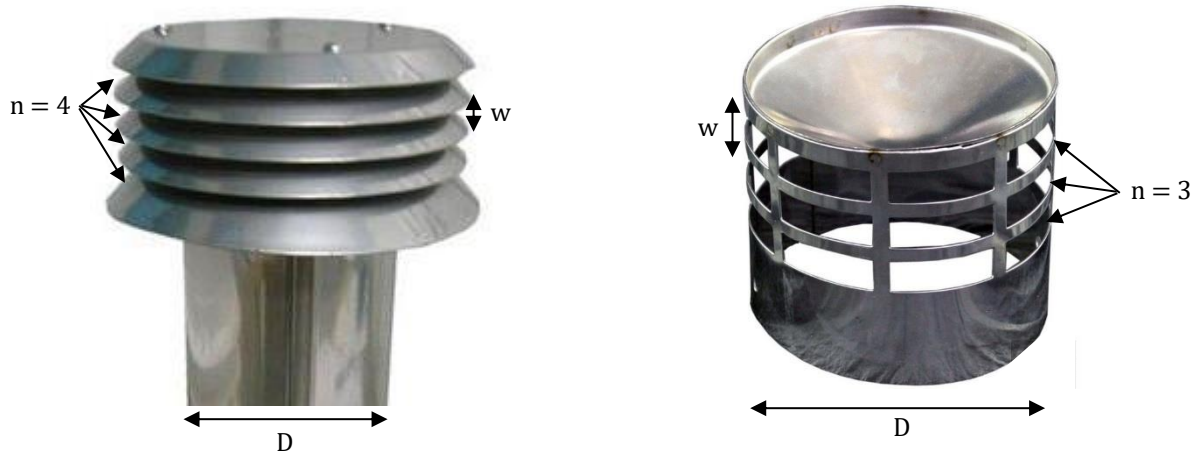


DETERMINING WHETHER FLUE TERMINAL FREE AREA IS CORRECT



For unrestricted dispersal of exhaust gases the total free area of a flue terminal's outlet holes should be at least twice the cross-sectional area (CSA) of the flue.

For terminals with a diameter the same as (or slightly larger than) the flue, and where gaps between holes are small, the rule can be simplified to:

The total vertical width of holes should be at least half the flue diameter

To see how this was derived we express the original rule as an inequality:

$$\text{Free area of holes} \geq 2 \times \text{CSA}$$

Free area of holes can be estimated as Circumference ($\pi \times D$) times vertical Width of a hole (w) times Number of rows (n). CSA is π times Radius (i.e. $D / 2$) squared:

$$(\pi \times D) \times w \times n \geq 2 \times \pi \times \left(\frac{D}{2}\right)^2$$

$$\therefore \pi \times D \times w \times n \geq 2 \times \pi \times \frac{D^2}{4}$$

Cancelling π , D and simplifying:

$$w \times n \geq \frac{D}{2}$$