# Chimneys and Flues

The design and construction of a chimney and a flue should comply with the requirements in section 44 of the Building (Construction) Regulation (B(C)R). This practice note sets out the detailed design requirements for the attention of the authorized persons and registered structural engineers.

## Fire Safety and Heat Transmission

2. A chimney or a flue should be constructed of non-combustible materials of such a nature, quality and thickness so that it will not be unduly affected by heat, condensation or products of combustion. Its design and construction including the position where it terminates should comply with the fire safety requirements set out in section 44(2) to (4) of the B(C)R.

3. The insulation required for a chimney or a flue depends on various factors viz. the type and rate of fuel used, the materials of the nearby parts of the building and the use of the surrounding areas. Calculations and justification should be provided in each case to verify compliance with the B(C)R. In this connection, BS 5854:1980 provides some guidelines.

## Structural Design

4. The structural design of a steel chimney should be in accordance with the Code of Practice for the Structural Use of Steel 2011 (Steel Code) and in particular, the guidance given in Clause 13.2 of the Steel Code. Special attention should be given to the wind-excited oscillations which should be considered and analysed by aerodynamic methods so that suitable provisions are made to control the oscillations. For circular chimneys, the simplified method in Clause 13.2.8 of the Steel Code may be adopted.

## Construction and Corrosion Protection

5. For construction and corrosion protection of chimneys and flues, the relevant parts of the Steel Code, BS EN 1856-1:2009 and BS 5854:1980 should be followed. Attention should be given to the following:

***Corrosion protection and bimetallic action***

(a) Guidance on corrosion protection and avoidance of bimetallic action of a steel chimney are given in Clause 13.2.7 of the Steel Code. Appropriate protective treatments on the interior and exterior surfaces of a steel chimney or a flue should be provided in accordance with the manufacturer's instructions and the acceptable standards in Annex A of the Steel Code.

/**Opening** …

***Opening for a chimney or a flue***

(b) At the point where a chimney or a flue penetrates the wall or roof of a building, suitable flashing or weather hood taking into account different co-efficients of expansion and bimetallic action should be provided.

**Other Considerations**

6. Installation or alteration of flue-burning equipment and/or its chimney on premises are subject to the control of the Air Pollution Control Ordinance. Prior approval from the Environmental Protection Department (EPD) may be required. Pursuant to Practice Note for Authorized Persons, Registered Structural Engineers and Registered Geotechnical Engineers ADM-2, general building plans involving installation of chimneys or flues will be referred to EPD for comments under the centralised processing system. Similar installation or alteration in relation to food business or offensive trade licence application should meet the relevant licensing requirements.

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