ISO 22185-1:2021-02 (E)

Diagnosing moisture damage in buildings and implementing countermeasures - Part 1: Principles, nomenclature and moisture transport mechanisms

Contents

Page

Foreword ..... **v**

Introduction ..... **vi**

1 Scope **1**

2 Normative references **1**

3 Terms and definitions **1**

4 Moisture transport mechanism **2**

5 Moisture sources **3**

6 Moisture damage **3**

7 Phenomena resulting from moisture **4**

7.1 Algae/bryophyte 4
7.2 Aesthetic changes 4
7.3 Condensation 4
7.4 Corrosion 4
7.5 Crack 4
7.6 Creaking 5
7.7 Deformation 5
7.8 Dissolved destructive elements 5
7.9 Dissolution 5
7.10 Expansion 5
7.11 Floating 5
7.12 Floor squeak/floor squeaking 5
7.13 Freezing 6
7.14 Frost heave 6
7.15 Wood decay 6
7.16 Gap 6
7.17 Hardening 6
7.18 High humidity 6
7.19 Low humidity 6
7.20 Mite 7
7.21 Mould 7
7.22 Peeling/exfoliation/delamination/adhesion loss/spall 7
7.23 Rust 7
7.24 Shrinkage 7
7.25 Softening 7
7.26 Thrust up/creeping up 7
7.27 Unplanned bulk water entry 8
7.28 Water-leakage 8
7.29 Warpage 8
7.30 Wetting 8
7.31 Wrinkle 8

8 Performance affected by moisture **8**

8.1 Envelope or enclosure — Risk of water penetration, deterioration of components and systems — Important for designing for durability 8
8.1.1 Ability to support bonded materials 8
8.1.2 Airtightness 9
8.1.3 Capillary breaking layer 9
8.1.4 Durability 9

8.1.5 Electrical insulation performance 9
8.1.6 Environmental separation 9
8.1.7 Function of components 9
8.1.8 Functionality 9
8.1.9 Moisture-proof performance/damp-proof performance 9
8.1.10 Thermal insulation performance 9
8.1.11 Waterproofing performance 10
8.2 Occupant comfort and owner value — Aesthetics, satisfaction of users 10
8.2.1 Acoustic separation 10
8.2.2 Building aesthetics 10
8.2.3 Opening performance of windows and doors 10
8.2.4 Occupant comfort 10
8.2.5 Property value 10
8.2.6 Visibility (performance of transparent material) 10
8.2.7 Walkability of floor 10
8.3 Structure — Risk of collapse 11
8.3.1 Structural capacity and deflection 11
8.3.2 Structural support 11
9 Building components affected by moisture 11
9.1 Building equipment 11
9.2 Exterior finishing material 11
9.3 Joint 11
9.4 Hardware 12
9.5 Interior finishing material 12
9.6 Opening 12
9.7 Piping 12
9.8 Space 13
9.9 Storage item 13
9.10 Structure/body structure 13
9.11 Substrate/underlayment/sheathing 13
9.12 Thermal insulation material 13
9.13 Waterproofing membrane 14
9.14 Wiring 14
10 Classifications of moisture damage 14
10.1 General 14
10.2 Constituent materials (sub-classification of materials) 14
10.3 Functionalities that can be affected 15
10.4 Materials 15
10.5 Phenomena 15
Bibliography 19