

## SECTION RBC302 - COMMERCIAL BUILDING CODE

**RBC302.1 SHORT TITLE.** This section will be known and cited as the Commercial Building Code.

**RBC302.2 SCOPE.** The provisions of the Commercial Building Code shall apply in accordance with Section RBC101.3 of this Code.

### Exceptions:

1. Detached one- and two-family dwellings and multiple single family dwellings (townhomes) not more than three (3) stories above grade plane in height with a separate means of egress and their accessory structures shall comply with the Residential Building Code as provided for in Section RBC303 of this Code.
2. Existing buildings undergoing repair, alteration, addition, or change of occupancy shall be permitted to comply with the Existing Building Code as provided for in Section RBC311 of this Code.

### RBC302.3 CODE ADOPTED BY REFERENCE.

There is hereby adopted by reference the International Building Code of the International Code Council, 4051 West Flossmoor Road, Country Club Hills, IL 60478-5795, 2015 Edition. Three (3) copies of the Code are now filed in the office of the Clerk of the Jurisdiction and may be inspected during regular business hours. The Code is being adopted to include the International Building Code Appendices, save and except the following, which are declared to be non-applicable to the Jurisdiction and are therefore expressly deleted:

1. Chapter 1, Administration
2. Chapter 27, Electrical
3. Chapter 28, Mechanical Systems
4. Chapter 29, Plumbing Systems
5. Chapter 32, Encroachments into the Public Right-of-Way
6. Appendix A, Employee Qualifications
7. Appendix B, Board of Appeals
8. Appendix D, Fire Districts
9. Appendix F, Rodentproofing
10. Appendix J, Grading
11. Appendix K, Administrative Provisions

**RBC302.4 ADDITIONS AND MODIFICATIONS.** The adopted Code is subject to the following additions and modifications:

**RBC302.4.1 Section R202 DEFINITIONS.** Delete the definition of BASEMENT and replace with the following:

**BASEMENT.** That portion of a building that is partly or completely below grade plane, having a

permanent floor of approved material and not defined as a crawlspace. (See the definitions of "Story above grade plane" in the International Building Code, 2015 Edition and "Crawlspace" below.)

Add the following definitions:

**CRAWLSPACE.** An under-floor space not defined as a basement, between the bottom of a floor and the earth under any building that is not more than 5 feet (1524 mm) in height measured from the average interior grade to the underside of the floor framing.

**SLEEPING ROOM.** A habitable space used primarily for sleeping purposes and containing a closet 16 inches (406.4 mm) or greater in depth.

See Appendix D of this code for additional modifications to Section 202 of the International Building Code, 2015 Edition, by the City of Colorado Springs.

**RBC302.4.2 Section 402.6.2 Kiosks.** Delete.

**RBC302.4.3 Section 501.2 Address identification.** Delete and replace with the following:

**501.2 Premises identification.** Street addressing shall be in accordance with Section RBC312 of this Code.

**RBC302.4.4 Section 704.2.1** Insert a new section as follows:

**704.2.1 Light-Frame Construction.** Built up wood studs consisting of not more than four members that are integral elements in *load-bearing walls* of light-frame construction shall be permitted to have required *fire resistance ratings* provided by the membrane protection provided for the *load bearing wall*.

**RBC302.4.5 Section 705.11 Parapets. Exception 5.** In the first sentence delete "or both".

Add the following option after item 5.2:

**5.3.** Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3 of the International Building Code, 2015 Edition, and provided with Class A roof covering.

**RBC302.4.6 Section 706.6 Vertical continuity. Exception 4.3** Add the following to the end of exception 4.3 as follows:

or the building is equipped throughout with an automatic sprinkler system installed in

accordance with Section 903.3.1.1 or 903.3.1.2 of the International Building Code, 2015 Edition.

**RBC302.4.7 Section 708.1 General. Item 5.** Delete "Section 1019.2" and replace with "Section 1021.2".

**RBC302.4.8 Section 901.1 Scope.** Add the following after the first sentence:

The Fire Authority shall have the authority to regulate and enforce the provisions of this Chapter in agreement with the Building Official.

**RBC302.4.9 Section 903.2.7 Group M.** Delete condition 4.

**RBC302.4.10 Section 905 STANDPIPE SYSTEMS.** Delete and replace with the following:

**905.1 General.** Standpipe systems shall be provided in occupancies and locations as required by the Fire Authority.

**RBC302.4.11 Section 906 PORTABLE FIRE EXTINGUISHERS.** Delete and replace with the following:

**906.1 Where required.** Portable fire extinguishers shall be provided in occupancies and locations as required by the Fire Authority.

**RBC302.4.12 Section 907 FIRE ALARM AND DETECTION SYSTEMS.** Delete and replace with the following:

**907.1 General.** Fire alarm and detection systems shall be provided in occupancies and locations as required by the Fire Authority.

**RBC302.4.13 Section 908 EMERGENCY ALARM SYSTEMS.** Delete and replace with the following:

**908.1 General.** Emergency Alarm systems shall be provided in occupancies and locations as required by the Fire Authority.

**RBC302.4.14 Section 909 SMOKE CONTROL SYSTEMS.** Delete and replace with the following:

**909.1 General.** Smoke control systems shall be provided in occupancies and locations as required by this code. The design and approval of these systems shall be as required by the Fire Authority.

**RBC302.4.15 Section 910 SMOKE AND HEAT REMOVAL.** Delete and replace with the following:

**910.1 General.** Smoke and heat removal systems shall be provided in occupancies and locations as required by the Fire Authority.

**RBC302.4.16 Section 911 FIRE COMMAND CENTER.** Delete and replace with the following:

**911.1 General.** Fire command centers shall be provided in occupancies and locations as required by the Fire Authority.

**RBC302.4.17 Section 912 FIRE DEPARTMENT CONNECTIONS.** Delete and replace with the following:

**912.1 General.** Fire department connections shall be provided in occupancies and locations as required by the Fire Authority.

**RBC302.4.18 Section 913 FIRE PUMPS.** Delete and replace with the following:

**913.1 General.** Fire pumps shall be provided in occupancies and locations as required by the Fire Authority.

**RBC302.4.19 Section 914 EMERGENCY RESPONDER SAFETY FEATURES.** Delete and replace with the following:

**914.1 General.** Emergency responder safety features shall be provided in occupancies and locations as required by the Fire Authority.

**RBC302.4.20 Section 916 EMERGENCY RESPONDER RADIO COVERAGE.** Delete and replace with the following:

**916.1 General.** Emergency responder radio coverage shall be provided in occupancies and locations as required by the Fire Authority.

**RBC302.4.21 Section 1009.8 Two-way communication.** Delete and replace with the following:

**1009.8 Two-way communication.** A two-way communication system complying with Sections 1009.8.1, 1009.8.2, or NFPA 72 shall be provided at the landing serving each elevator or bank of elevators on each accessible floor that is one or more stories above or below the *level of exit discharge*.

**RBC302.4.22 Section 1009.8.1 System requirements.** Delete the second sentence.

**RBC302.4.23 Section 1030.4 Operational constraints.** Add the following after the second sentence:

The force required for normal operation of any device shall not exceed 30 pounds.

**RBC302.4.24 Section 1030.6.** Insert a new section as follows:

**1030.6. Emergency escape openings below horizontal projections.** Emergency escape openings may be located below decks, porches, cantilevers, and similar horizontal projections provided one of the following:

1. The location of the projection allows the emergency escape opening to be fully opened and provides a path not less

than 36 inches (914.4 mm) in height and width to a yard or court.

2. The minimum horizontal area of 9 square feet (0.84 m<sup>2</sup>) is provided clear of the projection and the horizontal projection of the operable portion of the egress window and ladder, if required, remain clear of the projection.

**RBC302.4.25 Section 1104.1 Site arrival points.** Delete and replace with the following:

**1104.1 Site arrival points.** Accessible routes within the site shall be provided from a point 5 feet (1,524 mm) from the accessible building entrance to the accessible building entrance served.

**RBC302.4.26 Section 1107.6 Group R-2.** Add the following:

See also Section 9-5-105 C. R. S., as applicable. The most stringent requirement shall apply.

**RBC302.4.27 Section 1207 SOUND TRANSMISSION.** Delete.

**RBC302.4.28 Section 1405.3.1 Vapor retarders.** In the third sentence delete zone "5".

**RBC302.4.29 Section 1501.2** Insert a new section as follows:

**1501.2 Cold Climates.** Where this Chapter refers to "areas where the average daily temperature in January is 25 °F (-4 °C) or less" or "where there has been a history of ice forming along the eaves causing a backup of water", this shall be construed to mean areas with a grade plane elevation of greater than 7,000 feet (2,134 m).

See Appendix D of this code for additional modifications to Section 1505.1 of the International Building Code, 2015 Edition, by the City of Colorado Springs.

**RBC302.4.30 Section 1507.2.7.1.** Insert a new section as follows:

**1507.2.7.1 Face nailing.** Face nailing of asphalt shingles shall only be permitted in the following locations:

1. The ridge cap as per manufacturer's specifications;
2. Flashing at clearstory, low side of skylights, and roof jacks provided the nail heads are covered with mastic.

**RBC302.4.31 Section 1507.8.6.1** Insert a new section as follows:

**1508.6.1 Face nailing.** Face nailing of wood shingles shall only be permitted in the following locations:

1. The ridge cap as per manufacturer's specifications;
2. Flashing at clearstory, low side of skylights, and roof jacks provided a soldier course is provided over the flashing to nail through.

**RBC302.4.32 Section 1511.2.1.** Insert a new section as follows:

**1511.2.1. Roof dead load.** Where the total weight of the new and / or existing roof covering materials exceed 6.6 pounds per square foot (316 N/m<sup>2</sup>) calculations sealed by a design professional licensed by the State of Colorado shall be submitted demonstrating that the structure will accommodate the increased total roof dead load.

**RBC302.4.33 Section 1511.3 Roof Replacement.** Renumber "Exception" to "Exception 1" and add the following:

**Exceptions:**

2. Complete and separate roofing systems, such as standing-seam metal roof systems, that are designed to transmit the roof loads directly to the building's structural system and do not rely on existing roofs and roof coverings for support, shall not require the removal of existing roof coverings.
3. Metal panel, metal shingle and concrete and clay tile roof coverings shall be permitted to be installed over existing wood shake roofs where applied in accordance with Section 1511.4.

**RBC302.4.34 Section 1511.3.1 Roof-recover.** Delete.

**RBC302.4.35 Section 1608 SNOW LOADS** Delete and replace with the following:

**SECTION 1608  
SNOW LOADS**

**1608.1 General.** Design snow loads shall be determined in accordance with this Section and Chapter 7 of ASCE 7.

Buildings, structures and portions thereof shall be designed and constructed to sustain, within the stress limitations of this Code, all dead loads plus the most critical effect resulting from snow load distributions on roofs and decks.

When using Chapter 7 of ASCE 7, as applicable, the **Exposure Factor, C<sub>e</sub>**, **Thermal Factor, C<sub>t</sub>** and **Importance Factor, I** shall all be set to a minimum value of 1.0 unless a higher value is required by ASCE 7.

**1608.2 Balanced Loading.** For all buildings and structures with a grade plane below 7,000

feet (2,134 m) elevation, the flat roof snow load ( $p_f$ ) shall not be less than 30 pounds per square foot (1,436 N/m<sup>2</sup>) of horizontal projected area. For all buildings and structures with a grade plane at or above 7,000 feet (2,134 m) the flat roof snow load ( $p_f$ ) shall not be less than 40 pounds per square foot (1,915 N/m<sup>2</sup>) of horizontal projected area. The flat roof snow load may be reduced for roof slope using Section 7.4 of ASCE 7.

**1608.3 Unbalanced Loading and Drifts.**

Provisions shall be made for unbalanced snow loads in accordance with Section 7.6 of ASCE 7 and drifts on lower roofs in accordance with Section 7.7 of ASCE 7. The ground snow load ( $p_g$ ) below 7,000 feet (2,134 m) elevation shall be set at 20 pounds per square foot (958 N/m<sup>2</sup>). At or above 7,000 feet (2,134 m) the ground snow load ( $p_g$ ) shall be set at 27 pounds per square foot (1,293 N/m<sup>2</sup>).

**RBC302.4.36 Section 1609.1.1 Determination of wind loads.** Add the following exception:

- 7. Solid freestanding walls and solid signs a maximum of 10 feet (304.8 cm) above the highest adjacent grade and designed using the provisions of ASCE 7 section 6.5.14 need only consider CASE A of Figure 6-20 with a  $C_r$  factor equal to 1.40 and the resultant load applied at the mid-height of the wall.

**RBC302.4.37 Section 1609.3 Ultimate design wind speed.** Delete and replace with the following:

**1609.3 Ultimate design wind speed.** The ultimate design wind speed,  $V_{ult}$ , in mph shall be as follows:

Risk Category per Table 1604.5	Ultimate Design Wind Speed, $V_{ult}$ , mph <sup>1</sup>
Category I / II	130 mph
Category III / IV	150 mph

<sup>1</sup> Refer to Section 1609.3.1 for wind speed conversions to nominal design wind speeds,  $V_{asd}$ , as required.

**RBC302.4.38 Section 1609.4.3 Exposure categories.** Delete Exposure B.

**RBC302.4.39 Section 1610.1 General.** Delete and replace with the following:

**1610.1 General.** Basement, foundation, and retaining walls shall be designed to resist lateral soil loads. The soil lateral load shall be provided in the soil investigation report and the design

loads shall be listed on the foundation plan. If the soils report does not provide lateral earth loads the assumed lateral loads used for design must be shown on the foundation plan.

If the floor diaphragm is used to resist lateral loads, the foundation design must include: blocking and bracing details, anchor bolt size and spacing, and lateral force at the diaphragm. If a wall is designed to cantilever or span horizontally, the design must so indicate.

**RBC302.4.40 Section 1612.3 Establishment of flood hazard areas.** Delete and replace with the following:

**1612.3 Establishment of flood hazard areas.** Buildings and structures constructed in whole or in part in flood hazard area (as defined by Section RBC313.6) shall comply with Section RBC313 of this Code.

**RBC302.4.41 Section 1613.3.1 Mapped acceleration parameters.** Delete and replace with the following:

**1613.3.1 Seismic acceleration parameters.** The maximum considered earthquake spectral response acceleration shall be 18.5 at 0.2 second period ( $S_s$ ) and 5.9 at 1.0 second period ( $S_1$ ). These numbers are expressed as a percent of gravity.

**RBC302.4.42 Section 1704 SPECIAL INSPECTIONS.** Delete and replace with the following:

**1704.1 Special inspections.** Special inspections shall be in accordance with Section RBC109.7 of this Code.

**RBC302.4.43 Section 1803.2 Investigations required.** Delete the exception.

**RBC302.4.44 Section 1804.3 Placement of backfill.** Add the following to the end of the first paragraph:

Expansive soils shall not be used as backfill materials except at the upper 12 inches (304.8 mm) of backfill.

**RBC302.4.45 Section 1805.1 General.** Delete the first sentence and replace with the following:

Unless otherwise specified in the soils report, walls or portions thereof that retain earth and enclose interior spaces and floors below grade shall be waterproofed and damp proofed in accordance with this section.

**RBC302.4.46 Section 1807.2.4.** Insert a new section as follows:

**1807.2.4. Subsurface drainage.** All retaining walls shall be provided with 1½ inch (38.1 mm) weep holes spaced not more than 10 feet (3,048 mm) apart unless alternate means of subsurface drainage is provided.

**RBC302.4.47 Section 1809.5 Frost protection.** Delete method number 1 and replace with the following:

1. Extending 30 inches (762 mm) or greater below the undisturbed ground surface.

Delete the last paragraph and replace with the following:

Structures meeting one of the above exceptions shall not require a soils test or engineered foundation design provided the foundation consists of a thickened edge monolithic slab extending a minimum of 12 inches (304.8 mm) below grade not retaining any soil.

**RBC302.4.48 Section 2113.9.2 Spark arrestors.** Delete the first sentence and replace with the following:

Spark arrestors shall be installed on all masonry chimneys and meet all of the following requirements:

**RBC302.4.49 Section 2303.4.1.4.1 Truss design drawings.** Delete and replace with the following:

**2303.4.1.4.1 Truss design drawings.** Truss construction documents shall bear the seal of a registered design professional.

**RBC302.4.50 Section 2304.12.1.2. Wood supported by exterior foundation walls.** Delete and replace with the following:

**2304.12.1.2 Wood supported by exterior foundation walls.** Wood framing members, including wood sheathing, that are in contact with exterior foundations and are less than 6 inches (152.4 mm) from exposed ground or less than 2 inches (51 mm) from a concrete slab or similar surface shall be of naturally durable or preservative-treated wood.

**RBC302.4.51 Section 2308.3.1 Foundation plates or sills.** After the first paragraph insert the following:

Wood sole and sill plates supporting floors shall be installed in accordance with this section and shall not be stacked more than two plates high for nominal 2 x 4 plates nor more than three plates high for nominal 2 x 6 or larger plates including the sole plate unless a specific design is provided by a design professional licensed by the State of Colorado.

**RBC302.4.52 Section 2308.5.6 Cripple walls.** Add the following at the end of the paragraph:

Where the top of a foundation wall is stepped and the stepped portion of the wall is in excess of 4 feet (1,219.2 mm) in height and 6 feet in length (1,828.8 mm), a design professional licensed by the State of Colorado shall provide a foundation design which resists lateral forces without dependence on the floor framing. Other engineering methods that provide for the structural stability of the foundation system may be approved.

**RBC302.4.53 Section 2308.5.9 Cutting and notching.** Add the following at the end of the paragraph:

Studs having holes or notches larger than required to accommodate the piping shall be replaced or satisfactorily repaired. Where holes larger than indicated above are required to accommodate the piping in nonbearing studs, the studs may be reinforced by the addition of 0.1046 inch thick (2.657 mm) (12 ga.) x 1½ inch wide (38.1 mm) steel straps fastened to each side of the stud with four (4) 16d nails. Where holes or notches larger than allowed above are required to accommodate the piping in bearing studs, engineering calculations shall be submitted to show that the stresses allowed by this section are not exceeded under the design loads.

**RBC302.4.54 Section 2308.7.5 Wind uplift.** Add the following at the end of the paragraph:

Truss uplift values shall be in accordance with the engineered truss report or as determined by the engineer of record.

**RBC302.4.55 Section 3004.1 General.** Delete the following:

“conveyors, personnel hoists and material hoists”

**RBC302.4.56 Section 3004.3 Conveyors.** Delete.

**RBC302.4.57 Section 3004.4 Personal and material hoists.** Delete.

**RBC302.4.58 Section 3105.3 Design and construction.** Add the following exception:

**Exception:** Retractable, folding and collapsible awnings or fixed awnings not more than 10 feet (3,048 mm) in length nor more than 6 feet (1,828.8 mm) in width, with non-combustible frames adequately anchored to a substantial concrete slab, need not comply with live load nor wind load requirements.

**RBC302.4.59 Section 3109 SWIMMING POOL ENCLOSURES AND SAFETY DEVICES.**

Delete and replace with the following:

**3109.1 Swimming pools.** Swimming pools (as defined by Section RBC314.2) shall comply with Section RBC314 of this Code.

**RBC302.4.60 Section 3303.8.** Insert a new section as follows:

**3303.8 Demolition by incendiary means.** Demolition by means of explosives or by burning is not permitted except when specifically approved by the Building Official and the Fire Authority as applicable.

**RBC302.4.61 Section 3306.2 Walkways.** Add the following exception:

**Exception:** Where the demolition and or

construction time is so short that walkways and fences are not justified, the applicant may, upon prior approval from the Building Official, provide twenty-four (24) hour continuous guard service adequate for the protection of the public.

**RBC302.4.62 Section E108 BUS STOPS.** Delete.

**RBC302.4.63 Section I101.1 General.** At the end of the first paragraph add the following:

Enclosed patios shall not be conditioned by any heating or cooling means.

**RBC302.4.64 Section I105.2 Footings.** Delete the following:

"In areas with a frost depth of zero"

