

Basis of Design

This section applies to the design and installation of concrete slabs on grade in buildings.

Design Criteria

- Provide joints in all concrete slabs on grade.
- Provide control or construction joints on all column lines and at 20'-0" maximum spacing each way in between. Structural engineer to determine closer spacing requirements.
- Show the location of control and construction joints on the plan.
- Reinforce with conventional reinforcing steel each way. Welded wire fabric is not allowed.
- Design and specify floors that are engineered and constructed to achieve the following minimum degree of flatness when measured in accordance with ASTM E 1155: Overall $F_F = 35$, Localized $F_F = 25$. Garage floors may be Overall $F_F = 25$, Localized $F_F = 20$.
- Design and specify floors that are engineered and constructed to achieve the following minimum degree of levelness when measured in accordance with ASTM E 1155: Overall $F_L = 25$, Localized $F_L = 17$. Garage floors may be Overall $F_L = 17$, Localized $F_L = 13$.
- The Localized F-Numbers indicated are the minimum quality acceptable in any one floor section. This allows the contractor sufficient margin for the normal variations that occur within a pour.
- Specify the top of concrete elevation at each column or wall to be within $\frac{1}{4}$ inch of the elevations shown on the drawings.
- Provide below slab capillary break at all slabs on grade. Provide additional details and groundwater collection and drainage systems as required for slabs on grade located below the ground water table. If gravel is used for a capillary break material, it shall be uniformly well graded and compacted.

Design Evaluation

The following information is required to evaluate the design:

- Schematic Design Phase: Indicate Slab on Grade thickness and proposed type of reinforcing.
- Design Development Phase: Plans showing location, thickness, reinforcing of slab on grade. Slab joint locations. Draft specifications.
- Construction Document Phase: All information required for the installation of slabs on grade including slab thickness, location of construction and construction joints and details of joints. Final specifications.

Construction Submittals

- Submit a jointing plan to the Architect for approval a minimum of 21 days prior to first slab pour.

Related Sections

- Facilities Services Design Guide - General Requirements - Structural
- Facilities Services Design Guide - Concrete

Products, Material and Equipment

- See Facilities Services Design Guide - Concrete

Installation, Fabrication and Construction

- Saw joints as soon as the joint can be cut without edges raveling and within 24 hours of slab placement. Fill sawed joints with sealant.

END OF DESIGN GUIDE SECTION