

# PRECAST CONCRETE FOUNDATION SYSTEMS

## FLEXIBLE, STRONG AND ENERGY-EFFICIENT

Research indicates that 20 percent to 30 percent of a home's heat loss occurs through the basement, and 60 percent of homes in the United States have foundation leaks. Precast concrete foundation systems are specifically designed to provide a moisture-free and energy-efficient living space for the home. Never has it been so easy to increase a home's square footage while saving time and money on construction costs.

There are a variety of precast concrete foundation systems available throughout North America ready to meet the needs of any homeowner. Precast concrete foundation systems make year-round construction possible in the colder northern regions, and systems are also available to meet earthquake zone requirements. Designs vary from thin-shell precast concrete with a partially embedded metal frame to panels with sandwich insulation and concrete headers, footers and studs. Most systems also come with prefabricated openings for small plumbing and electrical fixtures, making it easy to finish the basement at a later date.

Panels are available in standard sizes and custom designs. Cutouts for doors, windows and beams can be placed virtually anywhere, meeting the needs of any project. Most systems can be installed in a matter of hours as opposed to cast-in-place or block foundations, which may take days to complete. Panels are set in place and bolted together with the joints sealed with a polyurethane elastomeric sealant-adhesive. Some systems also incorporate an exterior water stop, which eliminates hydrostatic pressure by forcing water away from the house to the drain tile and gravel foundation.

### WHY PRECAST CONCRETE?

- Superior strength and durability
- Energy efficient
- Quality control
- Availability and ease of installation
- Reduced weather dependency
- Increased home value
- Economical



QUALITY | VALUE | PERMANENCE

# PRECAST CONCRETE FOUNDATION SYSTEMS

Precast concrete foundation systems have many advantages over cast-in-place foundations and concrete block foundations.

## **SUPERIOR STRENGTH AND DURABILITY**

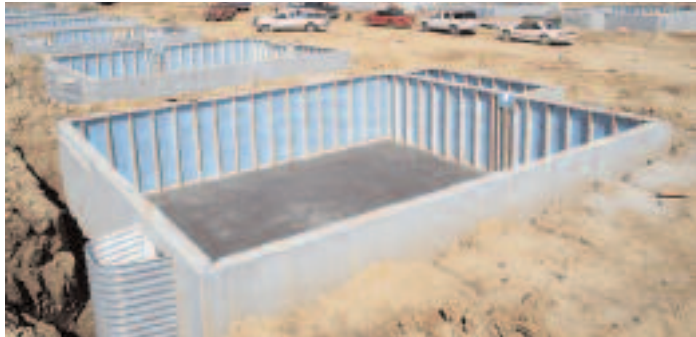
Precast concrete foundation systems are constructed with a minimum of 4,000 psi concrete. By comparison, cast-in-place foundations usually consist of 3,000 psi concrete. A lower water/cement ratio and a controlled curing process creates a denser matrix within the concrete to provide a foundation panel that is less susceptible to water infiltration when compared with cast-in-place and block foundations.

## **ENERGY EFFICIENT**

Not only will your basement remain dry, but it will also retain heat during those cold winter months. Concrete's thermal mass alone will reduce a home's peak heating and cooling loads. Additional insulation can be cast into each panel or added between each structural rib before finishing to increase the thermal resistance (R-value) of the foundation. A precast concrete foundation system will reduce the operating costs associated with heating and cooling your home throughout its expected life.

## **QUALITY CONTROL**

Because precast concrete products are manufactured in a controlled environment, they exhibit high quality and uniformity. Factors affecting quality typically found on a job site – temperature, improper curing, poor craftsmanship and material quality – are nearly eliminated in a plant environment.



## **AVAILABILITY AND EASE OF INSTALLATION**

Because precast concrete foundation systems are manufactured well in advance of installation, they are ready for transport to the job site at a moment's notice. Precast foundation systems are quickly installed in a matter of hours using a crane and a small crew, saving days or weeks over alternative foundations. Since the panels are installed on a gravel footing, water will drain away from the wall, minimizing the

possibility of settlement. Backfilling can begin once the basement floor is poured and the first floor bracing is installed, rather than waiting several days for cast-in-place concrete to reach proper strength.

## **REDUCED WEATHER DEPENDENCY**

Precast concrete increases efficiency because weather will not delay the manufacturing process in the precast plant. In addition, weather conditions at the job site do not significantly affect the installation of a foundation system.

## **INCREASED HOME VALUE**

An energy-efficient, moisture-free basement can mean additional living space that will greatly increase a home's square footage. Engineered openings for electrical and plumbing fixtures make for easy finishing. Walkout basement doors or egress windows can easily be incorporated into the design to comply with fire safety requirements.

## **ECONOMICAL**

Precast concrete foundation systems offer lower long-term costs in terms of heating and cooling a home. Expenses caused by moisture damage and mold removal can be avoided by eliminating the potential for moisture ingress. Additionally, because precast concrete foundation systems require significantly less construction time, overall project cost savings can be realized.

Precast concrete foundation systems are the right choice when it comes to providing a long-lasting, energy-efficient, moisture-free living space.

For more information on precast concrete foundation systems, please contact:

