

SiteCast Concrete Framing Systems

Why does this chapter use the term “sitecast” concrete?

Casting a concrete slab on grade:

Pouring and finishing a slab on grade.

Casting a concrete wall:

Insulating concrete forms

Casting a concrete column.

One-way floor and Roof Framing Systems

- one-way solid slab system

- one-way concrete joist system (ribbed slab)

- Wide-module Concrete joist system

Two-way floor and roof framing systems

- Two-way flat slab and flat plate systems

- two way waffle-slab system

- Concrete stairs

Sitecast posttensioned framing systems

Selecting a system

Are both bay modules equal (square)? (Two way)

How Long are the Spans? <25': Two-way plate

>25': One-way joist or waffle slab

How Heavy are the Loads? Heavy Loads: Thick Slabs, large beams.

Regular Loads: Flat plate or joists/

Will there be a finish ceiling?

Does the lateral stability of the building against wind/seismic have to be provided by the rigidity of the frame?

Flat plate may not be sufficiently rigid; one-way might afford deeper and more rigid connections.

Postensioning adds span potential for all systems.

Innovations in Sitecast Concrete Construction

Lift-slab Construction; ganged forms; slip forming; tilt-up;
Shot-crete

Architectural Concrete

Longer Spans in Sitecast Concrete

Sitecast Concrete and Building Codes

Uniqueness of Sitecast Concrete