

## CONSTRUCTION HEATER

### USAGE

The Construction Heater is an integral part of the Slab Installation Procedure. To properly dry the slab, the slab temperature must be elevated above typical room temperature for sufficient time to remove excess moisture. Running the heater full time for a minimum of two weeks is necessary after the walls and roof are up (to retain some of the heat), but before the permanent heating inserts or before floor finishes are installed. The detectable moisture content of the slab is affected by the temperature of the slab. Moisture exists in two phases in the slab - liquid and vapour. The liquid content is not detectable, while the vapour content is. As the slab is heated, moisture changes from liquid to vapour and the quantity of moisture in the vapour phase increases while the quantity of liquid moisture decreases.

Heating the slab drives off the developing vapour moisture. The construction heater can be used for winter pour conditions after the pour. With the application of heat during the curing process, the construction heater can help extend the winter building season especially when coupled with insulative blankets.



## CONCRETE DRYING

Drying of the slab before the application of floor finishes and installation of the permanent inserts is important. The goal is to heat the slab temperature past the normal operating temperatures with the construction heater (higher than 27°C for non-insulative floor finishes and 30°C for insulative floor finishes), so that the majority of the excess moisture is driven off. Once you have exceeded normal operating temperatures and driven off the excess moisture, very little moisture will come out of the slab during operation. The maximum operating temperature for the slab is 27°C - 30°C in the winter months, which is well below the maximum operating temperature for floor finish adhesives. Please refer to the procedure as per the [Slab Drying and Moisture Test data sheet](#).

## POWER SUPPLY

The construction heater uses a 5 kW (nominal) element and a 0.2 kW fan, operated on standard 230V power. It is equipped with a 4-foot long cord with a 230V, 30A male dryer plug, which requires a minimum 2C10 extension cable to be wired into a panel with a 230V, 30A dryer receptacle for the 4000 series box. Alternately, the construction heater plugs directly into the 3000/5000 series boxes with the supplied twist-lock plug. The heater draws 23-26 amps, therefore a 30 amp service is recommended. Consult your electrician. If using a generator, it is recommended that a 6 kW unit or greater be used.

## AVAILABILITY

Construction heaters are available for purchase or for rent from LEGALETT. To contact LEGALETT, dial our toll free number 1-866-299-7567 or see our online parts catalogue at [www.legalett.ca](http://www.legalett.ca).

## INSULATIVE FLOOR FINISHES

When choosing floor finishes with any heated floors, it is best to choose floor coverings with low R-values, such as tile or linoleum. These types of floor coverings allow the most effective delivery of heat into the living space, while maintaining the lowest possible slab temperature, reducing slab heat losses and increasing operating efficiency. These coverings also allow the slab's maximum heating potential to be reached, something that will not occur with an insulative floor covering.



High R-value floor finishes, such as carpet or hardwood ([Hardwood Flooring](#)), require an elevated concrete slab temperature to force the heat through the floor coverings in order to achieve the surface temperature required to provide adequate heat. If you have decided to use insulative floor coverings, although not essential, it is recommended that you select the thinnest underlays for carpet coverings and/or the thinnest hardwood coverings available. Following these recommendations will reduce the R-value of the chosen floor covering. For example, a thin engineered hardwood (in the 1/2" thick range) is better than the typical 3/4" solid hardwood on sleepers. Note that if high R-value floor coverings are to be used in your project, it is advised that you notify Legalett when placing your order, this information will allow Legalett engineers and designers to take the R-values into consideration when confirming your order and designing your system.

