

IFC-EKSPORT FOR MADASTER-PLATTFORMEN

IFC-eksport fra BIM-programvare

Versjon 3.0 – 31/03/22

Innledning

Denne håndboken er ment som en hjelp når du skal importere bygningen din i Madasterplattformen. Filen må være i samsvar med IFC-protokollen for å kunne importeres. Hver enkelt programvare har sin egen fremgangsmåte for dette. Denne håndboken tar for seg Revit 2019 og Archicad 21. Hovedvekten er på allokeringen av materialer, klassifisering iht. NS 3451 og IFCeksporten.

Nettstedet til det nederlandske samarbeidsorganet BIM loket har håndbøker med mer omfattende informasjon relatert til informasjonsleveranser (IDM):

- <u>Handleiding Archicad</u> (v3.0 mai 2020)
- <u>Handleiding Revit</u> (v1.01 oppdatert mai 2020)
- <u>Handleiding Tekla</u> (v1.0 november 2016)

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Revit

Nedenfor forklarer vi kort hvordan du legger NS 3451-koder og materialer til elementer for å klargjøre en fil for Madaster-import. De riktige innstillingene for en IFC-eksport blir også kort forklart. Hvis du vil vite mer om Revit, BIM-standarder og IDM, henviser vi til håndbøker som er tilgjengelige på internett. Den nederlandske Revit-standarden inkluderer mulige innstillinger for en IFC-eksport, og Revit-håndboken gir en svært grundig innføring i spesifikasjonen for informasjonsoverlevering.

Se spesielt delene om NL/SfB og materialer i håndboken for IDM: <u>Handleiding Revit</u> (v1.01 – oppdatert mai 2020)

Legge til «NL/SfB tabell 1» i Revit (NS 3451 i Norge)

Gå til «Manage > Additional Settings > Assembly Code», bla gjennom til NL/SfB-filen og bekreft med OK for å laste den inn i Revit.

Når du har valgt et element, går du til «Edit Type», og klikker i parameteren «Assembly Code» og skriver inn riktig NL/SfB-kode. Det er også mulig å velge «Assembly Code» fra en liste, klikke på blokken med «…» og velge riktig NL/SfB-kode (NS 3451).

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Legge til materialer i Revit

For å kunne lage et materialpass fra en 3D-modell er det viktig at alle elementene er tegnet i 3D og tilegnet et materiale. Derfor må alle elementene tilegnes et materiale.



Manage-fanen > Settings-panelet > Materials.

Revit har tre måter å angi materialet på. Den ene er ved å konfigurere materialet med <By Category>. Da sjekker programmet i «Object Styles» om det er angitt et materialesett for kategorien. Hvis det finnes en underkategori («Subcategory») av materialer koblet til en av geometriene i Revit-familien, brukes materialet som er definert i underkategorien. Brukeren kan også spesifisere riktig materiale direkte i selve elementet, og da blir dette materialet brukt. Revit har sitt eget Autodesk-materialbibliotek. Du kan også importere og bruke NL/SfBmaterialbiblioteket.

Legge til materiale i henhold til NL/SfB som materialbibliotek

I henhold til de nederlandske Revit-standardene NLRS lar NLRS2.5.2 deg finne et komplett materialbibliotek i form av en .adsklib. Filen er basert på NL/SfB tabell 3, som lar deg eksportere materialer direkte til IFC.

- 1. Klikk på Manage-fanen> Settings-panelet > Materials
- 2. Rullegardinmeny (nederst til venstre) > Open Existing Library.

1. Velg .adsklib-biblioteket og åpne filen.

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IFC-eksport fra Revit

Her finner du generell informasjon om IFC og Revit.

Innstillinger for manuell IFC-eksport

IFC-eksportinnstillingene kan justeres manuelt under «*Modify setup*». Her er det viktig å merke av for «*Export IFC common property set*» og «*Export base quantities*» når du skriver IFC-en. Se også bildet nedenfor:

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Archicad

Nedenfor forklarer vi kort hvordan du legger NS 3451-/NL/SfB-koder og materialer til elementer for å klargjøre en fil for Madaster-import. De riktige innstillingene for en IFC-eksport blir også kort forklart.

Legge til NL/SfB i Archicad (NS 3451 i Norge)

Madaster bruker NL/SfB*-metoden for å klassifisere elementene. Du må velge en firesifret kode (tresifret for NS 3451). Koden kan legges til i «Category» og «Properties» i innstillingene for et objekt. I dette vinduet må du åpne «Manage IFC properties» og aktivere «Apply predefined rule». I dette siste vinduet kan du aktivere NL-BE-koding med detaljgraden (firesifret kode). Det siste trinnet er å angi objektets NL/SfB-kode.



Legge til materialer i Archicad

For å kunne lage et materialpass fra en 3D-modell er det viktig at alle elementene er tegnet i 3D og tilegnet et materiale. Derfor må alle elementene tilegnes et materiale som er definert i Archicad i «*Building Materials*» (nye materialer er tillatt). Det er viktig at materialene som brukes, får et tydelig navn som beskriver materialet (betong, steinull osv.). Materialene kan knyttes direkte til en gjenstand eller et element, eller kan brukes i en sammensetning når det dreier seg om et komposittmateriale.

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IFC-eksport

Under «Save as» kan du velge å lagre filen som IFC. Dette gjøres i formatet IFC files. I tillegg må du angi riktig oversetter «Translator» (oversetter). Disse kan konfigureres på to måter: manuelt eller med direkte nedlastbare innstillinger.

Konfigurere IFC-eksport manuelt

Når du konfigurerer manuelt, begynner du med å opprette en ny «Translator» ved å klikke på «Create» og lagre innstillingene et sted på serveren. I tillegg må alle parametere (inkludert faner) konfigureres riktig ved hjelp av innstillingene nedenfor (se figurene). Det er viktig å merke av for alternativet «IFC Base Quantities» i datainnstillingene. Når du har konfigurert alle parametrene riktig, kan du trykke på knappen «Save settings & close» og opprette en IFC-fil med de riktige innstillingene.

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Importere innstillinger for IFC-eksport

På Madasters nettsted (https://docs.madaster.com/files/Archicad_ExportTemplate.tpl) kan du laste ned en forhåndskonfigurert IFC-oversetter, som kan importeres med knappen «Import». Det er viktig for importen at Archicad-prosjektmalen kan velges. Merk av for «Madaster Export», så blir eksporten lastet inn i modellen. Nå er alle parameterne korrekte, og du kan klikke på knappen «Save settings & close» for å bekrefte innstillingene. Deretter kan du lagre IFC-filen med de riktige innstillingene.

Q	rvame or mansiator for import:	
Name		
Translators for Import +	Description:	
01_Bouwkunde coordinatie model import		
02_Constructie coordinatie model import		
03_Installatie coordinatie model import		
04_Bouwkunde parametrisch model import		
05_Constructie parametrisch model import		
06_Installatie parametrisch model import	* SETTINGS	
07_Decompositie BREP import	Conversion Presets:	
08_Decompositie parametrisch import	Model Filter:	
Algemene import		
Allplan Engineering import		
Constructie analysemodel Import	Type Mapping:	
DDS-CAD MEP import		
Exacte geometrie import	Geometry Conversion:	
Freeform modellen import		
Modeleer applicatie import		
Revit MEP import	Layer Conversion:	
Revit Structure import	◆ …	
Scia Engineer import	Material and Surface Conversion	
Tekla Structures import		
Translators for Export +		
01_Bouwkunde coordinatie model export	Replace missing Renovation Status with:	
02_Constructie coordinatie model export	\$	
03_Installatie coordinatie model export	Import IFC Translators	
04_Bouwkunde parametrisch model export		
05_Constructie parametrisch model export	Source file: Export lemplate.tpl	
05_Installatie parametrisch model export	T Q All IFC Schema	
07_Decompositie BREP export		
Alexandre parametrisch export	Name	
Allelan Engineering export	Translators for Import	
BIM basis II S export		
BIM modelchecking en boeveelheden export		
BIM RVB BIM Norm export	▼ ✓ Translators for Export	
COBie 2 export	Madaster Export	
Constructie analyse export		
DDS-CAD MEP export		
Exacte geometrie export		
IEC4 design overdracht, view gebaseerde export		
New Delete Set Preview 🛈 🄁		
	Calested Translaters, 1	
	Selected Translators: 1	
	Cancel Import	

Tekla

Nedenfor forklarer vi kort hvordan du legger NS 3451-/ NL/SfB-koder og materialer til elementer for å klargjøre en fil for Madaster-import. De riktige innstillingene for en IFC-eksport blir også kort forklart. Hvis du vil vite mer om Tekla, BIM-standarder og IDM, henviser vi til håndbøker som er tilgjengelige på internett.

Håndboken for IDM: Handleiding Tekla (v1.0 – november 2016)

Nedenfor finner du en kort beskrivelse av fremgangsmåten i forbindelse med NL/SfB og hvordan du legger til materialer. Det er viktig å kontrollere «Base Quantities» i IFC-eksporten.

NL/SfB

Alle objecten (IfcOpenings benoren daar niet onder) dienen voorzien	F Definities eigenschappenset	
te zijn van minimaal een viercijferige NL-SfB classificatie in het IFC-	Naam VL_EE.xml	Help
extract (bijv. 21.11).	Egenschappenset	
	VL_Commentaar •	Neur
Er dienen twee parameters toegevoegd te worden in het object.inp		
bestand. Tevens dienen de parameters toegevoegd te worden aan	Verwijderen	
de autra aligencebanneneet	Entiteitippen selecteren Attributen selecteren	Lijst met alle geselecteerde eigenschappen
de extra eigenschappenset.	V RobuldingEement	NL-SFB_OMSCHRIJVING, StringValueType
	KcBuildingBementProxy MAIN_REBAR_QUAL	comment. StringValueType
In de eigenschappenset dient een tabblad aangemaakt te worden (in	V fcCovering MANUFACTURER	
het voorbeeld 'VL-commentaar' genoemd. Vervolgens wordt onder	KcDecreteAccessory KcEementAssembly MANUFACTURER_WWY MESHFACTOR	
'Entiteittypen selecteren' aangegeven voor welke ifc entitieten het	V KoFastener	
tobbled appreciate dent to the	Z fcMechanicaFastener money_per_hour_eng	
	fcOpeningElementmoney_per_hour_erec	Bgenechap maken/Wjzgen
Als laatste dient er onder Attributen selecteren de parameters	V IcPlate	Egenschapstype Template-attribuut
worden toegevoegd.	V RCHaing	Gebrukersattrbuut
	V tcReinforcingBar	Abribuut NL-SFB_NUMMERCODE
	V toReinforcingBement Inumbering	Naam NL-SIB nummercode
	V KcSab	Type Tekstregel •
	Z KoWall OPDRACHTNUMMER	
	PAREL_DESCRIPTION	
	PAREL_SIDE	
TIP; De correcte lijst met NL-SfB coderingen is oa te vinden op het	PARTNUMB	* Toevoegen Wilzigen Verwijderen
Biml oket nl		
Dimeokor.m.		

Materialer



Eksport

Export to IFC	
Save Load standard	▼ Save as
Parameters Advanced	
 Assemblies Bolts Welds Surface treatments 	 Base quantities Grid Reinforcing bars

Kontrollere IFC-modellen

Før du laster opp IFC-modellen din til Madaster-plattformen, anbefales det å kontrollere den for fullstendighet (NL/SfB-koding, «Base Quantities», materiale osv.) Bruk gratisprogramvaren BIMcollab ZOOM Public Viewer i kombinasjon med Madasters smart views.

BIMcollab Zoom og Madaster-visninger

BIMcollab ZOOM Public Viewer og Madaster smart view kan lastes ned gratis via denne lenken. Når du har installert BIMcollab Zoom, kan du laste inn den programmerte Madaster smart views i programmet ved å klikke på knappen «Import». Nå kan du åpne IFC-modellen din og kontrollere den for fullstendighet.

