Guidance on intermediate floors in dwellings

To assist our customers with the design and construction of intermediate metal web floors that are in compliance with Technical Guidance Document B – Fire Safety Volume 2 Dwelling Houses 2017. Please find below an extract from a circular distributed in March 2019 by the Department of Housing, Planning and Local Government, reference:

2019-01-28 BCMS Information Note 1 - 2019 Guidance on intermediate floors in dwellings
A full copy of the 'Guidance on Intermediate Floors in Dwellings' can be requested from buildingstandards@housing.gov.ie

Introduction

Part B - Fire Safety was revised in 2017 to include provisions specifically for dwelling houses. Technical Guidance Document B Volume 2 - Dwelling houses (TGD B - Fire Safety Volume 2 Dwelling houses 2017) was published in 2017 to support Part B and to give guidance on prima facie compliance with the regulations.

Where buildings are designed in accordance with the Eurocodes, the fire performance must be demonstrated in accordance with the European test methods.

As floors are a structural element and their design is to the Eurocodes so the fire resistance of the floors must be proven by test to the European Test method, EN 1365 (series) Fire resistance tests for load bearing elements.

Floors should have a fire resistance appropriate to their use and must be considered against various criteria in relation to their fire resistance for standard fire exposure. These are:

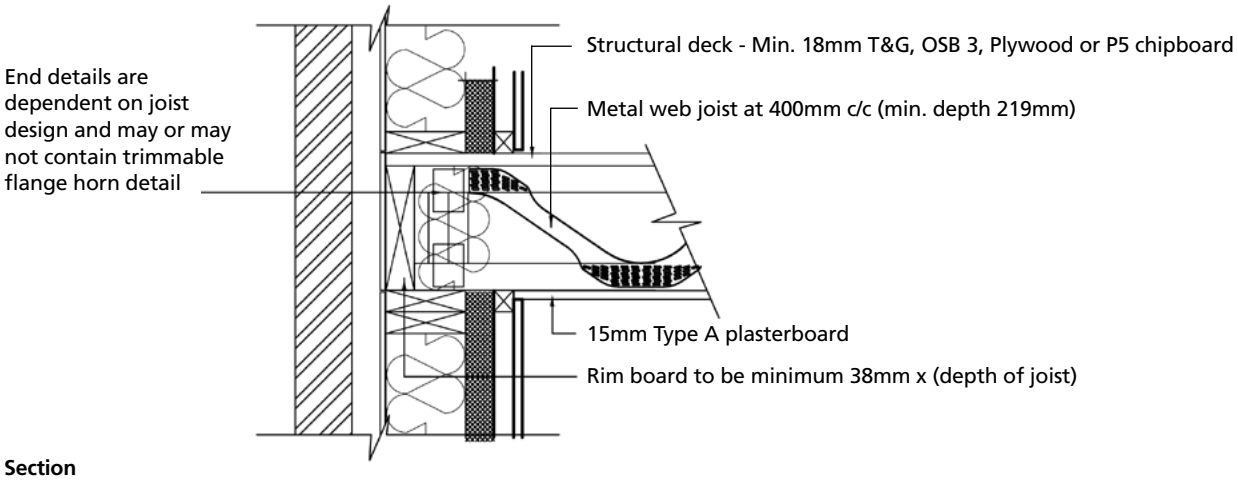
- **R** – mechanical resistance i.e. an ability to maintain loadbearing capacity
- **E** – integrity i.e. an ability to maintain the integrity of the structure
- **I** – insulation i.e. an ability to provide insulation from high temperatures.

Therefore, the fire resistance of any such floor is a result of the combination of the materials used, including their thickness, spacing and fixing of the materials, together with the workmanship employed during assembly.

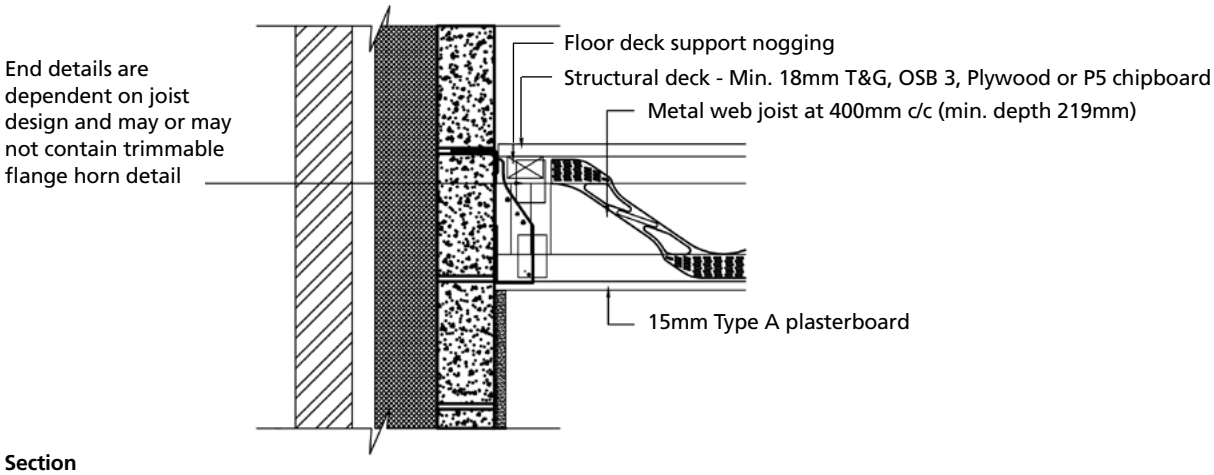
This extract specifically relates to metal web floor constructions, which have been tested in accordance with the appropriate European Test Standard, EN.1365 (series) Fire resistance tests for load bearing elements and demonstrated their ability to meet the required fire resistance for floors in dwelling houses (REI 30), when loaded in accordance with the design imposed load of 1.5 kN/m^2, (UDL) as per TGD B Appendix A Table A1.

Metal web joists - external wall junction

DIAGRAMS
NOT TO SCALE



Section
Fig 2(a): Metal web joist @ 400mm c/c



Section
Fig 2(b): Metal web joist @ 400mm c/c

NOTE

Penetrations, such as down-lighters, soil vent pipes or ventilation duct heads, in the plasterboard create vulnerability in the ceiling and as such must be fire stopped by the use of fire collars, fire hoods or fire rated products.

Metal web joists - internal studs

DIAGRAMS NOT TO SCALE

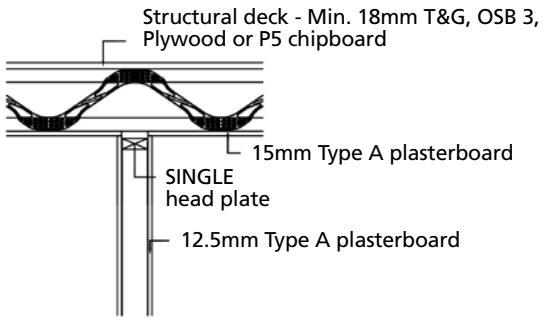


Fig 5(a): Non load bearing

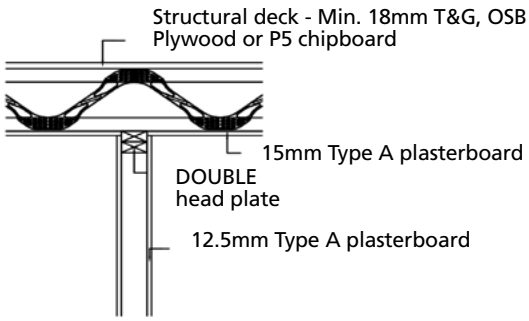


Fig 5(b): Load bearing

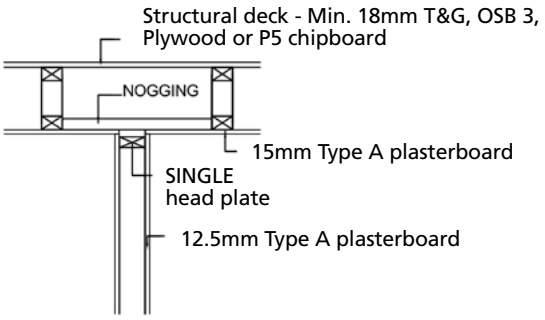


Fig 5(c): Non load bearing parallel to joist

NOTE

Penetrations, such as down-lighters, soil vent pipes or ventilation duct heads, in the plasterboard create vulnerability in the ceiling and as such must be fire stopped by the use of fire collars, fire hoods or fire rated products.