

Legal Requirements for Flue Termination Positions

The requirements of allowable flue discharge positions in accordance with BS6644, IGE/UP/10 Part1. Edition 2 and The Clean Air Act of Parliament are as follows:

BS 6644 1991 - Installation of gas fired hot water boilers of rated inputs between 60kw and 2mw (2nd and 3rd family gases).

Chapter 20.5.1

Any flue termination, except a fan diluted flue discharge grille, shall be situated at least 1m above the roof surface. Where the point of discharge is within 2.5m of a nearby structure, the discharge shall be taken above the level of that structure. Where the boiler plant input is greater than 150kw, the position of the chimney discharge shall comply additionally with the provisions of the Clear Air Act 1956 (please refer to our design calculation sheet enclosed).

Chapter 20.5.2 –

The termination of a fan draught flue system is not critical with respect to the performance of the system. However, positions where the discharge of combustion products could cause a nuisance should be avoided, and in assessable positions a suitable guard should be fitted.

IGE/UP/10 Part 1. Edition 2

3.6 Clean Air Act

The act applies to gas fired appliance installations exceeding 366.4 kW total gross heat input. It specifies requirements for chimney heights for open flued, mechanical flued and room sealed appliance installations. In addition, there are design requirements for fan diluted flue systems. It is a requirement that all systems exceeding 366.4 kW total gross input are submitted for approval by the local authority. The essential requirements are that flue discharges must not cause a nuisance to others or be a hazard to health.

Note: The essential requirements may also fall into the scope of the Health and Safety at Work Act, regardless of the heat input, thus, all installations within the scope of this publication.

8.7.1.4 Flue System Termination

Terminal positions for fanned or natural draught flues shall be clear of obstructions and clear of any opening into a building, for example a window, door, air inlet, etc. Typically, a distance of 5H should be applied for the minimum separation distance.

Note 1: the height and termination of flues/chimneys will require approval from the local authority.

Note 2: Normally terminals are not necessary for larger flues as they negate the requirement of the Clean Air Act to achieve good dispersion of combustion products. The design efflux velocity is 6 m s^{-1} but to achieve this, it may be necessary to reduce the flue exit orifice or introduce fan extraction at the point of termination. However, reducing the flue opening will increase flue pressure and may affect adversely the correct operation of appliances. Reputable flue manufacturing companies may be consulted.

8.7.1.6 Where the total plant heat input exceeds 150 kW, the position of the termination and the chimney height shall comply with the Third Edition of the 1956 Clean Air Act Memorandum on chimney heights.

8.7.2 Open Flue Terminals

8.7.2.1 For a pitched roof, the base of the terminal for a natural draught flue shall be at least 1.5m measured horizontally to the roof surface and at least 1000mm above the ridge roof line. Natural draught flues in valleys shall terminate at least 1000mm above the ridge of to be fan assisted.

8.7.2.2 The base of the terminal grille or the terminal position, as appropriate, shall be located at least 1000mm above the roofline at its point of exit through the roof.

8.7.2.3 For a flat roof and those having a slope of less than 20° , Where the termination position is within 2.5m of an adjacent structure, the terminal shall be located at least 1000mm above that structure.

8.7.2.4 The final chimney height, rounded to the nearest metre, should give a termination position at least 3m above the level of any adjacent area to which there is general access, for example ground level, roof areas or adjacent openable windows. The final chimney height should never be less than the height of any attached building within a distance of 5 times the uncorrected chimney height.

Environmental Protection Act 1990

D1 – Guidelines On Discharge Stack Heights For Polluting Emissions

1.0 Introduction

1.1 This note is issued by Her Majesty's Inspectorate Of Pollution, and is one of a series providing information on technical subjects.

1.2 It lays out a relatively simple, non-specific method of approximately determining the heights of discharge stacks for polluting emissions, which should be adequate in normal circumstances. It is intended for use by inspectors, local authorities, industry and others who have a need to make such calculations, although it is primarily intended for use by those processes regulated by Local Authorities. Since the height of a stack (Which is provided to render an emission harmless), is only one part of BATNEEC, emissions must also be prevented and minimised to meet the requirements of section 7(2) of the Environmental Protection Act, 1990.

1.3 It is intended to compliment the Third Edition of the 1956 Clean Air Act Memorandum on chimney heights (Department of the Environment, (1981). This was produced specifically for dealing with conventional combustion plant of the sort mainly in use at that time. That is, indirect heating and steam raising boilers running on fossil fuels and for which either sulphur dioxide or nitrogen oxides were the major pollutants. The memorandum should continue to be used for this purpose.

This extract is intended for reference purposes only. If there is any doubt as to the intended flue route, or termination position a Midtherm Engineering Technical professional should be consulted. One of our technical sales team will be happy to assist in any given project.