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CSA F300:22
National Standard of Canada

Residential depressurization

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Preface

This is the second edition of CSA F300, *Residential depressurization*. It supersedes the previous edition published in 2013.

This Standard provides homeowners, contractors, equipment manufacturers, and others involved in Canadian houses with information to help identify when residential depressurization could cause a health risk, and provides solutions to prevent or mitigate the build-up of combustion products in the house. It is intended for those who sell and install fuel-burning appliances and ventilation equipment, as well as designers, home builders, renovators, tradespeople, building officials, utilities, and homeowners.

Major changes to this edition include:

a) standard being revised to apply to new houses and existing houses;
b) removal of the −5 Pa limit for solid fuel-burning appliances and the inclusion of CO alarm requirements for all solid fuel-burning appliances;
c) inclusion of requirements related to the Depressurization Test Condition (DTC) test for all houses with non-solid, fuel-burning, spillage-susceptible appliances;
d) inclusion of a −10 Pa limit for houses without non-solid, fuel-fired, spillage-susceptible equipment at the continuous ventilation condition;
e) inclusion of a −25 Pa limit for houses without non-spillage-susceptible equipment and/or wood-burning equipment at the DTC; and
f) inclusion of requirements involving kitchen exhaust fans (if present) when conducting the depressurization test (i.e., all fans must be operated instead of only kitchen exhaust fans with capacities greater than 75 L/s).

CSA Group acknowledges that the development of this Standard was made possible, in part, with the use of specific forms included from the Heating, Refrigeration and Air Conditioning Institute of Canada.

This Standard is considered suitable for use for conformity assessment within the stated scope of this Standard.

This Standard was prepared by the Technical Committee on Residential Depressurization, under the jurisdiction of the Strategic Steering Committee on Fuels and Appliances, and has been formally approved by the Technical Committee.

This Standard has been developed in compliance with Standards Council of Canada requirements for National Standards of Canada. It has been published as a National Standard of Canada by CSA Group.

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CSA F300:22
Residential depressurization

0 Introduction

This is the first national Standard to address issues and concerns that arise from the depressurization of new and existing houses. Depressurization occurs when the air pressure inside a house is lower than it is outside.

The exterior envelope of many houses is becoming much tighter due to the desire for increased energy efficiency and comfort. Under certain circumstances, there is a possibility that combustion products from fuel-burning equipment will spill into the house, rather than being correctly exhausted to the outdoors. A build-up of combustion products in the house poses a health risk to the occupants. Other circumstances that pose risks include the passage of soil gases (e.g., radon) and the passage of vehicle-based or other pollutants from an attached garage; however, this Standard does not provide depressurization limits nor recommend mitigation strategies for these occurrences.

When existing houses undergo any renovations, the ventilation rate of that house could be reduced and might no longer be adequate. This Standard describes a method to identify when residential depressurization can cause a health risk, and provides solutions to prevent or mitigate the build-up of combustion products in the house.

The method and solutions assume that the fuel-burning appliances in the house have been maintained and operated as per the manufacturer's certified instructions.

1 Scope

1.1

This Standard describes the methods for determining the level of depressurization and solutions to mitigate risk arising from depressurization.

1.2

This Standard applies to detached, semi-detached, and row houses equipped with an exhaust device(s). It also applies to houses with secondary suites equipped with a separate exhaust device(s).

1.3

This Standard does not address indoor air quality issues such as

a) the presence of volatile organic compound (VOC) emissions from building materials or contents;
b) the presence of mould in houses; or
c) the presence of pollutants from other sources, such as stored chemical products.

1.4

This Standard does not address the impact of residential depressurization on radon infiltration and mitigation.

Note: *Measured depressurization and the depressurization test methods contained within this Standard may be used for informational purposes to address such situations. Factors including but not limited to the existence and*

