Chapter 1—General
1.1—Scope of ACI 318
   1.1.1—This chapter addresses (a) through (h):
   (a) General requirements of this Code
   (b) Purpose of this Code
   (c) Applicability of this Code
   (d) Interpretation of this Code
   (e) Definition and role of the building official and the licensed design professional
   (f) Construction documents
   (g) Testing and inspection
   (h) Approval of special systems of design, construction, or alternative construction materials.

1.2—General
1.3—Purpose
1.4—Applicability
1.5—Interpretation
1.6—Building official
1.7—Licensed design professional
1.8—Construction documents and design records
1.9—Testing and inspection
1.10—Approval of special systems of design, construction, or alternative construction materials

Chapter 2—Notation and Terminology
2.1—Scope
   2.1.1—This chapter defines notation and terminology used in this Code.
2.2—Notation
2.3—Terminology

Chapter 3—Referenced Standards
3.1—Scope
   3.1.1—Standards, or specific sections thereof, cited in this Code, including Annex, Appendices, or Supplements where prescribed, are referenced without exception in this Code, unless specifically noted. Cited standards are listed in the following with their serial designations, including year of adoption or revision.
3.2—Referenced standards
   3.2.1—American Association of State Highway and Transportation Officials (AASHTO)
   3.2.2—American Concrete Institute (ACI)
   3.2.3—American Society of Civil Engineers (ASCE)/Structural Engineering Institute (SEI)
   3.2.4—ASTM International
   3.2.5—American Welding Society (AWS)

Chapter 4—Performance Requirements for Structural Members and Structural Systems
4.1—Scope
   4.1.1—This chapter shall apply to design of structural concrete in structures or portions of structures defined in Chapter 1.
4.2—Materials
4.3—Design loads
4.4—Structural systems and load paths
   4.4.6—Seismic-force-resisting system
   4.4.7—Diaphragms and collectors
4.5—Structural analysis
4.6—Strength
4.7—Serviceability
4.8—Durability
4.9—Sustainability
4.10—Structural integrity
   4.10.1—General
   4.10.2—Minimum requirements for structural integrity
4.11—Fire resistance
4.12—Requirements for specific types of construction
   4.12.1—Precast concrete systems
   4.12.2—Prestressed concrete systems
   4.12.3—Composite concrete flexural members
   4.12.4—Composite plain concrete systems
4.13—Construction and inspection
4.14—Strength evaluation of existing structure

Chapter 5—Loads
5.1—Scope
   5.1.1—This chapter shall apply to selection of load factors and combinations used in design, except as permitted in Chapter 27.
5.2—General
5.3—Load factors and combinations

Chapter 6—Structural Analysis
6.1—Scope
   6.1.1—This chapter shall apply to methods of analysis, modeling of members and structural systems, and calculation of load effects.
6.2—General
6.3—Modeling assumptions
Chapter 7—One-Way Slabs

7.1—Scope
7.1.1—This chapter shall apply to the design of nonprestressed and prestressed slabs reinforced for flexure in one direction, including:
(a) Solid slabs
(b) Slabs cast on stay-in-place, noncomposite steel deck
(c) Composite slabs of concrete elements constructed in separate placements but connected so that all elements resist loads as a unit
(d) Precast, prestressed hollow-core slabs.

7.2—General
7.2.2—Materials
7.2.3—Connection to other members

7.3—Design Limits
7.3.1—Minimum slab thickness
7.3.2—Calculated deflection limits
7.3.3—Reinforcement strain limit in nonprestressed slabs
7.3.4—Stress limits in prestressed slabs
7.4—Required strength

Chapter 8—Two-Way Slabs

8.1—Scope
8.1.1—This chapter shall apply to the design of nonprestressed and prestressed slabs reinforced for flexure in two directions, with or without beams between supports, including (a) through (d):
(a) Solid slabs
(b) Slabs cast on stay-in-place, noncomposite steel deck
(c) Composite slabs of concrete elements constructed in separate placements but connected so that all elements resist loads as a unit
(d) Two-way joist systems in accordance with 8.8

8.2—General
8.2.6—Materials
8.2.7—Connections to other members
8.3—Design limits
  8.3.1—Minimum slab thickness
  8.3.2—Calculated deflection limits
  8.3.3—Reinforcement strain limit in nonprestressed slabs
  8.3.4—Stress limits in prestressed slabs

8.4—Required strength
  8.4.1—General
  8.4.2—Factored moment
    8.4.2.3—Factored slab moment resisted by the column
  Unbalanced factored moment
  8.4.4—Factored two-way shear
    8.4.4.1—Critical section
    8.4.4.2—Factored two-way shear stress due to shear and factored slab moment resisted by the column

8.5—Design strength
  8.5.1—General
  8.5.2—Moment
  8.5.3—Shear
  8.5.4—Openings in slab systems

8.6—Reinforcement limits
  8.6.1—Minimum flexural reinforcement in nonprestressed slabs
  8.6.2—Minimum flexural reinforcement in prestressed slabs

8.7—Reinforcement detailing
  8.7.1—General
  8.7.2—Flexural reinforcement spacing
  8.7.3—Corner restraint in slabs
  8.7.4—Flexural reinforcement in nonprestressed slabs
    8.7.4.1—Termination of reinforcement
    8.7.4.2—Structural integrity
  8.7.5—Flexural reinforcement in prestressed slabs
    8.7.5.4—Termination of prestressed reinforcement
    8.7.5.5—Termination of deformed reinforcement in slabs with unbonded tendons
    8.7.5.6—Structural integrity
  8.7.6—Stirrups
  8.7.7—Headed shear stud reinforcement

8.8—Nonprestressed two-way joist systems
  8.8.1—General
  8.8.2—Joist systems with structural fillers
  8.8.3—Joist systems with other fillers

8.9—Lift-slab construction

8.10—Direct design method
  8.10.1—General
  8.10.2—Limitation for use of direct design

8.10.3—Total factored static moment for a span
8.10.4—Distribution of total factored static moment
8.10.5—Factored moments in column strips
8.10.6—Factored moments in middle strips
8.10.7—Factored moments in columns and walls
8.10.8—Factored shear in slab systems with beams

8.11—Equivalent frame method
  8.11.1—General
  8.11.2—Equivalent frames
  8.11.3—Slab-beams
  8.11.4—Columns
  8.11.5—Torsional members
  8.11.6—Factored moments

Chapter 9—Beams
9.1—Scope
  9.1.1—This chapter shall apply to the design of nonprestressed and prestressed beams, including:
    (a) Composite beams of concrete elements constructed in separate placements but connected so that all elements resist loads as a unit
    (b) One-way joist systems in accordance with 9.8
    (c) Deep beams in accordance with 9.9.

9.2—General
  9.2.1—Materials
  9.2.2—Connection to other members
  9.2.3—Stability
  9.2.4—T-Beam construction

9.3—Design limits
  9.3.1—Minimum beam depth
  9.3.2—Calculated deflection limits
  9.3.3—Reinforcement strain limit in nonprestressed beams
  9.3.4—Stress limits in prestressed beams

9.4—Required strength
  9.4.1—General
  9.4.2—Factored moment
  9.4.3—Factored shear
  9.4.4—Factored torsion

9.5—Design strength
  9.5.1—General
  9.5.2—Moment
  9.5.3—Shear
  9.5.4—Torsion

9.6—Reinforcement levels
9.6.1—Minimum flexural reinforcement in nonprestressed beams
9.6.2—Minimum flexural reinforcement in prestressed beams
9.6.3—Minimum shear reinforcement
9.6.4—Minimum torsion reinforcement

9.7—Reinforcement detailing
9.7.1—General
9.7.2—Reinforcement spacing
9.7.3—Flexural reinforcement in nonprestressed beams
  9.7.3.8—Termination of reinforcement
9.7.4—Flexural reinforcement in prestressed beams
  9.7.4.3—Termination of prestressed reinforcement
  9.7.4.4—Termination of deformed reinforcement in slabs with unbonded tendons
9.7.5—Longitudinal torsion reinforcement
9.7.6—Transverse reinforcement
  9.7.6.1—General
  9.7.6.2—Shear
  9.7.6.3—Torsion
  9.7.6.4—Lateral support of compression reinforcement
9.7.7—Structural integrity reinforcement in cast-in-place beams

9.8—Nonprestressed one-way joist systems
9.8.1—General
9.8.2—Joist systems with structural fillers
9.8.3—Joist systems with other fillers

9.9—Deep beams
  9.9.1—General
  9.9.2—Dimensional limits
  9.9.3—Reinforcement limits
  9.9.4—Reinforcement detailing

Chapter 10—Columns
10.1—Scope
  10.1.1—This chapter shall apply to the design of nonprestressed, prestressed, and composite columns, including reinforced concrete pedestals.
10.2—General
  10.2.1—Materials
  10.2.2—Composite columns
  10.2.3—Connection to other members
10.3—Design limits
  10.3.1—Dimensional limits
10.4—Required strength
  10.4.1—General
  10.4.2—Factored axial force and moment
10.5—Design strength

Chapter 11—Walls
11.1—Scope
  11.1.1—This chapter shall apply to the design of nonprestressed and prestressed walls including (a) through (c):
  (a) Cast-in-place
  (b) Precast in-plant
  (c) Precast on-site including tilt-up.
11.2—General
  11.2.1—Materials
  11.2.2—Connections to other members
  11.2.3—Load distribution
  11.2.4—Intersecting elements
11.3—Design limits
  11.3.1—Minimum wall thickness
11.4—Required strength
  11.4.1—General
  11.4.2—Factored axial force and moment
  11.4.3—Factored shear
11.5—Design strength
  11.5.1—General
  11.5.2—Axial load and in-plane or out-of-plane flexure
  11.5.3—Axial load and out-of-plane flexure—simplified design method
  11.5.4—in-plane shear
11.5.5—Out-of-plane shear
11.6—Reinforcement limits
11.7—Reinforcement detailing
  11.7.1—General
  11.7.2—Spacing of longitudinal reinforcement
  11.7.3—Spacing of transverse reinforcement
  11.7.4—Lateral support of longitudinal reinforcement
  11.7.5—Reinforcement around openings
11.8—Alternative method for out-of-plane slender wall analysis
  11.8.1—General
  11.8.2—Modeling
  11.8.3—Factored moment
  11.8.4—Out-of-plane deflection—service loads

Chapter 12—Diaphragms and Collectors

12.1—Scope
  12.1.1—This chapter shall apply to the design of nonprestressed and prestressed diaphragms and collectors, including (a) through (d):
    a) Diaphragms that are cast-in-place slabs
    b) A cast-in-place topping slab on precast elements
    c) Diaphragms that comprise precast elements with end strips formed by either a cast-in-place concrete topping slab or edge beams
    d) Diaphragms of interconnected precast elements without cast-in-place concrete topping.
12.2—General
  12.2.2—Materials
12.3—Design limits
  12.3.1—Minimum diaphragm thickness
12.4—Required strength
  12.4.1—General
  12.4.2—Diaphragm modeling and analysis
12.5—Design strength
  12.5.1—General
  12.5.2—Moment and axial force
  12.5.3—Shear
  12.5.4—Collectors
12.6—Reinforcement limits
12.7—Reinforcement detailing
  12.7.1—General
  12.7.2—Reinforcement spacing
  12.7.3—Diaphragm and collector reinforcement

Chapter 13—Foundations

13.1—Scope
  13.1.1—This chapter shall apply to the design of nonprestressed and prestressed foundations, including shallow foundations (a) through (e) and, where applicable, deep foundations (f) through (i):
    a) Strip footings
    b) Isolated footings
    c) Combined footings
    d) Mat foundations
    e) Grade beams
    f) Pile caps
    g) Piles
    h) Drilled piers
    i) Caissons.
13.2—General
  13.2.1—Materials
  13.2.2—Connection to other members
  13.2.3—Earthquake effects
  13.2.4—Slabs-on-ground
  13.2.5—Plain concrete
  13.2.6—Design criteria
  13.2.7—Critical sections for shallow foundations and pile caps
  13.2.8—Development of reinforcement in shallow foundations and pile caps
13.3—Shallow Foundations
  13.3.1—General
  13.3.2—One-way shallow foundations
  13.3.3—Two-way isolated footings
  13.3.4—Two-way combined footings and mats foundations
13.4—Deep Foundations
  13.4.1—General
  13.4.2—Pile Caps
  13.4.3—Deep foundation members

Chapter 14—Plain Concrete

14.1—Scope
  14.1.1—This chapter shall apply to the design of plain concrete members, including (a) and (b):
    a) Members in building structures
    b) Members in non-building structures such as arches, underground utility structures, gravity walls, and shielding walls.
14.2—General
  14.2.1—Materials
  14.2.2—Connections to other members
  14.2.3—Precast
14.3—Design Limits
14.3.1—Bearing walls
14.3.2—Footings
14.3.3—Pedestals
14.3.4—Joint locations and member sizes
14.4—Required Strength
14.4.1—General
14.4.2—Walls
14.4.3—Footings
14.4.3.1—General
14.4.3.2—Factored moment
14.4.3.3—Factored one-way shear
14.4.3.4—Factored two-way shear
14.5—Design Strength
14.5.1—General
14.5.2—Flexure
14.5.3—Axial compression
14.5.4—Flexure and axial compression
14.5.5—Shear
14.5.6—Bearing
14.6—Reinforcement Detailing

Chapter 15—Beam-Column and Slab-Column Joints

15.1—Scope
15.1.1—This chapter shall apply to the design and detailing of cast-in-place beam-column and slab-column joints.
15.2—General
15.3—Transfer of column axial force through the floor system
15.4—Detailing of joints

Chapter 16—Connections Between Members

16.1—General
16.1.1—This chapter shall apply to the design of joints and connections at the intersection of concrete members and for load transfer between concrete surfaces, including (a) through (d):
(a) Connections of precast members
(b) Connections between foundations and either cast-in-place or precast members
(c) Horizontal shear strength of composite concrete flexural members
(d) Brackets and corbels
16.2—Connections of precast members
16.2.1—General
16.2.2—Required strength
16.2.3—Design strength
16.2.4—Minimum connection strength and integrity tie requirements
16.2.5—Integrity tie requirements for precast concrete bearing wall structures
16.3—Connections to foundations
16.3.1—General
16.3.2—Required strength
16.3.3—Design strength
16.3.4—Minimum reinforcement for connections between cast-in-place members and foundation
16.3.5—Details for connections between cast-in-place members and foundation
16.3.6—Details for connections between precast members and foundation
16.4—Horizontal shear transfer in composite concrete flexural members
16.4.1—General
16.4.2—Required strength
16.4.3—Design strength
16.4.4—Nominal horizontal shear strength
16.4.5—Alternative method for calculating design horizontal shear strength
16.7.6—Minimum reinforcement for horizontal shear transfer
16.7.7—Reinforcement details for horizontal shear transfer
16.5—Brackets and corbels
16.5.1—General
16.5.2—Dimensional limits
16.5.3—Required strength
16.5.4—Design strength
16.5.5—Reinforcement limits
16.5.6—Reinforcement detailing

Chapter 17—Anchoring to Concrete

17.1—Scope
17.1.1—This chapter provides design requirements for anchors in concrete used to transmit structural loads by means of tension, shear, or a combination of tension and shear between: (a) connected structural elements; or (b) safety-related attachments and structural elements. Safety levels specified are intended for in-service conditions, rather than for short-term handling and construction conditions.
17.2—General
17.2.3—Seismic design
17.2.3.4—Requirements for tensile loading
17.2.3.5—Requirements for shear loading
17.3—General requirements for strength of
Chapter 18—Earthquake-Resistant Structures

18.1—Scope
18.1.1—This chapter shall apply to the design of nonprestressed and prestressed concrete structures assigned to Seismic Design Categories (SDC) B through F, including, where applicable:
   (a) Structural systems designated as part of the seismic-force-resisting system, including diaphragms, moment frames, structural walls, and foundations
   (b) Members not designated as part of the seismic-force-resisting system but required to support other loads while undergoing deformations associated with earthquake effects.

18.2—General
18.2.1—Structural Systems
18.2.2—Analysis and proportioning of structural members
18.2.3—Anchoring to concrete
18.2.4—Strength reduction factors
18.2.5—Concrete in special moment frames and special structural walls
18.2.6—Reinforcement in special moment frames and special structural walls
18.2.7—Mechanical splices in special moment frames and special structural walls
18.2.8—Welded splices in special moment frames and special structural walls
18.3—Ordinary moment frames
18.3.1—Scope
18.4—Intermediate moment frames
18.4.1—Scope
18.4.2—Beams
18.4.3—Columns
18.4.4—Joints
18.4.5—Two-way slabs without beams
18.5—Intermediate precast structural walls
18.5.1—Scope
18.5.2—General
18.6—Beams of special moment frames
18.6.1—Scope
18.6.2—Dimensional Limits
18.6.3—Longitudinal reinforcement
18.6.4—Transverse reinforcement
18.6.5—Shear strength
18.7—Columns of special moment frames
18.7.1—Scope
18.7.2—Dimensional limits
18.7.3—Minimum flexural strength of columns
18.7.4—Longitudinal reinforcement
18.7.5—Transverse reinforcement
18.7.6—Shear strength
18.8—Joints of special moment frames
18.8.1—Scope
18.8.2—General
18.8.3—Transverse reinforcement
18.8.4—Shear strength
18.8.5—Development length of bars in tension
18.9—Special moment frames constructed using precast concrete
18.9.1—Scope
18.9.2—General
18.10—Special structural walls
18.10.1—Scope
18.10.2—Reinforcement
18.10.3—Design forces
18.10.4—Shear strength
18.10.5—Design for flexure and axial force
18.10.6—Boundary elements of special structural walls
18.10.7—Coupling beams
18.10.8—Wall piers
18.10.9—Construction joints
18.10.10—Discontinuous walls
18.11—Special structural walls constructed using precast concrete
18.11.1—Scope
18.11.2—General
18.12—Diaphragms and trusses
18.12.1—Scope
18.12.2—Design forces
18.12.3—Seismic load path
18.12.4—Cast-in-place composite-topping slab diaphragms
18.12.5—Cast-in-place noncomposite topping slab diaphragms
18.12.6—Minimum thickness of diaphragms
18.12.7—Reinforcement
18.12.8—Flexural strength
18.12.9—Shear strength
18.12.10—Construction joints
18.12.11—Structural trusses
18.13—Foundations
18.13.1—Scope
18.13.2—Footings, foundation mats, and pile caps
18.13.3—Grade beams and slabs-on-ground
18.13.4—Piles, piers, and caissons
18.14—Members not designated as part of the seismic-force-resisting system
18.14.1—Scope
18.14.2—Design actions
18.14.3—Cast-in-place beams and columns
18.14.4—Precast beams and columns
18.14.5—Slab-column connections
18.14.6—Wall piers

Chapter 19—Concrete: Design and Durability Requirements
19.1—Scope
19.1.1—This chapter shall apply to concrete, including:
(a) Properties to be used for design
(b) Durability requirements.
19.2—Concrete design properties
19.2.1—Specified compressive strength
19.2.2—Modulus of elasticity
19.2.3—Modulus of rupture
19.2.4—Lightweight concrete
19.3—Concrete durability requirements
19.3.3—Additional requirements for freezing and thawing exposure
19.3.4—Alternative combinations of cementitious materials for sulfate exposure

Chapter 20—Steel Reinforcement Material and Durability
20.1—Scope
20.1.1—This chapter shall apply to steel reinforcement, and shall govern (a) through (c):
(a) Material properties
(b) Properties to be used for design
(c) Durability requirements, including minimum specified cover requirements.
20.2—Nonprestressed bars and wires
20.2.1—Material properties
20.2.2—Design properties
20.3—Prestressing strands, wires, and bars
20.3.1—Material properties
20.3.2—Design properties
20.3.2.3—Stress in bonded prestressed reinforcement at nominal strength, $f_{ps}$
20.3.2.4—Stress in unbonded prestressed reinforcement at nominal strength, $f_{ps}$
20.3.2.5—Permissible tensile stresses in prestressed reinforcement
20.3.2.6—Prestress losses
20.4—Structural steel, pipe, and tubing for composite columns
20.4.1—Material properties
20.4.2—Design properties
20.5—Headered shear stud reinforcement
20.6—Embedments
20.7—Provisions for durability of steel reinforcement
20.7.1—Specified concrete cover
20.7.1.3—Specified concrete cover requirements
20.7.1.4—Specified concrete cover requirements for corrosive environments
20.7.2—Nonprestressed coated reinforcement
20.7.3—Corrosion protection for unbonded prestressing reinforcement
20.7.4—Corrosion protection for grouted tendons
20.7.5—Corrosion protection for post-tensioning anchorages, couplers, and end fittings
20.7.6—Corrosion protection for external post-tensioning

Chapter 21—Strength Reduction Factors
21.1—Scope
21.1.1—This chapter shall apply to the selection of strength reduction factors used in design, except as permitted by Chapter 27.
21.2—Strength reduction factors for structural concrete members and connections

Chapter 22—Sectional Strength

22.1—Scope
22.1.1—This chapter shall apply to calculating nominal strength at sections of members, including (a) through (g):
(a) Flexural strength
(b) Axial strength or combined flexural and axial strength
(c) One-way shear strength
(d) Two-way shear strength
(e) Torsional strength
(f) Bearing
(g) Shear friction.

22.2—Design assumptions for moment and axial strength
22.2.1—Equilibrium and strain compatibility
22.2.2—Design assumptions for concrete nonprestressed reinforcement
22.2.3—Design assumptions for prestressing reinforcement

22.3—Flexural strength
22.3.1—General
22.3.2—Prestressed concrete members
22.3.3—Composite concrete members

22.4—Axial strength or combined flexural and axial strength
22.4.1—General
22.4.2—Maximum axial strength
22.4.3—Maximum axial tensile strength

22.5—One-way shear strength
22.5.1—General
22.5.2—Geometric assumptions
22.5.3—Limiting material strengths
22.5.4—Composite concrete members
22.5.5—$V_c$ for nonprestressed members without axial force
22.5.6—$V_c$ for nonprestressed members with axial compression
22.5.7—$V_c$ for nonprestressed members with significant axial tension
22.5.8—$V_c$ for prestressed members
22.5.9—$V_c$ for pretensioned members in regions of reduced prestress force
22.5.10—One-way shear reinforcement

22.6—Two-way shear strength
22.6.1—General
22.6.2—Effective depth
22.6.3—Limiting material strengths
22.6.4—Critical sections for two-way members
22.6.5—Two-way shear strength provided by concrete
22.6.6—Maximum shear for two-way members with shear reinforcement
22.6.7—Two-way shear strength provided by single- or multiple-leg stirrups
22.6.8—Two-way shear strength provided by headed shear stud reinforcement
22.6.9—Design provisions for two-way members with shearheads

22.7—Torsion
22.7.1—General
22.7.2—Limiting material strengths
22.7.3—Factored design torsion
22.7.4—Threshold torsion
22.7.5—Cracking torsion
22.7.6—Torsional strength
22.7.7—Cross-sectional limits

22.8—Bearing
22.8.1—General
22.8.2—Required strength
22.8.3—Design strength

22.9—Shear friction
22.9.1—General
22.9.2—Required strength
22.9.3—Design strength
22.9.4—Detailing for shear-friction reinforcement

Chapter 23—Strut-and-Tie Models

23.1—Scope
23.1.1—This chapter shall apply to the design of structural concrete members, or regions of members, where load or geometric discontinuities cause a nonlinear distribution of longitudinal strains within the cross section.

23.2—General
23.3—Design strength
23.4—Strength of struts
23.5—Reinforcement crossing bottle-shaped struts
23.6—Strut reinforcement detailing
23.7—Strength of ties
23.8—Tie reinforcement detailing
23.9—Strength of nodal zones

Chapter 24—Serviceability Requirements

24.1—Scope
24.1.1—This chapter shall apply to member design for minimum serviceability, including (a) through (d):
(a) Deflections due to service-level...
gravity loads
(b) Distribution of flexural reinforcement in one-way slabs and beams to control cracking
(c) Shrinkage and temperature reinforcement
(d) Permissible stresses in prestressed flexural members.

24.2—Deflections due to service-level gravity loads
24.2.3—Calculation of immediate deflections
24.2.4—Calculation of time-dependent deflections
  24.2.4.1—Nonprestressed members
  24.2.4.2—Prestressed members
24.2.5—Calculation of deflections of composite concrete construction
24.3—Distribution of flexural reinforcement in one-way slabs and beams
24.4—Shrinkage and temperature reinforcement
  24.4.3—Nonprestressed reinforcement
  24.4.4—Prestressed reinforcement
24.5—Permissible stresses in prestressed concrete flexural members
  24.5.1—General
  24.5.2—Classification of prestressed flexural members
  24.5.3—Permissible concrete stresses at transfer of prestress
  24.5.4—Permissible concrete compressive stresses at service loads

Chapter 25—Reinforcement Details
25.1—Scope
  25.1.1—This chapter shall apply to reinforcement details, including:
    (a) Minimum spacing
    (b) Standard hooks, seismic hooks, and crossties
    (c) Development of reinforcement
    (d) Splices
    (e) Bundled reinforcement
    (f) Post-tensioning anchorages and couplers
    (g) Transverse reinforcement.
25.2—Minimum spacing of reinforcement
25.3—Standard hooks, seismic hooks, and crossties, and minimum inside bend diameters
25.4—Development of reinforcement
  25.4.1—General
  25.4.2—Development of deformed bars and deformed wires in tension
  25.4.3—Development of standard hooks in tension
  25.4.4—Development of headed deformed bars in tension
  25.4.5—Development of mechanically anchored deformed bars in tension
  25.4.6—Development of welded deformed wire reinforcement in tension
  25.4.7—Development of welded plain wire reinforcement in tension
  25.4.8—Development of pretensioned seven-wire strands in tension
  25.4.9—Development of deformed bars and deformed wires in compression
  25.4.10—Reduction of development length for excess reinforcement
25.5—Splices
  25.5.1—General
  25.5.2—Lap splice lengths of deformed bars and deformed wires in tension
  25.5.3—Lap splice lengths of welded deformed wire reinforcement in tension
  25.5.4—Lap splice lengths of welded plain wire reinforcement in tension
  25.5.5—Lap splice lengths of deformed bars in compression
  25.5.6—End-bearing splices of deformed bars in compression
  25.5.7—Mechanical and welded splices of deformed bars in tension or compression
25.6—Bundled reinforcement
  25.6.1—Nonprestressed reinforcement
  25.6.2—Post-tensioning ducts
25.7—Post-tensioning anchorages and couplers
25.8—Transverse reinforcement
  25.8.1—Stirrups
  25.8.2—Ties
  25.8.3—Spirals
  25.8.4—Hoops
25.9—Anchorages zones for post-tensioned tendons
  25.9.1—General
  25.9.2—Required strength
  25.9.3—Local zone
  25.9.4—General zone
    25.9.4.3—Analysis of general zones
    25.9.4.4—Reinforcement limits
    25.9.4.5—Limiting stresses in general zones
  25.9.5—Reinforcement detailing
Chapter 26—Construction Documents and Inspection

26.1—Scope
26.1.1—This chapter shall apply to (a) through (c):
(a) Applicable design information that the licensed design professional shall specify in the construction documents
(b) Applicable compliance requirements that the licensed design professional shall specify in the construction documents
(c) Applicable inspection requirements that the licensed design professional shall specify in the construction documents.

26.2—Design criteria
26.2.1—Design information

26.3—Member information
26.3.1—Design information

26.4—Concrete materials and mixture requirements
26.4.1—Concrete materials
26.4.1.1—Cementitious materials
26.4.1.1.1—Compliance requirements
26.4.1.2—Aggregates
26.4.1.2.1—Compliance requirements
26.4.1.3—Water
26.4.1.3.1—Compliance requirements
26.4.1.4—Admixtures
26.4.1.4.1—Compliance requirements
26.4.1.5—Steel fiber reinforcement
26.4.1.5.1—Compliance requirements
26.4.2—Concrete mixture requirements
26.4.2.1—Design information
26.4.2.2—Compliance requirements
26.4.3—Proportioning of concrete mixtures
26.4.3.1—Compliance requirements
26.4.4—Documentation of concrete mixture characteristics
26.4.4.1—Compliance requirements

26.5—Concrete production and construction
26.5.1—Concrete production
26.5.1.1—Compliance requirements
26.5.2—Concrete placement and consolidation
26.5.2.1—Compliance requirements
26.5.3—Curing concrete

26.6—Reinforcement materials and construction requirements
26.6.1—General
26.6.2—Placement
26.6.3—Bending
26.6.4—Welding

26.7—Anchoring to concrete
26.7.1—Design information
26.7.2—Compliance requirements

26.8—Embedments
26.8.1—Design information
26.8.2—Compliance requirements

26.9—Additional requirements for precast concrete
26.9.1—Design information
26.9.2—Compliance requirements

26.10—Additional requirements for prestressed concrete
26.10.1—Design information
26.10.2—Compliance requirements

26.11—Formwork
26.11.1—Design of formwork
26.11.2—Removal of formwork

26.12—Concrete evaluation and acceptance
26.12.1—General
26.12.2—Frequency of Testing
26.12.3—Acceptance criteria for standard-cured specimens
26.12.3.1—Compliance requirements
26.12.4—Field-cured specimens for determining adequacy of curing and protection
  26.12.4.1—Compliance requirements
26.12.5—Investigation of low strength-test results
  26.12.5.1—Compliance requirements
26.12.6—Acceptance of steel fiber-reinforced concrete
  26.12.6.1—Compliance requirements
26.13—Inspection
  26.13.1—General
  26.13.2—Inspection reports
  26.13.3—Items requiring inspection

Chapter 27—Strength Evaluation of Existing Structures
27.1—Scope
  27.1.1—Provisions of this chapter shall apply to strength evaluation of existing structures by analytical means or by load testing.
27.2—General
27.3—Analytical strength evaluation
  27.3.1—Verification of as-built condition
  27.3.2—Strength reduction factors
27.4—Strength evaluation by load test
  27.4.1—General
  27.4.2—Test load arrangement and load factors
  27.4.3—Test load application
  27.4.4—Response measurements
  27.4.5—Acceptance criteria
27.5—Reduced load rating

318.1—Code Requirements for Thin Shells and Commentary
1.1—Scope
  1.1.1—Provisions of this Code shall govern for thin shell concrete structures, including ribs and edge members.
2.1—Definitions
3.1—Analysis and design
4.1—Design strength
5.1—Specified concrete cover for thin shells
6.1—Shell reinforcement
7.1—Construction
The American Concrete Institute (ACI) is a leading authority and resource worldwide for the development and distribution of consensus-based standards and technical resources, educational programs, and certifications, for individuals and organizations involved in concrete design, construction, and materials, who share a commitment to pursuing the best use of concrete.

Individuals interested in the activities of ACI are encouraged to explore the ACI website for membership opportunities, committee activities, and a wide variety of concrete resources. As a volunteer member-driven organization, ACI invites partnerships and welcomes all concrete professionals who wish to be part of a respected, connected, social group that provides an opportunity for professional growth, networking and enjoyment.