



# **South Jerrabomberra DCP 2015**

## **Appendix 4**

# **Aircraft Noise Assessment Guidelines**

<b>Principal Plan adopted by Council:</b>	<b>11 February 2015</b>
<b>Document ID:</b>	<b>894567</b>

### Introduction

All residential development in South Jerrabomberra is subject to noise attenuation measures. This is regardless of the lands location in respect of any Australian Noise Exposure Forecast (ANEF Contour).

These guidelines contain suggested measures that are necessary for a development to comply with Clause 7.10 of the *Queanbeyan-Palerang Regional Local Environmental Plan 2022 - "Aircraft noise – Development in the South Jerrabomberra Urban Release Area"*.

Council may grant development consent for such development only if it is satisfied that any building to be constructed will meet the indoor design sound levels shown in Table 3.3 of AS 2021-2015 *Acoustics–Aircraft Noise Intrusion–Building Siting and Construction*. If an applicant wants to vary from this guide then they may engage an independent consultant to assess and report on the building's compliance with the Standard.

### Required Attenuation (RW value)

The required attenuation has been calculated based on the procedures outlined in AS 2021-2015. These were calculated taking into consideration variables such as distance from the runway, offset, reverberation time, size of room, area of each building component (wall, window, floor, door, roof and ceiling) as required. The results are summarised in the table below.

- Glazed doors should be treated as windows and should be included in the percentage of allowable glazing.
- External timber doors should use the door type nominated at the bottom of the appropriate table.
- All external door and windows systems that open into rooms nominated in the tables should include acoustic seals. These should be of the rubber type (sliding doors and windows should use seals such as Q-lon from Schlegel or similar, and hinged doors and windows should use acoustic seals from Raven or Lorient). Brush seals should not be used.

Alternate constructions may be used, but must achieve the same RW to those specified below for this guide to be used. If the RW for alternate constructions are not the same or cannot be determined from published product catalogues an acoustic consultant should be engaged to assess the development to AS 2021-2015.

The assessment and calculations assume the following construction materials. Designers should seek advice from an acoustic consultant for buildings using other construction materials.

#### 1. Roof/ceiling – (Minimum RW 49)

- "Colorbond" or tiled roof with greater than 200mm (average) airspace;
- Insulation and,
- One layer 10mm plasterboard.

**Note:** If airspace is less than 200mm two layers of plasterboard are required.

#### 2. Walls – (Minimum RW 50)

##### Option 1

- Brick veneer consisting of masonry 90mm thick and 170 kg/m<sup>2</sup>;
- 90mm timber studs;

- Minimum 50mm thick fibrous insulation; and,
- One layer of 10mm plasterboard.

### Option 2

- “Colorbond” or other similar metal;
- 90mm timber studs;
- Minimum 50mm thick fibrous insulation; and,
- 2 layers of 10mm plasterboard.

### Option 3

- Minimum 6mm fibre cement sheeting;
- 90mm timber studs;
- Minimum 50mm thick fibrous insulation; and,
- 2 layers of 10mm plasterboard.

**Note:** Any combination of these three types of construction may be used in any wall or room.

### 3. Floors (see the diagram below)

#### Option 1 - (Ground floor only fully exposed) (Minimum RW 44)

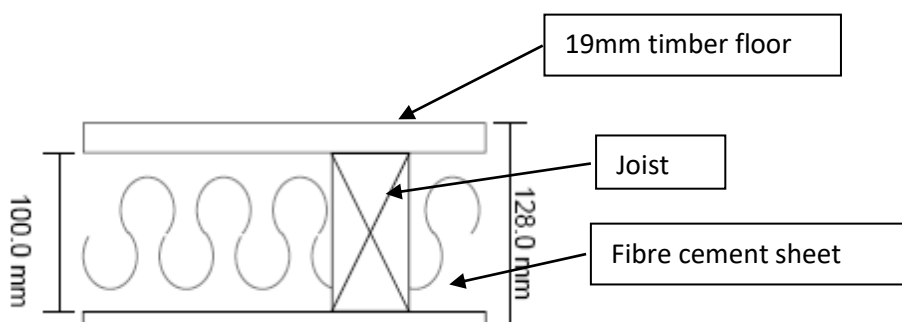
- 19mm particle board floor (such as CSR Structafloor or “yellow tongue” or similar) or 19mm tongue and grooved timber;
- Minimum 100mm air gap, (thickness of joist);
- Minimum 50mm thick fibrous insulation such as glass wool or polyester in air gap;
- 1 layer of 9mm fibre cement sheet.

#### Option 2 - (Ground floor only, not fully exposed) (Minimum RW 44)

- 19mm particle board floor (such as CSR Structafloor or “yellow tongue” or similar) or 19mm tongue and grooved timber;
- Minimum 100mm air gap, (thickness of joist);
- With minimum 50mm thick fibrous insulation such as glass wool or polyester in air gap;
- 1 layer of 6 mm fibre cement sheet.

Floors that are fully exposed should have a minimum 9mm fibre cement sheet. Floors that are well built in (that is they have brick work or other lining material from floor level to ground level) should have a 6mm fibre cement sheet. Suspended concrete floors and slabs on ground require no treatment.

**Diagram of exposed flooring**



### Assessment Procedures

- Step 1: Calculate the floor and glazing areas of all rooms.  
Step 2: Calculate the glazing area as a percentage of the floor area for each room.  
Step 3: Select the type of glazing required from the table below based on the glazing/floor area percentage. If this percentage exceeds the criteria in the table, consider reducing the area of glazing and repeating Steps 1-3 above.

### Worked Example

A bedroom in a house on an upper level is 3m by 3m.  
This example uses the top line of the table.

Floor area 9m<sup>2</sup>

If 6mm float glass is to be used, the area of glazed area and all external doors (to balconies for example) will be non compliant.

If 6.38mm laminated glass is to be used: glazed area: 9m<sup>2</sup> x 8% = 0.72m<sup>2</sup>.

If 8.38mm laminated glass is to be used: glazed area: 9m<sup>2</sup> x 13% = 1.17m<sup>2</sup>.

If 10.38mm laminated glass is to be used: glazed area: 9m<sup>2</sup> x 17% = 1.53m<sup>2</sup>.

### Non-Habitable Residential Buildings or Structures

Non-habitable residential buildings or structures (Class 10 buildings under *the Building Code of Australia*) are not required to comply with the provisions of AS 2021-2015.

### Summary Glazing Recommendations as a Percentage of Floor Area

Floor	Room/Space	6 mm Float Glass %	6.38 mm Laminated Glass or 6/12/6 Double Glazing <sup>1</sup> %	8.38 mm Laminated Glass %	10.38 mm Laminated Glass or 6.38/12/6 Double Glazing <sup>2</sup> or 80 mm glass block %
Upper Floor	Sleeping areas, dedicated lounges	Not Compliant	<8	8<13	13<17
	Other habitable spaces	<15	15<40	40<60	60<70
	Bathrooms, toilets, laundries	<55	55<170	Any size	Any size
Ground Floor	Sleeping areas, dedicated lounges	Not Compliant	<12	12<18	18<23
	Other habitable spaces	<16	16<42	42<65	65<80
	Bathrooms, toilets, laundries	<60	60<170	170<220	Any size
	Equivalent Timber door	Hollow core door	35 mm solid core door	45 mm solid core door	45 mm solid core door

1. 6mm float/ 12 mm airgap/ 6 mm float

2. 6.38mm laminated/ 12 mm airgap/ 6 mm float