Development of International Performance Parameters for Single Family Dwellings

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Relationship to Sustainability

Sustainable Development

Energy  Environment  Disaster Management  Human Development  Etc

Prevention (Mitigation)

Planning  Flood Management  Building Codes  Response  Warnings  Recovery  Etc
The Issue

International Trading of Single Family Dwellings

A growing form of commercial enterprise

- Traditionally most houses built according to local common practice usually following prescriptive rules
- If not then performance based on complex procedures embodied in national building standards which are not explicit and therefore not transferable where performance requirements differ

Creates Barrier to Trade
The Initial Driver

World Trade Organisation (WTO) 1995 Uruguay Round of negotiations on General Agreement on Tariffs and Trade (GATT) produced

WTO Agreement on Technical Barriers to Trade (TBT)

“Where appropriate Members shall specify technical regulations based on product requirements in terms of performance rather than design or descriptive characteristics.”
The Need

- International Standardisation of Parameters Describing Performance
- International Standardisation of Procedures for Evaluating Performance in Terms of these Parameters

**Basic Underlying Paradigm**

- Not the role of international standards to prescribe performance
- Minimum performance levels, if any, is the role of regulation - national or more local
- Otherwise it is the role of buyer based on own needs
Purpose of ISO15928 Standards

International Standardisation of Parameters Describing the Performance of Single Family Dwellings

- Not concerned with standardisation of procedures for evaluating performance in terms of these parameters which is a role of other ISO committees
- Not inventing new parameters but determining which parameters already used will be used as the variables defining performance, and thus by implication which other parameters will be fixed as part of the standardised procedures
The Use of ISO15928 Standards

For Trading Single Family Dwellings in a Performance Based Specification Environment

- By buyers and specifiers to specify required performance in simple user friendly terms
- By suppliers and manufacturers to specify performance of their manufactured houses
- By regulators to specify minimum acceptable performance levels
- By insurers in evaluating insurance risk
Published ISO15928 Standards

ISO15928 Part 1 : Structural Safety
ISO15928 Part 2 : Structural Serviceability
ISO15928 Part 3 : Structural Durability

Provide a comprehensive set of parameters that cover most of the structural performance requirements that a regulator or buyer may want to specify

Note that not restricted to regulated performance parameters
Example

Structural Safety - Wind Resistance

Performance Parameter:

Design wind speed for structural safety (ie structural strength) as defined in ISO Wind Code ISO4354

Evaluation:

Assumed to be in terms of standardised wind loading factors in ISO wind code, the principles of structural design embodied in ISO 2394, and material strength factors embodied in various ISO material structural design standards
Currently Under Development

ISO15928 Part 4 : Fire Safety
ISO15928 Part 5 : Energy Efficiency
ISO15928 Part 6 : Sustainability
For Future Development

Accesssibility

Indoor Environment – thermal, air quality, moisture

Accoustic Performance

Lighting

Functionality

Any Volunteers?
Thank You