

Instructions for Casting and Heating Conventional refractories

1. Mold Features

The mold for castables can be made of wood or metal. The mold should be designed in such a way that it can be easily opened and closed, and in cases where cores are used to create grooves and holes, the necessary draft angle should be incorporated into the core design in advance to facilitate the removal of the core from the cast piece. It should also be noted that the surfaces of wooden molds should be oiled before use to prevent the wood from absorbing the water from the castable.

2. Castable Preparation

The water used should be potable and at a temperature of 15-25°C. In cold weather, relatively warm water should be used, whereas in hot weather, cold water should be used to achieve the specific temperature range.

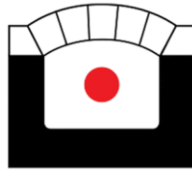
A paddle mixer must be used to prepare the castable. First, the castable should be dry-mixed in the mixer for one minute. Then, three-quarters of the required amount of water, as specified in the technical data sheet, should be added to the castable. Mixing should then continue while the remaining water is gradually added, as required. The mixing time is approximately 3 minutes for insulation and lightweight castables and 6 minutes for dense castables.

The castable is at the optimum consistency for installation when a ball of the castable is tossed to a height of about 30 cm; upon landing, it should be neither so wet that it slips through the fingers nor so dry that it crumbles in the hand. It should have a uniform, cohesive, and moldable consistency. It is important to note that the total time between preparation and installation of the castable should not exceed 30 minutes.

3. Casting

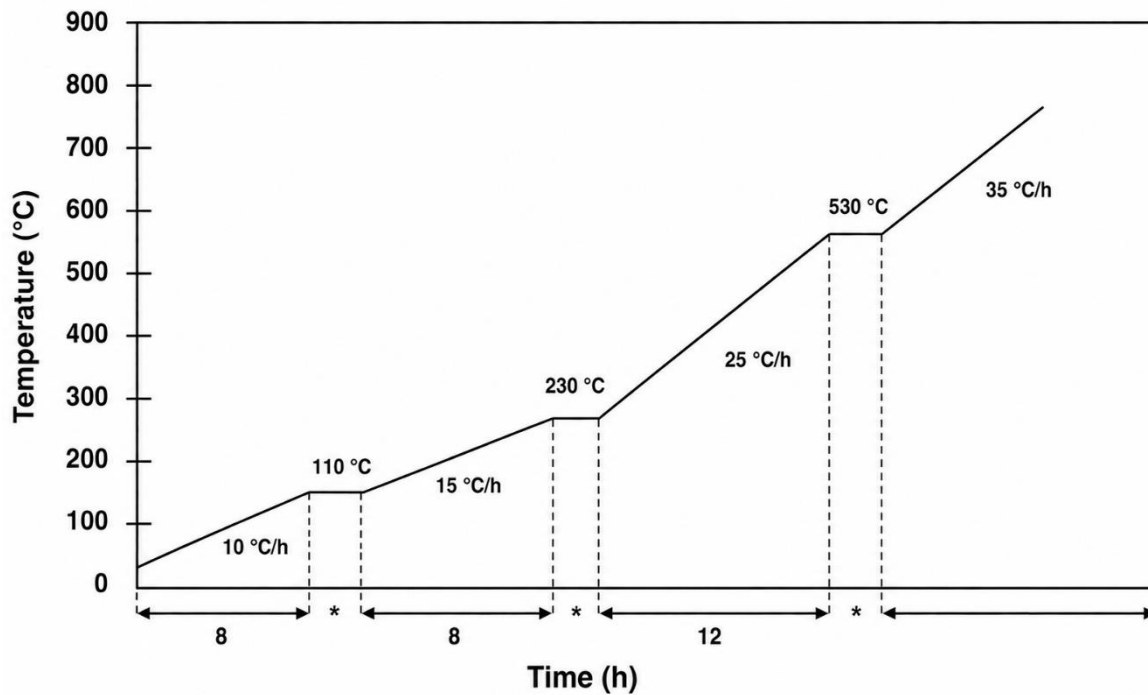
After the castable has been placed in the mold, it should be vibrated to remove entrapped air bubbles. However, vibration should be limited to prevent segregation of the aggregates, as segregation will reduce the quality of the finished piece. For smaller pieces, vibration may be replaced by tapping the formwork walls or rodding the castable.

After casting, the exposed surface should be covered with plastic sheeting to retain the water required for bond formation. The castable should then be kept in the mold for approximately 24 hours at 15–25°C. The mold should subsequently be removed, and the cast piece should be left in the open air under ambient conditions for a further 24 hours.



4. Heating Cycle

To ensure high quality, the cast piece must be heated slowly and uniformly, avoiding localized heating. Sufficient time must always be allowed for water vapor to escape from the cast piece. The below diagram shows the recommended heating cycle for cast pieces:



* Hold for one hour per 2.5 cm of thickness.

Dear Customer,

If you require further information or technical guidance regarding the use of castables, please contact us.