

Jorma Säteri
Sisäilmäyhdistys ry

Finnish Classification of Indoor Climate 2008 - Material selection guidelines and the criteria for the M1-label.

Jorma Säteri
Finnish Society of Indoor Air Quality and Climate, FiSIAQ



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Sisäilmäyhdistys ry

The Finnish IAQ Classification System

Target values for indoor air quality and climate (S)

Instructions for design and construction (P)		Requirements for building products (M)	
Building and constructions	HVAC systems	Classification of Building materials	Classification of ventilation components



Target values (S)

- Three categories
 - S1 "individual"
 - S2 "comfortable"
 - S3 "satisfactory"
- Specified from client's and engineer's viewpoints



SI2008 S1: Individual indoor climate

- The indoor air quality of the space is very good and there are no discernible odours.
- There are no damages or pollution sources in spaces and constructions that are connected with the indoor air
- The thermal environment is comfortable, and draught or overheating does not occur. The user of the space can individually control the thermal environment.
- The acoustic environment of the spaces is very good and the good lighting environment can be individually controlled.



SI2008: Technical target values

- Criteria for target values
 - relevant for health and comfort
 - affected by the actors in the building process
 - verifiable at reasonable accuracy and cost
- The following target values are proposed:
 - Operative temperature
 - Air velocity
 - Carbon dioxide
 - Radon
- The targets for acoustic and lighting environments are taken from national standards
- Several target values were replaced with prescriptive criteria



**SISÄILMASTOLUOKITUS
2008**

Building and constructions

- Instructions for construction client
- Instructions for design and selection of materials
- Classification of construction cleanliness
- Classification of cleanliness of ventilation systems
 - includes requirement for supply air filtration
- Requirement for a moisture control plan



Instructions for structural design

- The following aspects shall be taken into consideration in structural design
 - material emissions
 - moisture characteristics
 - easiness of cleaning
 - durability
 - performance requirements set by sandwich structures



Instructions for selection of materials

- The building materials should be as low emitting as possible.
- The building materials of a space designed according to indoor climate categories S1 and S2 should predominantly be selected from emission class M1.
- M2 classified building materials should not cover more than 20% of the interior surfaces of a room and never more than 1 m² per m² floor.
- Uncoated brick, stone, ceramic tile, glass and metal surfaces as well as untreated board and log surfaces (excluding hardwood) may be used freely.



Instructions for selection of materials

- Only materials whose moisture characteristics are known and which cause as little risks as possible when in connection with other materials should be used in the structures of the building.
- The materials used shall have a product specification presenting
 - emission class data
 - the possible limitations for the use of the materials
 - requirements for the environmental conditions where the material is applied, such as temperature and humidity values.



Requirements for emission class M1

- No changes are proposed to the M1 criteria of building materials
 - TVOC < 0,2 mg/m²h
 - Formaldehyde < 0,05 mg/m²h
 - Ammonia < 0,03 mg/m²h
 - Carcinogenic compounds < 0,005 mg/m²h
 - Dissatisfaction with odour < 15 %
 - 0.1 ≤ acceptability vote ≤ 1.0
 - *Plasters and tiling products, levelling agents, putty, mastics, fillers, screeds and renders shall not contain casein.*



Development needs for M1-labelling

- Revised criteria for VOCs
 - LCI values?
- Harmonisation of test methods with CEN/ISO standards
 - Testing age 3/28 d?
- Product groups under preparation
 - furniture
 - cleaning and treatment products

