

(Effective until March 15, 2024)

WAC 51-51-0408 Section R408—Under-floor space.

R408.1 Ventilation. The under-floor space between the bottom of the floor joists and the earth under any building (except space occupied by a basement) shall have ventilation openings through foundation walls or exterior walls. A ground cover of six mil (0.006 inch thick) black polyethylene or approved equal shall be laid over the ground within crawl spaces. The ground cover shall be overlapped six inches minimum at the joints and shall extend to the foundation wall.

EXCEPTION: The ground cover may be omitted in crawl spaces if the crawl space has a concrete slab floor with a minimum thickness of two inches.

R408.2 Openings for under-floor ventilation. The minimum net area of ventilation openings shall not be less than 1 square foot (0.0929 m²) for each 300 square feet (28 m²) of under-floor area. Required openings shall be evenly placed to provide cross ventilation of the space except one side of the building shall be permitted to have no ventilation openings. Ventilation openings shall be covered for their height and width with any of the following materials provided that the least dimension of the covering shall not exceed 1/4 inch (6.4 mm):

1. Perforated sheet metal plates not less than 0.070 inch (1.8 mm) thick.
2. Expanded sheet metal plates not less than 0.047 inch (1.2 mm) thick.
3. Cast-iron grill or grating.
4. Extruded load-bearing brick vents.
5. Hardware cloth of 0.035 inch (0.89 mm) wire or heavier.
6. Corrosion-resistant wire mesh, with the least dimension being 1/8 inch (3.2 mm).

EXCEPTION: The total area of ventilation openings shall be permitted to be reduced to 1/1,500 of the under-floor area where the ground surface is covered with an approved Class I vapor retarder material and the required openings are placed to provide cross ventilation of the space. The installation of operable louvers shall not be prohibited. If the installed ventilation is less than 1/300, or if operable louvers are installed, a radon vent shall be installed to originate from a point between the ground cover and soil. The radon vent shall be installed in accordance with the requirements of Appendix F (Radon) of this code.

R408.3 Unvented crawl space. Ventilation openings in under-floor spaces specified in Sections R408.1 and R408.2 shall not be required where:

1. Exposed earth is covered with a continuous Class I vapor retarder. Joints of the vapor retarder shall overlap by 6 inches (152 mm) and shall be sealed or taped. The edges of the vapor retarder shall extend at least 6 inches (152 mm) up the stem wall and shall be attached and sealed to the stem wall; and a radon system shall be installed that meets the requirements of Appendix F (Radon) of this code.
2. Continuously operated mechanical exhaust ventilation is provided at a rate equal to 1 cubic foot per minute (0.47 L/s) for each 50 square feet (4.7 m²) of crawlspace floor area. Exhaust ventilation shall terminate to the exterior.

EXCEPTION: Plenum in existing structures complying with Section M1601.5, if under-floor space is used as a plenum.

[Statutory Authority: RCW 19.27.074, 19.27.020, and 19.27.031. WSR 14-24-055, § 51-51-0408, filed 11/25/14, effective 5/1/15. Statutory Authority: RCW 19.27.031 and chapters 19.27 and 34.05 RCW. WSR 13-04-068, § 51-51-0408, filed 2/1/13, effective 7/1/13. Statutory Authority: Chapter 19.27 RCW. WSR 10-18-036, § 51-51-0408, filed 8/25/10, effective 9/25/10. Statutory Authority: RCW 19.27.031 and

19.27.074. WSR 10-03-098, § 51-51-0408, filed 1/20/10, effective 7/1/10. Statutory Authority: RCW 19.27.074, 19.27.020, and chapters 19.27 and 34.05 RCW. WSR 07-01-090, § 51-51-0408, filed 12/19/06, effective 7/1/07.]

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1. Perforated sheet metal plates not less than 0.070 inch (1.8 mm) thick.
2. Expanded sheet metal plates not less than 0.047 inch (1.2 mm) thick.
3. Cast-iron grill or grating.
4. Extruded load-bearing brick vents.
5. Hardware cloth of 0.035 inch (0.89 mm) wire or heavier.
6. Corrosion-resistant wire mesh, with the least dimension being 1/8 inch (3.2 mm).

EXCEPTION: The total area of ventilation openings shall be permitted to be reduced to 1/1,500 of the under-floor area where the ground surface is covered with an approved Class I vapor retarder material and the required openings are placed to provide cross ventilation of the space. The installation of operable louvers shall not be prohibited. If the installed ventilation is less than 1/300, or if operable louvers are installed, a radon vent shall be installed to originate from a point between the ground cover and soil. The radon vent shall be installed in accordance with the requirements of Appendix F (Radon) of this code.

R408.3 Unvented crawl space. Ventilation openings in under-floor spaces specified in Section R408.2 shall not be required where:

1. Exposed earth is covered with a continuous Class I vapor retarder. Joints of the vapor retarder shall overlap by 6 inches (152 mm) and shall be sealed or taped. The edges of the vapor retarder shall extend at least 6 inches (152 mm) up the stem wall and shall be attached and sealed to the stem wall; and a radon system shall be installed that meets the requirements of Appendix F (Radon) of this code.
2. Continuously operated mechanical exhaust ventilation is provided at a rate equal to 1 cubic foot per minute (0.47 L/s) for each 50 square feet (4.7 m²) of crawlspace floor area. Exhaust ventilation shall terminate to the exterior.

EXCEPTION: Plenum in existing structures complying with Section M1601.5, if under-floor space is used as a plenum.

R408.8 Under-floor vapor retarder. This section is not adopted.

[Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 23-02-058, 23-12-104, and 23-20-024, § 51-51-0408, filed 1/3/23, 6/7/23, and 9/25/23, effective 3/15/24. Statutory Authority: RCW 19.27.074, 19.27.020, and 19.27.031. WSR 14-24-055, § 51-51-0408, filed 11/25/14, effective 5/1/15. Statutory Authority: RCW 19.27.031 and chapters 19.27 and 34.05 RCW. WSR 13-04-068, § 51-51-0408, filed 2/1/13, effective 7/1/13. Statutory Authority: Chapter 19.27 RCW. WSR 10-18-036, § 51-51-0408, filed 8/25/10, effective 9/25/10. Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 10-03-098, § 51-51-0408, filed 1/20/10, effective 7/1/10. Statutory Authority: RCW 19.27.074, 19.27.020, and chapters 19.27 and 34.05 RCW. WSR 07-01-090, § 51-51-0408, filed 12/19/06, effective 7/1/07.]

(Effective March 16, 2024)

WAC 51-51-0408 Section R408—Under-floor space.

R408.1 Ventilation. The under-floor space between the bottom of the floor joists and the earth under any building (except space occupied by a basement) shall have ventilation openings through foundation walls or exterior walls. A ground cover of six mil (0.006 inch thick) black polyethylene or approved equal shall be laid over the ground within crawl spaces. The ground cover shall be overlapped 6 inches (152 mm) minimum at the joints and shall extend to the foundation wall.

EXCEPTION: The ground cover may be omitted in crawl spaces if the crawl space has a concrete slab floor with a minimum thickness of 2 inches (51 mm).

R408.2 Openings for under-floor ventilation. The minimum net area of ventilation openings shall not be less than 1 square foot (0.0929 m²) for each 300 square feet (28 m²) of under-floor area. Required openings shall be evenly placed to provide cross ventilation of the space except one side of the building shall be permitted to have no ventilation openings. Ventilation openings shall be covered for their height and width with any of the following materials provided that the least dimension of the covering shall not exceed 1/4 inch (6.4 mm), and operational louvers are permitted:

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EXCEPTION: The total area of ventilation openings shall be permitted to be reduced to 1/1,500 of the under-floor area where the ground surface is covered with an approved Class I vapor retarder material and the required openings are placed to provide cross ventilation of the space. The installation of operable louvers shall not be prohibited. If the installed ventilation is less than 1/300, or if operable louvers are installed, a radon vent shall be installed to originate from a point between the ground cover and soil. The radon vent shall be installed in accordance with the requirements of Appendix AF (Radon) of this code.

R408.3 Unvented crawl space. Ventilation openings in under-floor spaces specified in Section R408.2 shall not be required where:

1. Exposed earth is covered with a continuous Class I vapor retarder. Joints of the vapor retarder shall overlap by 6 inches (152 mm) and shall be sealed or taped. The edges of the vapor retarder

shall extend at least 6 inches (152 mm) up the stem wall and shall be attached and sealed to the stem wall; and a radon system shall be installed that meets the requirements of Appendix AF (Radon) of this code.

2. Continuously operated mechanical exhaust ventilation is provided at a rate equal to 1 cubic foot per minute (0.47 L/s) for each 50 square feet (4.7 m²) of crawlspace floor area. Exhaust ventilation shall terminate to the exterior.

EXCEPTION: Plenum in existing structures complying with Section M1601.5, if under-floor space is used as a plenum.

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[Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 23-23-104, § 51-51-0408, filed 11/15/23, effective 3/16/24; WSR 23-02-058, 23-12-104, and 23-20-024, § 51-51-0408, filed 1/3/23, 6/7/23, and 9/25/23, effective 3/15/24. Statutory Authority: RCW 19.27.074, 19.27.020, and 19.27.031. WSR 14-24-055, § 51-51-0408, filed 11/25/14, effective 5/1/15. Statutory Authority: RCW 19.27.031 and chapters 19.27 and 34.05 RCW. WSR 13-04-068, § 51-51-0408, filed 2/1/13, effective 7/1/13. Statutory Authority: Chapter 19.27 RCW. WSR 10-18-036, § 51-51-0408, filed 8/25/10, effective 9/25/10. Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 10-03-098, § 51-51-0408, filed 1/20/10, effective 7/1/10. Statutory Authority: RCW 19.27.074, 19.27.020, and chapters 19.27 and 34.05 RCW. WSR 07-01-090, § 51-51-0408, filed 12/19/06, effective 7/1/07.]