

PART 1: GENERAL

1-1 Scope

Supply and Installation:

(a) Speedfloor or the Speedfloor Agent shall supply all steel joists, components, labour, material and equipment relating to the installation of the Speedfloor suspended concrete floor system. Speedfloor steel joists and lockbars shall be manufactured and marked by Speedfloor Holdings Ltd, or their authorised agent.

Supply Only:

(b) Speedfloor or the Speedfloor Agent shall supply all steel joists and components relating to the Speedfloor suspended concrete floor system. Speedfloor steel joists and lockbars shall be manufactured and marked by Speedfloor Holdings Ltd, or their authorised agent.

PART 2: TYPICAL SPECIFICATION

2-1 Design Principles

The design of the Speedfloor System is based on NZS 3404: Part 1 and 2 1997, AS/NZS 4600:1996, and the Australian Composite Structures Standard AS 2327, Part 1. The design loads are in accordance with AS/NZS1170:2202 parts 0 and 1, Structural Design Actions.

2-2 Design Parameters

- The section properties and design parameters are calculated from the section geometry, supplementary full-scale tests and finite element analysis.
- Speedfloor joists have flanged service holes in the web to assist in web stiffening and to provide practical services access. The joist is simply supported during construction generally with no propping required. The concrete is cast in place and acts compositely with the Speedfloor joist.

2-3 Material

- Speedfloor joists are rollformed from zinc coated steel coil conforming to AS 1397. The minimum mass coating of galvanizing is 275g/m².
- The standard steel used is Grade 350 and has a minimum yield stress of 350MPa and a minimum tensile stress of 380MPa.
- The concrete slab decking requires a minimum compressive strength of 25MPa (30MPa for car parks) in 28 days and the steel mesh is high tensile cold drawn wire to NZS 3422:1975.

PART 3: FIRE

3-1 Speedfloor Fire Rating

Full scale fire testing has established that the Speedfloor system can be fire rated and meet fire rating requirements set out in the Building Code. Options for fire protection include:

- Using a fire rated ceiling (30, 60 & 90 min)
- Using sprayed cementitious products directly onto Speedfloor joist (30, 60 & 90 min)
- Intumescent paint products directly on Speedfloor joist. (30, 60 & 90 min)
- The addition of reinforcement to the concrete topping using the SPM design method (see 3-2 SPM Program)
- Further technical information including tests is available on request.

3-2 SPM Program

(Slab Panel Membrane)

An alternative design procedure involving the addition of in-slab reinforcement can be used for floor slabs exposed to moderate or severe fire conditions. This procedure is based on quantifying the tensile membrane enhancement provided by in-slab reinforcement. A copy of the program



SPEEDFLOOR