

**FIRE PROTECTION FOR WASHROOM AND KITCHEN EXHAUST
DUCTWORK IN COMBUSTIBLE RESIDENTIAL OCCUPANCIES**

DISCUSSION

Sentences 3.1.8.7.(1) and 9.10.13.13.(1) of the Alberta Building Code 2006 require the provision of fire dampers at all ductwork penetration locations through an assembly required to be a fire separation. For small-size exhaust ductwork (75 to 100 mm) serving individual suites of a typical walk-up apartment of combustible construction, the installation of fire dampers at such locations can be difficult.

Over the last decade, several municipalities have accepted the use of an alternative measure developed using the concept of Subsection 3.6.3. to provide “mini-shafts” around ductwork so that fire dampers are not required when ducts penetrate rated floor assemblies. Past experience has demonstrated that this alternative measure performs well in providing adequate protection for the floor penetrations and is better than having improperly installed fire dampers due to the awkward location and small duct sizes.

CODE REFERENCES

1. Sentence 3.1.8.7.(1) of the Alberta Building Code 2006 states:

3.1.8.7. Fire Dampers

1) Except as permitted by Article 3.1.8.8., a duct that penetrates an assembly required to be a *fire separation* shall be equipped with a *fire damper*.

2. Sentence 9.10.13.13.(1) of the Alberta Building Code 2006 states:

9.10.13.13. Fire Dampers

1) Except as permitted by Sentences (2) to (5) and Sentence 9.10.5.1.(4), a duct that penetrates an assembly required to be a *fire separation* with a *fire-resistance rating* shall be equipped with a *fire damper* in conformance with Articles 3.1.8.4. and 3.1.8.9.

Unless stated otherwise, all Code references in this STANDATA are to Division B of the Alberta Building Code 2006.

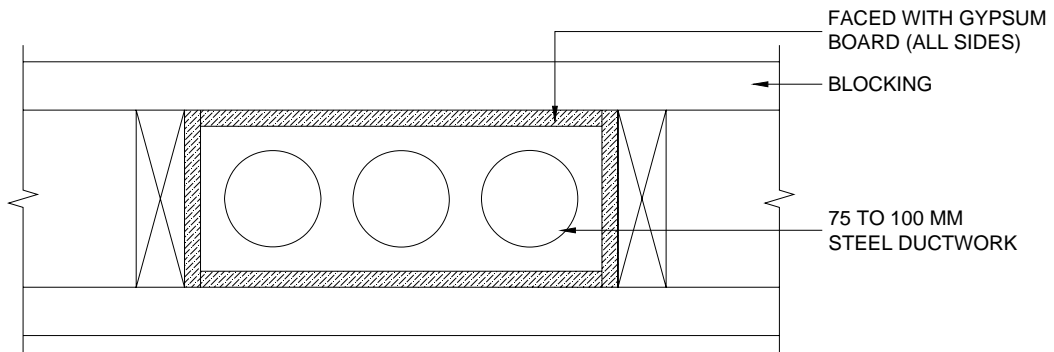
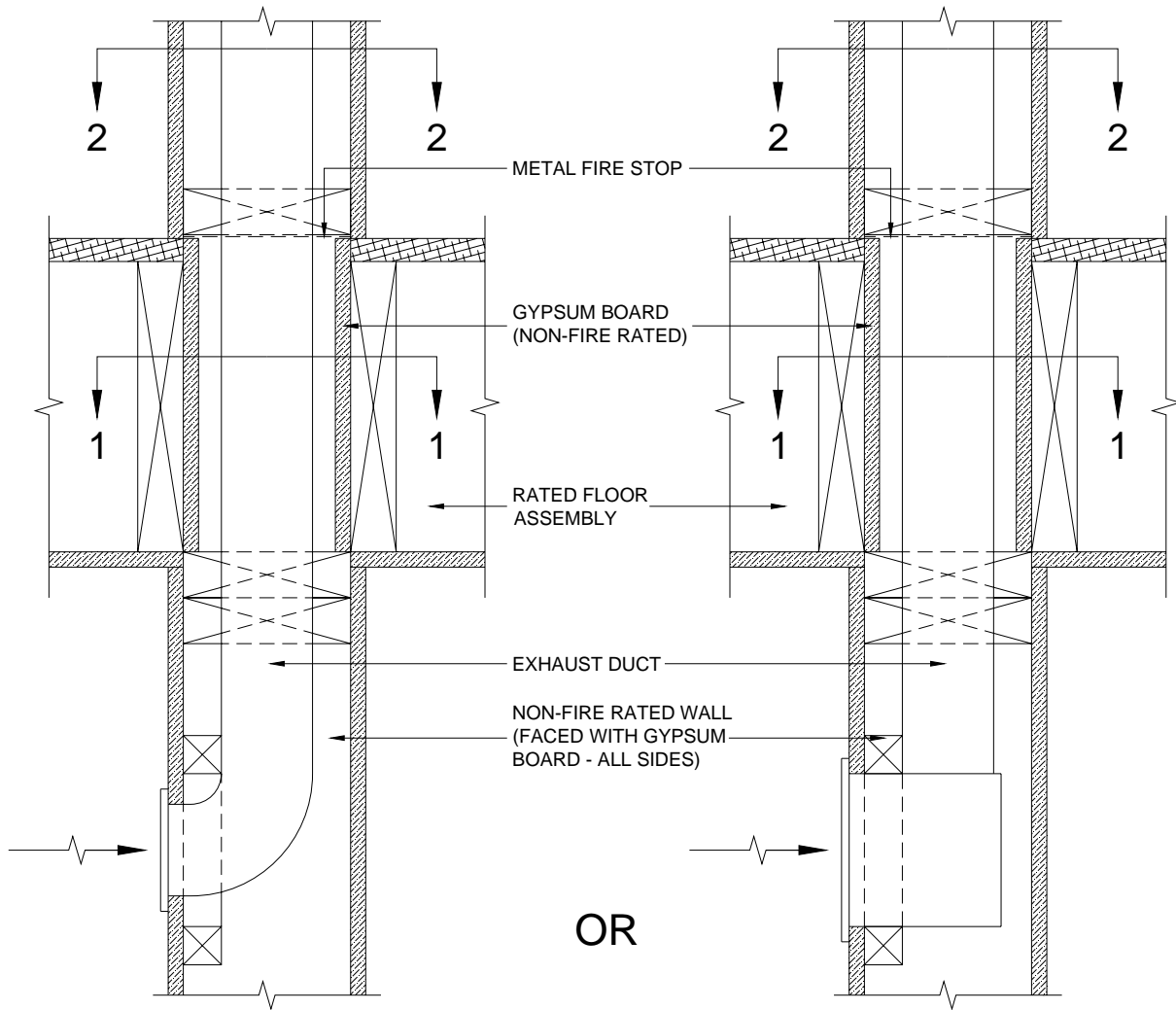
VARIANCE

Fire dampers need not be provided at floor penetration locations for washroom and kitchen exhaust ducts in buildings of residential occupancy that are permitted to be of combustible construction provided:

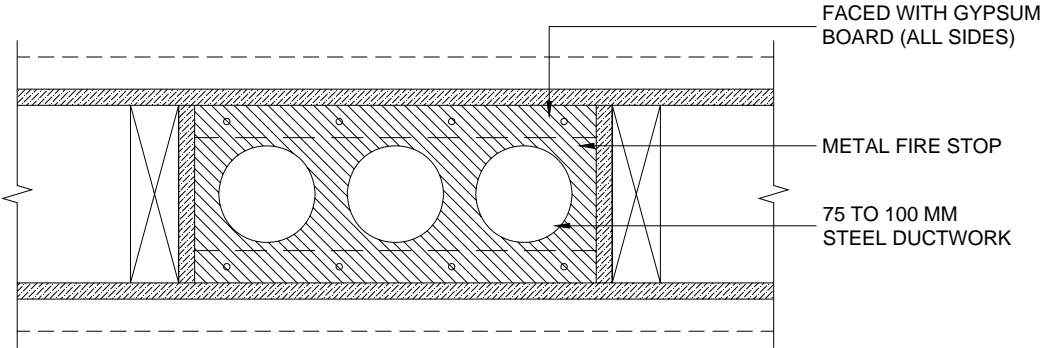
1. All ductwork is constructed of steel with a thickness not less than 0.33 mm,
2. All ductwork is not more than 100 mm in diameter,
3. All ductwork within the attic space is insulated to prevent condensation,
4. All ductwork is contained within stud spaces that are lined with drywall on all sides (see attached diagram in Appendix A),
5. All ductwork is located in walls that are not required to have a fire-resistance rating,
6. The opening for the fan housing is located in a wall that is not required to have a fire-resistance rating, and
7. Fire stops are provided for the duct at each floor level and where the duct enters the attic space.

This VARIANCE is applicable throughout the province of Alberta.

APPENDIX A



SECTION 1-1



SECTION 2-2