

Table 6-5.1.2 Reduction of Connector Clearance with Specified Forms of Protection

| Clearance Reduction Applied to and Covering All Combustible Surfaces within the Distance Specified as Required Clearance with No Protection (See 6-5.1 and Table 6-5.1.1.) | Maximum Allowable Reduction in Clearance (%) | | Where the required clearance with no protection is 18 in. (457 mm), the following clearances are the minimum allowable clearances. For other required clearances, calculate minimum allowable clearance from maximum allowable reduction. (See Note 8.) | | | |
|--|--|--------------------------|---|-----|----------------------|-----|
| | As Wall Protector (%) | As Ceiling Protector (%) | As Wall Protector | | As Ceiling Protector | |
| | | | in. | mm | in. | mm |
| 3 ¹ / ₂ -in. (90-mm) thick masonry wall without ventilated air space | 33 | — | 12 | 305 | — | — |
| 1 ¹ / ₂ -in. (13-mm) thick noncombustible insulation board over 1-in. (25.4-mm) glass fiber or mineral wool batts without ventilated air space | 50 | 33 | 9 | 229 | 12 | 305 |
| 0.024-in. (0.61-mm), 24-gauge sheet metal over 1-in. (25.4-mm) glass fiber or mineral wool batts reinforced with wire, or equivalent, on rear face with ventilated air space | 66 | 50 | 6 | 152 | 9 | 229 |
| 3 ¹ / ₂ -in. (90-mm) thick masonry wall with ventilated air space | 66 | — | 6 | 152 | — | — |
| 0.024-in. (0.61-mm), 24-gauge sheet metal with ventilated air space | 66 | 50 | 6 | 152 | 9 | 229 |
| 1 ¹ / ₂ -in. (13-mm) thick noncombustible insulation board with ventilated air space | 66 | 50 | 6 | 152 | 9 | 229 |
| 0.024-in. (0.61-mm), 24-gauge sheet metal with ventilated air space over 0.024-in. (0.61-mm), 24-gauge sheet metal with ventilated air space | 66 | 50 | 6 | 152 | 9 | 229 |
| 1-in. (25.4-mm) glass fiber or mineral wool batts sandwiched between two sheets 0.024-in. (0.61-mm), 24-gauge sheet metal with ventilated air space | 66 | 50 | 6 | 152 | 9 | 229 |

1. Spacers and ties shall be of noncombustible material. No spacers or ties shall be used directly behind appliance or connector.

2. With all clearance reduction systems using a ventilated air space, adequate air circulation shall be provided as described in 6-5.5. There shall be at least 1 in. (25.4 mm) between the clearance reduction system and combustible walls and ceilings for clearance reduction systems using a ventilated air space.

3. Mineral wool batts (blanket or board) shall have a minimum density of 8 lb/ft³ (128.7 kg/m³) and have a minimum melting point of 1500°F (816°C).

4. Insulation material used as part of clearance reduction system shall have a thermal conductivity of 1.0 (Btu-in.)/(ft²-hr-°F) or less. Insulation board shall be formed of noncombustible material.

5. If a single-wall connector passes through a masonry wall used as a wall shield, there shall be at least 1¹/₂ in. (13 mm) of open, ventilated air space between the connector and the masonry.

6. There shall be at least 1 in. (25.4 mm) between the connector and the protector. In no case shall the clearance between the connector and the wall surface be reduced below that allowed in the table.

7. All clearances and thicknesses are minimum; larger clearances and thicknesses shall be permitted.

8. To calculate the minimum allowable clearance, the following formula can be used: $C_{pr} = C_{un} \times (1 - R/100)$, where C_{pr} is the minimum allowable clearance, C_{un} is the required clearance with no protection, and R is the maximum allowable reduction in clearance.