

CEN/TC 442 WG4 TG2

Product Data Templates

based on CEN/CENELEC standards, stored in a European data dictionary framework

Lars Chr. Fredenlund,

- CEO, coBuilder
- Member buildingSMART International Product Room
- Member of bSDD Advisory Board

Espen Schulze, coBuilder

- Expert CEN/TC 442 WG4
 - Chair Task Group 2 – Product Data Templates
- Member buildingSMART International Product Room
 - Chair buildingSMART International Product Data Template Working Group
- Expert ISO/TC 59/SC13 WG11
- Committee member SN/K 257



CEN/TC 442

Building Information Modeling (BIM)

Standardization in the field of structured semantic life-cycle information for the built environment.

CEN/TC 442

- Working Group 1 - Strategy and Planning
- Working Group 2 - Exchange information
- Working Group 3 - Information Delivery Specification
- Working Group 4 - Support Data Dictionaries

CEN/TC 442

- Working Group 1 - Strategy and Planning
- Working Group 2 - Exchange information
- Working Group 3 - Information Delivery Specification
- Working Group 4 - Support Data Dictionaries
 - Task Group 1 (expert process)
 - Task Group 2 (Product Data Template)



Support Data Dictionaries

CEN/TC 442/WG 04

Date:
2016-08-29

Doc. Number:
N 0019

Assistant:
Direct line :

Your contact:
Etienne CAILLEAU
Direct line : 01 41 62 85 71
etienne.cailleau@afnor.org

NWIP 3 - Part 1 General structure of a product data template

COMMENTARIES /

Dear Member,

DECISIONS

Please find below a draft NWIP Product data templates based on CEN/CENELEC standards in an open European data dictionary - Part 1: General structure of a product data template and how to relate it to Industry Foundation Classes (IFC).

This draft NWIP is submitted by Norway ; it will be presented and discussed in Berlin before the official submission to CEN/TC 442.

Relations between the 4 NWIPs are explained in N-Document 21.

FOLLOW UP

Meeting on 2016-09-13

SOURCE

CEN/TC 442/WG 4 Secretariat



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NWIP 4 - Part 2 Framework for product data templates under CPR

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Please find below a draft NWIP Product data templates based on CEN/CENELEC standards in an open European data dictionary - Part 2: Framework for product data templates based on harmonised technical specifications under the Construction Products Regulation (CPR), and how to relate the product data templates to Industry Foundation Classes (IFC).

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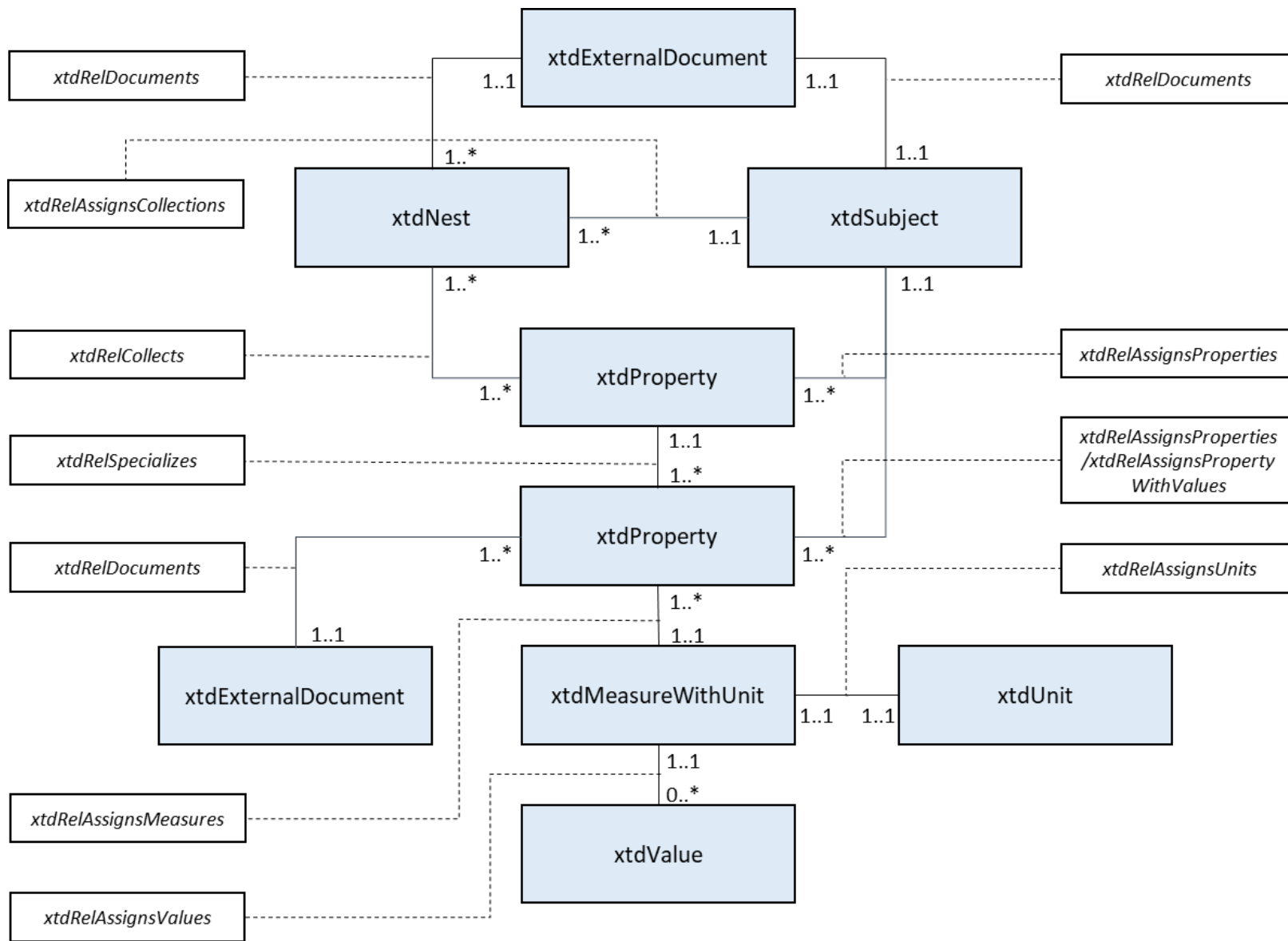
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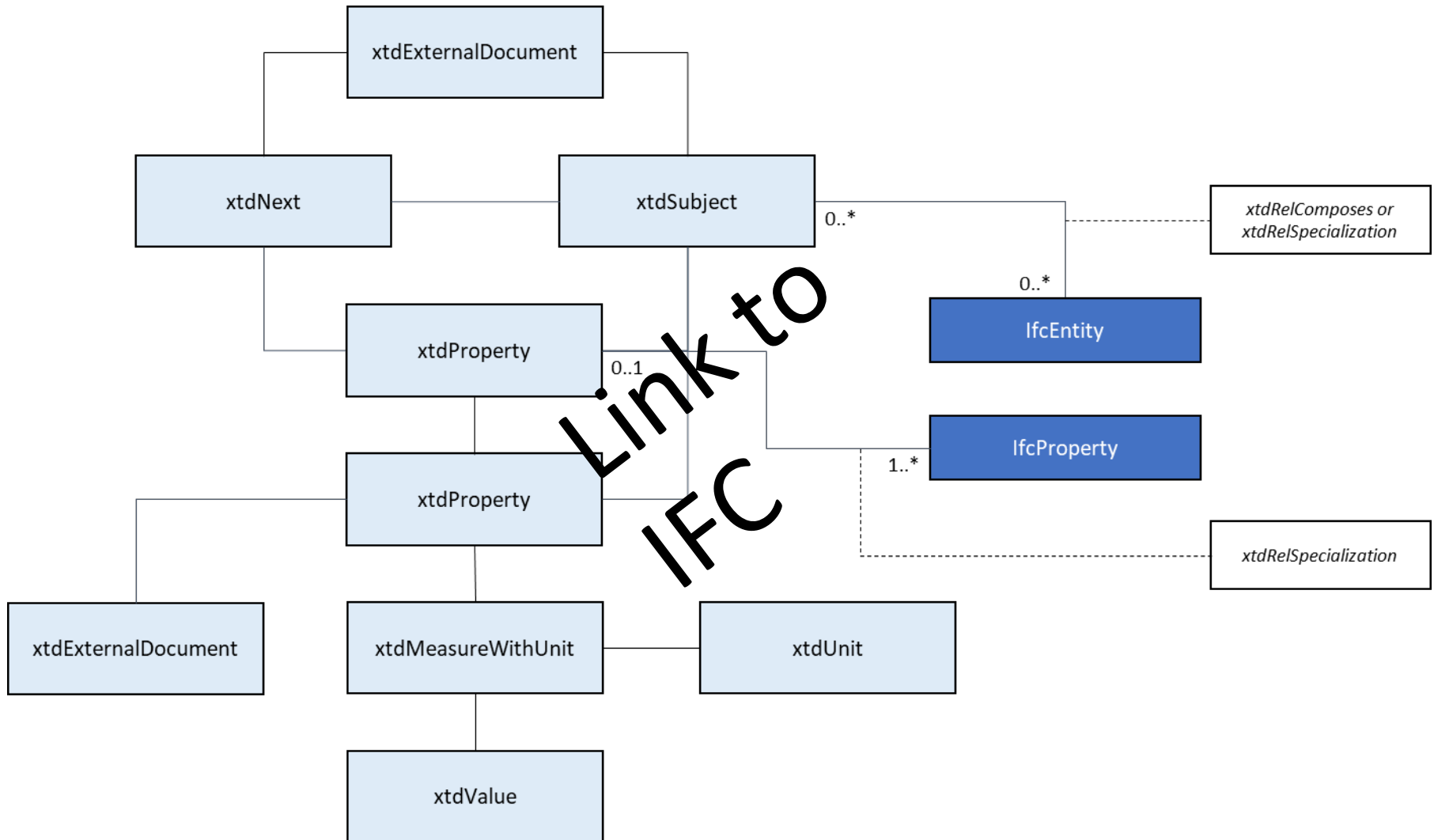
Meeting on 2016-09-13

SOURCE

CEN/TC 442/WG 4 Secretariat

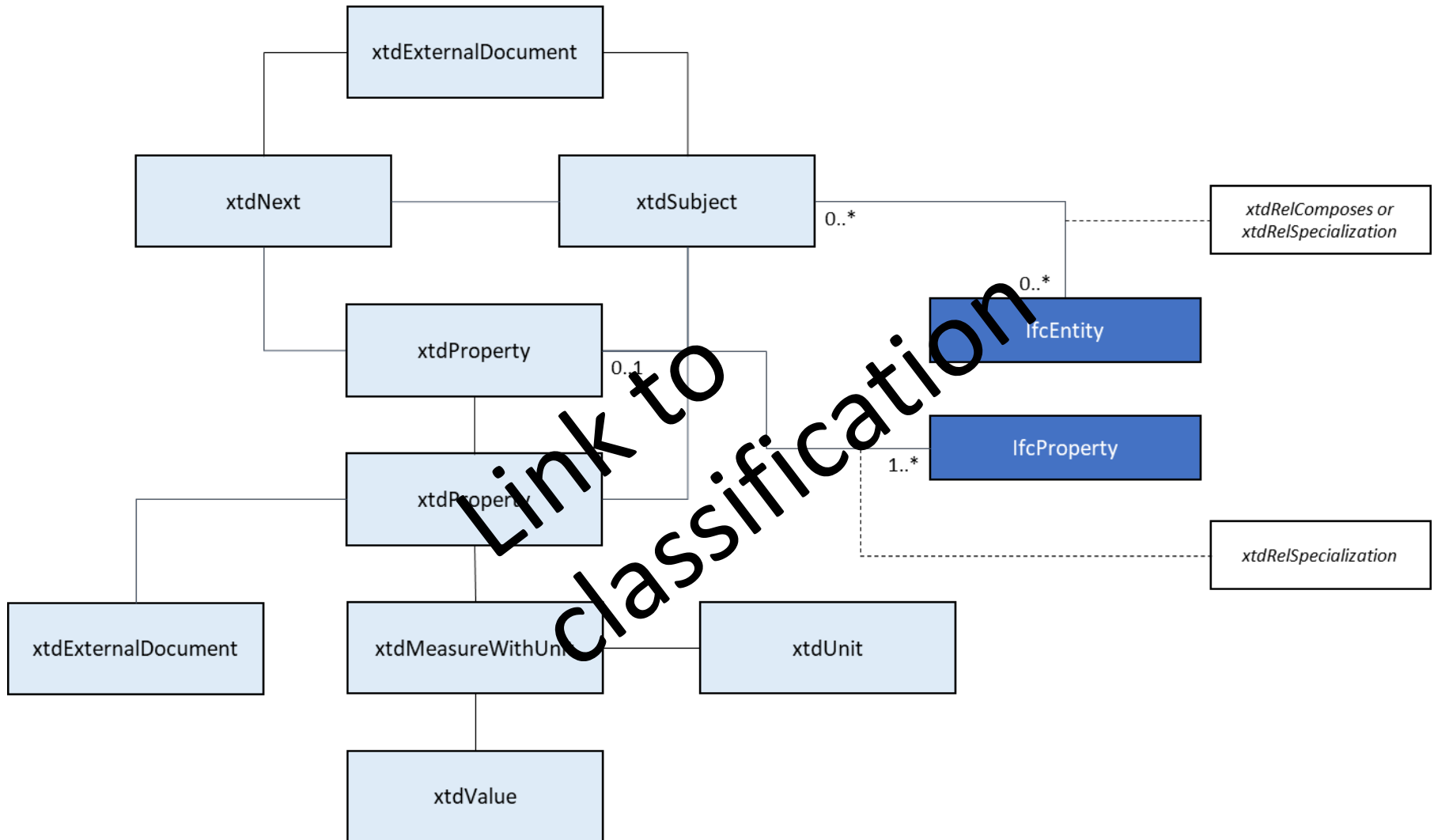


Doc 1 - General structure of a Product Data Template (PDT)



Link to IFC

Doc 1 - General structure of a Product Data Template (PDT)



Link to classification

Doc 1 - General structure of a Product Data Template (PDT)



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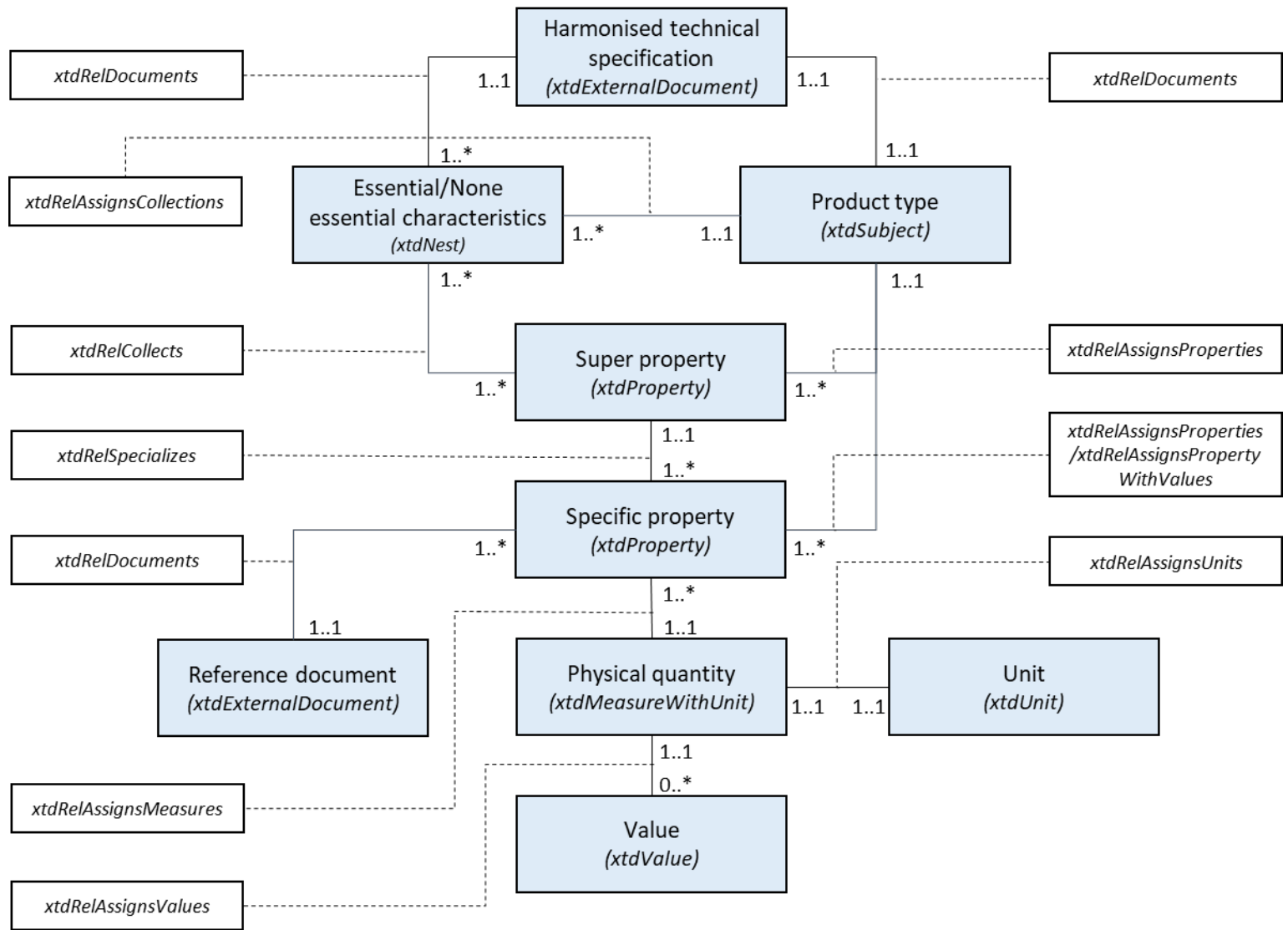
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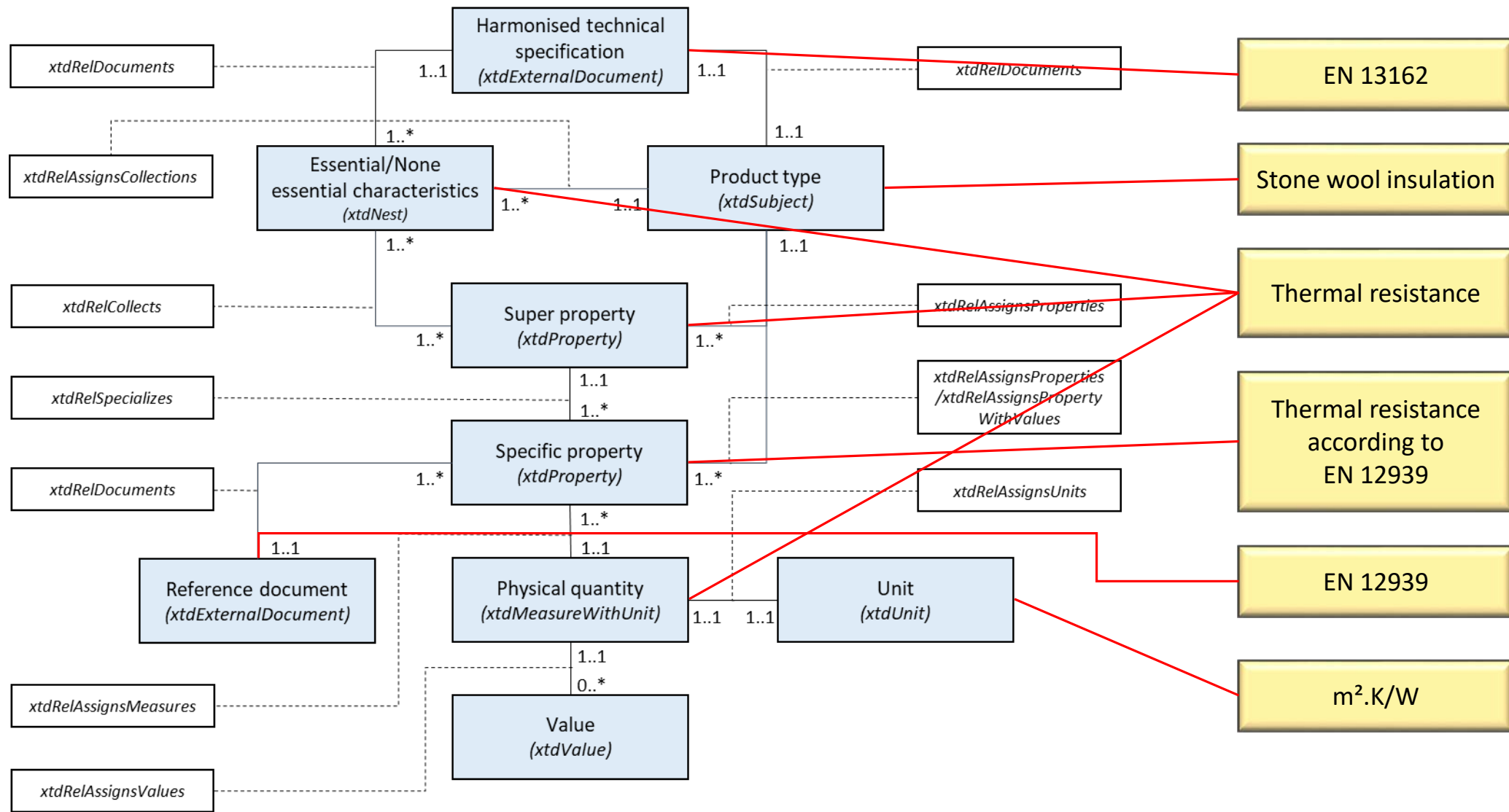
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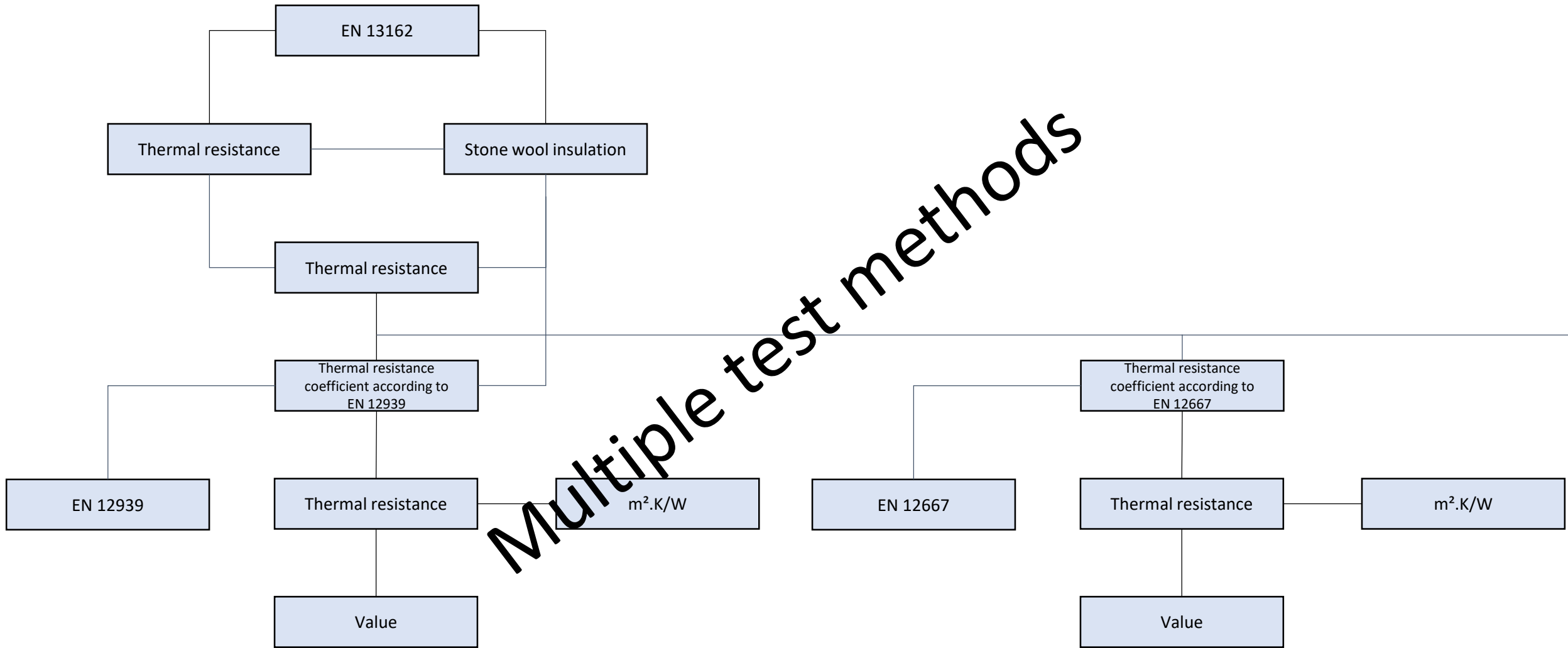
CEN/TC 442/WG 4 Secretariat



Doc 2 – Framework for Product Data Templates under CPR



Doc 2 – Framework for Product Data Templates under CPR



Multiple test methods

Doc 2 – Framework for Product Data Templates under CPR

Why Construction Products Regulation (CPR) and harmonised standards?



Construction Products Regulation (CPR)

- Lays down harmonised rules for the marketing of construction products in the EU
- Provides a common technical language to assess the performance of construction products
- Ensures reliable information is available to professionals, public authorities, and consumers, so they can compare the performance of products from different manufacturers in different countries



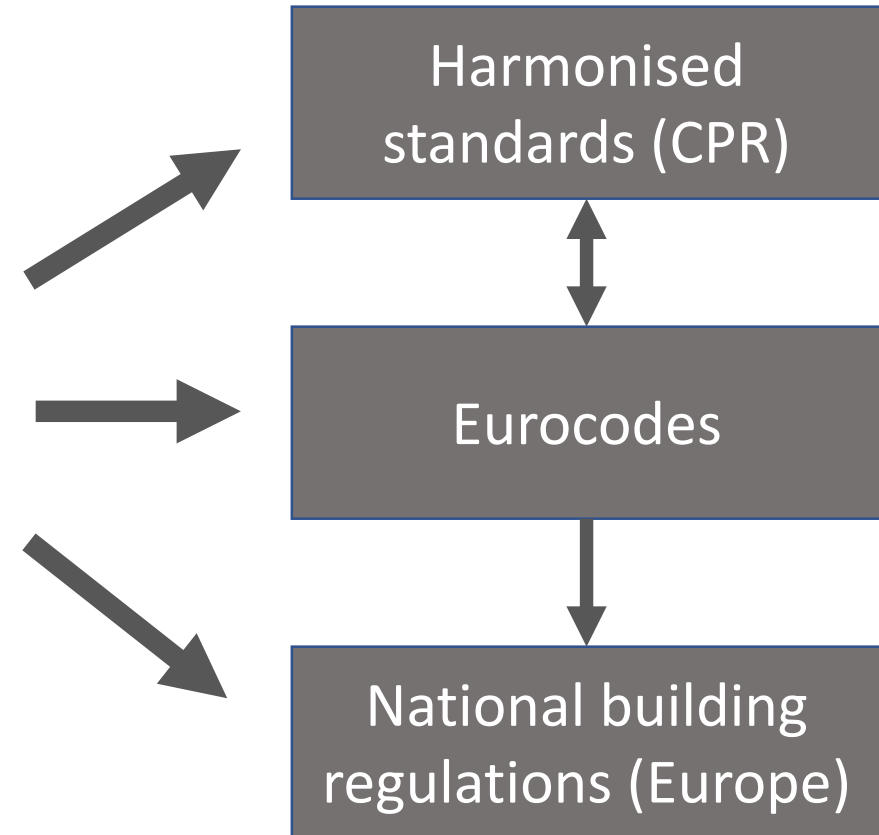
CPR - BASIC REQUIREMENTS FOR CONSTRUCTION WORKS

1. Mechanical resistance and stability
2. Safety in case of fire
3. Hygiene, health and the environment
4. Safety and accessibility in use
5. Protection against noise
6. Energy economy and heat retention
7. Sustainable use of natural resources



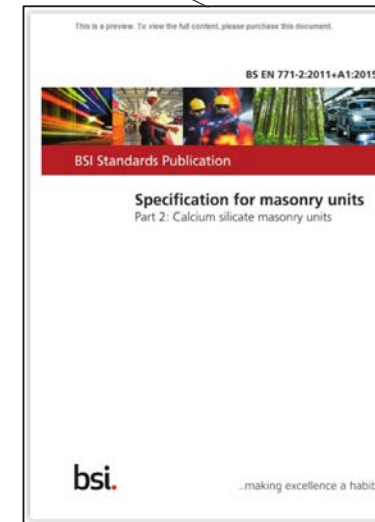
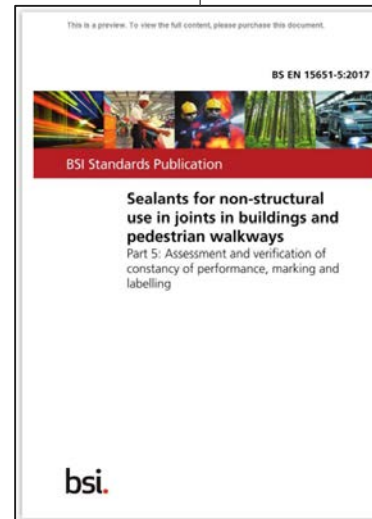
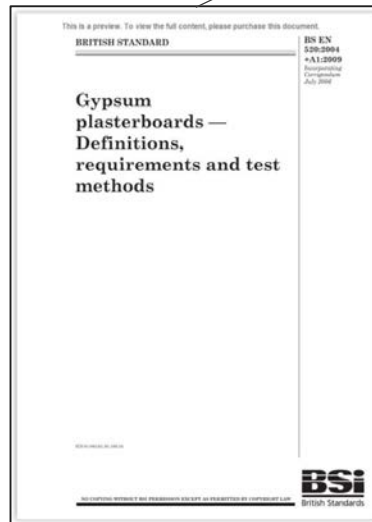
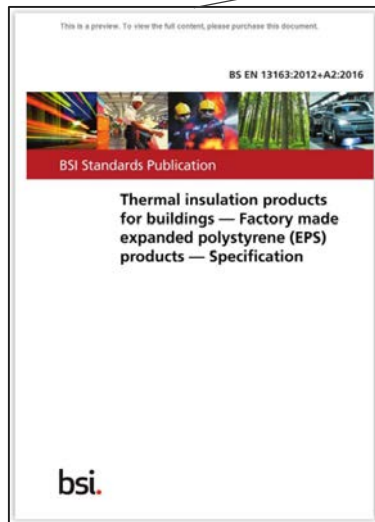
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Construction Products Regulation (CPR)

Harmonised standards



PDT creation process

CPR

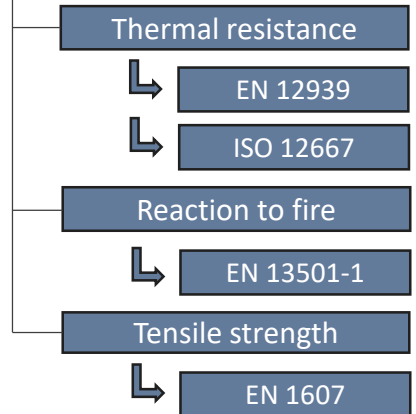
EN 13162 - thermal insulation products for buildings - factory made mineral wool (MW) products - specification



Annex ZA

Construction Products: Factory made mineral wool (MW) products			
Intended uses: Thermal insulation for buildings			
Requirement/Characteristic from the mandate	Requirement clauses in this European Standard	Levels and/or classes	Notes
Reaction to fire	4.2.6 Reaction to fire	Euroclasses	-
Release of dangerous substances to the indoor environment	4.3.13 Release of dangerous substances	-	-
Acoustic absorption index	4.3.11 Sound absorption	-	Levels
Impact noise transmission index (for floors)	4.3.9 Dynamic stiffness	-	Levels
	4.3.10.2 Thickness, d_L	-	Classes
	4.3.10.4 Compressibility	-	Levels
Direct airborne sound insulation index	4.3.12 Air flow resistivity	-	Levels
	4.3.12 Air flow resistivity	-	Levels
Continuous glowing combustion	4.3.15 Continuous glowing combustion	-	-
Thermal resistance	4.2.1 Thermal resistance and thermal conductivity	-	Levels of λ
	4.2.3 Thickness	-	Levels or classes
Water permeability	4.3.7.1 or 2 Water absorption	-	Level
Water vapour permeability	4.3.8 Water vapour transmission	-	Levels
Compressive strength	4.3.3 Compressive stress or compressive strength	-	Levels
	4.3.5 Point load	-	Levels
Durability of reaction to fire against heat, weathering, ageing/degradation	4.2.7 Durability characteristics ³	-	b
Durability of thermal resistance against heat, weathering, ageing/degradation	4.2.1 Thermal resistance and thermal conductivity	-	c
	4.2.7 Durability characteristics	-	Classes ⁴
Tensile/Flexural strength	4.3.4 Tensile strength perpendicular to faces ⁵	-	Levels
Durability of compressive strength against ageing/degradation	4.3.6 Compressive creep	-	Levels

Essential characteristics



Declaration of Performance

Declaration of Performance No RW-PL/G-DoP-1037/T/13/w1

CE

- Unique identification code of the product-type: RW-PL-G-1037
- Type and serial number allowing identification of the product: See the product label: Fixrock 040 vs d=50-200mm, MW-EN 13162-T3-CS(10)0,5-TR1-WLP
- Intended use of the construction product, in accordance with the applicable harmonized technical specification, as foreseen by the manufacturer: Thermal insulation for building
- Name, registered trade name or trade mark and contact address of the manufacturer as required under article 11(5): ROCKWOOL® Hungary Kft, Keszthelyi út 53, Tapolca H-8300
- System of attestation of conformity: System 1+ System 3
- Notified Certification body ÉMI Eptésügyi Minőségellenőrző Innovációs Nonprofit Kft, Dózsegi út 37, Budapest HU-1113 No. 1415 performed, carried out the initial type testing, the initial inspection of the manufacturing plant and of factory production control and the continuous surveillance, assessment and evaluation of factory production control and issued the CE Certificate of Conformity No 1415-CPD-35-(C-7/2010)
- Declared Performance: Fixrock 040 vs d=50-200mm; MW-EN 13162-T3-CS(10)0,5-TR1-WLP

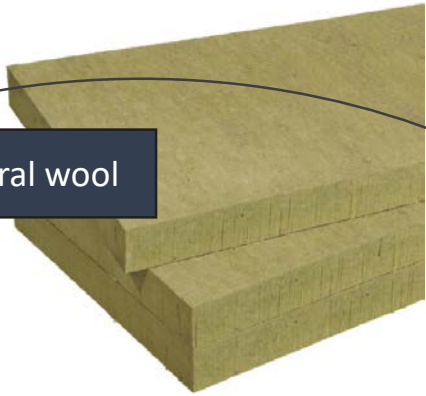
Essential Characteristics	Clauses in this and other European standard(s) related to essential characteristics	Harmonized standard EN 13162:2008	Declared value / NPD ³
Reaction to fire	4.2.6 Reaction to fire	Euroclasses	A1
Release of dangerous substances to the indoor environment	4.3.13 Release of dangerous substances	EU level not yet available	*
Acoustic absorption index	4.3.11 Sound absorption	α_w (AP) ¹ and α_w (AW) ¹ declared	NPD
Impact noise transmission index (for floors)	4.3.9 Dynamic stiffness	s: SD ¹ declared	NPD
	4.3.10.1 Thickness, d_L	d_L declared and classes for thickness tolerances T6 or T7	NPD
	4.3.10.3 Compressibility c	CP ¹ declared	NPD
Direct airborne sound insulation index	4.3.12 Air flow resistivity	AF, AF ¹ declared. Direct airborne sound insulation index	NPD
	4.3.12 Air flow resistivity	AF, AF ¹ declared.	NPD
Continuous glowing combustion	4.3.15 Continuous glowing combustion	EU level not yet available	*
Thermal resistance	4.2.1 Thermal resistance and thermal conductivity	Declared R and λ if possible	See table 1 0,640 W/mK
	4.2.3 Thickness	T ¹ class for thickness tolerance	T3
Water permeability	4.3.7.1 Short term water absorption	WS: declared W _s	NPD
Water vapour permeability	4.3.7.2 Long term water absorption	WL(P): declared W _L	≤ 3 kg/m ²
Compressive strength	4.3.8 Water vapour transmission	Declared μ (MUF) or Z ¹	NPD
	4.3.3 Compressive stress or compressive strength	CS(10) ¹ or CS(10Y) ¹ declared	≥ 0,5 kPa
Durability of reaction to fire against heat, weathering, ageing/degradation	4.3.5 Point load	PL(5) ¹ declared	NPD
	4.2.9.2 Durability of reaction to fire	Reaction to fire against ageing	not change with time
Durability of thermal resistance against heat, weathering, ageing/degradation	4.2.1 Thermal resistance and thermal conductivity	Declared R and λ if possible	not change with time
	4.2.6 Dimensional stability for 48h exposure at (23±2)°C and 90±5% relative humidity	The relative changes in thickness	≤ 1,0%
Tensile strength	4.3.2.1 Dimensional stability at specified temperature	DS(T) ¹ declared	NPD
	4.3.2.2 Dimensional stability under specified temperature and humidity conditions	The relative changes in thickness DS(TH) declared	NPD
Durability of compressive strength against ageing/degradation	4.2.9 Durability characteristics	4.2.1, 4.2.2, 4.2.6 EN 13162:2008	not change with time
	4.2.7 Tensile strength parallel to faces	σ declared, high enough to support twice the weight of the full size product	OK
Durability of compressive strength against ageing/degradation	4.3.4 Tensile strength perpendicular to faces	TR ¹ declared	NPD
	4.3.6 Compressive creep	CC(σ , t, σ_c) ¹ or CC(σ , t, σ_c) ¹ declared	NPD

¹ no performance determined
² * indicates relevant class of level or declared value
³ national regulations not available
⁴ according to national regulations; see Safety Use Instruction Sheet

CPR

EN 13162 - thermal insulation products for buildings - factory made mineral wool (MW) products - specification

Mineral wool



Common European technical language

None-Essential characteristics

Racking resistance
EN 14608

Burglar resistance
EN 14351-1

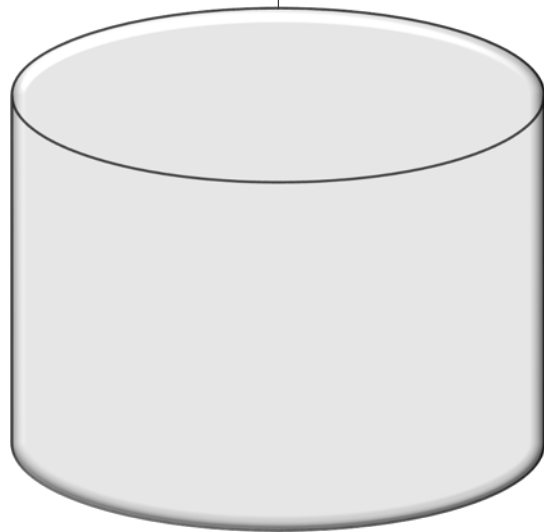
Essential characteristics

Thermal resistance
EN 12939
ISO 12667

Reaction to fire
EN 13501-1

Tensile strength
EN 1607

**Data dictionary based on
EN ISO 12006-3**





Window

Essential characteristics

Thermal transmittance



EN ISO 10077-2



EN ISO 12567-2

Resistance to fire



EN 13501-2

Watertightness



EN 1027

None-Essential characteristics

Racking resistance



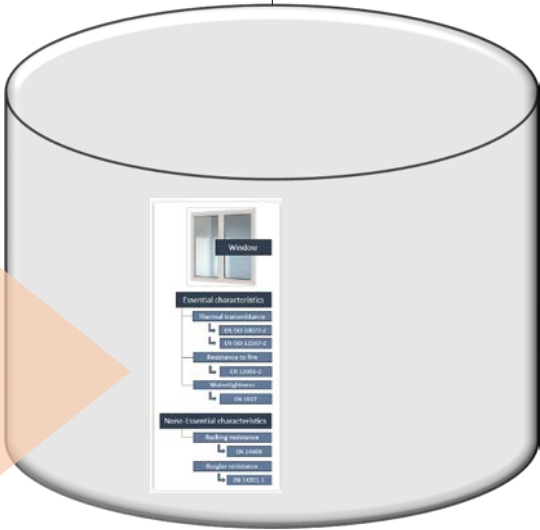
EN 14608

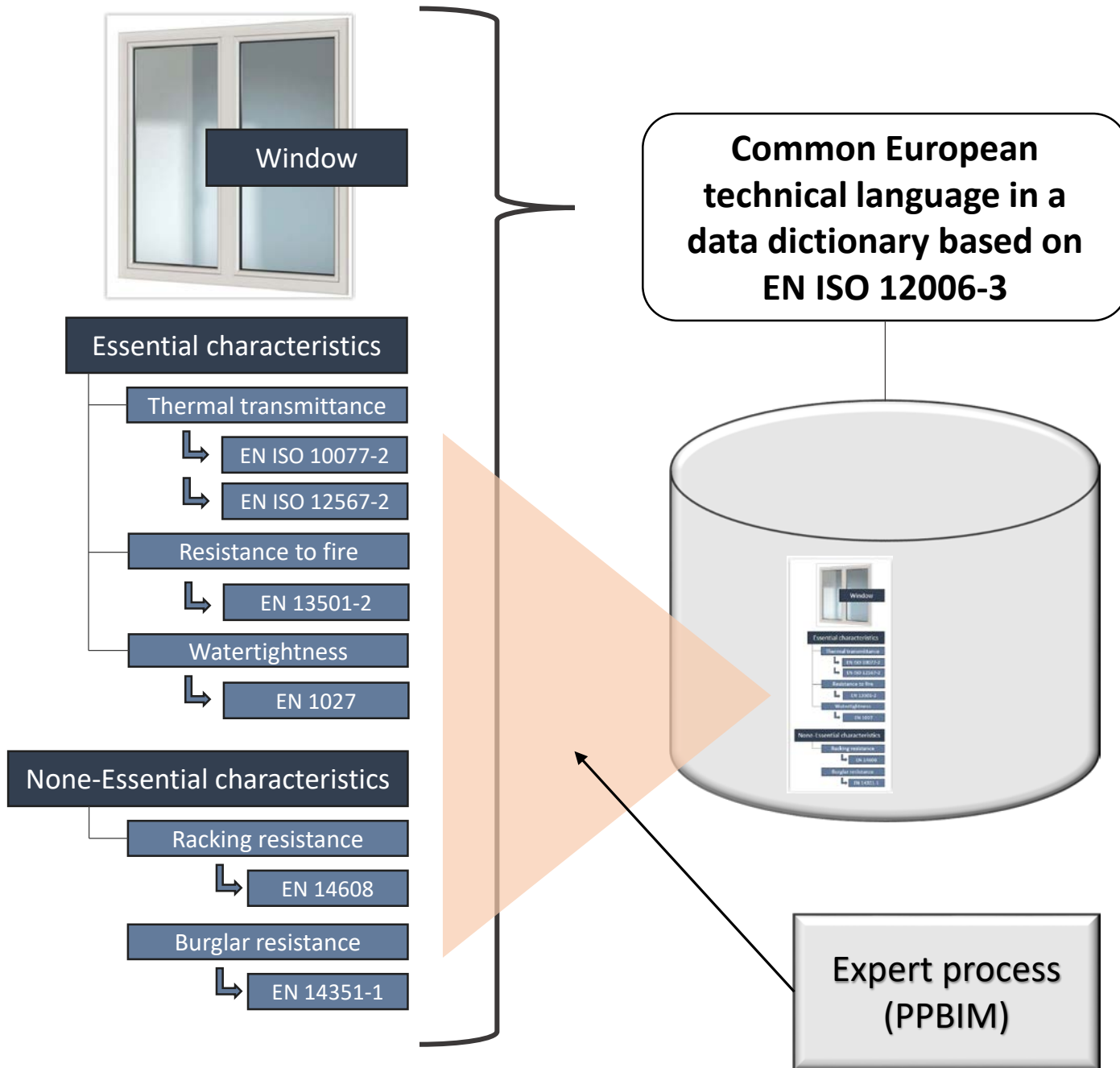
Burglar resistance

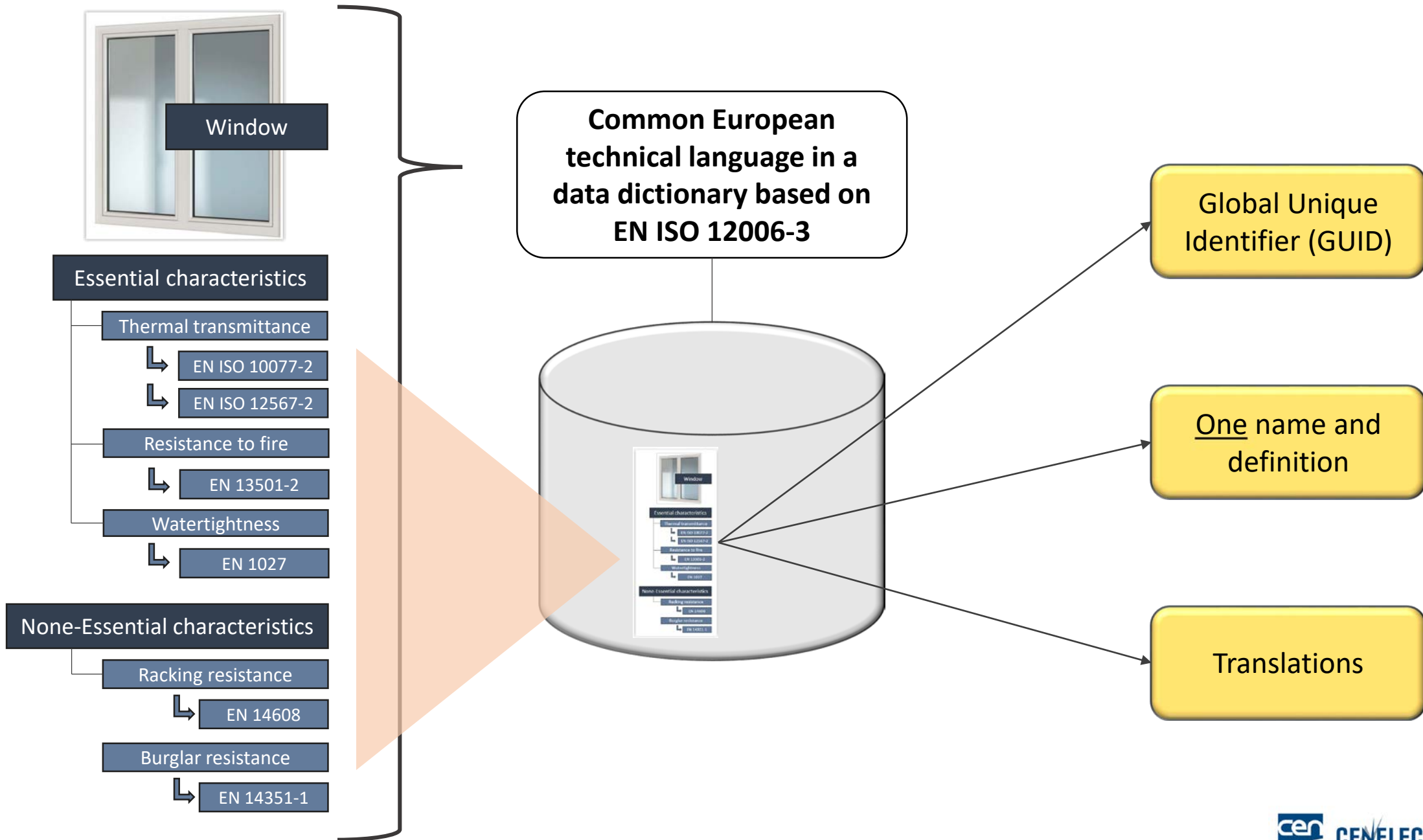


EN 14351-1

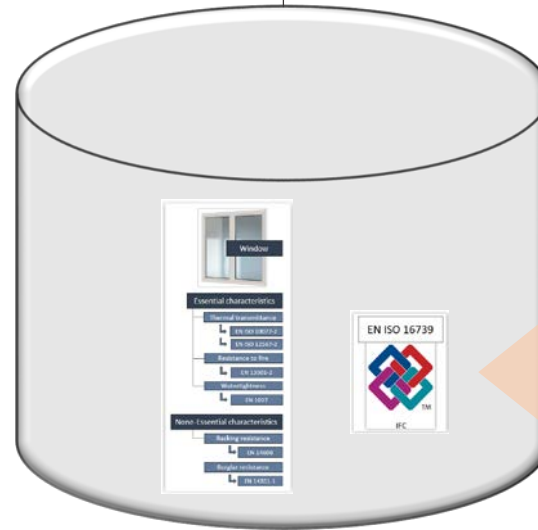
Common European technical language in a data dictionary based on EN ISO 12006-3







The IFC standards objects and properties in a Data Dictionary



EN ISO 16739





Window

Essential characteristics

Thermal transmittance

↳ EN ISO 10077-2

↳ EN ISO 12567-2

Resistance to fire

↳ EN 13501-2

Watertightness

↳ EN 1027

None-Essential characteristics

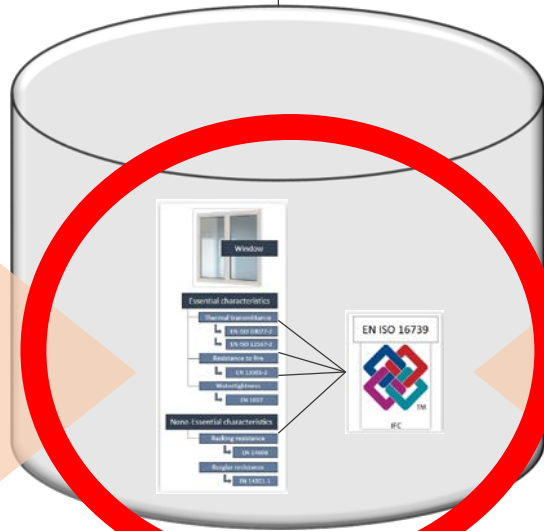
Racking resistance

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Burglar resistance

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Ifc properties are linked with properties from CEN/CENELEC standards in a Data Dictionary



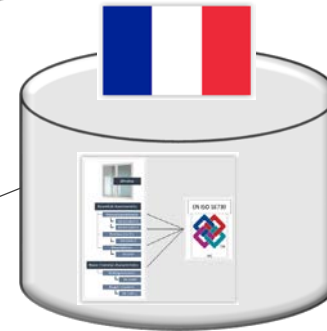
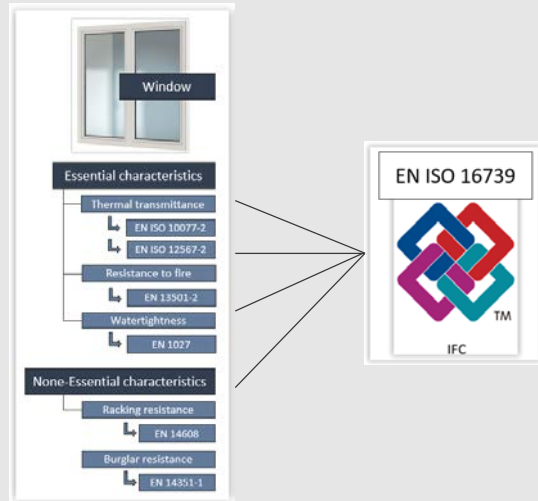
EN ISO 16739



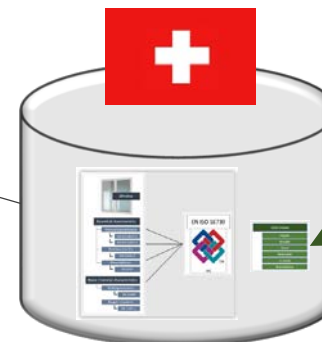
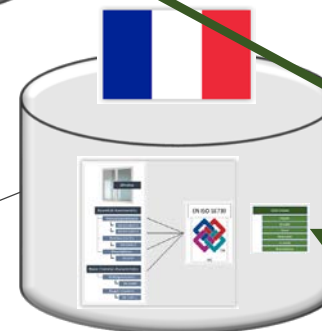
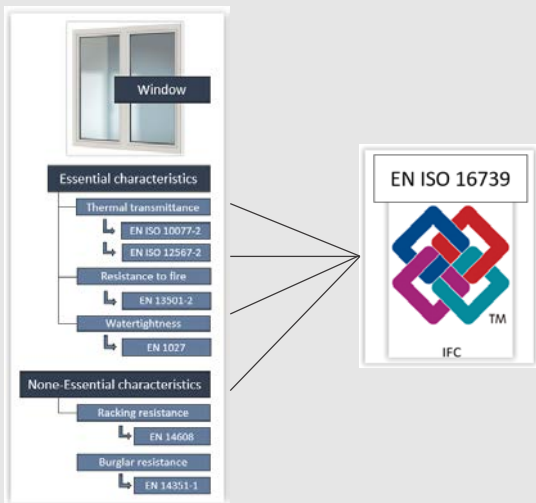
TM

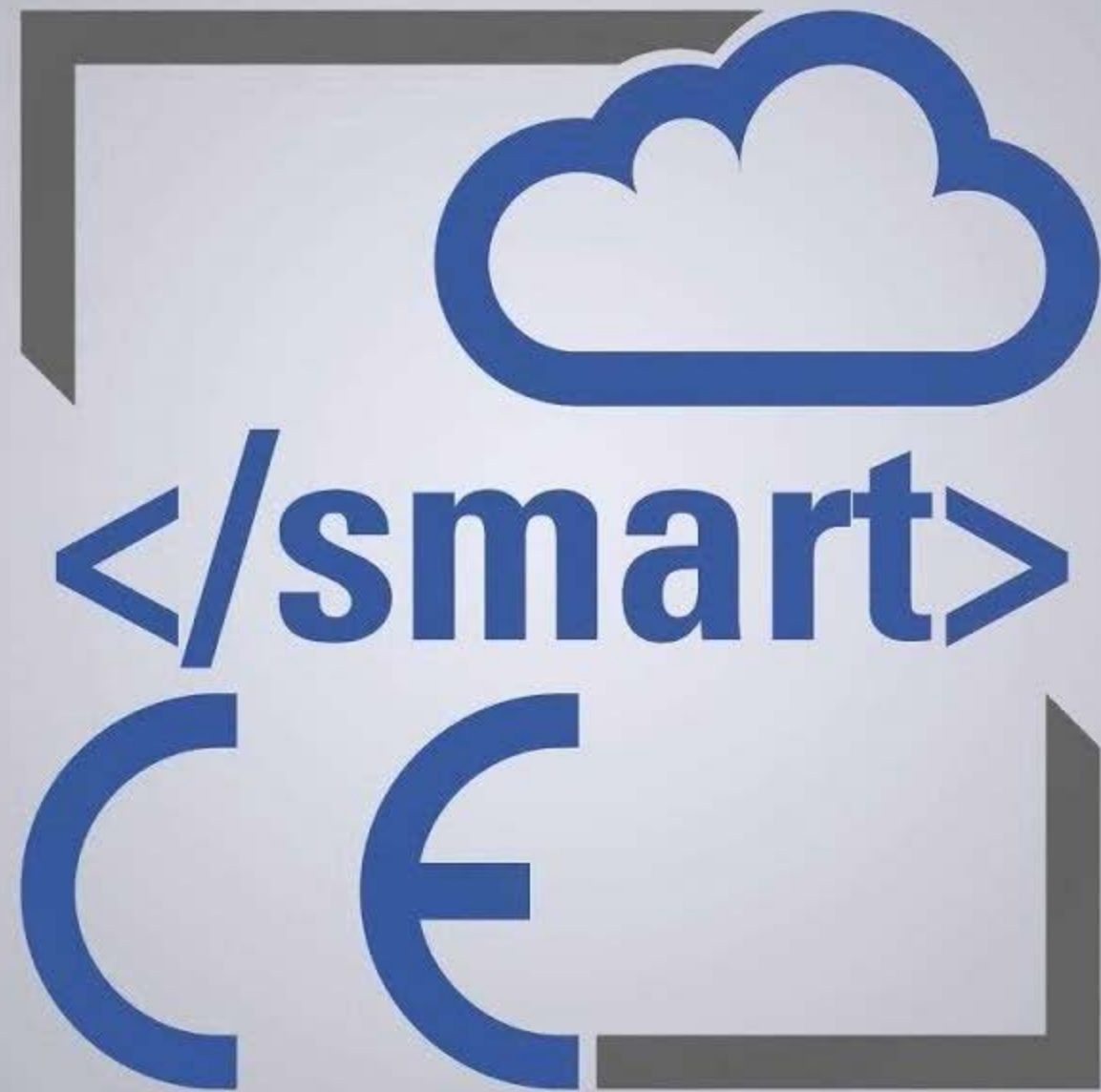
IFC

One single European approach, mandatory for all European member states

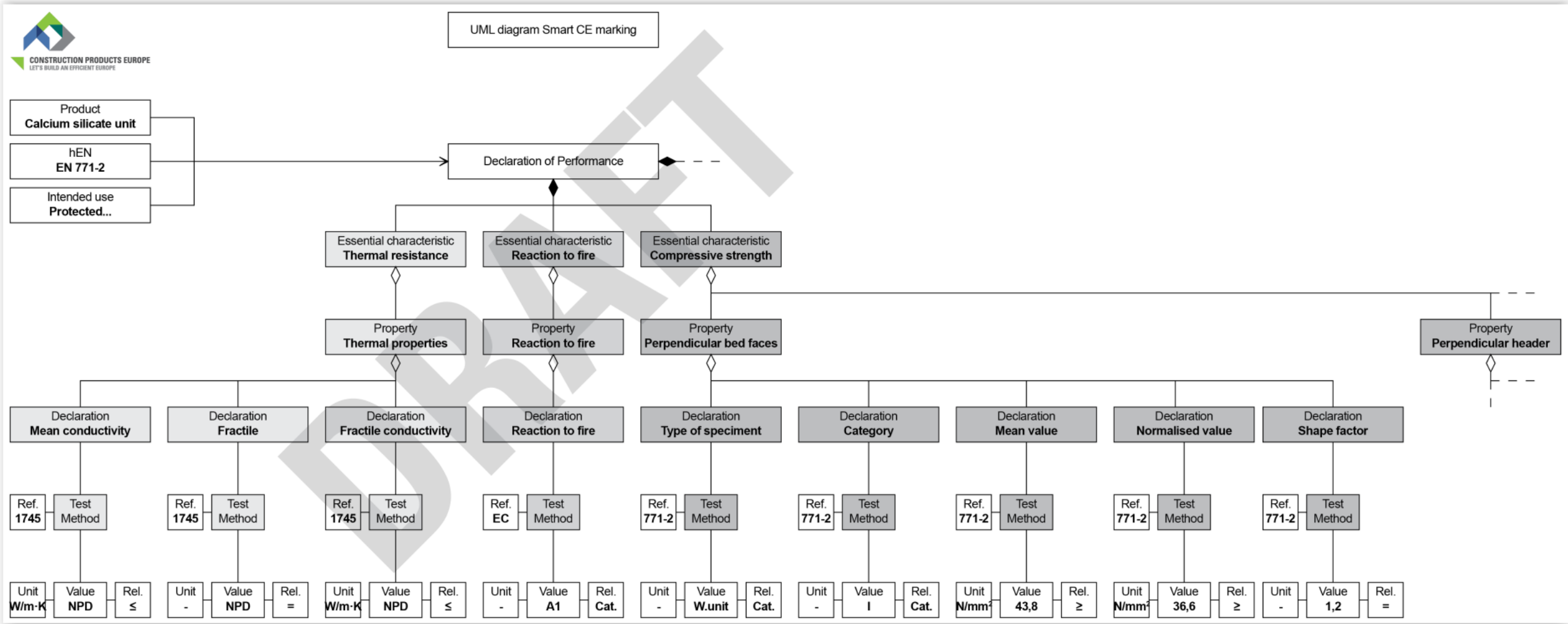


One single European approach, mandatory for all European member states





Alignment with Smart CE marking

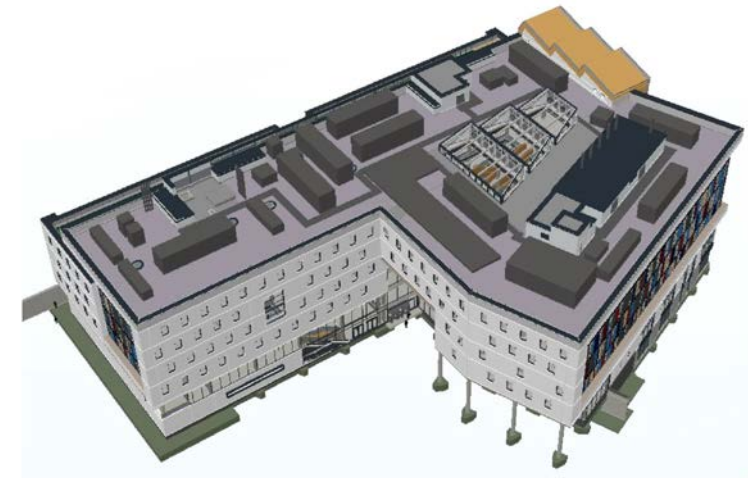
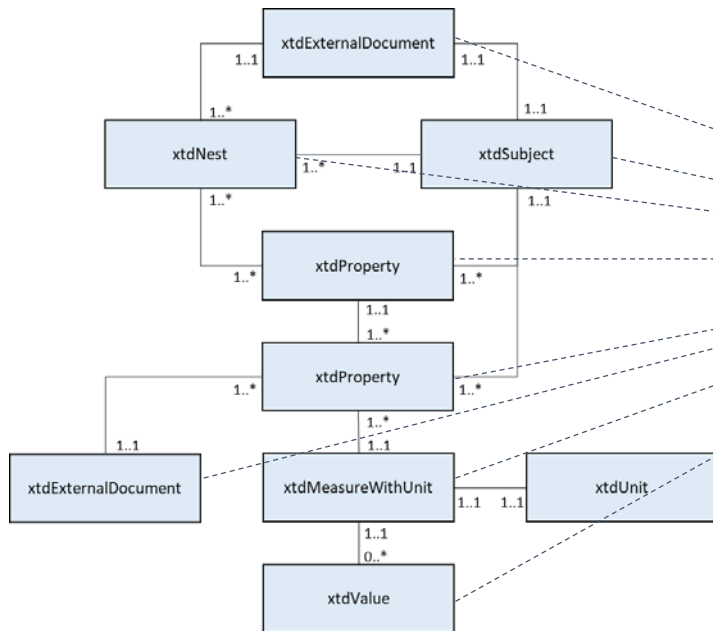


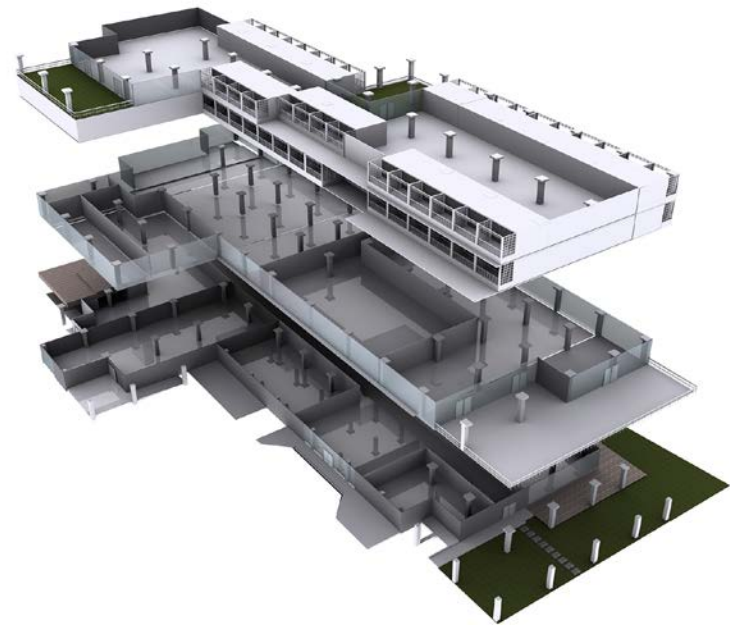
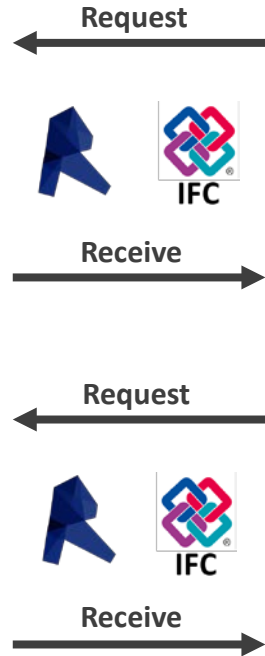
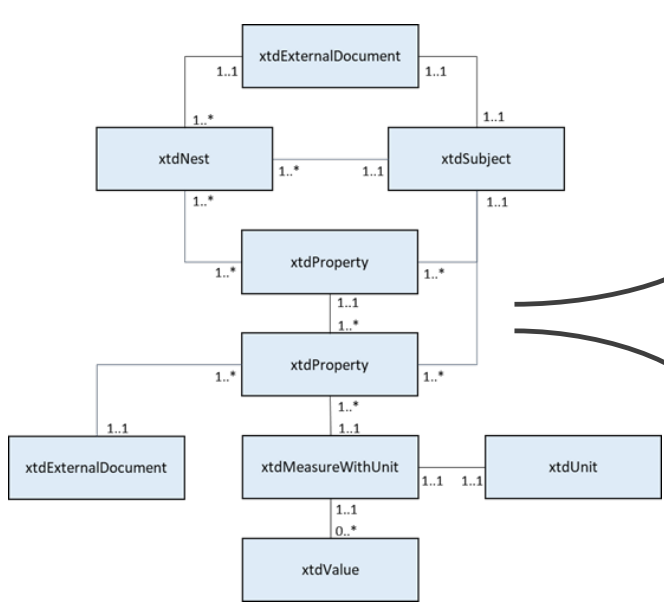
CEN/TC 442

Data structure

Data request/delivery

Model





THANKS

Lars Chr. Fredenlund



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