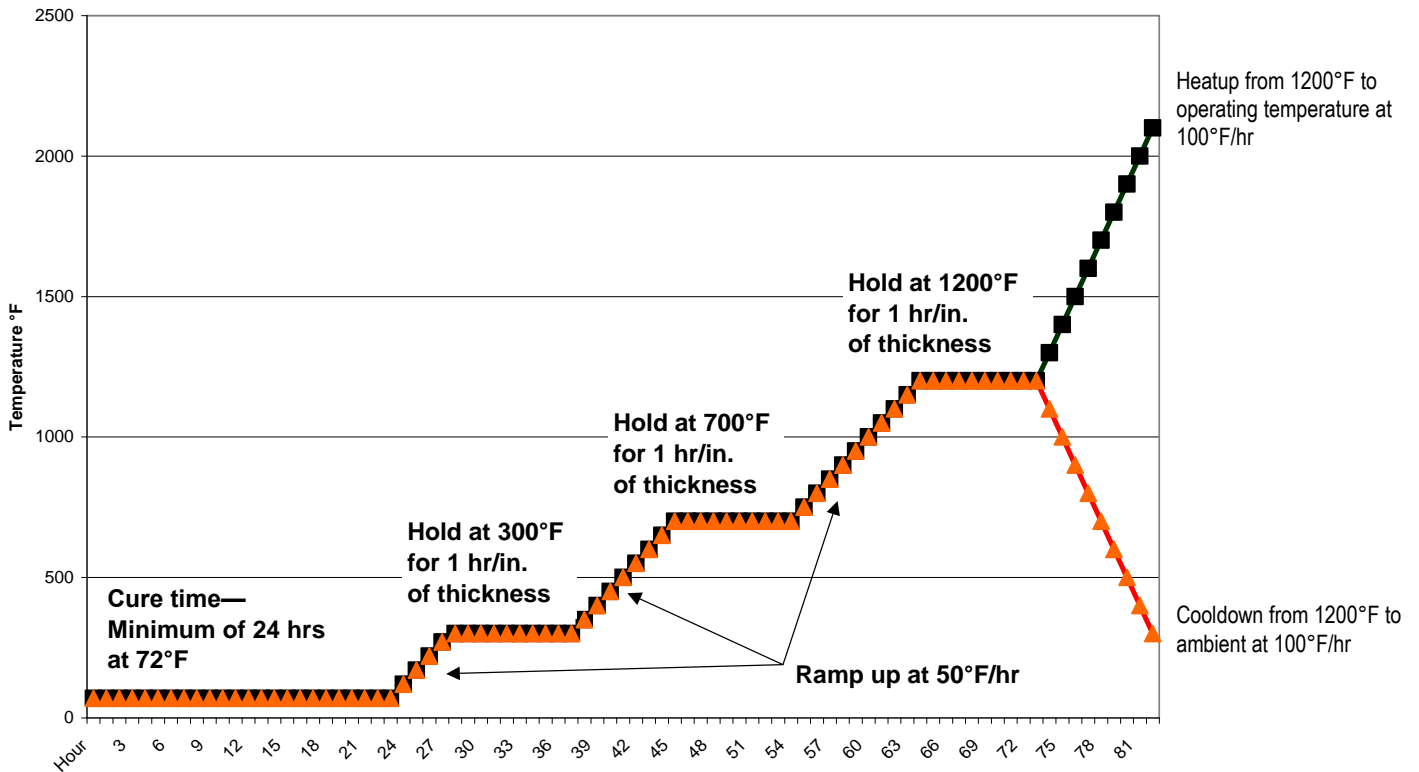


Example: 9-Inch Lining Schedule
Total Curing and Dryout Time—74 Hours



Curing and Dryout Schedule (heated from the hot face)	Hours
Cure Time	
Minimum ambient cure time (range of 70°F to 100°F)	24
Dryout Heat/Hold Sequence	
Heat from ambient to 300°F at 50°F/hr	~5
Hold at 300°F for 1 hr for each in. of thickness up to 12 in.	9
Heat from 300°F to 700°F at 50°F/hr	8
Hold at 700°F for 1 hr for each in. of thickness up to 12 in.	9
Heat from 700°F to 1200°F at 50°F/hr	10
Hold at 1200°F for 1 hr for each in. of thickness up to 12 in.	9
Total Dryout Time	~50
Total Curing and Dryout Time	~74

Curing and Dryout General Guidelines – Field Use – One Sided Dryout

Notes

- For multi-layer lining designs, you must consider the total thickness of the various monolithics used in the lining as well as the specific dryout and heatup requirements of each product.
- Cure time is relative to ambient temperature. When installing below 60°F, you must either extend the cure time to fully hydrate the cement or add heat during the cure. Never begin dryout until a hard set is reached.
- Never let the temperature of uncured material drop below the freezing point. Ideally, the installed product should be kept above freezing until dryout is complete.
- The temperatures recommended in this schedule refer to the hot gases in contact with the refractory material and not the lining itself.
- Thermocouples must be placed about ½-in. away from the lining surface to ensure accurate temperature measurement during heatup.
- If castable material is installed without a permeable and unobstructed path to allow water removal from the lining through the cold face during dry out then weep holes and/or wicking must be used. Refer to HWI Dry Out/Installation Guidelines. If weep holes and/or wicking cannot be used, contact your HWI sales and technical representative for assistance.
- If dryout and cooldown are completed according to this schedule, subsequent heatup can be performed at 100°F per hr.
- For linings thicker than 12 in., contact your HWI sales and technical representative.

CAUTIONS

- If high-pressure steam or excessive steam is observed at any time during heatup, the temperature must be held or reduced until steaming subsides. The schedule can then be resumed. Increasing the temperature during steaming can result in significant steam pressure buildup and possible steam spalling.
- Proper ventilation and air circulation within the furnace is required to remove steam and exhaust gases.
- Flame impingement on the refractory must be avoided. This will cause localized overheating and possible spalling.
- Remove wood forms prior to dryout and heatup. Allowing wood forms to catch on fire can cause localized overheating and possible spalling of the refractory.
- Many factors can impact safe dryout and heatup, including temperature uniformity, air exchange, and specific vessel designs. HWI cannot warrantee or guarantee the safe dryout and heatup of any specific vessel or refractory casting. However, following the general guidelines in this schedule has resulted in many successful installations. If you have specific questions or concerns, contact your HWI sales and technical representative.

Statements or suggestions concerning possible use of our products are made without representation or warranty that any such product is fit for such use or that such use is free of patent infringement of a third party. The suggested use assumes that all safety measures are taken by the user.