

SpaceJoist 30minute Fire Resistance Guidance Document - UK



30 MINUTE FIRE SEPARATION TO EN 1365-2:2014 FIRE RESISTANCE TESTS FOR LOADBEARING ELEMENTS – PART 2: FLOORS AND ROOFS

Prepared by: Scott McAndrew.

Scott McAndrew, MSc
Engineer / R&D Manager
ITW Construction Products
A Division of ITW Ltd

Objective

To provide suitable floor construction when tested to EN 1365-2:2014 Part 2: Floors and roofs and meet the requirements of Building Regulations 2017 - Technical Guidance Document B, Fire Safety - Volume 2 - Dwelling Houses (Appendix A - Performance of Materials and Structures - Table 1A)

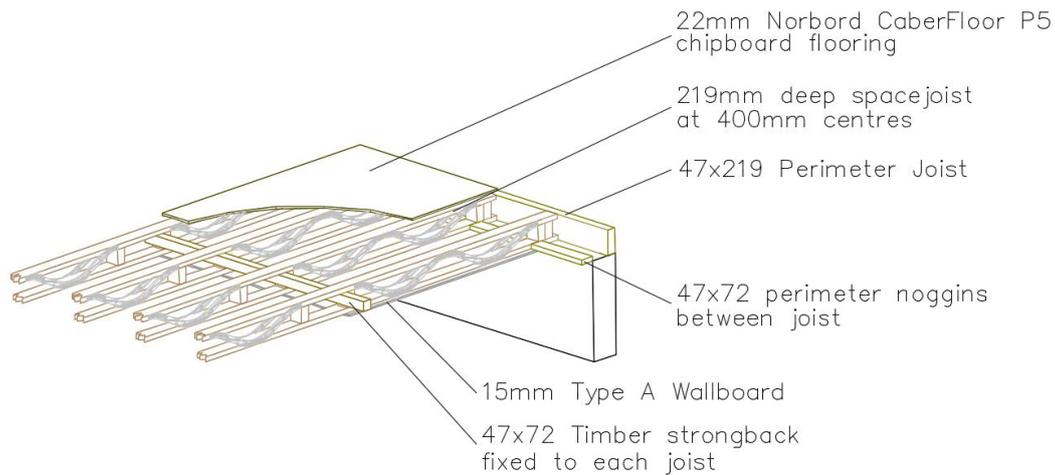
Testing body

Peutz bv, Lindenlaan 41, NL-6584 AC Molenhoek, Postbus 66, NL-6585 ZH Mook,
The Netherlands NB 2264

Test 1 - 24th July 2017 Report Number - Y 1859-1E-RA-001

Tested floor

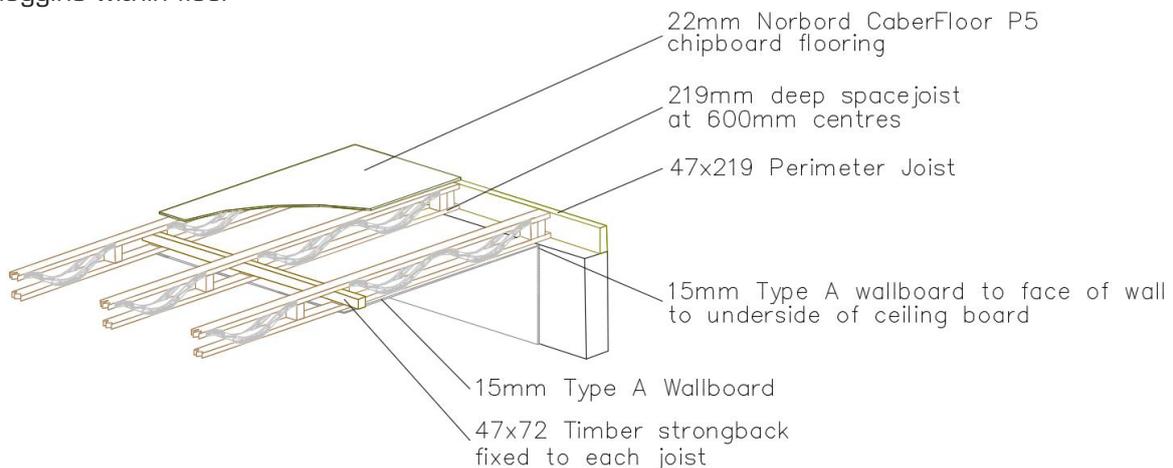
- 22mm chipboard flooring
- 219mm SpaceJoist™ metalweb joists at 400mm centres
- 15mm Gyproc wallboard, all joints taped and filled
- Perimeter noggins between joists at joist bearing only



Test 2 - 18th January 2018 Report number - Y 1901-1E-RA-001

Tested floor

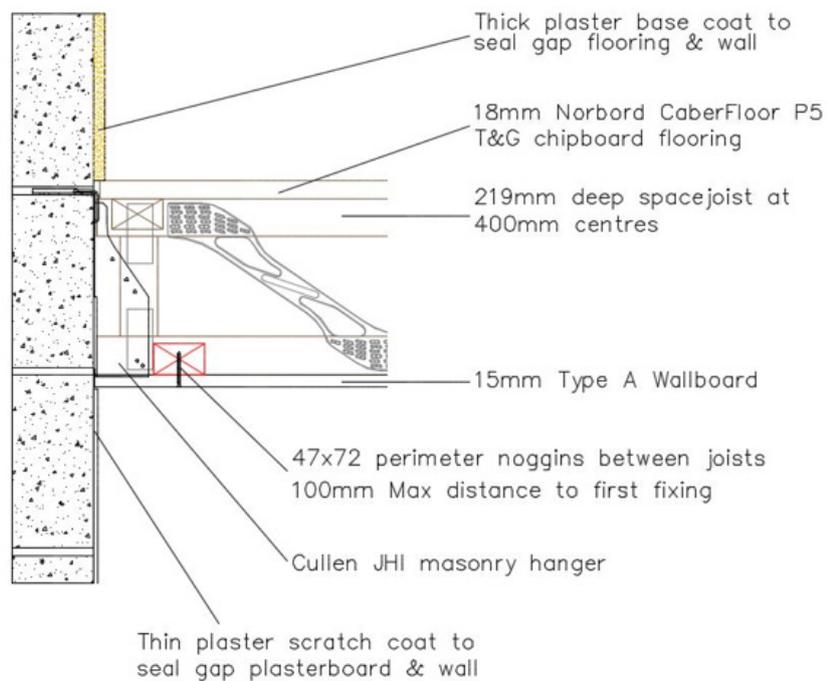
- 22mm chipboard flooring
- 219mm SpaceJoist™ metalweb joists at 600mm centres
- 15mm Gyproc Type A wallboard, all joints taped and filled
- No noggins within floor



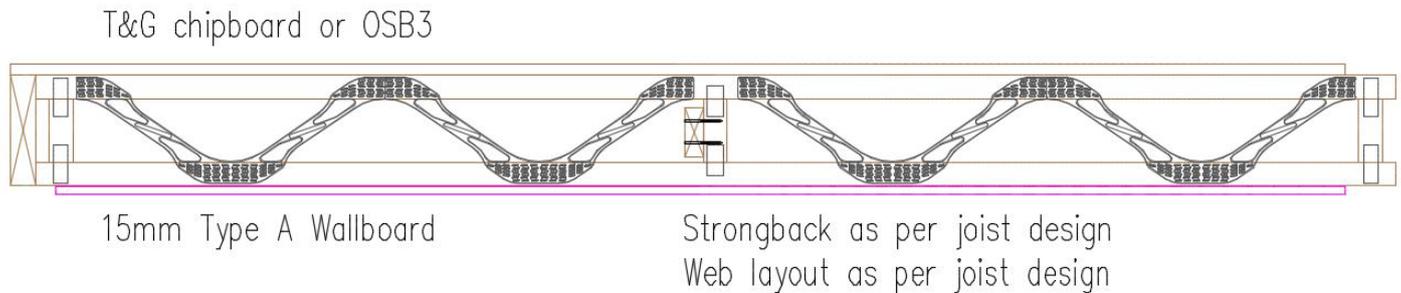
Test 3 - 29th March 2018 Report number - Y 1964-1E-RA-001

Tested floor

- 18mm chipboard flooring
- 219mm SpaceJoist™ metalweb joists at 400mm centres
- Cullen JHI-75-195 masonry joist hangers
- 15mm Gyproc wallboard, all joints taped and filled
- Perimeter noggins between joists at joist bearing only (set back from hanger)



FLOOR CONSTRUCTION FOR 30 MINUTES FIRE RESISTANCE IN ACCORDANCE WITH EN1365-2:2014



Joist

- SpaceJoist™ depths of 219, 254 & 304mm deep (SJ9, SJ10 & SJ12)
- Flanges to be 72mm minimum width
- Maximum joist centres of 600mm

Floor deck options

- 18mm T&G P5 chipboard flooring (maximum joist spacing 450mm)
- 22mm T&G P5 chipboard flooring (maximum joist spacing 600mm)
- 18mm T&G OSB/3 (maximum joist spacing 600mm).
Decking glued using D4 adhesive to joists and joints, fixed with screws at 200mm centres (4.2x45mm minimum screw size)

Ceiling

- 15mm type A Gyproc wallboard (fixed with 3.5x55mm drywall screws at 150mm centres)
- No perimeter noggins required for range of applications (please refer to details on pages 4 and 5)
- No noggins required at plasterboard to plasterboard joints

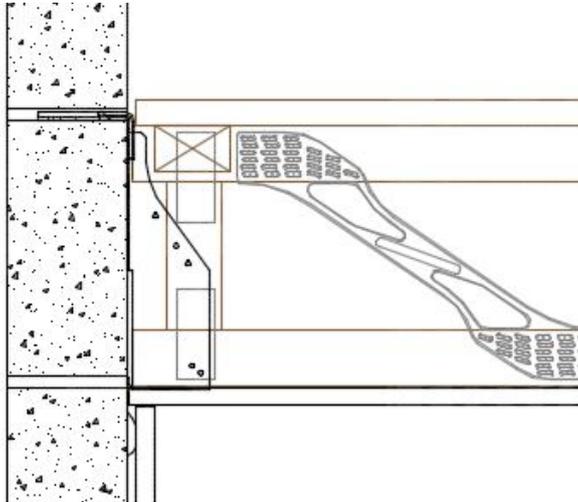
Hangers

Cullen JHI / JHIR hangers or RB-JHI / RB-JHIR hangers have been tested and approved for the application

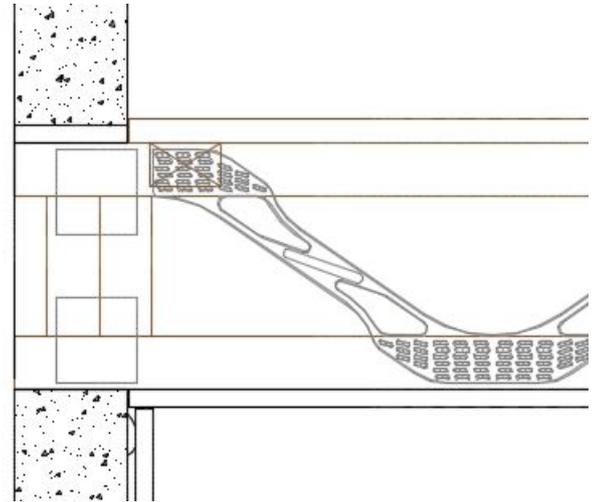
Note: although it has been proved by test that perimeter noggins are not required, these may be required by the building design for structural requirements of floor.

WALL DETAILS - NO PERIMETER NOGGINS REQUIRED

Masonry with joist supported on hangers and wallboard on plaster dabs

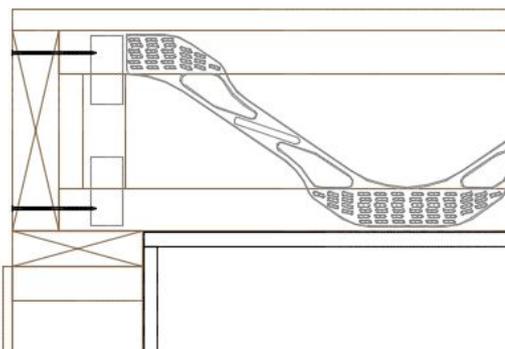


Masonry with joist built into wall and wallboard on plaster dabs



Ceiling board continues to face of wall with vertical wall board butting to underside of ceiling board with joint taped and filled no plasterboard perimeter noggins required.

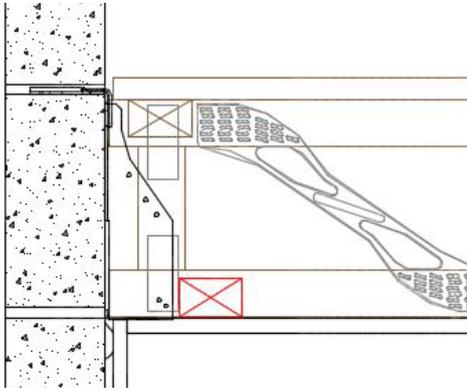
Timber frame with joist supported onto wall panel and wallboard fixed to face of timber panel



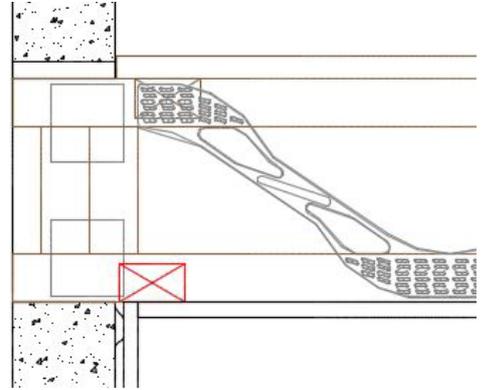
Ceiling board continues to face of wall with vertical wallboard butting to underside of ceiling board with joint taped and filled no plasterboard perimeter noggins required.

WALL DETAILS - PERIMETER NOGGINS REQUIRED

Masonry with joists supported on hangers

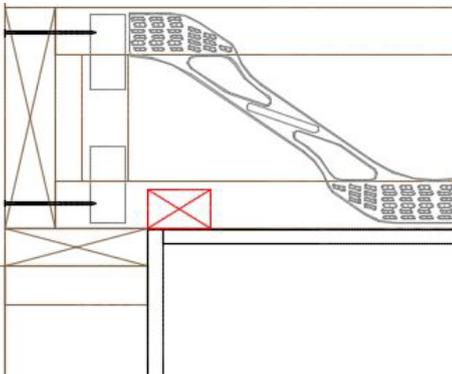


Masonry with joists built-in



Wallboard on dabs continued to underside of joist and ceiling board with ceiling board butting to face of wallboard – noggins are required to perimeter edge of ceiling board at joist bearing.

Timber frame with joist supported onto wall panel and wallboard fixed to face of timber panel



Wallboard continuing to underside of joist and ceiling board butting to face of wallboard - noggins are required to perimeter edge of ceiling board at joist bearing.

OPENINGS WITHIN THE FLOOR

Any penetration, opening or break in the separating ceiling must be fire protected to at least a minimum protection of the floor construction.

- All down lighters in a 30minute ceiling must have 30minute minimum fire rating
- Large pipework penetrations (SVP etc.) greater than 40mm diameter to be fitted with fire collars where they break the ceiling & decking construction
- Penetrations greater than 40mm to have noggins either side of opening to support plasterboard
- Small penetrations (cables, radiator pipes etc.) to be sealed with intumescent mastic

30 MINUTE FIRE TEST SUMMARY

Construction	Test Method	Dated	Time to fail
219mm deep joists, 600mm centres, 15mm Type A Wallboard, no noggins in floor	BS476: Part 21:1987	Apr-08	35mins
219mm deep joists, 400mm centres, 15mm Type A Wallboard, perimeter noggins	BS EN1365-2:2014	Jul-17	45mins
219mm deep joists, 600mm centres, 15mm Type A Wallboard, no perimeter noggins	BS EN1365-2:2014	Jan-18	36mins
219mm deep joists, 400mm centres, 15mm Type A Wallboard, perimeter noggins, Joists supported on masonry hangers	BS EN1365-2:2014	Mar-18	55mins

The information in this catalogue is intended for general guidance only and is given without engagement. Additional information and advice on specific applications is available from our Technical Support Team. For this however, we require a precise description of your particular application.

All the data in this catalogue concerning work with our fixing elements must be adapted to suit local conditions and the type of materials in use.

We cannot be responsible for any errors, and we reserve the right to make technical and range modifications without notice. No liability is accepted for printing errors and omissions.

If more detailed performance specifications are required for certain articles and types, please contact our Technical Support Department for advice.

Copyright © 2018 ITW

All rights reserved. This document (including text, material, pictures, specifications and dimensions contained in it) may not be reproduced, transmitted or distributed or otherwise used in any way or by any means, except with the prior express permission of ITW Construction Products.



CONSTRUCTION PRODUCTS

Gang-Nail Technical Support

3rd Floor Westmead House
Farnborough
Hampshire
GU14 7LP
United Kingdom

t : +44(0)1252 551960
f : +44(0)1252 543436

Customer Services (GB manufacturers)

1 Wheatstone Place
Southfield Industrial Estate
Glenrothes Fife
KY6 2SW
United Kingdom

t : +44(0)1592 771132
f : +44(0)1592 771182
e : orders@itwcp.com

Alpine Technical Support

1st Floor, Unit 1a Penrose House
Treleigh Industrial Estate
Redruth
Cornwall
TR16 4AX
United Kingdom

t : +44(0)1872 245456
f : +44(0)1872 245451
e : helpdesk@itwcp.com

Customer Services (Ireland Manufacturers)

Kells Business Park
Cavan Road
Kells
County Meath
Ireland

t : +353(0)4692 93470
f : +353(0)4692 93473

© ITW Construction Products

No part of this publication may be reproduced
without prior permission from ITW CP.

A division of ITW Limited

Registered in England No. 559693

www.itwcp-offsite.co.uk



YOUR NEAREST FABRICATOR: