

# SBC

The Saudi Code for Masonry  
Structures

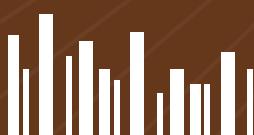
**SBC 305 - CC**  
Code & Commentaries



كود البناء السعودي  
Saudi Building Code



2024



**TABLE OF CONTENTS**

<b>PART 1 —GENERAL.....</b>	<b>1</b>
<b>CHAPTER 1 —GENERAL REQUIREMENTS .....</b>	<b>2</b>
1.1 —GENERAL .....	2
1.2 —SCOPE .....	2
1.3 —CONTRACT DOCUMENTS AND CALCULATIONS.....	2
1.4 —APPROVAL OF SPECIAL SYSTEMS OF DESIGN OR CONSTRUCTION .....	3
1.5 —STANDARDS CITED IN THIS CODE .....	3
<b>CHAPTER 2 —NOTATION AND DEFINITIONS .....</b>	<b>7</b>
2.1 —NOTATION.....	7
2.2 —DEFINITIONS .....	9
<b>CHAPTER 3 —QUALITY AND CONSTRUCTION .....</b>	<b>18</b>
3.1 —QUALITY ASSURANCE PROGRAM.....	18
3.2 —CONSTRUCTION CONSIDERATIONS .....	19
<b>PART 2 —DESIGN REQUIREMENT .....</b>	<b>27</b>
<b>CHAPTER 4 —GENERAL ANALYSIS AND DESIGN CONSIDERATIONS .....</b>	<b>28</b>
4.1 —LOADING.....	28
4.2 —MATERIAL PROPERTIES .....	29
4.3 —SECTION PROPERTIES .....	31
4.4 —CONNECTION TO STRUCTURAL FRAMES .....	32
4.5 —MASONRY NOT LAID IN RUNNING BOND .....	32
<b>CHAPTER 5 —STRUCTURAL ELEMENTS .....</b>	<b>38</b>
5.1 —MASONRY ASSEMBLIES .....	38
5.2 —BEAMS .....	41
5.3 —COLUMNS.....	43
5.4 —PILASTERS.....	44
5.5 —CORBELS.....	44
<b>CHAPTER 6 —REINFORCEMENT, METAL ACCESSORIES, AND ANCHOR BOLTS .....</b>	<b>55</b>
6.1 —DETAILS OF REINFORCEMENT AND METAL ACCESSORIES .....	55
6.2 —ANCHOR BOLTS.....	56
<b>CHAPTER 7 —SEISMIC DESIGN REQUIREMENTS.....</b>	<b>65</b>
7.1 —SCOPE .....	65
7.2 —GENERAL ANALYSIS .....	65
7.3 —ELEMENT CLASSIFICATION .....	66
7.4 —SEISMIC DESIGN CATEGORY REQUIREMENTS .....	70
<b>PART 3 —ENGINEERED DESIGN METHOD .....</b>	<b>76</b>
<b>CHAPTER 8 —ALLOWABLE STRESS DESIGN OF MASONRY.....</b>	<b>77</b>
8.1 —GENERAL .....	77
8.2 —UNREINFORCED MASONRY .....	84
8.3 —REINFORCED MASONRY.....	88
<b>CHAPTER 9 —STRENGTH DESIGN OF MASONRY .....</b>	<b>99</b>



---

## TABLE OF CONTENTS

---

9.1 —GENERAL .....	99
9.2 —UNREINFORCED (PLAIN) MASONRY .....	103
9.3 —REINFORCED MASONRY.....	105
<b>CHAPTER 10 —PRESTRESSED MASONRY .....</b>	<b>123</b>
<b>CHAPTER 11 —STRENGTH DESIGN OF AUTOCLAVED AERATED CONCRETE (AAC) MASONRY</b>	<b>124</b>
11.1 —GENERAL .....	124
11.2 —UNREINFORCED (PLAIN) AAC MASONRY .....	127
11.3 —REINFORCED AAC MASONRY .....	128
<b>PART 4 —PRESCRIPTIVE DESIGN METHODS.....</b>	<b>138</b>
<b>CHAPTER 12 —VENEER .....</b>	<b>139</b>
12.1 —GENERAL .....	139
12.2 —ANCHORED VENEER .....	140
12.3 —ADHERED VENEER.....	144
<b>CHAPTER 13 —GLASS UNIT MASONRY .....</b>	<b>148</b>
13.1 —GENERAL .....	148
13.2 —PANEL SIZE.....	148
13.3 —SUPPORT .....	149
13.4 —EXPANSION JOINTS .....	149
13.5 —BASE SURFACE TREATMENT .....	149
13.6 —MORTAR .....	150
13.7 —REINFORCEMENT.....	150
<b>CHAPTER 14 —MASONRY PARTITION WALLS.....</b>	<b>154</b>
14.1 —GENERAL .....	154
14.2 —PRESCRIPTIVE DESIGN OF PARTITION WALLS.....	154
14.3 —LATERAL SUPPORT .....	155
14.4 —ANCHORAGE .....	156
14.5 —MISCELLANEOUS REQUIREMENTS .....	156
<b>PART 5 —APPENDICES .....</b>	<b>160</b>
<b>APPENDIX A —EMPIRICAL DESIGN OF MASONRY .....</b>	<b>161</b>
A.1 —GENERAL .....	161
A.2 —HEIGHT .....	162
A.3 —LATERAL STABILITY .....	162
A.4 —COMPRESSIVE STRESS REQUIREMENTS .....	162
A.5 —LATERAL SUPPORT .....	163
A.6 —THICKNESS OF MASONRY .....	163
A.7 —BOND .....	164
A.8 —ANCHORAGE .....	165
A.9 —MISCELLANEOUS REQUIREMENTS .....	166
<b>APPENDIX B —DESIGN OF MASONRY INFILL .....</b>	<b>175</b>
B.1 —GENERAL.....	175
B.2 —NON-PARTICIPATING INFILLS.....	176
B.3 —PARTICIPATING INFILLS .....	176



---

## TABLE OF CONTENTS

---

<b>APPENDIX C —LIMIT DESIGN METHOD .....</b>	<b>182</b>
C.0—GENERAL.....	182
C.1—YIELD MECHANISM.....	182
C.2—MECHANISM STRENGTH.....	183
C.3—MECHANISM DEFORMATION .....	183
<b>PART 6 —SPECIFICATION FOR MASONRY STRUCTURES (TMS 602-13/ACI 530.1-13/ASCE 6-13)      185</b>	
<b>CHAPTER S-1 —GENERAL .....</b>	<b>186</b>
S-1.1 —SUMMARY .....	186
S-1.2 —DEFINITIONS .....	186
S-1.3 —REFERENCE STANDARDS.....	189
S-1.4 —SYSTEM DESCRIPTION.....	191
S-1.5 —SUBMITTALS.....	194
S-1.6 —QUALITY ASSURANCE.....	195
S-1.7 —DELIVERY, STORAGE, AND HANDLING .....	197
S-1.8 —PROJECT CONDITIONS .....	197
<b>CHAPTER S-2 —PRODUCTS.....</b>	<b>206</b>
S-2.1 —MORTAR MATERIALS .....	206
S-2.2 —GROUT MATERIALS.....	207
S-2.3 —MASONRY UNIT MATERIALS .....	207
S-2.4 —REINFORCEMENT, PRESTRESSING TENDONS, AND METAL ACCESSORIES .....	209
S-2.5 —ACCESSORIES .....	212
S-2.6 —MIXING .....	212
S-2.7 —FABRICATION .....	213
<b>CHAPTER S-3 —EXECUTION .....</b>	<b>220</b>
S-3.1 —INSPECTION .....	220
S-3.2 —PREPARATION.....	220
S-3.3 —MASONRY ERECTION .....	221
S-3.4 —REINFORCEMENT, TIE, AND ANCHOR INSTALLATION .....	223
S-3.5 —GROUT PLACEMENT.....	226
S-3.6 —PRESTRESSING TENDON INSTALLATION AND STRESSING PROCEDURE .....	228
S-3.7 —FIELD QUALITY CONTROL .....	229
S-3.8 —CLEANING .....	230

