

Table 1.4.3-1 Structural Concrete Class Requirements (Rev. 01/23)

| Component or Usage | | Environmental Classification | | |
|---------------------|---|------------------------------|------------------------|----------------------|
| | | Slightly Aggressive | Moderately Aggressive | Extremely Aggressive |
| Substructure | Cast-in-Place (except as listed below) | Class II | Class IV | Class IV or V |
| | Precast or Prestressed (other than piling) | Class III, IV, V, VI or VII | Class IV, V, VI or VII | |
| | Cast-in-Place Columns located directly in splash zone | Class II | Class IV | |
| | Piling | Class V, VI or VII | | |
| | Drilled Shafts | Class IV (Drilled Shafts) | | |
| | Retaining Walls | Class II or III | Class IV | |
| | Seals | Class I (Seal) | | |

See Table 1.4.3-2 for minimum 28-day compressive strengths.

B. For design, use the minimum 28-day compressive strengths given in [SDG Table 1.4.3-2](#).

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| Modification for Non-Conventional Projects: |
| Delete SDG 1.4.3.B and replace with the following. |
| B. Limit concrete compressive design strength to 10 ksi. |

Table 1.4.3-2 Concrete Classes and Strengths (Rev. 01/23)

| Class of Concrete | Minimum 28-Day Compressive Strength (ksi) |
|--------------------------|---|
| Class I | 3.0 |
| Class II | 3.4 |
| Class II (Bridge Deck) | 4.5 |
| Class III | 5.0 |
| Class IV | 5.5 |
| Class IV (Drilled Shaft) | 4.0 |
| Class V | 6.5 |
| Class VI | 8.5 |
| Class VII | 10.0 |

C. Corrosion Protection: Structural components located in Moderately or Extremely Aggressive environments utilize Class IV, V, ~~V (Special)~~, VI or VII Concrete. These concrete classes require the use of highly reactive pozzolans and/or cement type to reduce permeability. Specify the use of highly reactive pozzolans as shown in Table 1.4.3-3.

The use of other corrosion protection measures to enhance durability must be consistent with the strategies outlined in Table 1.4.3-3. The Engineer of Record may request additional measures to be approved by the State Materials Office and the