

LP SolidStart LSL Rimboard Nailing Technical Bulletin

Code nailing requirements

Nailed joints in UK timber construction can either be designed to BS5268-2:2002 or EN1995-1-1:2004 (Eurocode 5). To avoid break-out or splitting, BS5268 requires the distance between the centre of the nail and the edge of the rimboard to be $\geq 5d$, or $\geq 6d$ on the overlying chipboard decking (where d is the nail diameter). EC5 requires this minimum edge distance to be between $5d$ - $7d$ depending upon the direction of the load. In order to form an effective joint, BS5268 requires a minimum nail penetration of 15mm into the member being fixed to, whilst EC5 stipulates this must be $6d$.

Nail specifications

In timber frame construction 2 nail sizes are commonly encountered in factories or on-site, using pneumatic strip nailers – these are 2.8mm diameter x 65/75mm long galvanised ring-shanked nails – used to fix floor cassette assemblies and floor decking in the factory, and 3.1mm diameter x 90mm long galvanised ring-shanked nails – used to assemble timber framed components on-site. Since 29mm rimboard is thinner than traditional 38/39mm or 45mm rimboard, nails can be 10-15mm shorter in length and still maintain the same penetration into the member being fixed to, thereby achieving the same strength joint. Since the density of LSL is higher than other rimboard materials (which gives it its strength) shorter nails are therefore advantageous to avoid having to re-set pneumatic nailer pressures to achieve full nail penetration. Advantage of this fact is sometimes taken in nailing details recommended herein.

Recommended gun nail specifications

Experience has shown the following pneumatic nailers, operating at a pressure of 100psi, have proven satisfactory for installing the nailing specifications recommended in this Bulletin for 29mm LSL rimboard:

Montana – Type SN34-100C or Type CNW38-100P

Paslode – Type PSN90 or Type PSN100

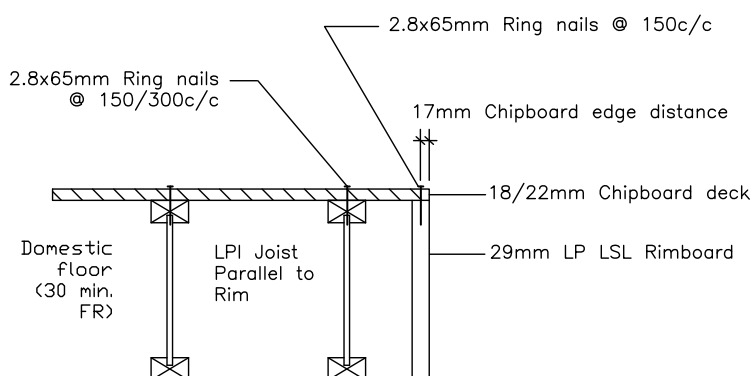
Pneumatic nailers from other manufacturers with an equivalent specification to these, and with a maximum operating pressure in the range 100-120psi are also likely to be equally satisfactory.

If your nailer is not delivering sufficient power, here are some tips to ensure they are working effectively:

- Limit the number of air guns drawing off an individual air line;
- Consider larger hoses, or if using quick-connects, ensure they don't restrict the air flow diameter;
- Observe proper lubrication and maintenance of nail guns

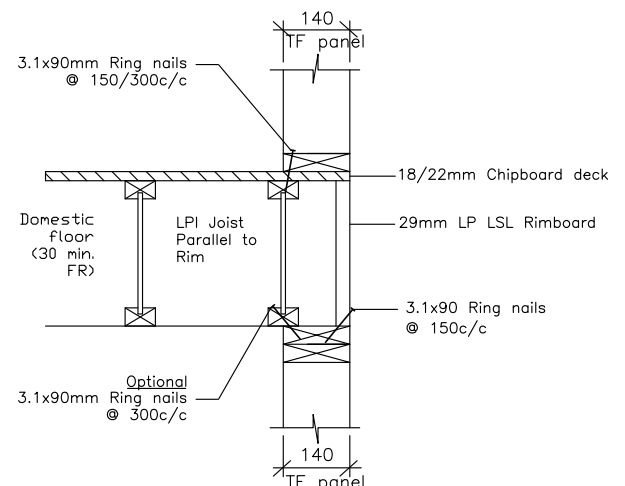
Domestic Floor Cassette Nailing, LPI Joist Parallel to Rim 30min FR

Use 2.8x65mm Ring nails Throughout



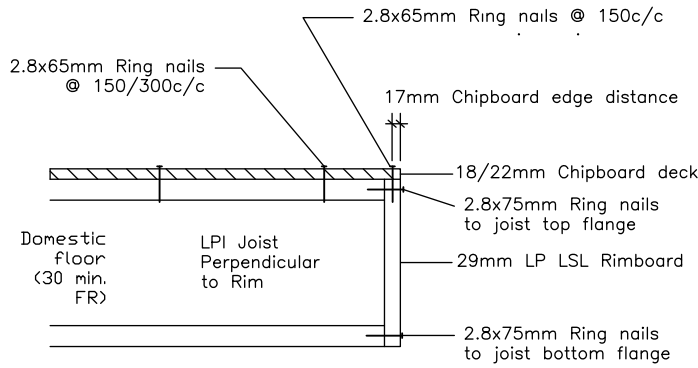
Domestic Floor Cassette Fixing On-Site, LPI Joist Parallel to Rim 30min FR

Use 3.1x90mm Ring nails Throughout



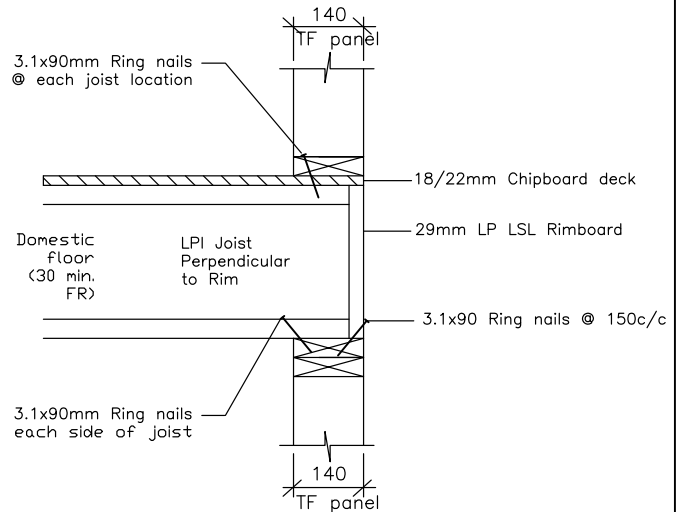
Domestic Floor Cassette Nailing,
LPI Joist Perpendicular to Rim 30min FR

Use 2.8x65mm/75mm Ring nails Throughout



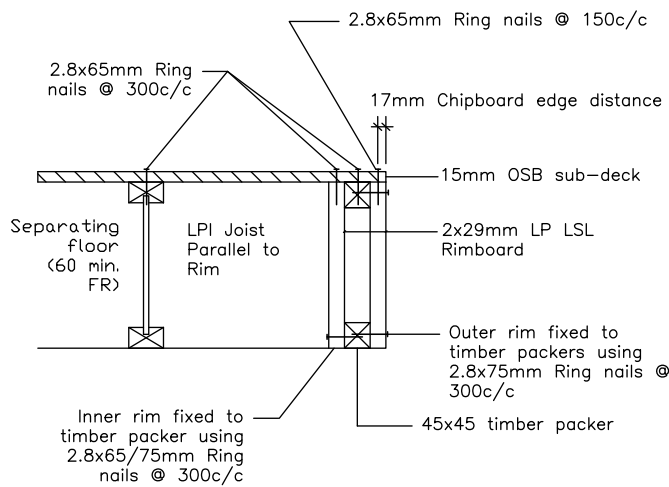
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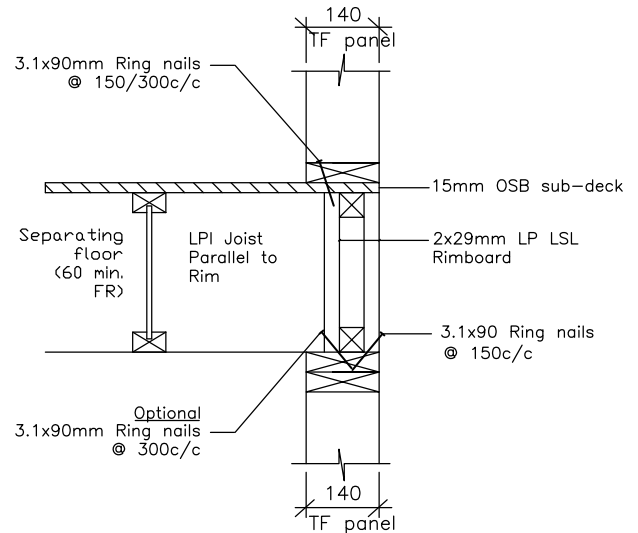
Separating Floor Cassette Nailing,
LPI Joist Parallel to Rim 60min FR

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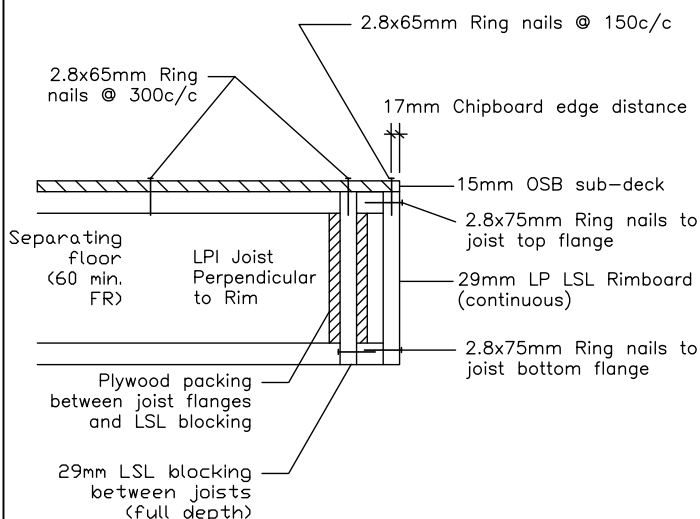
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