Floor treatment 1: Independent ceiling with absorbent material

4.26 The resistance to airborne and impact sound depends on the combined mass of the existing floor and the independent ceiling, the absorbent material, the isolation of the independent ceiling and the airtightness of the whole construction.

4.27 Independent ceiling with absorbent material (see Diagram 4-3)

- at least 2 layers of plasterboard with staggered joints, minimum total mass per unit area 20 kg/m^2
- an absorbent layer of mineral wool laid on the ceiling, minimum thickness 100 mm, minimum density 10 kg/m^3.

The ceiling should be supported by one of the following methods:

- independent joists fixed only to the surrounding walls. A clearance of at least 25 mm should be left between the top of the independent ceiling joists and the underside of the existing floor construction, or
- independent joists fixed to the surrounding walls with additional support provided by resilient hangers attached directly to the existing floor base.

Note: This construction involves a separation of at least 125 mm between the upper surface of the independent ceiling and the underside of the existing floor construction. However, structural considerations determining the size of ceiling joists will often result in greater separation. Care should be taken at the design stage to ensure that adequate ceiling height is available in all rooms to be treated.

4.28 Where a window head is near to the existing ceiling, the new independent ceiling may be raised to form a pelmet recess. See Diagram 4-4.

4.29 For the junction detail between floor treatment 1 and wall treatment 1, see Diagram 4-5.

4.30 Points to watch

Do

a. Do remember to apply appropriate remedial work to the existing construction.

b. Do seal the perimeter of the independent ceiling with tape or sealant.

Do not

a. Do not create a rigid or direct connection between the independent ceiling and the floor base.

b. Do not tightly compress the absorbent material as this may bridge the cavity.

Diagram 4-3: **Floor treatment 1**

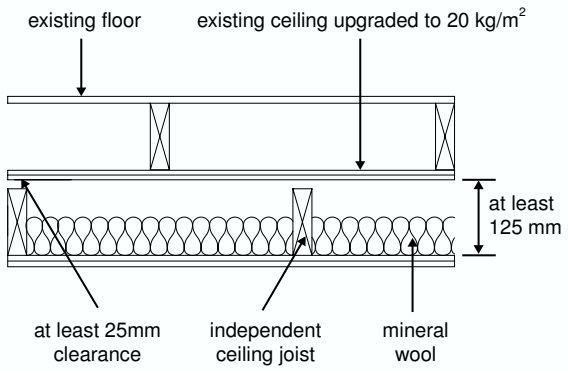

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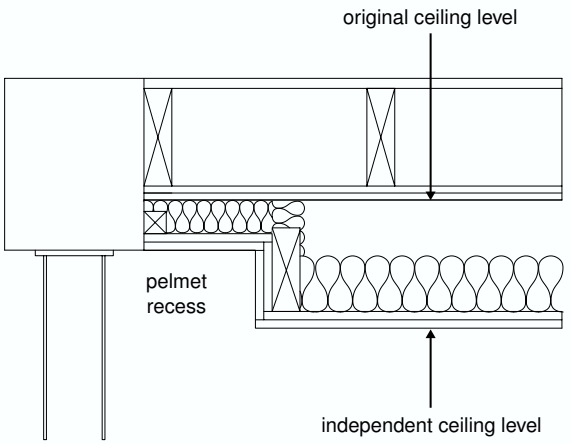
Diagram 4-4: **Floor treatment 1 - high window head detail**



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