PCI MIDWEST
A Chapter of Precast/Prestressed Concrete Institute

PRECAST FOCUS

BUILDING RESIDENTIAL HOUSING STRUCTURES WITH PRECAST CONCRETE

Residential housing structures are designed and built with precast concrete to meet or exceed high performance design goals. Precast concrete integrates easily with other building systems and inherently provides the versatility, efficiency, and resiliency needed to meet the multi-hazard requirements and long-term demands of high-performance structures. Precast concrete wall panel systems are barrier or face-sealed systems. Unlike conventional cavity-wall or rainscreen systems, precast concrete does not require a cavity where moisture can collect, and other problems can occur. Various residential precast housing applications include, Hotels/Motels, Single-Family, Multi-Family, Retirement Housing, Assisted Living, and Student Housing.

ATTRIBUTES AND BENEFITS OF PRECAST CONCRETE

- Cost-effective long open spans with hollow-core plank and double tee floor systems
- Inherent passive fire resistance, non-combustible, and can contain a fire
- Durable, economical, integrated load-bearing building envelopes
- UV, pest, mold, and mildew resistant
- Total precast structural and architectural envelope systems available
- Architectural finishes are available with virtually any color, form and texture
- Controlled plant production with PCI-Certified quality precast products
- Minimal job site disturbance and risk with off-site production and just-in-time deliveries
- Accelerated all-weather construction results in shorter project schedules
- Thermally efficient insulated sandwich wall panels with continuous insulation
- Low life-cycle costs with minimal maintenance required and lower insurance costs

- Precast concrete contributes to sustainable building environments
- Long service life of 50 years or more
- Barrier wall, face-sealed system offers continuous insulation, air and vapor barrier
- Storm resistance against high winds, floods, and wildfires
- Earthquake and blast resistance
- Safe, secure, and controlled building environments
- Energy efficient due to thermal mass that reduces peak heating and cooling loads
- Corrosion resistance
- Acoustical and vibration control due to precast concrete mass

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- Improved indoor environmental air quality
- Design and layout flexibility with assistance from your local precast concrete producer
- Wide variety of architectural finishes are available including, sandblasted, exposed aggregate, acid-etched, painted, thin brick and stone veneers
- Precast panels can be easily relocated to accommodate future building expansion
- Precast concrete does not rust, rot, or degrade when wet
- Interior concrete finishes on insulated sandwich wall panels are ready for painting with no furring, insulating and drywalling required thereby reducing labor and material costs
- Exterior precast concrete finishes do not require any painting unless specified

Precast concrete products produced in PCI-Certified factory-controlled conditions and erected by PCI-Certified erectors are ideal for designing and building residential housing structures and provide many advantages and benefits unsurpassed by conventional light-frame wood or steel construction. The unbeatable speed with which precast concrete can be designed, manufactured and erected provides time savings that can be critical to a project's success. Precast concrete structures provide many long-term cost advantages with exceptional durability, versatility, efficiency, resiliency, lower energy costs and lower maintenance costs when compared with conventional residential housing construction.

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