

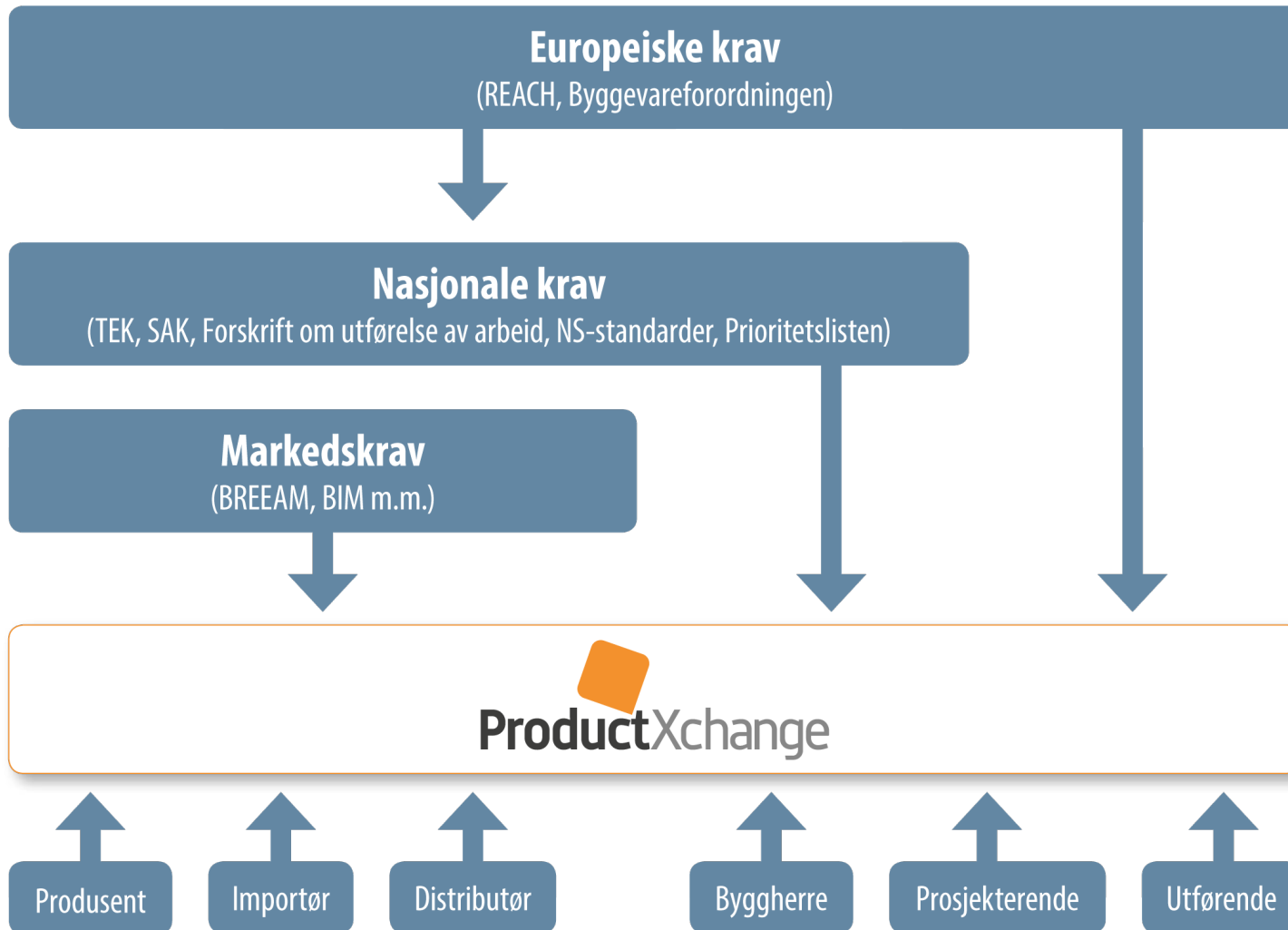


og

BIM

Espen Schulze
R&D Manager
coBuilder AS

Først! - krav til produkter for byggverk



EU-prosjekter

- ✓ ProductXchange er resultatet av to “NPD” prosjekter finansiert av EUs 7. Rammeprogram for Forskning og Utvikling og virkemiddelet Forskning for SMB
- ✓ ProductXchange er støttet av Entreprenørforeningen - Bygg og Anlegg (EBA), sammen med de europeiske bransjeforeningene FIEC, UNIEP og GCI-UICP
- ✓ ChemXchange-prosjektet (CXC) (2009-2012) fikk en støtte på EUR 2.226.426
- ✓ ProductInfoX-prosjektet (PIX) (2013-2016) fikk en støtte på EUR 2.173.226



ChemXchange-prosjektet

Mål

Tilby den europeiske byggenæringen et skreddersydd, rimelig, brukervennlig, elektronisk informasjonssystem for kjemisk informasjon

Herunder

- Kjemisk risikovurdering
- Kjemisk kommunikasjon oppover og nedover i leverandørkjeden
- Kjemikaliehåndtering
- Adressere utfordringene i den europeiske bygg- og anleggssektoren relatert til manglende juridisk samsvar mellom eksisterende og ny kjemisk lovgivning



ProductInfoX -prosjektet

Mål

Utvikle et kostnadseffektivt system for utveksling av lov- eller markedspålagt informasjon for byggevarer

Herunder

- Identifisere Europeiske krav til byggevarer (CPR)
- Identifisere nasjonale og regionale krav i medlemslandene
- Identifisere markedskrav
- Studier av 50 produkttyper dekket av harmoniserte standarder eller europeiske tekniske vurderinger under Byggevareforordningen (CPR)
 - [Liste 50 produkttyper](#)





ProductXchange

Hvem er systemet for?

- Byggherre
- Prosjekterende
- Utførende
- Produsent/importør
- Distributør



 ProductXchange

Hvilke produktområder?

- Byggevarer
- VVS
- Elektro
- Verktøy
- Maling



 ProductXchange

Hvem bruker systemet i dag?

- Alle de store entreprenørene



SKANSKA



PEAB

- 4000 håndtverksbedrifter herunder

Caverion

otera



- Byggherrer som



STATSBYGG

UNDERSVINGSBYGG

Så hva med BIM?

- ProductXchange leverer «As-Built» produkter til BIM-modellen



Hvordan?

All produktinformasjon i ProductXchange knyttet mot buildingSMART Data Dictionary (bSDD)



The screenshot displays a product information page for a 'subject'. The page is divided into two main sections: a top section for metadata and a bottom section for properties.

Metadata Section:

- ID:** 3vHXgwoT0Hsm00051Mm008
- Status:** DRAFT
- Date:** 2001.11.23
- Material:** glass wool
- Translations:** laine de verre (French), glassull (Norwegian)
- Material Type:** mineral wool manufactured from glass fibres
- Actions:** Read More (with a downward arrow icon), Add comments...

Properties Section:

has properties

- compressive strength in kn/m2
- fire class, fire classification
- short term water absorption
- long term water absorption

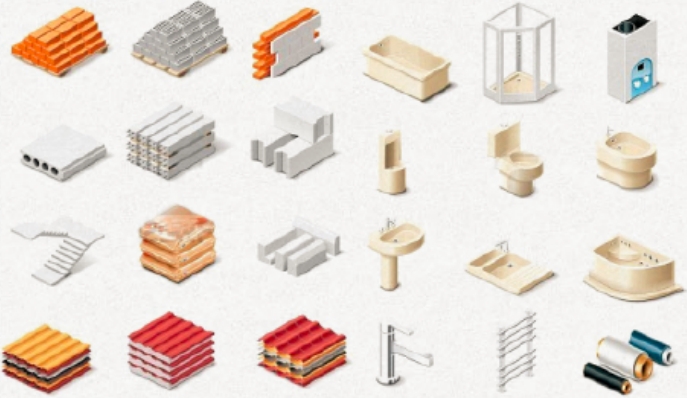
Hvordan?

coBuilder Products System

- API mot bSDD
- Brukes internt
- Senere eksternt

Products[®]
Describe the world around you

Welcome to Products web site



Finally **coBuilder** present a tool that uses Products which makes it easy to provide operation and maintenance documentation in a professional manner....

Products aims to streamline the information flow in the construction industry. Products systems that make it easier for the players in the industry to reach each other with relevant and desired information. In addition to operation and maintenance easy Products has helped develop several systems that help to streamline communication between the players.

Sign in

Username

Password

Stay signed in

Egenskaper og testmetoder iht produktstandarder

Product Type: window

--- All properties ---

Properties

- explosion resistance
- air permeability
- burglar resistance
- ventilation
- solar factor
- operating forces
- transparency; light transmittance
- release of dangerous substances
- height
- mechanical strength
- acoustic performance**
- bullet resistance

Reference standard and measures for acoustic performance

Reference standard	Measure	Unit
EN ISO 140-3 - acousti...	sound insulation according to ...	decibel
EN 14351 -1 - window...	sound insulation according to ...	decibel

EN 14351 -1 - windows and doors product standard, performance characteristics part 1: windows and external pedestrian doors without resistance to fire and/or smoke leakage characteristics

Ytelsesverdi iht testmetode

Product Info



VINDU SH 1FAG BASIC V 9X12

Supplier: Lyssand Treindustri AS
Product Type: window

DoP properties:

Load-bearing capacity of safety devices load-bearing capacity of safety devices

- EN 948... [load-bearing capacity of s...] = 6.7 newton
- EN 14609... [load-bearing capacity of s...] = 6.7 newton
- EN 14351... [load-bearing capacity of s...] = pass ABC unitless

Acoustic performance acoustic performance

- EN ISO 140... [sound insulation according...] 25 ABC decibel
- EN 14351... [sound insulation according...] ABC decibel


+ Add New Image

Documents

- Lyssand Sidehenglset (SH)
- Lyssand Sidehengslet vindu
- Lyssand Sidehengslet vindu


Vare knyttet mot produkttype (bSDD subject)


Product Information



LYSSAND

Picture 1 of 1: Lyssand Sidehengslset (SH)



Product Information	Select language:  International English <input type="button" value="v"/>
Product name	VINDU SH 1FAG BASIC V 9X12
Description	SIDEHENGSLSET LYSSAND
Supplier	Lyssand Treindustri AS
Product type	window
Supplier's product number	SHV 09X12
GTIN	7066400067541
Harmonized standard	EN 14351 -1

Produktets ytelsesverdier

Product properties				
SDS	Documents	Environmental	Wholesalers	Related products
Dop Properties	Value	Unit	Reference Standard	
Essential characteristic: Watertightness				
water tightness; watertightness; watertightness; watertightness	9A	(unitless)	EN 1027 - windows and doors - watertightness - test method	
Essential characteristic: Dangerous substances				
release of dangerous substances	false	(unitless)	EN 14351 -1 - windows and doors product standard, performance characteristics part 1: windows and external pedestrian doorsets without resistance to fire and/or smoke leakage characteristics	
Essential characteristic: Resistance to wind load				
deflection		(unitless)	EN 12211 - windows and doors - resistance to wind load - test method	
pressure	class 3	(unitless)	EN 12211 - windows and doors - resistance to wind load - test method	
Essential characteristic: Load-bearing capacity of safety devices				
load-bearing capacity of safety devices	pass	(unitless)	EN 14351 -1 - windows and doors product standard, performance characteristics part 1: windows and external pedestrian doorsets without resistance to fire and/or smoke leakage characteristics	

Kilder for verdier

- Ytelsesverdier fra SDS
- Ytelsesverdier fra DoP
- Ytelsesverdier fra EPD
- Ytelsesverdier fra annen relevant dokumentasjon (Geometri, FDV etc)

Environmental impact	Indicator value for the Reference Service Life	Units
Consumption of energy resources		
Total primary energy	484	MJ
Renewable energy	20.7	MJ
Non-renewable energy	463	MJ
Depletion of natural resources (ADP)	0.190	kg équivalent antimoine (Sb)
Total water consumption	244	l
Solid waste:		
Recovered waste (total)	1.095	kg
Waste disposed of:		
Hazardous waste	0.381	kg
Non-hazardous waste	1.05	kg
Inert waste	20.1	kg
Radioactive waste	0.00182	kg
Climate change	31.4	kg équivalent CO ₂
Atmospheric acidification	0.203	kg équivalent SO ₂
Air pollution	3 992	m ³
Water pollution	9.78	m ³
Stratospheric ozone depletion	3.38 E-10	kg CFC équivalent R11
Formation of photochemical smog	0.0105	kg équivalent éthylène
Eutrophication	14.1	g eq PO ₄ ³⁻ /UF

Nytt verktøy for å lage ytelseserklæringer



Have a question?



LOG IN

EN

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Create your DECLARATION OF PERFORMANCE

Easy to use tool for creating
DoP according to Construction
Products Regulation (CPR)

[Request DEMO](#)






Essential characteristic	Properties	Reference standard	Performance
Reaction to fire	reaction to fire	EN 13501-1 - fire classification of ...	F
Continuous glowing combustion	continuous glowing combustion	No Reference standards	C-s1,d1
Water permeability	water absorption	EN 12087 - thermal insulating pro...	C-s1,d2
			C-s2,d0
		EN 12088 - thermal insulating pro...	C-s2,d1
			C-s2,d2
Release of dangerous substances to the...	release of dangerous substances	EN 12087 - thermal insulating pro...	C-s3,d0
			C-s3,d1
		EN 13163 - thermal insulation pro...	C-s3,d2
			D-s1,d0
Direct airborne sound insulation index	dynamic stiffness	EN 29052-1 - acoustics - determin...	D-s1,d1
			D-s1,d2
Acoustic absorption index	sound absorption	EN 13168 - thermal insulation pro...	D-s2,d0
			D-s2,d1
Impact noise transmission index (for flo...	dynamic stiffness	EN 29052-1 - acoustics - determin...	D-s2,d2
			D-s3,d0
	compressibility	EN 12431 - thermal insulating pro...	D-s3,d1
			D-s3,d2
	thickness	EN 12431 - thermal insulating pro...	E
			E-d2
			F



DoPcreator

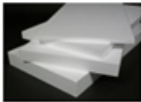
- ✓ Ytelseserklæringen gir markedsadgang for byggevaren
- ✓ Ytelsesverdiene brukes opp mot tekniske krav for byggverket

DoP Number: EPS 50-CFR-16/01/2014
 Version: 1 Fra 01.09.2014
 Legislation: Norge
 Language: Norsk



Declaration of Performance

1. Entydig identifikasjonskode for produkttypen

Entydig identifikasjonskode for produkttypen	EPS; fabrikkframstilte produkter av ekspandert polystyren (EPS); ekspandert polystyren	
---	--	---

2. Intended use/es

Produktets tilkåttede bruk

3. Manufacturer

Produsent representant	Isopol i Norrköping AB
Adresse	testadress, Stockholm (4567)
Telefon	011-126500
Hjemmeside	www.isopolssystem.se

4. Authorized representative

Ikke nødvendig

5. System's of AVCP


System	System 3
---------------	----------

6a. Harmonised standard

Produsenten skal gjennomføre	produksjonskontroll i fabrikk
har utført:	fastsettelse av produkttype på grunnlag av typeprøving (basert på stikkprøver foretatt av produsenten), typeberegning, tabelverdier eller beskrivende dokumentasjon av byggevaren
i samsvar med system:	System 3

7. Declared performance/s

Vesentlig egenskap	Ytelse	Ref. Std.	Measure	HEN referanse
egenskaper ved brannpåvirkning materialets egenskaper ved brannpåvirkning	E	NS-EN 13501-1	brannklassifisering av bygningsprodukter og bygningselementer iht EN 13501-1	
vanngjennomtrengelighet vannabsorpsjon	2,5 vol.	NS-EN 12087	vannabsorpsjon ved delvis nedsenkning iht EN 12087	
	2,0 vol.	NS-EN 12088	water absorption by diffusion according to EN 12088	
tall for direkte luftlydisolasjon dynamisk stivhet	SD5	NS-EN 29052-1	dynamic stiffness according to EN 29052-1	EN 13163
tall for trinnydisolasjon (for gulv) dynamisk stivhet	SD5	NS-EN 29052-1	dynamic stiffness according to EN 29052-1	
varmestandard varmekonduktivitet	0,039	NS-EN 12667	thermal conductivity coefficient according to EN 12667 (λ _f /mK)	
strekfasthet/bøyestrekfasthet bøye-/stivhet	BS100	NS-EN 12089	bending strength according to EN 12089	
dynamisk stivhet	SD5		dynamic stiffness for floors according to EN 29052-1	



This declaration of performance was generated using DoPcreator © 2014
 CoBuilder AS, www.dopcreator.com

1/2

Hva med oversettelser?

- I første omgang oversettes alle termer til 12 språk (PIX)
- Oversettelser er en stor utfordring for bransjen. PIX (coBuilder) går foran



Så...hvordan leveres dette til en BIM?


/OPTIMERA/



Brukersted & Produkter

Sikkerhetsdatablad

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[Brukersted](#)
[Min organisasjon](#)
[Arbeidsinstruks](#)
[Risikovurdering](#)
[Verktøy](#)
[Min brukerkonto](#)

[Rediger](#)
[Inviter bedrift](#)
[Legg til produkt](#)
[Legg til dokument](#)

[Skriv ut](#)
[Ventende Produkter](#)

Nylig vist ▾

Brukersted Drammensveien 134



Systeminformasjon

Viktig melding: Torsdag 13. november vil systemet gjennomgå en oppdatering. Systemet vil være nede i tidsrommet 1600 - 1700

Drammensveien 134

Aktive brukersteder ▾

Inviterte bedrifter ▾ ▲

Se Alle Produkter		SDS med uønskede egenskaper	15	Inviterte bedrifter	34
Produkter	896	Farlig avfall	65	Underordnede brukersteder	0
Stoffkartotek	165	Brukersted kommentarer	0	Lister	7
Dokumenter	5	Brukersted arbeidsinstrukser	0		
Produkter ikke i overenstemmelse	58	Brukersted risikovurderinger	0		

coBuilder PRO

Dine muligheter med coBuilderPRO

Enkel tilgang via smarttelefon

Automatisk overlevering
ved varekjøp

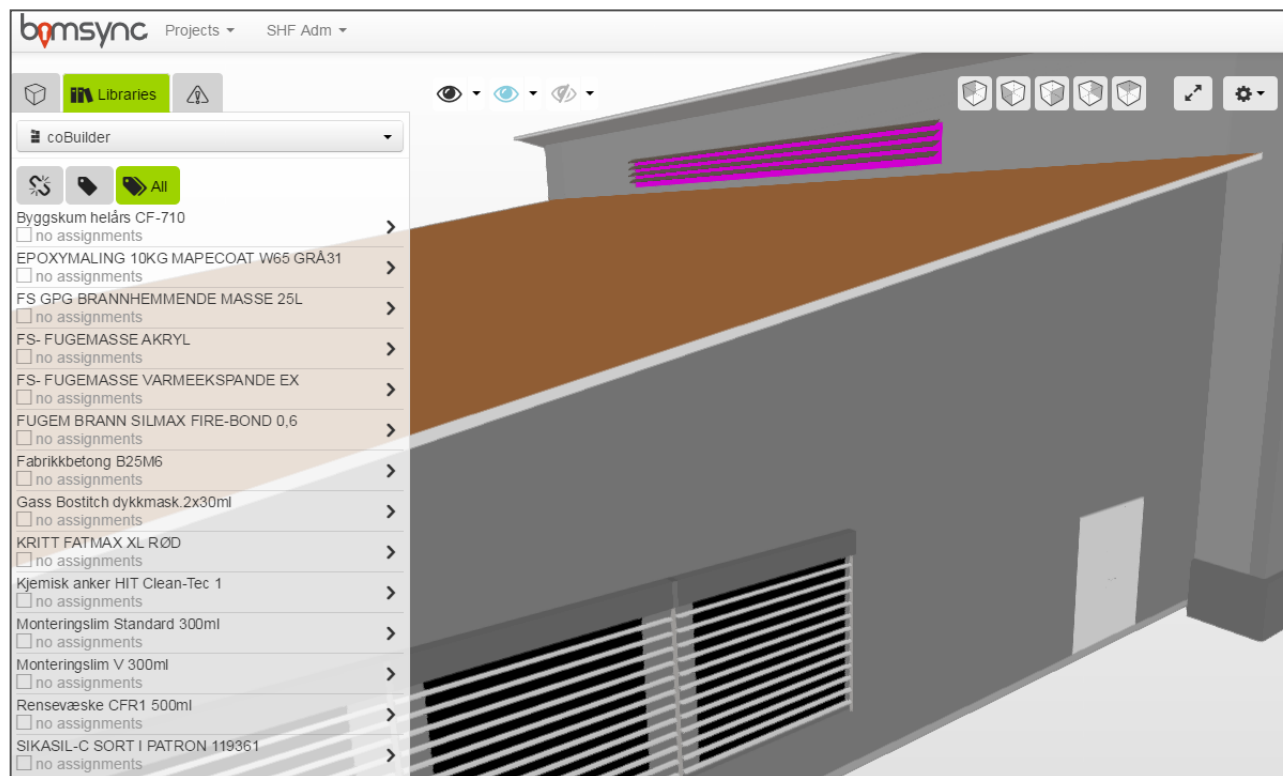
Ta bilder med mobilen
og legg direkte på prosjekt



Skanne produkter
med mobilen

Enkel overlevering av
prosjektinformasjon til din kunde

ProductXchange og coBuilder PRO er integrert med bimsync fra Catenda



IFC4 \longrightarrow bSDD

IFC4 «names» and «descriptions» importert som bSDD-konsepter

The screenshot displays IFC4 data for the class **IfcDoor**. At the top, the class name is shown with its IFC number: **6.1.3.16 IfcDoor**. Below this, the names in German (**Tür**) and French (**Porte**) are listed. A description is provided: "The door is a building element that is predominately used to provide controlled access for people and goods." This description is circled in red. The main part of the image shows a "subject" card with a blue icon. To the right of the card is a list of properties and translations. The property **IfcDoor** is circled in red. Below the list, a detailed description is provided: "a complete unit consisting of a door frame and a door leaf or leaves, supplied with the essential hardware and wheatherseal, as a product from a single source. A barrier to an entry that usually swings or slides to open and close the entry., construction for closing an opening intended primarily for access or egress or both. Typically consisting of a panel that swings on hinges or that slides or rotates, the door is a building element that is predominately used to provide controlled access for people and goods." This detailed description is also circled in red. Blue lines connect the red circles in the top section to the corresponding elements in the subject card.

6.1.3.16 IfcDoor

DE Tür

FR Porte

The door is a building element that is predominately used to provide controlled access for people and goods.

subject

3vHRQ8oT0Hsm00051Mm008

2

2014.09.03 07:36:51

door set, door, doorset

dør med karm, door set, dør

bloc-porte, porte

Türeinheit, Tür


Deur

IfcDoor

a complete unit consisting of a door frame and a door leaf or leaves, supplied with the essential hardware and wheatherseal, as a product from a single source. A barrier to an entry that usually swings or slides to open and close the entry., construction for closing an opening intended primarily for access or egress or both. Typically consisting of a panel that swings on hinges or that slides or rotates, the door is a building element that is predominately used to provide controlled access for people and goods

Relasjoner mellom IFC4-konsepter i bSDD

subject



3vHRQ8oT0Hsm00051Mm008

2

2014.09.03 07:36:51

door set, door, doorset

dør med karm, door set, dør

bloc-porte, porte

Türeinheit, Tür

Deur

IfcDoor

a complete unit consisting of a door frame and a door leaf or leaves, supplied with the essential hardware and wheatherseal, as a product from a singl

Read More

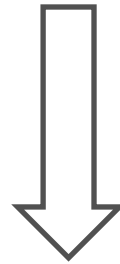
4 Comments

has properties

- concrete element general . structural class
[Contexts: IFC-2x4]
- precast concrete element general . transportation strength
[Contexts: IFC-2x4]
- environmental impact indicators . total primary energy consumption per unit
[Contexts: IFC-2x4]

has subtypes

- door standard case
[Contexts: IFC-2x4]
- gate
[Contexts: IFC-2x4]
- door , ifc window
[Contexts: IFC-2x4]
- not defined
[Contexts: IFC-2x4]



Alle systemer som
baserer seg på
åpenBIM og IFC

Takk for meg