



Technical Information

SUGGESTED HEATING PROCEDURES FOR RESCO PHOSPHATE BONDED PLASTICS AND RAM MIXES

The following schedule is suggested upon initial heating of Resco Products' Phosphate Bonded Plastics and Ram Mixes. Controlled release of water in the plastic is necessary to prevent possible build-up of steam pressure and potential steam spalling.

Protect the refractory surface from drying out and "skinning" by covering the surface with plastic sheet, canvas, or burlap. Plastic sheet is the most common material for this purpose. If burlap or canvases are used, the fabric should be wetted by spraying the fabric with water in order to maintain moisture and prevent surface drying.

Once the heating process has begun, it must be run to completion as outlined. Do not stop the heating cycle.

The following is the suggested heating procedure:

1. Raise temperature at a rate of 50 °F (28 °C) per hour to 300°F (149°C) and hold one hour per inch (25mm) of lining thickness, up to a maximum of 8 hours.
2. Raise temperature at a rate of 50 °F (28 °C) per hour to 600°F (315°C).
3. Hold at 600°F (315°C) for one hour per inch of lining thickness, up to a maximum of 8 hours.
4. Raise temperature at a rate of 50°F (28 °C) per hour to 1000°F (538°C).
5. Hold at 1000°F (538°C) for one hour per inch of lining thickness, up to a maximum of 8 hours.
6. After the 1000°F (538°C) hold, increase the temperature at a rate of 75°F (24°C) per hour to operating temperature. If the unit is not going into operation and will be cooled, hold at the operating temperature for one hour per inch of lining thickness and then allow to cool naturally at a rate that should not exceed 100°F (38°C) per hour.

Notes:

- A. The dryout of refractory entails more than just following a heating schedule. Issues such as burner sizing and location, exhaust location, air volume and velocity, etc. need to be addressed. Resco recommends that an experienced dryout company be consulted.
- B. If, for any reason, the heating schedule is interrupted by a loss of heat and/or power into the unit, Resco Products recommends that the heating schedule be initiated from the beginning once power and/or heat is restored. At the end user or contractor's discretion, they may elect to attempt to restart the cycle and "stabilize" the lining temperature at the point of interruption. After the lining has been stabilized, the heat up cycle may be resumed as scheduled from that point on. Resco assumes no liability for this procedure, as it is difficult to determine that point at which the entire lining is stable to prevent the possibility of a steam spall.



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- C. If steaming is noticed during any hold period, the hold temperature should be maintained until the steaming subsides. Increasing the furnace temperature when steaming is noticed would further increase the steam pressure.

- D. **This schedule is suggested for situations where proper heating equipment and air circulation are used, weep holes are present and unclogged, and the ambient temperature ranges from 60° to 90° F. If all of these parameters are not met, a more conservative dry out schedule is needed. Consult your Resco Products, Inc salesman, the RESCO website (www.rescoproducts.com), or call 888.283.5505.**