

SBC

The Saudi Mechanical Code
SBC 501 - CC
Code & Commentaries



20**24**

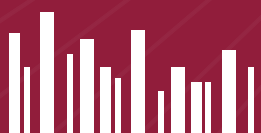


Table of Contents

CHAPTER 1 – SCOPE AND ADMINISTRATION	1
SECTION 101 SCOPE AND GENERAL REQUIREMENTS.....	1
SECTION 102 APPLICABILITY.....	3
SECTION 103 CODE COMPLIANCE AGENCY	5
SECTION 104 DUTIES AND POWERS OF THE BUILDING OFFICIAL	6
SECTION 105 APPROVAL	8
SECTION 106 PERMITS.....	10
SECTION 107 TEMPORARY EQUIPMENT, SYSTEMS AND USES	13
SECTION 108 INSPECTIONS AND TESTING	14
SECTION 109 FEES	17
SECTION 110 CONSTRUCTION DOCUMENTS.....	18
SECTION 111 NOTICE OF APPROVAL	18
SECTION 112 SERVICE UTILITIES	19
SECTION 113 STOP WORK ORDER	20
SECTION 114 MEANS OF APPEALS.....	20
SECTION 115 VIOLATIONS	21
CHAPTER 2 – DEFINITIONS.....	25
SECTION 201 GENERAL.....	25
SECTION 202 GENERAL DEFINITIONS	25
TABLES AND FIGURES OF CHAPTER 2.....	61
CHAPTER 3 – GENERAL REGULATIONS	64
SECTION 301 GENERAL.....	64
SECTION 302 PROTECTION OF STRUCTURE.....	70
SECTION 303 EQUIPMENT AND APPLIANCE LOCATION.....	73
SECTION 304 INSTALLATION	75
SECTION 305 PIPING SUPPORT	83
SECTION 306 ACCESS AND SERVICE SPACE	84
SECTION 307 CONDENSATE DISPOSAL	88
SECTION 308 CLEARANCE REDUCTION.....	92
SECTION 309 TEMPERATURE CONTROL	96
SECTION 310 EXPLOSION CONTROL.....	96
SECTION 311 SMOKE AND HEAT VENTS	97
SECTION 312 HEATING AND COOLING LOAD CALCULATIONS	97
TABLES AND FIGURES OF CHAPTER 3.....	98
CHAPTER 4 – VENTILATION.....	123
SECTION 401 GENERAL.....	123
SECTION 402 NATURAL VENTILATION	128
SECTION 403 MECHANICAL VENTILATION.....	129
SECTION 404 ENCLOSED PARKING GARAGES	151
SECTION 405 SYSTEMS CONTROL.....	151
SECTION 406 VENTILATION OF UNINHABITED SPACES.....	152
SECTION 407 AMBULATORY CARE FACILITIES AND GROUP I-2 OCCUPANCIES.....	152

TABLE OF CONTENTS

TABLES AND FIGURES OF CHAPTER 4.....	153
CHAPTER 5 – EXHAUST SYSTEMS	167
SECTION 501 GENERAL.....	167
SECTION 502 REQUIRED SYSTEMS.....	173
SECTION 503 MOTORS AND FANS	196
SECTION 504 CLOTHES DRYER EXHAUST	198
SECTION 505 DOMESTIC COOKING EXHAUST EQUIPMENT	208
SECTION 506 COMMERCIAL KITCHEN HOOD VENTILATION SYSTEM DUCTS AND EXHAUST EQUIPMENT	212
SECTION 507 COMMERCIAL KITCHEN HOODS.....	229
SECTION 508 COMMERCIAL KITCHEN MAKEUP AIR	247
SECTION 509 FIRE SUPPRESSION SYSTEMS	250
SECTION 510 HAZARDOUS EXHAUST SYSTEMS	251
SECTION 511 DUST, STOCK AND REFUSE CONVEYING SYSTEMS	262
SECTION 512 SUBSLAB SOIL EXHAUST SYSTEMS	264
SECTION 513 SMOKE CONTROL SYSTEMS	265
SECTION 514 ENERGY RECOVERY VENTILATION SYSTEMS	286
TABLES AND FIGURES OF CHAPTER 5.....	289
CHAPTER 6 – DUCT SYSTEMS	342
SECTION 601 GENERAL.....	342
SECTION 602 PLENUMS.....	346
SECTION 603 DUCT CONSTRUCTION AND INSTALLATION	354
SECTION 604 INSULATION	364
SECTION 605 AIR FILTERS	367
SECTION 606 SMOKE DETECTION SYSTEMS CONTROL.....	369
SECTION 607 DUCT AND TRANSFER OPENINGS.....	373
SECTION 608 BALANCING.....	391
TABLES AND FIGURES OF CHAPTER 6.....	392
CHAPTER 7 – COMBUSTION AIR.....	433
SECTION 701 GENERAL.....	433
TABLES AND FIGURES OF CHAPTER 7.....	435
CHAPTER 8 – CHIMNEY AND VENTS	436
SECTION 801 GENERAL.....	436
SECTION 802 VENTS	443
SECTION 803 CONNECTORS	445
SECTION 804 DIRECT-VENT, INTEGRAL VENT AND MECHANICAL DRAFT SYSTEMS.....	450
SECTION 805 FACTORY-BUILT CHIMNEYS	454
SECTION 806 METAL CHIMNEYS.....	457
TABLES AND FIGURES OF CHAPTER 8.....	458
CHAPTER 9 – SPECIFIC APPLIANCES, FIREPLACES AND SOLID FUEL-BURNING EQUIPMENT	474
SECTION 901 GENERAL	474
SECTION 902 MASONRY FIREPLACES.....	475
SECTION 903 FACTORY-BUILT FIREPLACES	475

TABLE OF CONTENTS

SECTION 904 PELLET FUEL-BURNING APPLIANCES	478
SECTION 905 FIREPLACE STOVES AND ROOM HEATERS.....	479
SECTION 906 FACTORY-BUILT BARBECUE APPLIANCES.....	480
SECTION 907 INCINERATORS	480
SECTION 908 COOLING TOWERS, EVAPORATIVE CONDENSERS AND FLUID COOLERS.....	481
SECTION 909 VENTED WALL FURNACES	482
SECTION 910 FLOOR FURNACES	483
SECTION 911 DUCT FURNACES	484
SECTION 912 INFRARED RADIANT HEATERS.....	484
SECTION 913 CLOTHES DRYERS	485
SECTION 914 SAUNA HEATERS.....	485
SECTION 915 ENGINE AND GAS TURBINE-POWERED EQUIPMENT AND APPLIANCES	486
SECTION 916 POOL AND SPA HEATERS.....	487
SECTION 917 COOKING APPLIANCES	487
SECTION 918 FORCED-AIR WARM-AIR FURNACES	487
SECTION 919 CONVERSION BURNERS	488
SECTION 920 UNIT HEATERS.....	488
SECTION 921 VENTED ROOM HEATERS.....	489
SECTION 922 KEROSENE AND OIL-FIRED STOVES	489
SECTION 923 SMALL CERAMIC KILNS	489
SECTION 924 STATIONARY FUEL CELL POWER SYSTEMS.....	490
SECTION 925 MASONRY HEATERS.....	491
SECTION 926 GASEOUS HYDROGEN SYSTEMS.....	491
SECTION 927 RADIANT HEATING SYSTEMS	491
SECTION 928 EVAPORATIVE COOLING EQUIPMENT.....	492
SECTION 929 UNVENTED ALCOHOL FUEL-BURNING DECORATIVE APPLIANCES	492
SECTION 930 LARGE-DIAMETER CEILING FANS	493
TABLES AND FIGURES OF CHAPTER 9.....	494
CHAPTER 10 — BOILERS, WATER HEATERS AND PRESSURE VESSELS	498
SECTION 1001 GENERAL.....	498
SECTION 1002 WATER HEATERS.....	499
SECTION 1003 PRESSURE VESSELS	501
SECTION 1004 BOILERS	501
SECTION 1005 BOILER CONNECTIONS.....	504
SECTION 1006 SAFETY AND PRESSURE RELIEF VALVES AND CONTROLS.....	505
SECTION 1007 BOILER LOW-WATER CUTOFF	510
SECTION 1008 BOTTOM BLOWOFF VALVE	511
SECTION 1009 HOT WATER BOILER EXPANSION TANK.....	512
SECTION 1010 GAUGES	514
SECTION 1011 TESTS	515
TABLES AND FIGURES OF CHAPTER 10.....	516
CHAPTER 11 — REFRIGERATION.....	526
SECTION 1101 GENERAL.....	527
SECTION 1102 SYSTEM REQUIREMENTS	529
SECTION 1103 REFRIGERATION SYSTEM CLASSIFICATION	532

TABLE OF CONTENTS

SECTION 1104 SYSTEM APPLICATION REQUIREMENTS	534
SECTION 1105 MACHINERY ROOM, GENERAL REQUIREMENTS	539
SECTION 1106 MACHINERY ROOM, SPECIAL REQUIREMENTS	544
SECTION 1107 PIPING MATERIAL	546
SECTION 1108 JOINTS AND CONNECTIONS	547
SECTION 1109 REFRIGERANT PIPE INSTALLATION.....	548
SECTION 1110 SECTION 1110 REFRIGERATION PIPING SYSTEM TEST.....	553
SECTION 1111 PERIODIC TESTING	554
TABLES AND FIGURES OF CHAPTER 11.....	556
CHAPTER 12 — HYDRONIC PIPING	577
SECTION 1201 GENERAL.....	577
SECTION 1202 MATERIAL	578
SECTION 1203 JOINTS AND CONNECTIONS	583
SECTION 1204 PIPE INSULATION	590
SECTION 1205 VALVES.....	590
SECTION 1206 PIPING INSTALLATION.....	592
SECTION 1207 TRANSFER FLUID	594
SECTION 1208 TESTS	595
SECTION 1209 EMBEDDED PIPING	595
SECTION 1210 PLASTIC PIPE GROUND-SOURCE HEAT PUMP LOOP SYSTEMS	596
TABLES AND FIGURES OF CHAPTER 12.....	602
CHAPTER 13 — FUEL OIL PIPING AND STORAGE	612
SECTION 1301 GENERAL.....	612
SECTION 1302 MATERIAL	613
SECTION 1303 JOINTS AND CONNECTIONS	615
SECTION 1304 PIPING SUPPORT	617
SECTION 1305 FUEL OIL SYSTEM INSTALLATION	617
SECTION 1306 OIL GAUGING	619
SECTION 1307 FUEL OIL VALVES.....	620
SECTION 1308 TESTING	620
TABLES AND FIGURES OF CHAPTER 13.....	622
CHAPTER 14 — SOLAR SYSTEMS	625
SECTION 1401 GENERAL.....	626
SECTION 1402 INSTALLATION	627
SECTION 1403 HEAT TRANSFER FLUIDS.....	633
SECTION 1404 MATERIALS	634
TABLES AND FIGURES OF CHAPTER 14.....	635
CHAPTER 15 — REFERENCED STANDARDS.....	644
APPENDIX A — CHIMNEY CONNECTOR PASS-THROUGHS.....	668
SECTION A101 CHIMNEY CONNECTOR SYSTEMS.....	668
APPENDIX B — RECOMMENDED PERMIT FEE SCHEDULE.....	671

TABLE OF CONTENTS

APPENDIX C	— BOARD OF APPEALS.....	672
SECTION C101	GENERAL.....	672