

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	Warping	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