

# CURING

## Curing Concept

### Problem:

Cold temperatures slow the speed of concrete curing, causing cost increases and schedule delays.

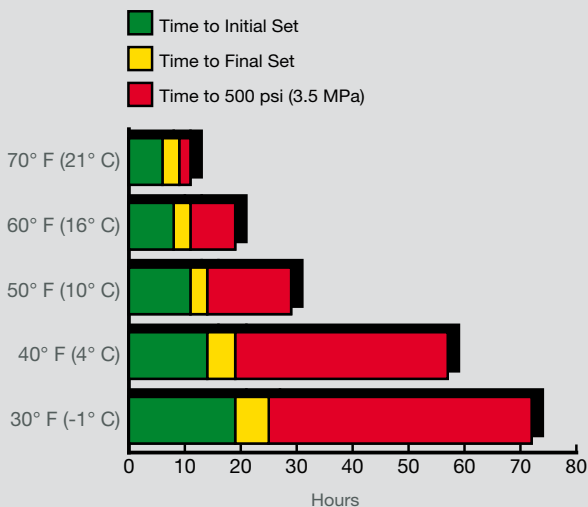
### Best Solution:

Use a Ground Heater to accelerate the cure. A Ground Heater raises concrete to an ideal curing temperature of 65-75°F (18-24°C), greatly reducing costs and delays.

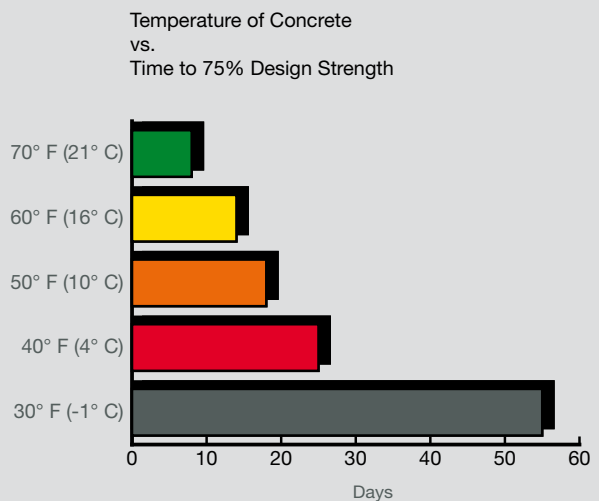


## How temperature affects the concrete curing process:

### Temperature of concrete vs. time



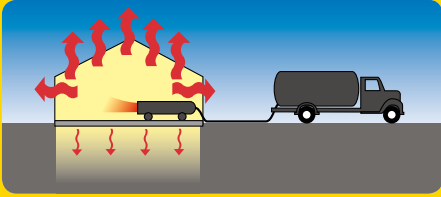
### Long-term strength development



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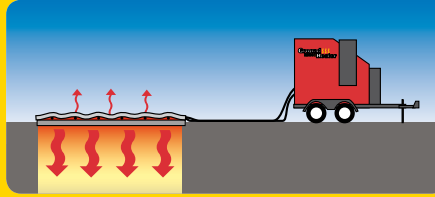
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## Curing cost per square foot of concrete



### Cost: Traditional Method 19¢/sq. ft./day

- Cost to build enclosure
- Uneven curing, curling and chalking
- Noxious fumes with open flame hazard
- Huge fuel bills



### Cost: Ground Heater 9¢/sq. ft./day

- No enclosure to build with easy set up
- Uniform curing
- No open flame or noxious fumes
- Easy temperature control result in fuel cost less than \$50 per day

Note: Figures are based on average rates/costs. Actual rates/costs incurred may vary depending upon application and geographical location.

## Slab on Grade

1. Preheat ground (hoses on ground preheat to approx. 70°F (21°C))
2. Remove insulation\* and hoses
3. Place 75°F (24°C) concrete on warm ground
4. After final set, place vapor barrier, hoses, and insulation\* on top of slab
5. Ground Heater maintains slab at 65°-75°F (18°-24°C)



## Poured Walls

1. Attach hoses to form framework
2. Cover with insulation\* and preheat
3. Pour 75°F (24°C) concrete into forms
4. Ground Heater raises temperature of air space between forms and insulation\*, preventing heat of hydration from escaping
5. Ground Heater maintains 65°-75°F (18°-24°C) concrete for curing period



## Elevated Slab

1. Once concrete has taken final set, place vapor barrier (or wet cure blanket), hoses, and insulation\* on top of slab
2. On-board positive displacement pumps provide superior flow rate, even when pumping fluid 250 feet (76m) above the Ground Heater
3. Ground Heater maintains 65°-75°F (18°-24°C) concrete for curing period



Above curing applications are general guidelines. Project engineer must determine specific requirements for all curing applications.

\*To ensure even heat distribution for curing applications, use Red Wave™ reflective blankets, available from your Ground Heaters distributor.

