

# NeoBuild Technical Notes

Report Title:

## Are trees shielding against wind load?



Discipline:

**LGS**

Date:

**2023.05.20**

Provided By:

**NeoBuild Engineering**

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## 1. Are trees shielding against wind load?

In order to answer this question, the definition of shielding in Australian standard 1170 and 4055 is discussed.

## 2. What AS1170.2 says

First paragraph of the AS1170 part 2 section 4.3: Shielding may be provided by upwind buildings or other structures. Shielding from trees or vegetation is **not permitted** in this Standard.

### 4.3 Shielding multiplier ( $M_s$ )

#### 4.3.1 General

Shielding may be provided by upwind buildings or other structures. Shielding shall not be provided by trees or vegetation. An upwind building shall not be used to provide shielding on a slope with a gradient that is greater than 0.2, unless its overall height above a common datum, such as mean sea level, exceeds that of the subject building (see [Figure 4.2](#)).

## 3. What AS4055 says

Second paragraph of the AS4055 section 2.5: In Regions A and B trees or groups of trees with similar face area to houses may be considered as shielding elements. In Regions C and D trees and vegetation shall not be considered as shielding elements.

### 2.5 Selection of shielding class

The shielding class is a measure of the effect of surrounding buildings, or similar size obstructions, on the wind speed at the site. It may be based on the anticipated shielding five years after design.

NOTE 1 In Regions A and B, trees or groups of trees with similar face area to houses may be considered as shielding elements.

In Regions C and D, trees and vegetation shall not be used as shielding elements.

The shielding class for a housing site shall be identified by the notation FS, PS or NS, and be determined as follows:

- (a) *Full shielding (FS)* — Full shielding shall apply where there are no open areas within 100 m of the site and at least two rows of houses or similar-sized permanent obstructions surround the house being considered. In Regions A and B, permanent, closely spaced trees with a height greater than the proposed house and extending equivalent to three rows of houses, shall be determined to provide full shielding. Full shielding shall be only for houses within Topographic Classes T0, T1 and T2.