



BISON PRECAST

a Forterra brand

TECHNICAL GUIDANCE NOTE

Balconies - Bespoke

Bespoke Balconies

1.0 Introduction

A balcony can be formed and fixed in place by many different means. This document aims to discuss the different options which can be used and provide typical details where appropriate.

The main way of supporting a balcony is to cantilever it out from the main floor slab. If this balcony is to be exposed then it will need a thermal break to isolate it from the main floor. However, if the balcony is essentially forming a bay window then a thermal break is not required as the floor will be insulated underneath and be part of the room on the top surface.

The other way of forming a balcony is to support a simple slab on external support walls or a steel frame. The slab may be supported on two opposite edges or fully supported and a thermal break may be required if the balcony is required to be tied back to the main floor for restraint purposes.

A thermal break is formed by placing insulating material around the reinforcing bars that connect the balcony to the main floor slab. These can be proprietary systems manufactured by a range of manufacturers or formed in-situ.

Depending on the type of material the balcony is made from there are different solutions for fixing it in place.



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2.1 Steel balcony bolted to a RC slab with cast inserts

Should cast in inserts be required these are bolted to the formwork and cast in the factory. As the slab is cast with top and bottom steel there is usually no requirement to add additional steel reinforcement.



Figure 1 – RC landing slab with 4No. cast in thermal breaks.



Figure 2 – Close up of cast in thermal breaks.



2.2 Concrete balcony cast with integral backspan slab

A concrete balcony can be formed by casting it with an integral backspan slab which can either span between the support walls or be supported on steel trimmer beams which are supported of the main floor units. Ancon type connectors with designs to suit loadings and size are our standard detail. Double layer reinforcement in the unit with main reinforcement in the bottom of the backspan spanning left to right and main reinforcement in the top of the balcony slab spanning front to back with 25mm cover to backspan and 40mm cover to balcony. A steel trimmer to support the backspan may be incorporated into the overall solution.

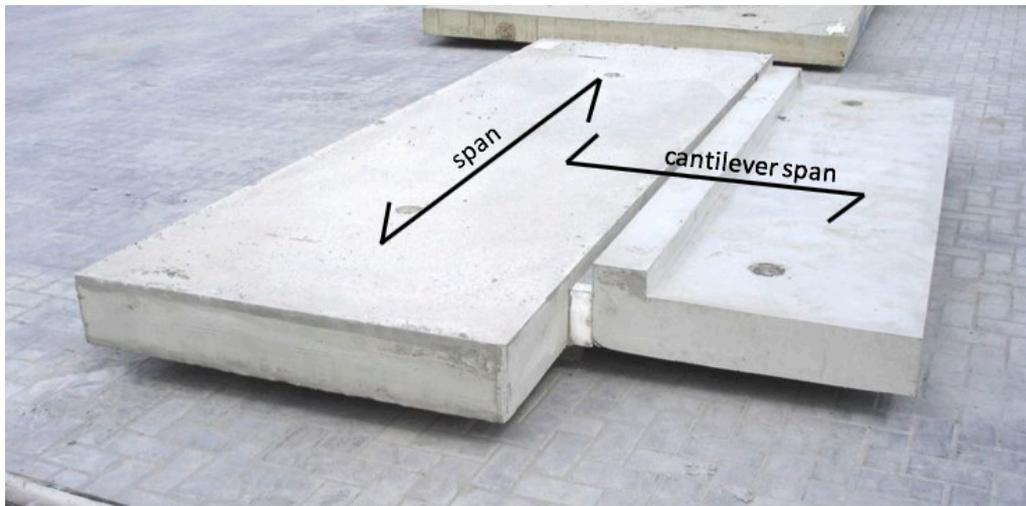


Figure 3 – Plan view of balcony slab cast with integral backspan slab.



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2.3 Concrete balcony with cast in ties

Simple balcony slabs can be cast that are supported independently of the main floor slab and can be provided with cast in bars to tie the slab back to the main floor if required.



Figure 4 – Simple RC slab with cast in bars for tying back to the main floor slab.