

Guideline for the non-destructive sampling of LOSP treated LVL

Introduction

LVL or laminated veneer lumber is regularly used for structural purposes in a building. When used in weather exposed applications such as in deck supports or pergolas, LVL made up of conifer veneers may be treated with Light Organic Solvent Preservatives. In order to determine compliance with the treatment specifications of Australian and New Zealand standard AS/NZS1604.4:2012 *Specification for preservative treatment Part 4: Laminated Veneer Lumber (LVL)*, it may be necessary to non-destructively sample preservative treated LVL in-situ.

The purpose of this Technical Guide is to provide guidance on how to remove and test samples without having to destroy the piece by taking a full cross section. Specifically, this Technical Guide applies to LVL that is:

- made up of sapwood of any species,
- heartwood of *in-ground natural durability* class three or four and
- treated with an LOSP preservative to Hazard Class H3 for which there is no colorimetric penetration test

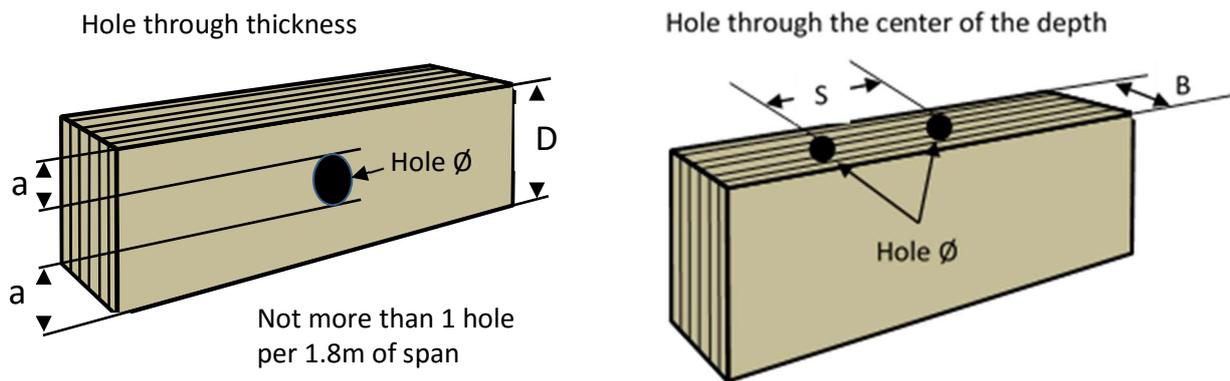
Removing the sample

- A plug cutter or hole saw may be used to remove a sample in accordance with the specifications in Figure 1. Removing a sample in this way will not affect the structural integrity of the piece.
- Any sample removed for testing must;
 - a. include a clearly marked face or edge surface. If the sample includes two surfaces, then both surfaces must be marked accordingly.
 - b. be taken at least 200 mm from the end of the piece.

Preparing the retention sample

- If the sample has been taken through the face of the piece, then the outer 15mm of the sample including the surface, shall be removed to determine preservative retention.

Figure 1



Member depth 'D'	Min. distance from edge 'a'	Max hole size \varnothing	Member breadth 'B'	Maximum hole size \varnothing	Min. hole spacing 'S'
< 200mm	D/3	D/4	35mm	8mm	250mm
≥200mm	50mm	50mm	45mm	10mm	300mm
			63mm	14mm	400mm
			75 mm	16mm	500mm

Note: The information in Figure 1 is based on information from Australian Standard AS1684 Residential Timber Framed Construction, Part 2 Non-Cyclonic Areas.

- If the sample has been taken through the face of the piece to the opposite face, the outer 15mm of the sample from and including both surfaces, shall be removed and combined to determine preservative retention.
- If the sample has been taken through the edge of the piece, then the outer 20mm of the sample including the surface, shall be removed to determine preservative retention.
- If the sample has been taken through the edge of the piece to the opposite edge, the outer 20mm of the sample from and including both surfaces, shall be removed and combined to determine preservative retention.

Removing the penetration sample.

- The material from a face sample between 15 & 17mm shall be removed for chemical analysis. OR
- The material from an edge sample between 20 & 22mm shall be removed for chemical analysis.

After sampling

Once the sample(s) has been removed, flood the remaining hole with a fungicide dissolved in organic solvent (eg copper naphthenate) and plug the hole with a dry tight fitting conifer dowel treated to H3 or fill the hole with silicon sealant.

Interpretation of results.

- If the results of chemical analysis of the penetration sample are higher than the detection limit of the analytical method used, the sample will be deemed to have passed the penetration requirements of the Standard.
- If the results of chemical analysis of the retention sample(s) are higher than the level specified in the standard, the sample will be deemed to have passed the retention requirements of the Standard.