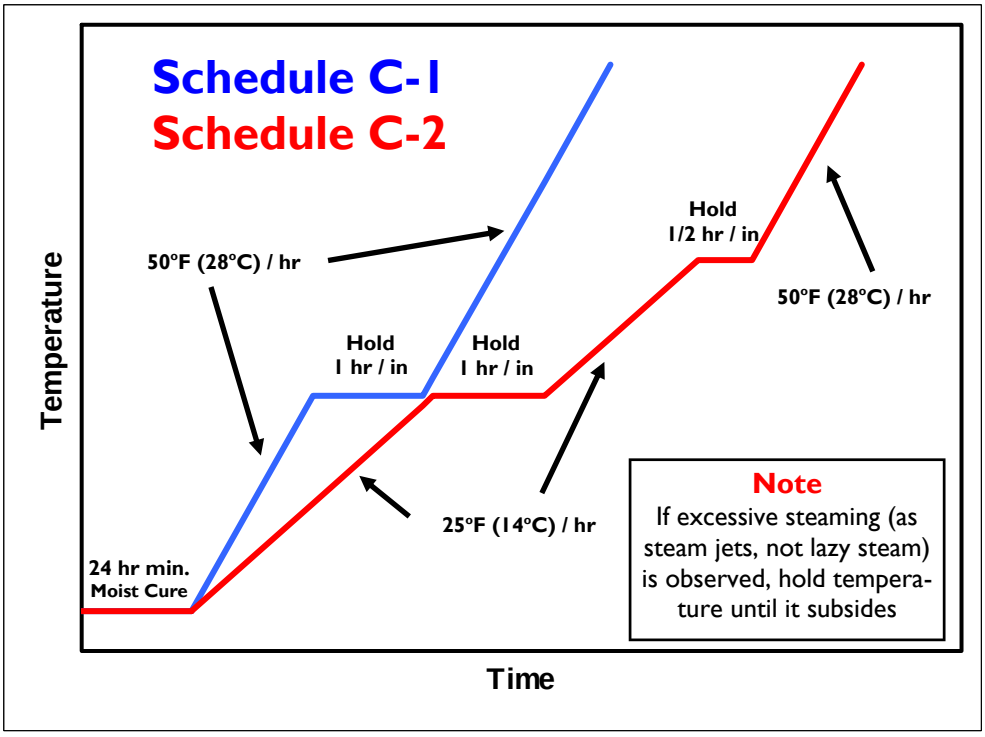
After the castable is installed, a 24 hr moist curing period is recommended. After curing, follow the heating rate shown on the chart. Use Schedule C-1 for total refractory lining thicknesses up to 12" (300mm). Use Schedule C-2 for total lining thicknesses greater than 12" (300mm). The cool down rate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

Schedule C-1

- Ambient Moist Cure -24 hr
- Ambient to 650°F (345°C)
  @ 50°F (28°C) / hr
- Hold at 650°F (345°C)
  1 hr per 1 in (25mm)
- 650°F (345°C) to Operating
  @ 50°F (28°C) / hr
- Hold at Operating
  1 hr per 1 in (25mm)

Schedule C-2

- Ambient Moist Cure -24 hr
- Ambient to 650°F (345°C)
  @ 25°F (14°C) / hr
- Hold at 650°F (345°C)
  1 hr per 1 in (25mm)
- 650°F (345°C) to 1000°F (540°C)
  @ 25°F (14°C) / hr
- Hold at 1000°F (540°C)
  1/2 hr per 1 in (25mm)
- 1000°F (540°C) to 1500°F (815°C)
  @ 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.