

Maximum allowable limits of total settlement in foundation

The maximum allowable limits of total settlement in foundations are established to ensure structural stability, prevent excessive damage, and maintain functionality. These limits vary depending on the type of structure, foundation type, soil conditions, and building codes. Here are general guidelines for total settlement limits:

1. **Single footings (e.g., for columns):**

Typically, the allowable settlement limit is around **25-50 mm** (1-2 inches).

2. **Continuous footings (e.g., strip footings):**

The allowable limit for continuous footings is often **50-75 mm** (2-3 inches).

3. **Raft or mat foundations:**

For raft foundations, the allowable settlement is generally **50-100 mm** (2-4 inches), depending on the building type and load distribution.

4. **Pile foundations:**

The allowable settlement is typically **25 mm** (1 inch) or less for end-bearing piles and **25-50 mm** (1-2 inches) for friction piles, depending on the structural requirements and pile length.

5. **High-rise buildings:**

Settlement limits can vary significantly for high-rise buildings and are often controlled more stringently. Limits are generally kept to **25-50 mm** (1-2 inches) for total settlement.