INDEX

overview 10.02
plaster 10.03-10.08
plasterboard 10.09-10.11
plastic laminate 10.30
plywood veneer 10.29
timber joinery 10.24-10.25
timber mouldings and trim 10.26-10.27
timber panelling 10.28
Finish work 10.02-10.30
Finishes, bathrooms 9.29
Fire protection
construction types A.10-A.11
curtain walls 7.20
fire regulations 2.06-2.07
mechanical and electrical systems 11.25
Fireplaces 9.17-9.18
prefabricated 9.20
Fixed joints 2.29
Fixed window 8.25
Fixtures
accessible 9.27-9.28
plumbing 9.26
Flashing
roof 7.15-7.17
wall 7.18
Flat roofs, cut roofs 6.17
Flat roof assemblies 7.08-7.09
moisture and thermal protection 7.14
rafter framing 6.22
Floor systems 4.02-4.33
concrete 4.04-4.13
insulation 7.41
overview 4.02-4.03
steel 4.14-4.24
timber 4.25-4.31
Flooring
bathrooms 9.24
carpeting 10.20-10.21
ceramic tile 10.12-10.14
kitchens 9.24
resilient 10.19
stone 10.18
terrazzo 10.15
timber 10.16-10.17
Fluorescent lamps, lighting 11.39
Flush glazing 8.33
Flutter, wind loads 2.09
Folding doors 8.12
Formwork
concrete floor systems 4.10
concrete wall systems 5.07-5.08
permanent 4.21
Foundation systems 3.2-3.25
choice 5.25
column footings 3.09, 3.16
concrete slabs on grade 3.18-3.21
deep foundations 3.22
evacuation support systems 3.07
overview 3.02-3.03
PAD foundations 3.16
pier foundations - bored 3.24
pier foundations - driven 3.25
retaining walls 3.12-3.15
shallow 3.08-3.09
sloping ground 3.17
spread footings 3.09, 3.17
types of 3.04-3.05
underpinning 3.06
walls 3.10-3.15
Frames
lateral stability 2.21
structural system 2.16
Framing
balloon, wall systems 5.43
open-web steel joist roof systems 4.03
platform, wall systems 5.44
roof (light-gauge) 6.18
steel, floor systems 4.14-4.15, 4.23
steel, wall systems 5.37-5.38
steel rigid roof systems 6.07
steel roof systems 6.06
steel stud (light-gauge) 5.42
timber joist, floor systems 4.27-4.30
timber rafter roof systems 6.20-6.22
timber stud, wall systems 5.03, 5.45-5.47
Furniture dimensions A.04-A.05
Furring, plaster over 10.07
Gable dormer, light-gauge steel framed roof system 6.18
Gable roofs, cut roofs 6.16
Galvanic action, nonferrous metals 12.09
Galvanic series 12.09
Garages, building site 1.31
GCC Region Specific Standards 13.06
Geodesic domes, structural system 2.25
Geothermal energy, alternative energy sources 11.08
German DIN Standards 13.06, A.20
Glare
lighting 11.37
luminaires 11.40
Glass
insulating 12.16
materials 12.16
sliding glass doors 8.11
see also Glazing systems
Glass block wall systems 5.17
Glass entrance doors 8.14
Glazed curtain walls 8.31-8.33
Glazing, structural 7.23
Glazing systems 8.28-8.36
curtain walls 8.31-8.33
generally 8.28-8.29
glazing units 8.30
insulating glass 8.30
skylights 8.34-8.35
sunspaces 8.36
see also Glass
Global Sustainability Assessment System (GSAS) 13.07
Global warming 1.07
Glue 2.29
Graphic symbols, materials A.16
Grass see Plant materials
Green building, building site 1.04
Green Building Rating System, LEED A.22
Green roofing 7.05
Greywater 1.06, 11.29
Ground covers see Plant materials
Ground pressure, loads 2.08
Guardings, stair requirements 9.04, 9.05
Guardians, stair requirements 9.04, 9.05
Gutters and downspouts, roofing drainage 7.13
Gypsum lath, plaster 10.05, 10.08
Gypsum sheathing 5.48
Handrails, stair requirements 9.04, 9.05
Hardware, doors and door frames 8.17-8.20
Hardwood classification 10.29
Health and Safety Executive (HSE) 2.04
Heat pumps, cooling systems 11.16
Heating
bathrooms 9.29
kitchens 9.24
ventilating, and air-conditioning systems (HVAC) 11.17-11.20
Heating loads, mechanical and electrical systems 11.09
Heating systems 11.10-11.15
electric 11.12
forced warm-air 11.10
hot-water 11.11
radiant 11.13-11.14
solar energy systems, active 11.15
see also Electrical systems; Mechanical systems
Helical stair plan 9.07
Hemp construction, wall systems 5.33
High-intensity discharge lamps, lighting 11.39
High-rise structures 2.23
Hinges, doors and door frames 8.18
Hip roofs, cut roofs 6.17
Hollow core doors 8.06
Hollow metal doors and door frames 8.05-8.07
Horizontal diaphragm, lateral stability 2.21
Horizontal timber cladding 7.50
Hot-water heating systems 11.11
Human dimensions A.02
Humidity, thermal comfort 11.04
HVAC systems 11.17-11.20
Hydrogen energy, alternative energy sources 11.07
Hydropower, alternating energy sources 11.08
Impact loads, defined 2.08
Impact noise, sound control A.15
Imposed loads 2.08
Incandescent lamps, lighting 11.38
Indirect gain, passive solar design 1.19
Indoor environmental quality, sustainability 1.06
Indirect gain, passive solar design 1.19
Moisture control
   generally 7.46
   vapour barriers 7.47
Moisture and thermal protection
   7.02-7.51
   see also Flashing; Insulation;
   Roof systems; Roofing; Wall
   systems
Moment connections, wall systems
   5.03
Mortise lock, doors and door frames
   8.19
Moulded joints, structural system
   2.29
Mouldings and trim, timber 10.26–
   10.27
Movement joints, moisture and ther-
   mal protection 7.49–7.50

Nails, materials 12.17
Noise reduction A.14
Non-ferrous metals, materials 12.09
Nosings, stair requirements 9.04, 05

Occupancy loads, defined 6.02
Occupant density 2.07, 9.04
Ocean energy, alternative energy
   sources 22.08
One-way beam system structural steel
   framing 4.15
One-way concrete slab floor systems
   4.05
One-way ribbed slab floor systems
   4.05
Open-web steel joists
   floor systems 4.03
   lattice beams 4.19
   light-gauge stud framing 5.42
   masonry walls 5.17
   metal roof decking 6.15
   steel lattice joists 6.13
   structural steel framing 4.15, 6.37
   structural steel roof framing
   6.06
Openings see Penetrations
Oriented strand board (OSB), materi-
   als 12.14
Outlets, electrical systems 5.02,
   5.03, 9.24, 9.29, 11.32, 11.35
Overhead doors 8.13
Overlapping joints, structural system
   2.29

Plaster
   ceilings 10.08
   details 10.06
   generally 10.03
   lath and accessories 10.04
   over masonry 10.07
   partition systems 10.05
   Plaster 10.03–10.08
   Plasterboard
   application 10.10
   details 10.11
   generally 10.09
   skim over 10.05
   Plastic laminate, finish work 10.30
   Plastics, materials 12.15
   Plate structures, structural system
   2.17
   Platform framing
   timber joist floor systems 4.27
   wall systems 5.44
   Plumbing
   bathrooms 9.26, 9.29
   fixtures 11.26
   kitchens 9.24
   sanitary-drainage systems
   11.27–11.28
   sewage-disposal systems 11.29
   Plywood, materials 12.14
   Plywood veneer, finish work 10.29
   Pocket sliding doors 8.12
   Pad systems 9.30
   Point connector 2.29
   Portal frames, steel rigid, roof sys-
   tems 6.07
   Post-tensioning 4.09
   Pre-tensioning 4.08
   Precast concrete
   connections 2.29
   floor systems 4.11–4.13
   panels 7.24
   roof systems 6.05
   units 4.12
   wall systems 5.12
   Precipitation 1.23, 25
   Prefabricated fireplaces and stoves
   9.20
   Prefabricated joists and trusses, wood
   floor systems 4.31–4.32
   Prefabricated roof trusses 6.25
   Prefabricated systems, composite
   5.16
   Pressure-equalized design, curtain
   walls 7.21
   Prestressed concrete floor systems
   4.08–4.09
   Private wells 11.22
   Professional and trade associations
   A.25–A.24
   Psychrometric charts 11.05
   Public water supply 11.22
   Pull handles, doors and door frames
   8.19
   Push plates 8.19
   Qatar National Construction Stan-
   dards 13.06
   Qatar Sustainability System 13.07
   Quarry tiles, ceramic 10.12
   Quarter-turn stair plan 9.06
   Radiant heating systems 11.13–
   11.14
   Radiation
   solar 1.17–1.18
   thermal comfort 11.03
   Radon 7.48
   Rafter framing, timber 6.20–622
   Rafters, timber 6.19
   Rails, timber mouldings and trim
   10.26
   Rain loads, defined 2.08
   Rainscreen-wall systems 7.19
   Rammed-earth construction, wall
   systems 5.32
   Ramps
design of 9.05
   garage 1.32
   kerb 1.30
   stair requirements 9.05
   Rated panel sheathing, timber stud
   wall systems 5.48
   Receptacles, electrical systems
   11.35
   Reflectors, luminaires 11.40
   Refrigeration
   absorption 11.16
   compressive 11.16
   cooling systems 11.16
   Regional priority, sustainability 1.06
   Regulatory factors
   building codes 2.05
   building regulations 2.05
   Fire regulations 2.06–2.07
   Regulatory framework, Middle
INDEX

East construction 13.06-13.07
see also Building codes; Zoning ordinances

Reinforced concrete
column footings, foundation systems 3.09
connections 2.29
materials 12.04
slab roof systems 6.04

Reinforced masonry walls 5.17

Relief joints, render 7.33
Render 7.32-7.33

Resilient flooring 10.19
Resources, sustainability 1.06
Retaining walls, foundation systems 3.12-3.15

Revolving doors 8.16

Rigid foam insulation 5.12, 5.49, 6.05, 7.08, 7.09, 7.39, 7.47, 11.13

Rigid frame, lateral stability 2.21

Rigid joints 5.12

Risers, stair requirements 9.04, 05
Rising walls 3.11

Rivets, materials 12.19

Roadways, vehicular circulation 1.31

Roller joints 2.29

Roller shutter doors 8.13

Roof pond, passive solar design 1.20

Roof systems
built-up roofing 5.31, 6.22, 7.08, 7.10, 7.49
cementitious roof decking 6.06
cementitious roof decking 6.04-6.05
cut roofs 6.16-6.17
drainage 7.13
flat roof assemblies 7.08-7.09
glue-laminated beam roof structures 6.26
insulated panels 6.27
insulation 7.41
metal roof decking 6.15
overview 6.02
precipitation 1.25
rafter framing 6.20-6.22
roof slopes 6.03
single-ply roofing 7.12
steel framing (light-gauge) 6.18-6.19
steel joists (open-web) framing 6.15
steel lattice joists 6.13-6.14
steel rigid portal frames 6.07
steel roof framing 6.06
steel trusses 6.08-6.10
timber rafter framing 6.20-6.22
timber rafters 6.19
timber trusses 6.23-6.25
ventilation 7.45
Roof systems 6.02-6.27
see also Roofing

Roofing
built-up bituminous roofing systems 7.10
corrugated metal 7.06
drainage 2.08, 6.03, 6.04, 7.13
flashing 7.15-7.17
flat roof assemblies 7.08-7.09
green 7.05
sheet-metal 7.07
single-ply roofing systems 7.11-7.12
slate 7.03
tile 7.04
vegetated 7.05
wood shakes 12.12
wood shingles 7.29
see also Roof systems

Russian Federation, regulations and standards 13.06

Sandwich panels 5.49
Sanitary-drainage systems 11.27-11.28
Sarking 7.03
Sash 8.22
Saudia Building Code 13.06
Schwedler domes, structural system 2.25
Screw, materials 12.18
Sealants, joints, moisture and thermal protection 7.51
Seismic loads see Earthquake loads
Semi-rigid connections, steel beam floor systems 4.18
Septic tanks 11.22, 29
Settlement loads, defined 2.08
Sewage-disposal systems 11.29
Shading 13.04	solar 1.22
Shallow foundations 3.05, 3.08-3.09
Shaped joints, structural system 2.29
Shear wall, lateral stability 2.21
Sheathing
roof systems 6.19
stud, wall systems 5.48
Sheet piling 3.07
Sheet-metal roofing 7.07
Shell structures 2.26
Shingles, timber-shingle cladding 7.29
Shopfronts, doors and door frames 8.15
Shoring, concrete floor systems 4.10
Showers 9.26, 27
Single-ply roofing systems, moisture and thermal protection 7.11-7.12
Sink centre, kitchens 9.21
Sinks 9.26, 27
Site access 1.29
Site analysis 1.10
Site drainage 1.26
Site plan, building site 1.36-37
Site drainage 1.26
Site plan, building site 1.36-37
Sinks 9.26, 27
Site access 1.29
Site analysis 1.10
Site drainage 1.26
Site plan, building site 1.36-37
Sink centre, kitchens 9.21
Sinks 9.26, 27
Site access 1.29
Site analysis 1.10
Site drainage 1.26
Site plan, building site 1.36-37

Slurry wall, foundation systems 3.07

Slabs, roof systems 6.12

Slab roof systems 6.04

Slab roof systems 6.19

Slat, wall systems 5.48

Slate roofing 7.03

Sloping ground, foundation systems 3.17

Slurry wall, foundation systems 3.07

Snow loads, defined 2.08

Solar energy systems
active 11.15
alternative energy sources 11.07
Solar radiation
alternative energy sources 11.07
building site 1.17-1.18
curtain walls 7.21
topography 1.02
Solar shading, building site 1.21
Solid core doors 8.08
Solid walls, masonry 5.19

Sound
building site 1.28
control of A.14-A.15
see also Acoustics

Space frames, roof systems 6.11-6.12

Spans, structural 2.19

Special construction 9.02-9.30
see also Bathrooms; Elevators; Escalators; Fireplaces; Kitchens; Stairs

Spiral stair plan 9.07

Spread footings, foundation systems 3.08

Stability
lateral 2.21
materials 12.02
Stairs, materials 12.21

Stairs
concrete 9.10
design of 9.03
ladders 9.03
pedestrian circulation 1.30
plans 9.06-9.07
requirements 9.04-9.05
spiral 9.12
steel 9.11
timber 9.08-9.09
Static loads defined 2.08

Steel
materials 12.06
protection A.10
reinforced concrete 12.05

Steel base plate, foundation walls 3.16

Steel beam connections, floor systems 4.17-4.18

Steel beams
floor systems 4.16
timber joist floor systems 4.28

Steel columns, wall systems 5.39-5.40

Steel floor systems 4.03, 4.14-4.17
beams 4.16
light-gauge joists 4.22-4.24
metal decking 4.21
open web joists 4.19
structural steel framing 4.14-4.15

Steel framing
floor systems 4.14-4.15, 4.23-4.24

Steel framing
roof systems 6.06
roof systems, light-gauge 6.18
wall systems 5.37-5.38
wall systems, light-gauge studs 5.41-5.42
Steel joists, lattice, roof systems 6.13-6.14
Steel joists, light-gauge, floor systems 4.22
Steel rigid portal frames, roof systems 6.07
Steel stairs 8.24
Stile doors see Timber rail and stile doors
Stone, materials 12.10
Stone flooring 10.18
Stone masonry, wall systems 5.35-5.36
Stone veneer walls 7.27
Stoves, prefabricated 9.20
Straw-bale construction, wall systems 5.34
Structural clay tile, wall systems 5.17
Structural equilibrium 2.11
Structural forces
columns 2.12
generally 2.10
Structural gasket glazing 8.28
Structural glazing 7.23
Structural insulated panels (SIPs)
roof systems 6.27
wall systems 5.50
Structural patterns 2.20
Structural spans 2.19
Structural steel framing, roof 6.06
Structural system
arches and vaults 2.24
beam spans 2.14
beams 2.13
building systems 2.03
cable structures 2.27
columns 2.12
doors 2.25
frames and walls 2.16
high-rise structures 2.23
joists and connections 2.29
lateral stability 2.21-2.22
membrane structures 2.28
plate structures 2.17
shell structures 2.26
trusses 2.15
Structural units 2.18
Stud wall
base 10.10
concrete slabs on grade foundations 3.20
sheathing 5.48
Sub-floor ventilation 7.45
Subflooring, timber 4.32
Subsurface drainage 1.26
Sunspace
construction 8.36
passive solar design 1.20
Sunspraces 8.36
Surface connector 2.29
Surface drainage 1.26
Surfacing, concrete, wall systems 5.11
Suspeived acoustical ceiling tiles 10.23
Sustainability
building site 1.03
construction in the Middle East 13.05, 07
Switches, electrical systems 11.35
Temperature
curtain walls 7.21
damal 13.03
thermal comfort 11.04
thermal insulation 7.39-7.40
Terrazzo flooring 10.15
Thermal bridging 7.36-7.37
Thermal comfort 11.03
Thermal conductivity, materials 12.07
Thermal insulation 7.35
Thermal protection see Moisture and thermal protection; specific moisture and thermal protection structures and materials
Thermal resistance of building materials 7.38
Thermal stress, loads 2.08
Thermoplastics 12.15
Thermosetting plastics 12.15
Thin joint masonry, wall systems 5.26
Thresholds, doors and door frames 8.21
Tiebacks, foundation systems 3.07
Tile roofing 7.04
Tilt-up construction, wall systems 5.15
Timber
engineered 10.16
solid 10.16
structural 12.13
Timber beams, foundation walls 3.12
Timber cladding 7.29-7.31
Timber door frames 8.10, 10.06
Timber floor systems 4.03, 4.25-4.31
beams 4.33
decking 4.03
joists 4.25-4.30
prefabricated joists and trusses 4.31-4.32
subflooring 4.32
timber joist framing 4.27-4.30
Timber flooring 10.16-10.17
Timber flush doors 8.08
Timber joinery, finish work 10.24-10.25
Timber joists, foundation walls 4.25-4.26
Timber mouldings and trim 10.26-10.27
Timber panelling
finish work 10.28
materials 12.14
Timber rafter framing 6.20-6.22
Timber rafters, roof systems 6.19
Timber rail and stile doors 8.09
Timber stairs 9.08-9.09
Timber stud framing, wall systems 5.47-5.49
Timber windows and window frames 8.26-8.27
Timber-panelled doors 8.09
Toilet stalls 9.26, 9.28
Toilet testing 9.28
Topography, building site 1.13-1.14
Trade and professional associations A.23-A.24
Transmission loss, sound control A.15
Traps, plumbing 11.26
Treads, stair requirements 9.04, 9.05
Trees, building site 1.16
see also Plant materials
Trim accessories, plaster 10.04
Trim, timber 10.26-10.27
Trusses
prefabricated joists and trusses, timber floor systems 4.31-4.32
roof 6.23-6.25
steel, roof systems 6.08
structural 2.15
Two-way flat slab concrete slab floor systems 4.07
Two-way flat plate concrete floor systems 4.07
Two-way slab and beam concrete floor systems 4.06
Two-way waffle slab concrete floor systems 4.06
Underpinning, foundation systems 3.06
Unified Building Code 13.06
Unit lock, doors and door frames 8.19
Unreinforced masonry walls, wall systems 5.17
UPVC windows 8.25
Urinals 9.26, 28
Vapour barriers 7.47
flooring 10.17
Varnishes, materials 12.21
Vaults, structural systems 2.24
Vegetated roofing 7.05
Vegetation see Plant materials
Vehicular circulation, building site 1.31-32
Vehicular parking, building site 1.32
Veneers
laminated 4.33
masonry veneer walls 7.26
plywood, finish work 10.29
stone veneer walls 7.27
wood panel products 12.14
Ventilation
air distribution outlets 11.21
bathrooms 9.29
domestic 7.45
kitchens 9.24
moisture and thermal protection 7.46
roof and attic 7.45
sub-floor 7.45
wind 1.20
Vents, plumbing 11.28
INDEX

Vertical timber cladding 7.31
Views, building site 1.28
Vision, lighting 11.37

Wall flashing 7.18
Wall systems
  adobe construction 5.31
  balloon framing 5.43
  composite prefabricated systems 5.16
  concrete columns 5.04-5.05
  concrete formwork 5.07-5.08
  concrete surfacing 5.11
  concrete walls 5.03, 5.06, A.10
  curtain walls 7.20-7.22
  glass block 5.17
  hemp construction 5.33
  insulating 7.42
  insulating concrete formwork 5.09-5.10
  masonry arches 5.23
  masonry bonding 5.39
  masonry columns and piers 5.22
  masonry expansion and control joints 5.25
  masonry lintels 5.24
  masonry veneer 7.25-7.26
  masonry wall sections 5.27-5.28
  masonry walls 5.03, 5.17-5.20, A.10
  metal cladding 7.28
  overview 5.02-5.03
  plaster details 10.06
  platform framing 5.44
  precast-concrete 5.12-5.14
  rainscreen 7.19
  rammed-earth construction 5.32
  sandwich panels 5.49
  steel columns 5.39-5.40
  steel framing 5.37-5.38
  steel studs (light-gauge) 5.41-5.42
  stone masonry 5.35-5.36
  stone veneer 7.27
  straw-bale construction 5.34
  structural clay tile 5.17
  structural insulated panels (SIPs) 5.50
  stud wall sheathing 5.48
  thin joint masonry 5.26
  tilt-up construction 5.15
  timber stud framing 5.45-5.47
  wall ties 5.21
  Wall systems 5.02-5.50
  Wall ties 5.21
  Walls
    basement 3.10
    cavity 5.20
    ceramic tile 10.12
    concrete 5.06
    concrete slabs on grade foundations 3.20-3.21
    foundation systems 3.10-3.15
    lateral stability 2.22
    retaining 3.12-3.15
    structural system 2.16
    timber 7.29-7.31
  Wastewater 11.29
  Water
    concrete 12.04
    cooling a space 13.03
    curtain walls 7.21
    efficiency 1.06
    precipitation 1.25
    topography 1.14
    Water closet 9.26, 28
    Water pressure, loads 2.08
    Water supply, mechanical and electrical systems 11.22-11.24
    Water-cement ratio 12.05
    Welded steel connections 2.29
    Welds 4.17, 4.18, 4.21, 5.40, 6.15
    Wells, private 11.22
    Wet glazing 8.29
    Wet-bulb temperature, thermal comfort 11.05
  Wind
    building site 1.27
    cooling 13.03
    curtain walls 7.20
    Wind catchers 13.04
    Wind loads 2.09
    Wind power, alternative energy sources 11.07
    Winding stair plan 9.07
  Windows and window frames
    draught-stripping and thresholds 8.21
    glazing systems 8.28
    metal 8.24
    overview 8.02
    UPVC and composite windows 8.25
    timber 5.16, 8.26-8.27
    views 1.23
    window elements 8.22
    window operation 8.23
    Windows and window frames 8.21-8.36
    Wiring, electrical power 11.33
    Wood, materials 12.11-12.12
    Wood post column footings, foundation systems 5.16
    Wood trusses, roof systems 6.23-6.25