

The Industry Association of Building and Property Inspectors in WA – InspectWA		
Position Paper 04.2021 Elevated moisture levels in masonry and concrete walls		
Subject	Elevated moisture levels in masonry and concrete walls – Impact on the structural integrity of a residential property when inspected and reported on within the context of a Pre Purchase Building Inspection conducted within the terms of AS 4349.1	
Association Position	Elevated moisture levels in masonry and concrete walls alone is not considered to be structural defect within the terms of a structural defect within the context of a Pre Purchase Building Inspection conducted within the terms of AS 4349.1 and as such within the ordinary course of pre purchase building inspections should not be reported as such.	
Date Preparation Commenced	March 2021	
Date Provisional Approval by Committee for Release to Members for Comment	March 2021	
Final Approval by Committee and Release to Members	March 2021	
Why was the Paper Released	Concerns within the Association were raised that elevated moisture levels in external and internal masonry and concrete walls were being listed as a structural defect by some WA Building Inspectors	
Key Definitions	Masonry wall	Masonry is the word utilized for development with mortar as a coupling material with singular units of blocks, stones, marbles, rocks, solid squares, tiles, and so forth. Mortar is a blend of restricting material with sand. Restricting materials can be concrete, lime, soil or any other constructing materials.
	Concrete wall	Walls constructed of concrete and steel in which steel is embedded in such a manner that the two materials act together in resisting forces. The reinforcing steel—rods, bars, or mesh—absorbs the tensile, shear, and sometimes the compressive stresses in a concrete structure. In reinforced concrete, the tensile strength of steel and the compressive strength of concrete work together to allow the member to sustain stress over considerable spans and time periods.
	Permeable masonry and concrete walls	Both masonry and concrete walls are permeable. Moisture will pass through these structures and can be retained by the structures if a natural exit point is not available and the source of moisture is repetitive.

	Structural element AS 4349.1	Physically distinguishable part of a structure. NOTE: For example wall, columns, beam, connection
	Structural Defect as defined by REIWA Australian Standard pre-purchase structural inspection condition	"Structural Defects" means a fault or deviation from the intended structural performance of a building element and is a major defect to the building structure of sufficient magnitude where rectification has to be carried out in order to avoid unsafe conditions, loss of utility, or further deterioration of the building structure. Structural defects do not include any non-structural element, e.g., roof plumbing and roof covering, general gas, water and sanitary plumbing, electrical wiring, partition walls, cabinetry, windows, doors, trims, fencing, minor structures, non-structural damp issues, ceiling linings, floor coverings, decorative finishes such as plastering, painting, tiling etc, general maintenance, or spalling of masonry, fretting or mortar rusting.
	Scope of Inspection Pre-Purchase Full Inspection Scope of Inspection	<p>AS4349.1-2007 provides that a comprehensive inspection shall be the rule rather than the exception of the Structural Inspection as described in appendix A.</p> <p>SECTION 3 INSPECTION</p> <p>3.1 GENERAL</p> <p>Accessible areas shall be inspected in accordance with this Section.</p> <p>3.2 AREAS TO BE INSPECTED</p> <p>3.2.1 General</p> <p>The inspector shall inspect accessible parts of the building and appurtenances, together with relevant feature of the property within 30 m of the building and within the boundaries of the site, or as otherwise agreed in the inspection agreement.</p> <p>APPENDIX C</p> <p>BUILDING ELEMENTS AND SERVICES TO BE INSPECTED</p> <p>(Normative)</p> <p>The inspector shall inspect all building elements. The building elements typically present in residential buildings are listed in Tables C1 to C6. Each item shall be visually inspected and limited testing of operation shall be undertaken as indicated.</p> <p>TABLE C1</p> <p>INTERIOR OF THE BUILDING</p> <p>Walls - Dampness and damp damage</p> <p>SECTION 4 THE REPORT</p> <p>4.2.1 General</p> <p>The report shall include, but not be limited to, the elements listed in Clauses 4.2.2 to 4.2.8.</p> <p>4.2.4 Significant items</p> <p>4.2.4.1 Major defects</p> <p>Any major defect observed shall be identified in the report. The location and description of each major defect, as specified in Table 3.3, shall be recorded in the report.</p>

		<p>AS 4349.1—2007</p> <p>14</p> <p>TABLE 3.3 TYPES OF DEFECTS</p> <table> <tr> <th>Type</th><th>Defect</th><th>Identifier</th></tr> <tr> <td>A</td><td>Damage</td><td>The fabric of the element has ruptured or is otherwise broken</td></tr> <tr> <td>B</td><td>Distortion Warping Twisting</td><td>An element or elements has been distorted or moved from the intended location</td></tr> <tr> <td>C</td><td>Water penetration Damp related</td><td>Moisture is present in unintended or unexpected locations</td></tr> <tr> <td>D</td><td>Material deterioration (rusting, rotting, corrosion, decay)</td><td>An element or component is subject to deterioration of material or materials</td></tr> <tr> <td>E</td><td>Operational</td><td>An element or component does not operate as intended.</td></tr> <tr> <td>F</td><td>Installations (including omissions)</td><td>The element or component is subject to improper or ineffective installation, inappropriate use, or missing components</td></tr> </table> <p>NOTE: Guidance on inspection and reporting of cracking of building elements is given in Appendix E, which also provides information on types of defects and inspection considerations.</p>	Type	Defect	Identifier	A	Damage	The fabric of the element has ruptured or is otherwise broken	B	Distortion Warping Twisting	An element or elements has been distorted or moved from the intended location	C	Water penetration Damp related	Moisture is present in unintended or unexpected locations	D	Material deterioration (rusting, rotting, corrosion, decay)	An element or component is subject to deterioration of material or materials	E	Operational	An element or component does not operate as intended.	F	Installations (including omissions)	The element or component is subject to improper or ineffective installation, inappropriate use, or missing components
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	<p>AS 4349.1 Appendix A Pre Purchase Structural Inspection</p>	<p>A3 SCOPE OF INSPECTION - STRUCTURAL INSPECTION</p> <p>The inspection shall comprise visual assessment of accessible areas of the property to identify major defects to the building structure and to form an opinion regarding the general condition of the structure of the property</p> <p>NOTE: The structural report should not contain any assessment or an opinion regarding the following:</p> <p>(e) Serviceability damp defects such as condensation, rising damp, lateral damp, falling damp should only be assessed and reported on where structural damage has occurred, is occurring, or may occur (e.g., fungal rot) significant spalling of masonry or concrete structural elements, significant fretting or mortar, rusting of primary structural elements. Stormwater drainage and surface water defects commonly cause or exacerbate foundation instability and these issues should be assessed and reported on where relevant.</p>																					
	<p>Safety hazard AS 4349.1</p>	<p>The report shall identify any observed item that may constitute a present or imminent serious safety hazard.</p>																					
Key Conclusions	<ol style="list-style-type: none"> 1. Inspectors should assume that the report being provided is a full inspection and report, unless the Inspection Agreement between inspector and client clearly identifies that the inspection and report is to comply with Appendix A – Pre-Purchase Structural Inspection. 2. Inspectors should only assume that the inspection and report is to comply with Appendix A – Pre-Purchase Structural Inspection if provided with a signed copy of the Agreement to Purchase disclosing this requirement. 3. Masonry and concrete walls will absorb water through capillary action. The water/moisture may be drawn into the walls from a variety of sources. 4. Moisture in a masonry or concrete wall is not necessary a defect and is not a structural defect in its self. 5. Moisture in a masonry or concrete wall may contribute to fretting 																						

	<p>bricks, fretting mortar and or concrete cancer. In extreme circumstances these resultant defects may be a structural defect but the moisture in the wall, while a key contributing factor, is not the structural defect.</p> <p>6. Moisture in masonry and concrete walls in itself should not be reported as a structural defect</p> <p>7. In circumstances where moisture is penetrating waterproof membranes and the time elapsed since installation is less than the installation warranty, the presence of high moisture readings in the adjoining walls is to be reported as a major defect.</p>
Additional Observations	<p>1. In extreme circumstances moisture in a masonry or concrete may be reported as a major defect.</p> <p>2. Moisture in a masonry or concrete wall may contribute to the growth in mould and this may be a safety issue in some circumstances.</p>
Additional Notes	

Signed Chairman

The Industry Association of Building and Property Inspectors in WA – Inspect WA

The Industry Association of Building and Property Inspectors in WA Inc – Inspect WA is pleased to announce the release of its Position Paper on Elevated moisture levels in masonry and concrete walls.

Background

The key issues that contributed to the release of this Position Paper:

1. That elevated moisture levels in masonry and concrete walls is being reported as a major structural defect in some pre purchase building inspection reports which were being prepared in accordance with AS 4349.1

The Associations position is:

1. Masonry and concrete walls are porous and water will transfer through these structures.
2. The existence of elevated moisture in masonry and concrete walls will not meet the requirements to be classified as a Major Structural Defect in accordance with AS 4349.1
3. The existence of elevated moisture in masonry and concrete walls may cause accelerated deterioration (i.e. fretting) of mortar, brick or stone in masonry and concrete walls. In certain circumstances the deterioration of components of the wall may lead to a major structural defect, but the moisture itself will not.
4. The existence of elevated moisture in masonry and concrete walls may be classified as a major non-structural defect.

The Association recommends that Building Inspector Members clearly articulate in all pre purchase building inspections reports produced in accordance with AS 4349.1 where there is elevated moisture levels in masonry and concrete walls in unexpected places.

The Association recommends that Building Inspector Members clearly articulate in all pre purchase building inspections reports produced in accordance with AS 4349.1 where there is elevated moisture levels in masonry and concrete walls whether the moisture has deteriorated structural elements to the extent that a Major Structural Defect exists.

The Association recommends that Building Inspector Members clearly articulate in all pre purchase building inspections reports produced in accordance with AS 4349.1 where there is elevated moisture levels in masonry and concrete walls whether that moisture is contributing to mould or damp conditions likely to be a safety hazard.

Important note in regard the widely used REIWA Pre Purchase Building Inspection Annexure

In Western Australia the widely used “REIWA Australian Standard Pre-Purchase Inspection for Major Structural Defects Annexure dated 10/19” will not cover a Buyer for the issue described in this position paper. The REIWA Annexure specially excludes non-structural items including roof covers and the timber battens that support them.

A Buyer wishing to have the issue described in this position paper:

- 1) repaired by the seller and or
 - 2) compensated for by the seller and or
 - 3) provide the basis for Contract Termination
- should include a “Special Condition” with their Offer to Purchase Contract or alternatively, undertake a pre offer building inspection such that their “Offer to Purchase” can reflect the costs of remediation of the item described

Committee
Inspect WA
March 2021