



Compliance of FDD flexible diffuser to National Building Code (NBC)

On July 13, 2017 a meeting was held at the office of the Quebec Building Authority (RBQ) to discuss the FDD Flexible Diffuser. Present were Ms. Claire Bélanger, architect, DRST-RBQ, and Mr. Jacques Gauthier engineer fire safety, norms and code.

Main conclusions:

- The FDD must be classified as an air diffuser and not a ventilation duct, because the FDD only serves one room at a time.
- The FDD is not subject to the CAN/ULC - S110 norm: STANDARDIZED TESTING NORMS OF AIR DUCTS;
 - It is impossible for an air diffuser to submit to the tests of this norm, for example;
 - Seal test
 - Pressure test

In 99% of cases, The FDD only serves one room and is not directly mounted on the ceiling (supply opening).

It is not bound by any norm (including fire norms).

The metallic duct since it is not combustible, is not subject to any tests.

In 1% of cases, the FDD is directly attached to the ceiling.

It must have a fire spread index (FSI) of less that 150 (buildings protected by sprinklers) or less than 75 (buildings not protected by sprinklers). **The FDD has a fire spread index of 18.**

Excerpt National building code

3.6.5.7. Supply, Return, Intake and Exhaust-Air Openings

1) Combustible grilles, diffusers and other devices for supply, return, and exhaust-air openings in rooms shall conform to the flame-spread rating and smoke developed classification requirements for the interior finish of the surface on which they are installed.

Table 3.1.13.2.
Flame-Spread Ratings
Forming Part of Sentence 3.1.13.2.(1)

Occupancy, Location or Element	Maximum Flame-Spread Rating for Walls and Ceilings	
	Sprinklered	Not Sprinklered
Group A, Division 1 occupancies, including doors, skylights, glazing and light diffusers and lenses	150	75
Group B occupancies	150	75
Exits ⁽¹⁾	25	25
Lobbies described in Sentence 3.4.4.2.(2)	25	25
Covered vehicular passageways, except for roof assemblies of heavy timber construction in the passageways	25	25
Vertical service spaces	25	25

4) Up to 10% of the total wall area and 10% of the total ceiling area of a wall or ceiling finish that is required by Sentence (1) to have a flame-spread rating less than 150 is permitted to have a flame-spread rating not more than 150, except that up to 25% of the total wall area of lobbies described in Sentence 3.4.4.2.(2) is permitted to have a flame-spread rating not more than 150.

The surface of the FDD represents in all cases less than 10% of the total ceiling surface.

No limitations of the FSI (Flame spread index) (table 3.1.13.2)

FDD flexible air diffuser

DUCT

A duct which serves more than one room.
CAN-S110
STANDARDIZED TESTING
NORMS OF AIR DUCTS

- Seal test
- Pressure test

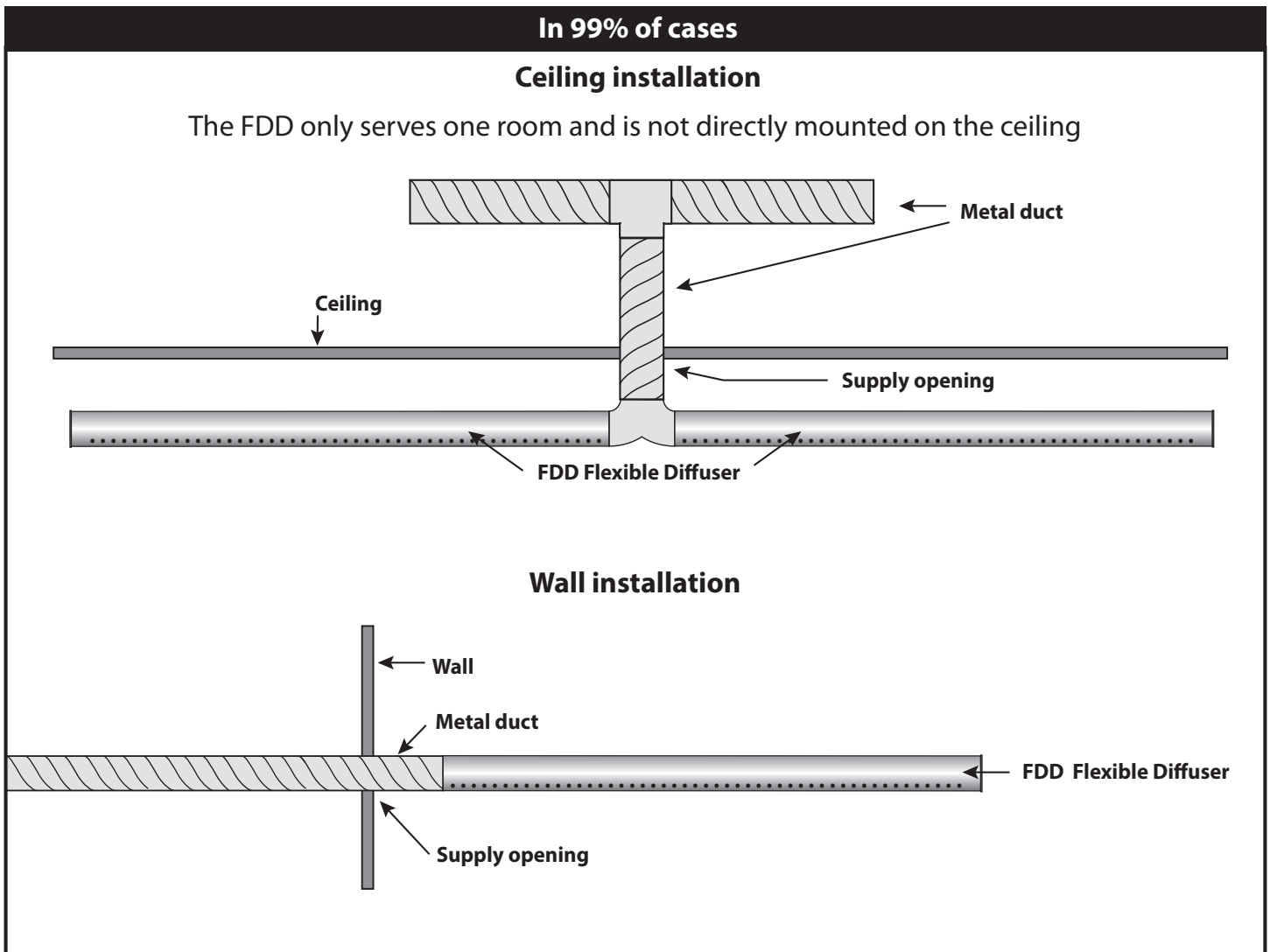
NOT APPLICABLE TO THE FDD FLEXIBLE AIR DIFFUSER

DIFFUSER

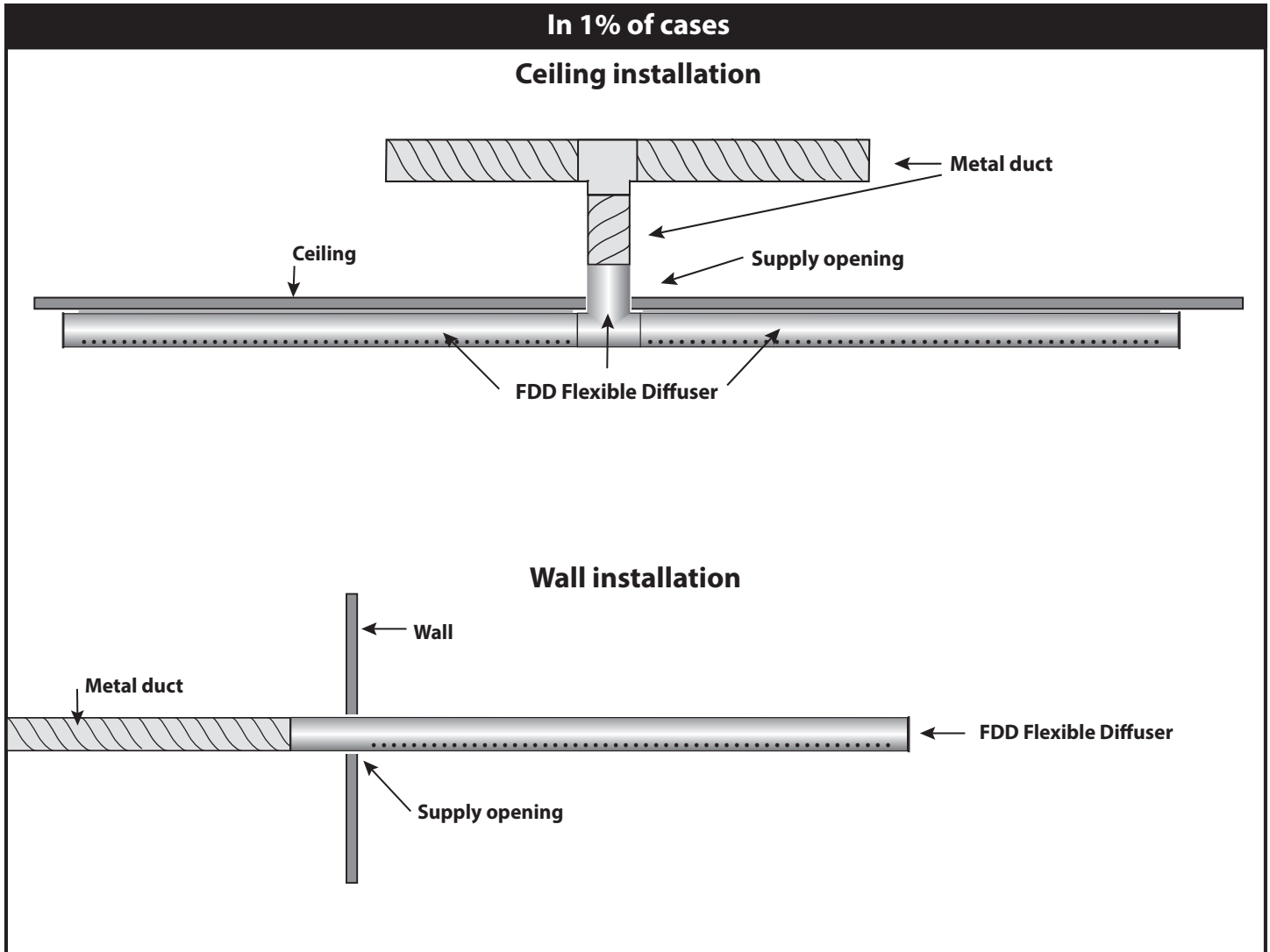
The flexible FDD diffuser is the final element of the HVAC system.

It is therefore considered a diffuser.

THE FDD IS NOT A DUCT



The FDD flexible diffuser is not subject to any LSI and SDI rating.



**100% of projects realized by NAD Klima
meet the National Building Code.**

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