## CoordinationView 2.0 / Export

CV2.0-Arch

# Glodon Software Company Glodon Takeoff for Architecture and Structure

22/08/2015

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#### Introduction

Glodon Takeoff for Architecture and Structure (TAS) is an efficient, professional, accurate and easy BIM application for quantity takeoff, built on the independent R&D platform of Glodon. With 3D models and built-in calculation methods of various countries and regions, it can calculate quickly and automatically the quantities of earthwork, masonry, concrete, formwork, scaffolds, steel structures, finishes, etc. and provide quantity surveyors with accurate calculation results.

TAS supports the import of IFC2x3 files. After the IFC files of drawings from the designers are imported into TAS, the quantities of the related projects can be calculated and obtained directly, making it convenient for quantity surveyors and cost estimators to determine bid prices.

TAS supports the export of IFC2x3 files. The files can be delivered to the downstream participants of AEC industry and used by contractors, constructors and so on directly.

## Testlist

	concepts total	manua	ally che	ecked
Name test				
BeamColumn 04 / 2x3	47	36		11
Beam_01 / 2x3	10	8		2
Beam_02 / 2x3	12	9		3
Beam_03 / 2x3	6	3		3
CharsetTest-01A / 2x3	2	2		
CharsetTest-01S / 2x3	2	2		
Column 01 / 2x3	11	9		2
Column_02 / 2x3	6	4		2
CoveringFurnishing-01 / 2x3	57	42		15
CurtainWall-01 / 2x3	29	23	1	5
Door 01 / 2x3	22	14		8
DoorWindow-02 / 2x3	11	9		2
Grid 01 / 2x3	11	10	1	
Member 01A / 2x3	10	5	1	4
Pile 01 / 2x3	19	10		9
RampRailing-01 / 2x3	28	20	2	6
RandomArch-X1 / 2x3	85	64		21
RandomArch-X2 / 2x3	187	121		66
RandomArch-X3 / 2x3	75	59		16
RandomArch-X4 / 2x3	118	72		46
RandomArch-X5 / 2x3	100	64		36
Roof 01 / 2x3	15	6		9
Roof 02 / 2x3	12	10		2
Site 01 / 2x3	14	12		2
Site 02 / 2x3	13	12		1
Slab 01A / 2x3	9	7		2

	concepts total	manually	y checl	ked
Name test				
Slab 02A / 2x3	24	17		7
Space 01A / 2x3	12	10		2
StairSlab-01 / 2x3	19	18		1
UnitTest-01A / 2x3	3	3		
UnitTest-01S / 2x3	3	3		
Wall 01 / 2x3	19	13		6
Wall 02 / 2x3	14	10		4
WallSlab 03 / 2x3	32	25		7
WallStandardCase 01A / 2x3	15	8		7
WallStandardCase 02A / 2x3	11	8	1	2
WallStandardCase 03A / 2x3	9	7		2
WallStandardCase 04A / 2x3	8	7		1
Window 01 / 2x3	22	17	1	4

## Concepts

#### Beam\_01 / 2x3

Supported

Restricted

Not Supported





\_G4 Remarks

## Beam\_02 / 2x3



03 IfcBeam	company statement	Beam_02 / 2x3
010 Naming		
030 Geometry		
030-2 Geometry Axis	This concept was optional for this test case, and not supported in TAS.	
030-6 Geometry Body		
030-6-1 Geometry SweptSolid		
030-6-2 Geometry Clipping	The Beams with Clipping Geometry in this test case are exported as BReps.	
030-6-5 Geometry Explicit		
050 CAD Layer		
070 Voiding		
070-1 Voiding Geometry Explicit		
070-2 Voiding Geometry Mapped	The Beams with Mapped Geometry in this test case are exported as BReps.	
070-3 Voiding Geometry SweptSolid		
120 Spatial Containment		
200 Material		
200-1 Single Material		
Seneral	company statement	Beam_02 / 2x3
_G4 Remarks		

## Beam\_03 / 2x3



103 IfcBeam	company statement	Beam_03 / 2x3
030 Geometry		
030-1 Geometry Box	This concept was optional for this test case, and not supported in TAS.	
030-2 Geometry Axis	This concept was optional for this test case, and not supported in TAS.	
030-6 Geometry Body		
030-6-1 Geometry SweptSolid		
030-6-2 Geometry Clipping	The Beams with Clipping Geometry in this test case are exported as BReps.	
300 Type		
300-5 Type Property Set		
General	company statement	Beam_03 / 2x3

## BeamColumn 04 / 2x3



		10 10 10 10
103 IfcBeam	company statement	BeamColumn 04 / 2x3
001 GUIDs		
002 History		
010 Naming		
020 Placement		
020-2 Placement Relative		
030 Geometry		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid		
030-6-9 Geometry Mapped	The Beams with Mapped Geometry in this test case are exported as BReps.	
070 Voiding		
070-1 Voiding Geometry Explicit		
070-2 Voiding Geometry Mapped	This concept was optional for this test case, and not supported in TAS.	
070-3 Voiding Geometry SweptSolid		
130 Grouping		
130-1 Grouping General		
200 Material		
200-1 Single Material		

210 Property Set		
210-1 Property Set IFC Common		
210-3 Property Set User Defined		
300 Type		
300-1 Type Geometry	This concept was optional for this test case, and not supported in TAS.	
300-2 Type Naming	This concept was optional for this test case, and not supported in 1740.	
300-3 Type Material		
300-5 Type Property Set	This concept was optional for this test case, and not supported in TAS.	
104 lfcColumn	company statement	BeamColumn 04 / 2x
001 GUIDs	<u> </u>	Bourne of the Park
002 History		
010 Naming		
020 Placement		
020-2 Placement Relative		
030 Geometry		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid		
030-6-9 Geometry Mapped	The columns with Mapped Geometry in this test case are exported as BReps.	
070 Voiding		
070-1 Voiding Geometry Explicit		
070-2 Voiding Geometry Mapped	The columns with openings in this test case are exported as BReps	
070-3 Voiding Geometry SweptSolid		
130 Grouping		
130-1 Grouping General		

Supported

Restricted

Not Supported

200 Material		
200-1 Single Material		
210 Property Set		
210-2 Property Set IFC any		
300 Type		
300-1 Type Geometry	This concept was optional for this test case, and not supported in TAS.	
300-2 Type Naming		
300-3 Type Material	This concept was optional for this test case, and not supported in TAS.	
300-5 Type Property Set		
03 IfcFooting	company statement	BeamColumn 04 / 2x
001 GUIDs		
002 History		
010 Naming		
020 Placement		
020-1 Placement Relative		
030 Geometry		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid		
030-6-9 Geometry Mapped	The Footing with Mapped Geometry in this test case are exported as BReps.	
130 Grouping		
130-1 Grouping General		
200 Material		
200-1 Single Material		

210 Property Set		
210-2 Property Set IFC any		
300 Type		
300-1 Type Geometry	This concept was optional for this test case, and not supported in TAS.	
300-2 Type Naming		
300-3 Type Material	This concept was optional for this test case, and not supported in TAS.	
300-5 Type Property Set		
eneral	company statement	BeamColumn 04 / 2x
_G4 Remarks		

## CharsetTest-01A / 2x3



12

General	company statement	CharsetTest-01A / 2x3
_G1 Character sets		

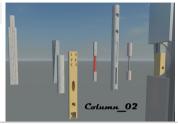
## CharsetTest-01S / 2x3



13

General	company statement	CharsetTest-01S / 2x3
_G1 Character sets		

## Column\_02 / 2x3



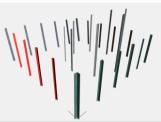
104 IfcColumn	company statement	Column_02 / 2x3
030 Geometry		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid		
030-6-5 Geometry Explicit		
070 Voiding		
070-1 Voiding Geometry Explicit		
070-2 Voiding Geometry Mapped	The columns with openings in this test case are exported as BReps.	
070-3 Voiding Geometry SweptSolid	The columns with openings in this test case are exported as BReps.	
General	company statement	Column_02 / 2x3
_G4 Remarks		

14

Restricted

Not Supported

## Column 01 / 2x3



104 IfcColumn	company statement	Column 01 / 2x3
010 Naming		
020 Placement		
020-2 Placement Relative		
030 Geometry		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid		
030-6-2 Geometry Clipping	The columns with Clipping Geometry in this test case are exported as BReps.	
040 Presentation		
040-1 Geometric Presentation		
040-2 Material Presentation	This concept was optional for this test case, and not supported in TAS.	
050 CAD Layer		
120 Spatial Containment		
200 Material		
200-1 Single Material		
210 Property Set		
210-1 Property Set IFC Common		
General	company statement	Column 01 / 2x3
_G4 Remarks		

## CoveringFurnishing-01 / 2x3



210 IfcFlowTerminal	company statement	CoveringFurnishing-01 / 2x3
001 GUIDs		
010 Naming		
020 Placement		
020-2 Placement Relative		
030 Geometry		
030-6 Geometry Body		
030-6-5 Geometry Explicit		
030-6-9 Geometry Mapped	In this test case, the IfcFlowTerminal were exported as BReps.	
040 Presentation		
040-1 Geometric Presentation		
050 CAD Layer		
120 Spatial Containment		
210 Property Set		
210-1 Property Set IFC Common		
210-6 Property Set IFC any		
210-9 Property Set User Defined		

300 Type		
300-1 Type Geometry	Type Geometry is not supported in TAS, since there is no space left to show the geometry shape.	
300-2 Type Naming		
300-3 Type Material	Type Material is not supported in TAS.	
300-5 Type Property Set		
3 IfcCovering	company statement	CoveringFurnishing-01 / 2
010 Naming		
020 Placement		
020-2 Placement Relative		
030 Geometry		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid		
	In this test case, the Covering were exported as BReps.	
	Openings cannot be laid out on coverings in TAS, so the openings are missing in both export and import.	
	We have fixed it, now they are exported as breps with voids.	
030-6-9 Geometry Mapped	In this test case, the Covering were exported as BReps.	
040 Presentation		
040-1 Geometric Presentation		
050 CAD Layer		
070 Voiding		
120 Spatial Containment		
200 Material		
200-1 Single Material		
200-3 Material Layer Set		

210 Property Set		
210-1 Property Set IFC Common		
300 Type		
300-1 Type Geometry	Type Geometry is not supported in TAS, since there is no space left to show the geometry shape.	
300-2 Type Naming		
300-3 Type Material	Type Material is not supported in TAS export.	
300-5 Type Property Set		
04 IfcFurnishingElement	company statement CoveringFurnishing-0	1/2x3
001 GUIDs		
010 Naming		
020 Placement		
020-2 Placement Relative		
030 Geometry		
030-6 Geometry Body		
030-6-5 Geometry Explicit		
030-6-9 Geometry Mapped	In this test case, the FurnishingElement were exported as BReps.	
040 Presentation		
040-1 Geometric Presentation		
050 CAD Layer		
120 Spatial Containment		
200 Material		
200-1 Single Material		
200-5 Material List		

Supported

Restricted

Not Supported

210 Property Set		
210-6 Property Set IFC any		
210-9 Property Set User Defined		
300 Type		
300-1 Type Geometry	Type Geometry is not supported in TAS, since there is no space left to show the geometry shape.	
300-2 Type Naming		
300-3 Type Material	Type Material is not supported in TAS.	
300-5 Type Property Set		
505 IfcSpace	company statement	CoveringFurnishing-01 / 2x3
030 Geometry		
030-3 Geometry FootPrint	Access to FootPrint is irrelevant to quantity takeoff.	
030-6 Geometry Body		
030-6-1 Geometry SweptSolid	In this test case, the IfcSpace were exported as BReps.	
120 Spatial Containment		
130 Grouping		
130-3 Grouping to Zones		
230 Classification	Access to Classification is irrelevant to quantity takeoff.	
508 IfcZone	company statement	CoveringFurnishing-01 / 2x3
001 GUIDs		
002 History		
010 Naming		

130 Grouping		
130-5 Is Group		
210 Property Set		
210-1 Property Set IFC Common	Zone property is not supported in TAS export.	
210-9 Property Set User Defined	Zone property is not supported in TAS export.	
General	company statement	CoveringFurnishing-01 / 2x3
_G4 Remarks	We imported CoveringFurnishing-01_ABD.ifc to generate this file.	

## CurtainWall-01 / 2x3

Supported

Restricted

Not Supported



109 IfcCurtainWall	company statement	CurtainWall-01 / 2x3
001 GUIDs		
002 History		
010 Naming		
020 Placement		
020-1 Placement Relative		
030 Geometry		
030-6 Geometry Body		
030-6-5 Geometry Explicit		
030-9 Geometry By Components	the curtain wall is stored with complete geometry in TAS and exported this way.	
040 Presentation		
040-1 Geometric Presentation		
050 CAD Layer		
100 Element Aggregation		
100-2 Element Decomposition	the curtain wall is stored with complete geometry in TAS and exported this way.	
120 Spatial Containment		
200 Material		
200-1 Single Material		
200-5 Material List	This concept was optional for this test case, and not supported in TAS.	

210 Property Set		
210-1 Property Set IFC Common		
210-3 Property Set User Defined		
300 Type		
300-1 Type Geometry	This concept was optional for this test case, and not supported in TAS.	
300-2 Type Naming		
300-3 Type Material		
300-5 Type Property Set		
501 IfcProject	company statement	CurtainWall-01 / 2x
010 Naming		
502 IfcSite	company statement	CurtainWall-01 / 2x
010 Naming		
060 Location		
060-1 Geographic Location		
060-2 Address		
503 IfcBuilding	company statement	CurtainWall-01 / 2x
010 Naming		
020 Placement		
020-2 Placement Relative		
504 IfcBuildingStorey	company statement	CurtainWall-01 / 2x
010 Naming		
020 Placement		
020-2 Placement Relative		
060 Location		
060-4 Storey Elevation		

Supported

Restricted

Not Supported

210 Property Set		
210-1 Property Set IFC Common		
General	company statement	CurtainWall-01 / 2x3
	We imported CurtainWall-01_ABD.ifc into TAS to generate this file.	

#### Door 01 / 2x3



302 IfcDoor	company statement	Door 01 / 2x3
001 GUIDs		
002 History		
010 Naming		
020 Placement		
020-2 Placement Relative		
030 Geometry		
030-5 Geometry Profile	Our doors and windows are represented by the BRep, it does not support.	
030-6 Geometry Body		
030-6-5 Geometry Explicit		
030-6-9 Geometry Mapped	Our doors and windows are represented by the BRep, it does not support.	
040 Presentation		
040-1 Geometric Presentation		
050 CAD Layer		
080 Filling		
080-2 Is Filling		
120 Spatial Containment		

200 Material		
200-1 Single Material	This concept is optional for this test case, and not included in the TAS export.	
200-5 Material List	This concept is optional for this test case, and not included in the TAS export.	
210 Property Set	The concept is optional for this test case, and not included in the 17th expert.	
210-1 Property Set IFC Common		
210-2 Property Set IFC any	This concept is not supported in TAS export.	
210-3 Property Set User Defined		
300 Type		
300-1 Type Geometry	Type Geometry is not supported in TAS, since there is no space left to show the geometry shape.	
300-2 Type Naming		
300-3 Type Material	Type Material is not supported in TAS.	
300-5 Type Property Set	This concept is optional for this test case, and not included in the TAS export.	
300-6 Type Predefined Properties		
300-6-1 Type Predefined Properties Door		
eneral	company statement	Door 01 / 22
_G4 Remarks		

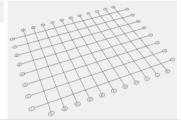
## DoorWindow-02 / 2x3



301 lfcWindow	company statement	DoorWindow-02 / 2x3
001 GUIDs		
020 Placement		
020-2 Placement Relative		
030 Geometry		
030-6 Geometry Body		
030-6-5 Geometry Explicit		
080 Filling		
080-2 Is Filling		
300 Type		
300-1 Type Geometry	Type Geometry is not supported in TAS, since there is no space left to show the geometry shape.	
302 lfcDoor	company statement	DoorWindow-02 / 2x3
001 GUIDs		
020 Placement		
020-2 Placement Relative		
030 Geometry		
030-6 Geometry Body		
030-6-5 Geometry Explicit		

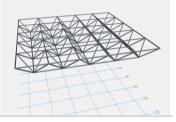
080 Filling		
080-2 Is Filling		
300 Type		
300-1 Type Geometry	Type Geometry is not supported in TAS, since there is no space left to show the geometry shape.	
General	company statement	DoorWindow-02 / 2x3
_G4 Remarks	We imported DoorWindow-02-ACA.ifc into TAS to generate this file.	

## Grid 01 / 2x3



509 IfcGrid	company statement	Grid 01 / 2x3
001 GUIDs		
002 History		
010 Naming		
020 Placement		
020-2 Placement Relative		
030 Geometry		
030-3 Geometry FootPrint		
040 Presentation		
040-1 Geometric Presentation		
050 CAD Layer		
120 Spatial Containment		
210 Property Set		
210-3 Property Set User Defined		
270 Grid Usage		
270-1 Grid Axes		
General	company statement	Grid 01 / 2x3
_G4 Remarks	duplex rectangular grid and triangular grid are not supported in TAS.	

## Member 01A / 2x3



01 IfcMember	company statement	Member 01A / 2x3
010 Naming		
020 Placement		
020-2 Placement Relative	We export Geometry with Brep representations, so member's local placements are Floor. concept -> restricted	
030 Geometry		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid	we export it as Breps	
	Only Breps.	
030-6-2 Geometry Clipping	we export it as Breps	
	Only Breps.	
040 Presentation		
040-1 Geometric Presentation		
040-2 Material Presentation	Material Presentation has been transported into Geometric Presentation while exporting from TAS.	
120 Spatial Containment		
200 Material		
200-1 Single Material		

300 Type		
300-1 Type Geometry	Type Geometry is not supported in TAS.	
General	company statement	Member 01A / 2x3
_G4 Remarks		

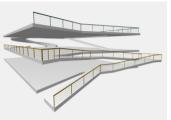
## Pile 01 / 2x3



04 IfcPile	company statement	Pile 01 / 2>
001 GUIDs		
002 History		
010 Naming		
020 Placement		
020-1 Placement Relative		
030 Geometry		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid		
030-6-2 Geometry Clipping		
030-6-9 Geometry Mapped		
040 Presentation		
040-1 Geometric Presentation		
040-2 Material Presentation		
050 CAD Layer		
070 Voiding		
070-3 Voiding Geometry SweptSolid		
100 Element Aggregation		
100-2 Element Decomposition		
120 Spatial Containment		

200 Material		
200-1 Single Material		
210 Property Set		
210-3 Property Set User Defined		
300 Type		
300-1 Type Geometry		
300-3 Type Material		
300-5 Type Property Set		
General	company statement	Pile 01 / 2x3
_G4 Remarks		

# RampRailing-01 / 2x3



07 IfcRamp	company statement	RampRailing-01 / 2x
001 GUIDs		
002 History		
010 Naming		
020 Placement		
020-1 Placement Relative		
030 Geometry		
030-6 Geometry Body		
030-6-5 Geometry Explicit		
030-9 Geometry By Components	Composition is lost, but elements can still be exported.	
040 Presentation		
040-1 Geometric Presentation		
050 CAD Layer		
100 Element Aggregation		
100-2 Element Decomposition	Composition is lost, but elements can still be exported.	
120 Spatial Containment		
200 Material		
200-1 Single Material	This Single Material of ramp is not stored in our application.	

210 Property Set		
210-1 Property Set IFC Common	In this test case,we are not supported property sets export in TAS.	
210-3 Property Set User Defined	The took case, we are not supported property sets export in the.	
210 01 lopolly cel cool Bollinea	In this test case,we are not supported property sets export in TAS.	
08 IfcRailing	company statement	RampRailing-01 / 2x3
001 GUIDs		
002 History		
010 Naming		
020 Placement		
020-2 Placement Relative		
030 Geometry		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid	The Railing with Geometry SweptSolid in this test case are exported as BReps.	
030-6-5 Geometry Explicit		
030-6-9 Geometry Mapped	The Railing with Mapped Geometry in this test case are exported as BReps.	
040 Presentation		
040-1 Geometric Presentation		
050 CAD Layer		
120 Spatial Containment		
200 Material		
200-1 Single Material		
200-5 Material List		
210 Property Set		
210-1 Property Set IFC Common		
210-3 Property Set User Defined		

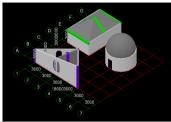
Supported

Restricted

Not Supported

General	company statement	RampRailing-01 / 2x3
_G4 Remarks		

#### RandomArch-X1 / 2x3



01 IfcWallStandardCase	company statement	RandomArch-X1 / 2x
002 History		
010 Naming		
020 Placement		
020-2 Placement Relative		
030 Geometry		
030-2 Geometry Axis		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid		
030-6-2 Geometry Clipping	In this test case, the Geometry Clipping were exported as BReps. This concept was not supported in TAS.	
050 CAD Layer		
070 Voiding		
070-1 Voiding Geometry SweptSolid		
070-2 Voiding Geometry Explicit	In this test case, the Geometry Clipping were exported as SweptSolid	
080 Filling		
081 Has Filling		
081-1 Has Filling Door		
081-2 Has Filling Window		

200 Material		
200-4 Material Layer Usage		
210 Property Set	<del>_</del>	
210-3 Property Set User Defined		
300 Type		
300-2 Type Naming		
02 IfcWall	company statement	RandomArch-X1 / 2x
002 History		
010 Naming		
020 Placement		
020-2 Placement Relative		
030 Geometry		
030-2 Geometry Axis	This concept was not included in the TAS export.	
030-6 Geometry Body	This concept was not included in the TAG export.	
030-6-1 Geometry SweptSolid		
030-6-2 Geometry Clipping	In this test case, the Geometry Clipping were exported as BReps.	
040 Presentation		
050 CAD Layer		
070 Voiding		
070-1 Voiding Geometry Explicit		
070-3 Voiding Geometry SweptSolid		

Not Supported

Restricted

080 Filling		
080-1 Has Filling		
080-1-1 Has Filling Door		
080-1-2 Has Filling Window		
100 Element Aggregation		
100-1 Element Composition	This concept was not supported.	
100-2 Element Decomposition	This concept was optional for this test case, and not included in the TAS export.	
200 Material		
200-1 Single Material		
200-3 Material Layer Set	This concept was not supported.	
210 Property Set		
210-1 Property Set IFC Common		
300 Type		
300-2 Type Naming		
103 IfcBeam	company statement	RandomArch-X1 / 2x3
030 Geometry		
030-6 Geometry Body		
030-6-5 Geometry Explicit		
040 Presentation		
040-2 Material Presentation	This concept was optional for this test case, and not included in the TAS export.	
200 Material		
200-1 Single Material		
210 Property Set		
210-1 Property Set IFC Common		

Restricted

Not Supported

104 lfcColumn	company statement	RandomArch-X1 / 2x
002 History		
010 Naming		
030 Geometry		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid		
030-6-5 Geometry Explicit	In this test case, the Geometry Explicit were not supported by Tas.	
040 Presentation		
040-2 Material Presentation	This concept was optional for this test case, and not included in the TAS export.	
050 CAD Layer		
200 Material		
200-1 Single Material		
210 Property Set		
210-1 Property Set IFC Common		
300 Type		
300-2 Type Naming		
05 lfcSlab	company statement	RandomArch-X1 / 2x
002 History		
010 Naming		
030 Geometry		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid		
040 Presentation		
040-2 Material Presentation	Only Geometry Presentation was supported in TAS.	

Restricted

Not Supported

050 CAD Layer		
070 Voiding		
070-3 Voiding Geometry SweptSolid		
100 Element Aggregation		
100-1 Element Composition	This concept was optional for this test case, and not included in the TAS export.	
100-2 Element Decomposition	This concept was optional for this test case, and not included in the TAS export.	
200 Material		
200-1 Single Material		
200-2 Material Layer Set	This concept was not included in the TAS export.	
200-3 Material Layer Usage		
210 Property Set		
210-1 Property Set IFC Common		
10 IfcRoof	company statement	RandomArch-X1 / 2x
040 Presentation		
100 Element Aggregation		
100-1 Element Composition	IfcRoof is not supported in TAS.	
100-2 Element Decomposition	IfcRoof is not supported in TAS.	
200 Material		
200-1 Single Material	IfcRoof is not supported in TAS.	
210 Property Set		
210-1 Property Set IFC Common	IfcRoof is not supported in TAS.	
01 IfcWindow	company statement	RandomArch-X1 / 2x.
001 GUIDs		

Restricted

Not Supported

010 Naming		
002 History		
2 IfcDoor	company statement	RandomArch-X1 / 2x
300-6 Type Predefined Properties		
300-2 Type Naming		
300-1 Type Geometry	This concept was optional for this test case, and not supported in TAS.	
300 Type		
210-2 Property Set IFC any		
210-1 Property Set IFC Common		
210 Property Set		
200-1 Single Material		
200 Material		
120 Spatial Containment		
080-2 Is Filling		
080 Filling		
050 CAD Layer		
040-1 Geometric Presentation		
040 Presentation		
030-6-5 Geometry Explicit		
030-6 Geometry Body		
030 Geometry		
020-2 Placement Relative		
020 Placement		
010 Naming		

030 Geometry		
030-6 Geometry Body		
030-6-5 Geometry Explicit		
050 CAD Layer		
200 Material		
200-1 Single Material	This concept was optional for this test case, and not included in the TAS export.	
300 Type		
300-2 Type Naming		
300-6 Type Predefined Properties		
300-6-1 Type Predefined Properties Door		
503 IfcBuilding	company statement	RandomArch-X1 / 2x3
210 Property Set		
210-1 Property Set IFC Common		
509 IfcGrid	company statement	RandomArch-X1 / 2x3
030 Geometry		
030-3 Geometry FootPrint		
270 Grid Usage		
270-1 Grid Axes		
General	company statement	RandomArch-X1 / 2x3
_G4 Remarks		

Supported Restricted Not Supported

## RandomArch-X2 / 2x3



200 Material		
200-4 Material Layer Usage		
210 Property Set		
210-1 Property Set IFC Common		
210-2 Property Set IFC any		
210-3 Property Set User Defined		
230 Classification	This concept was optional for this test case, and not supported in TAS.	
300 Type		
300-1 Type Geometry	This concept was not supported.	
300-3 Type Material		
300-5 Type Property Set	This concept was not supported in TAS.	
102 IfcWall	company statement	RandomArch-X2 / 2x
001 GUIDs		
002 History		
010 Naming		
030 Geometry		
030-2 Geometry Axis		
030-9 Geometry By Components	In this test case, the Geometry By Components were exported as BReps.	
103 IfcBeam	company statement	RandomArch-X2 / 2x
001 GUIDs		
002 History		
010 Naming		
020 Placement		
020-2 Placement Relative		

Restricted

Not Supported

030 Geometry		
030-1 Geometry Box	This concept was optional for this test case, and not included in the TAS export.	
030-2 Geometry Axis		
030-6 Geometry Body	This concept was optional for this test case, and not included in the TAS export.	
030-6-1 Geometry SweptSolid		
030-6-2 Geometry Clipping		
030-6-2 Geometry Clipping	In this test case, the Geometry Clipping were exported as BReps.	
030-6-5 Geometry Explicit		
030-6-9 Geometry Mapped	In this test case, the Geometry Mapped were exported as BReps.	
040 Presentation		
040-1 Geometric Presentation		
040-2 Material Presentation	This concept was optional for this test case, and not included in the TAS export.	
050 CAD Layer		
120 Spatial Containment		
200 Material		
200-1 Single Material		
210 Property Set		
210-1 Property Set IFC Common		
04 IfcColumn	company statement	RandomArch-X2 / 2x
001 GUIDs		
002 History		
010 Naming		
020 Placement		
020-2 Placement Relative		

Restricted

Not Supported

030 Geometry		
030-1 Geometry Box	This concept was not supported.	
030-6 Geometry Body		
030-6-1 Geometry SweptSolid		
030-6-5 Geometry Explicit		
040 Presentation		
040-2 Material Presentation		
050 CAD Layer		
120 Spatial Containment		
200 Material		
200-1 Single Material		
210 Property Set		
210-1 Property Set IFC Common		
5 IfcSlab	company statement	RandomArch-X2 / 2:
001 GUIDs		
002 History		
010 Naming		
020 Placement		
020-2 Placement Relative		

Supported Restricted Not Supported

030 Geometry	
030-6 Geometry Body	
030-6-1 Geometry SweptSolid	
030-6-2 Geometry Clipping	
030-6-5 Geometry Explicit	
030-6-9 Geometry Mapped	In this test case, the Geometry Mapped were exported as BReps.
030-9 Geometry By Components	In this test case, the Geometry By Components were exported as BReps.
040 Presentation	
040-2 Material Presentation	This concept was optional for this test case, and not included in the TAS export.
050 CAD Layer	
070 Voiding	
070-1 Voiding Geometry Explicit	This concept was not supported.
070-2 Voiding Geometry Mapped	In this test case, the Geometry Clipping were exported as BReps.
070-3 Voiding Geometry SweptSolid	We have fixed it.
080 Filling	
080-2 Is Filling	This concept was optional for this test case, and not supported in TAS.
120 Spatial Containment	
200 Material	
200-1 Single Material	
200-2 Material Layer Set	
200-3 Material Layer Usage	Only single material was supported.

Restricted

Not Supported

210 Property Set		
210-1 Property Set IFC Common		
06 IfcStair	company statement	RandomArch-X2 / 2x
001 GUIDs		
002 History		
010 Naming		
020 Placement		
020-1 Placement Relative		
030 Geometry		
030-6 Geometry Body		
030-6-5 Geometry Explicit		
040 Presentation		
040-2 Material Presentation	This concept was optional for this test case, and not supported in TAS.	
050 CAD Layer		
120 Spatial Containment		
200 Material		
200-1 Single Material		
210 Property Set		
210-1 Property Set IFC Common		
08 IfcRailing	company statement	RandomArch-X2 / 2x
001 GUIDs		
002 History		
010 Naming		
020 Placement		
020-2 Placement Relative		

Restricted

Not Supported

030 Geometry		
030-6 Geometry Body		
030-6-5 Geometry Explicit		
040 Presentation		
040-2 Material Presentation		
050 CAD Layer		
120 Spatial Containment		
200 Material		
200-1 Single Material		
210 Property Set		
210-1 Property Set IFC Common		
IfcWindow	company statement	RandomArch-X2 / 2x
001 GUIDs		
010 Naming		
020 Placement		
020-2 Placement Relative		
030 Geometry		
030-6 Geometry Body		
030-6-5 Geometry Explicit		
030-6-9 Geometry Mapped	This concept was not supported.	
040 Presentation		
040-1 Geometric Presentation		
050 CAD Layer		
080 Filling		
080-2 Is Filling		

Restricted

Not Supported

120 Spatial Containment		
210 Property Set		
210-1 Property Set IFC Common		
210-2 Property Set IFC any		
300 Type		
300-2 Type Naming		
03 IfcCovering	company statement	RandomArch-X2 / 2x
001 GUIDs	This concept was not supported in TAS.	
002 History	This concept was not supported in TAS.	
010 Naming	This concept was not supported in TAS.	
020 Placement		
020-2 Placement Relative	This concept was not supported in TAS.	
030 Geometry		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid	This concept was not supported in TAS.	
040 Presentation		
040-2 Material Presentation	This concept was not supported in TAS.	
050 CAD Layer	This concept was not supported in TAS.	
120 Spatial Containment	This concept was not supported in TAS.	
200 Material		
200-1 Single Material	This concept was not supported in TAS.	
200-3 Material Layer Set	This concept was not supported in TAS.	

Restricted

Not Supported

210 Property Set		
210-1 Property Set IFC Common		
4 Hallowh er	This concept was not supported in TAS.	D 1 4 1 20 (0
1 IfcMember	company statement	RandomArch-X2 / 2.
001 GUIDs	This concept was not supported in TAS.	
002 History	This concept was not supported in TAS.	
010 Naming	This concept was not supported in TAS.	
020 Placement		
020-2 Placement Relative	This concept was not supported in TAS.	
030 Geometry		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid	This concepts was not supported in TAS.	
030-6-5 Geometry Explicit	This concept was not supported in TAS.	
040 Presentation		
040-2 Material Presentation	This concept was not supported in TAS.	
050 CAD Layer	This concept was not supported in TAS.	
120 Spatial Containment	This concept was not supported in TAS.	
200 Material		
200-1 Single Material	This concept was not supported in TAS.	
210 Property Set		
210-1 Property Set IFC Common	This concept was not supported in TAS.	
3 IfcFooting	company statement	RandomArch-X2 / 2.

Restricted

Not Supported

001 GUIDs		
002 History		
010 Naming		
020 Placement		
020-1 Placement Relative		
030 Geometry		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid		
040 Presentation		
040-2 Material Presentation	This concept was optional for this test case, and not included in the TAS export.	
050 CAD Layer		
120 Spatial Containment		
200 Material		
200-1 Single Material		
210 Property Set		
210-1 Property Set IFC Common		
04 lfcPile	company statement	RandomArch-X2 / 2x
001 GUIDs		
002 History		
010 Naming		
020 Placement		
020-1 Placement Relative		
030 Geometry		
030-6 Geometry Body		
030-6-5 Geometry Explicit		

Restricted

Not Supported

040 Presentation		
040-2 Material Presentation	This concept was optional for this test case, and not included in the TAS export.	
050 CAD Layer		
120 Spatial Containment		
200 Material		
200-1 Single Material		
408 IfcElementAssembly	company statement	RandomArch-X2 / 2x3
001 GUIDs	This concept was not supported in TAS.	
010 Naming	This concepts was not supported in TAS.	
020 Placement		
020-2 Placement Relative	This concept was not supported in TAS.	
030 Geometry		
030-1 Geometry Box	This concept was not supported in TAS.	
030-2 Geometry Axis	This concept was not supported in TAS.	
100 Element Aggregation		
100-1 Element Composition	This concept was not supported in TAS.	
501 IfcProject	company statement	RandomArch-X2 / 2x3
001 GUIDs		
002 History		
005 Project Units		
005-2 Project Imperial Units		
010 Naming		

Restricted

Not Supported

210 Property Set		
210-1 Property Set IFC Common		
	This concept was optional for this test case, and not supported in TAS.	
02 IfcSite	company statement	RandomArch-X2 / 2>
001 GUIDs	This concept was not supported in TAS.	
002 History	This concept was not supported in TAS.	
010 Naming	This concept was not supported in TAS.	
020 Placement		
020-1 Placement Absolute	This concept was not supported in TAS.	
150 Spatial Aggregation		
150-1 Spatial Composition	This concept was not supported in TAS.	
150-2 Spatial Decomposition	This concept was not supported in TAS.	
03 lfcBuilding	company statement	RandomArch-X2 / 2x
001 GUIDs		
002 History		
010 Naming		
020 Placement		
020-2 Placement Relative		
150 Spatial Aggregation		
150-1 Spatial Composition		
150-2 Spatial Decomposition		
210 Property Set		
210-1 Property Set IFC Common	This concept was not supported.	
04 IfcBuildingStorey	company statement	RandomArch-X2 / 2x

Restricted

Not Supported

001 GUIDs		
002 History		
010 Naming		
020 Placement		
020-2 Placement Relative		
150 Spatial Aggregation		
150-1 Spatial Composition		
150-2 Spatial Decomposition		
505 IfcSpace	company statement	RandomArch-X2 / 2x3
010 Naming	This concept was not supported in TAS.	
020 Placement		
020-2 Placement Relative	This concept was not supported in TAS.	
030 Geometry		
030-6 Geometry Body		
030-6-2 Geometry Clipping	This concept was not supported in TAS.	
509 IfcGrid	company statement	RandomArch-X2 / 2x3
001 GUIDs		
002 History		
010 Naming		
o ro r tarriirig		
020 Placement		
020 Placement		
020 Placement 020-2 Placement Relative	This concept was not supported.	

Restricted

Not Supported

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270 Grid Usage	_	
270-1 Grid Axes		
General	company statement	RandomArch-X2 / 2x3
_G4 Remarks		

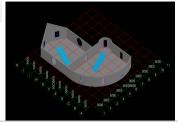
Supported Restricted Not Supported

## RandomArch-X3 / 2x3

Supported

Restricted

Not Supported



		@ 8 × 0
101 IfcWallStandardCase	company statement	RandomArch-X3 / 2x
001 GUIDs		
002 History		
010 Naming		
020 Placement		
020-2 Placement Relative		
030 Geometry		
030-2 Geometry Axis		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid		
030-6-2 Geometry Clipping	In this test case, the Geometry Clipping were exported as BReps. This concept was not supported.	
050 CAD Layer		
070 Voiding		
070-1 Voiding Geometry SweptSolid		
200 Material		
200-4 Material Layer Usage		
300 Type		
300-2 Type Naming		
02 IfcWall	company statement	RandomArch-X3 / 2x

001 GUIDs		
002 History		
010 Naming		
020 Placement		
020-2 Placement Relative		
030 Geometry		
030-2 Geometry Axis	Geometry Axis was not supported.	
030-6 Geometry Body		
030-6-1 Geometry SweptSolid		
050 CAD Layer		
070 Voiding		
070-1 Voiding Geometry Explicit		
070-3 Voiding Geometry SweptSolid	This concept was not supported in TAS.	
200 Material		
200-1 Single Material		
300 Type		
300-2 Type Naming		
05 IfcSlab	company statement	RandomArch-X3 / 2x
001 GUIDs		
002 History		
010 Naming		
020 Placement		
020-2 Placement Relative		
050 CAD Layer		

Restricted

Not Supported

company statement	RandomArch-X3 / 2:
Geometry Axis was not supported.	
Common property set of stair flight was supported.	
company statement	RandomArch-X3 / 2.
This concept was not supported in TAS.	
This concept was not supported in TAS.	
This concept was not supported in TAS.	
_	
	This concept was not supported in TAS.  This concept was not supported in TAS.

Restricted

Not Supported

200 Material		
200-1 Single Material	This concept was not supported in TAS.	
210 Property Set	This concept was not supported in TAS.	
210-1 Property Set IFC Common	This concept was not supported in TAS.	
110 IfcRoof	company statement	RandomArch-X3 / 2x3
010 Naming	This concept was not supported in TAS.	
020 Placement		
020-2 Placement Relative		
111 IfcBuildingElementProxy	This concept was not supported in TAS.  company statement	RandomArch-X3 / 2x3
	- Company statement	RandomArch-X3 / 2X3
010 Naming	This concept was not supported in TAS.	
301 IfcWindow	company statement	RandomArch-X3 / 2x3
001 GUIDs		
002 History		
010 Naming		
020 Placement		
020-2 Placement Relative		
030 Geometry		
030-6 Geometry Body		
030-6-5 Geometry Explicit		
030-6-9 Geometry Mapped	In this test case, the Geometry Mapped were exported as BReps.	
040 Presentation		
040-1 Geometric Presentation		
050 CAD Layer		

Restricted

Not Supported

080 Filling		
080-2 Is Filling		
120 Spatial Containment		
200 Material		
200-1 Single Material		
210 Property Set		
210-1 Property Set IFC Common		
210-2 Property Set IFC any		
300 Type		
300-6 Type Predefined Properties		
300-6-1 Type Predefined Properties Window	Type Predefined Properties was not supported.	
02 IfcDoor	company statement	RandomArch-X3 / 2x3
001 GUIDs		
002 History		
010 Naming		
020 Placement		
020-2 Placement Relative		
030 Geometry		
030-6 Geometry Body		
030-6-5 Geometry Explicit		
030-6-9 Geometry Mapped	In this test case, the Geometry Mapped were exported as BReps.	
040 Presentation		
040-1 Geometric Presentation		
050 CAD Layer		

Restricted

Not Supported

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080 Filling		
080-2 Is Filling		
120 Spatial Containment		
200 Material		
200-1 Single Material		
210 Property Set		
210-1 Property Set IFC Common		
210-2 Property Set IFC any		
300 Type		
300-2 Type Naming		
300-6 Type Predefined Properties		
300-6-1 Type Predefined Properties Door		
501 IfcProject	company statement	RandomArch-X3 / 2x3
005 Project Units		
005-1 Project Metric Units		
503 IfcBuilding	company statement	RandomArch-X3 / 2x3
010 Naming		
General	company statement	RandomArch-X3 / 2x3
_G4 Remarks	Ramp cannot be drawn in TAS, and roof is exported as slab.	

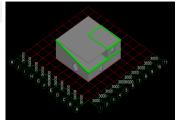
Supported Restricted Not Supported

## RandomArch-X4 / 2x3

Supported

Restricted

Not Supported



101 IfcWallStandardCase	company statement	RandomArch-X4 / 2x
001 GUIDs		
002 History		
010 Naming		
020 Placement		
020-2 Placement Relative		
030 Geometry		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid		
050 CAD Layer		
070 Voiding		
070-1 Voiding Geometry SweptSolid	In this test case, the Voiding Geometry SweptSolid were exported as BReps.	
080 Filling		
081 Has Filling		
081-1 Has Filling Door		
081-2 Has Filling Window		
120 Spatial Containment		
210 Property Set		
210-1 Property Set IFC Common		
02 IfcWall	company statement	RandomArch-X4 / 2x

001 GUIDs		
002 History		
010 Naming		
020 Placement		
020-2 Placement Relative		
030 Geometry		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid	This concept was not supported.	
030-6-5 Geometry Explicit		
040 Presentation		
040-2 Material Presentation	This concept was not supported.	
050 CAD Layer		
120 Spatial Containment		
200 Material		
200-1 Single Material		
103 lfcBeam	company statement	RandomArch-X4 / 2x3
001 GUIDs		
010 Naming		
020 Placement		
020-2 Placement Relative		
030 Geometry		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid		
030-6-9 Geometry Mapped	This concept was not supported.	

Restricted

Not Supported

050 CAD Layer		
120 Spatial Containment		
200 Material		
200-1 Single Material		
210 Property Set		
210-1 Property Set IFC Common		
300 Type		
300-2 Type Naming		
104 lfcColumn	company statement	RandomArch-X4 / 2x3
001 GUIDs		
010 Naming		
020 Placement		
020-2 Placement Relative		
030 Geometry		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid		
030-6-2 Geometry Clipping	In this test case, the Geometry Clipping were exported as BReps.	
040 Presentation	in the took case, the Geemen's empthing were experted as Errope.	
040-1 Geometric Presentation		
050 CAD Layer		
120 Spatial Containment		
200 Material		
200-1 Single Material		
210 Property Set		
210-1 Property Set IFC Common		

Restricted

Not Supported

300 Type		
300-2 Type Naming		
05 IfcSlab	company statement	RandomArch-X4 / 2x
001 GUIDs		
002 History		
010 Naming		
020 Placement		
020-2 Placement Relative		
030 Geometry		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid		
030-6-5 Geometry Explicit		
040 Presentation		
040-2 Material Presentation	This concept was optional for this test case, and not supported in TAS.	
050 CAD Layer		
070 Voiding		
070-1 Voiding Geometry Explicit	This concept was not supported.	
070-3 Voiding Geometry SweptSolid	This concept was not supported.	
080 Filling		
080-1 Has Filling		
080-1-2 Has Filling Window	This concept was not supported.	
120 Spatial Containment		

200 Material		
200-1 Single Material		
200-2 Material Layer Set	This concept was not supported.	
109 lfcCurtainWall	company statement	RandomArch-X4 / 2x3
001 GUIDs	This concept was not supported.	
002 History	This concept was not supported.	
010 Naming	This concept was not supported.	
020 Placement		
020-1 Placement Relative	This concept was not supported.	
030 Geometry		
030-6 Geometry Body		
030-6-9 Geometry Mapped	In this test case, the Geometry Mapped were exported as BReps.	
100 Element Aggregation		
100-1 Element Composition	This concept was not supported.	
100-2 Element Decomposition	This concept was not supported.	
200 Material		
200-1 Single Material	This concept was not supported.	
111 IfcBuildingElementProxy	company statement	RandomArch-X4 / 2x3
001 GUIDs	This concept was not supported.	
002 History	This concept was not supported.	
010 Naming	This concept was not supported.	

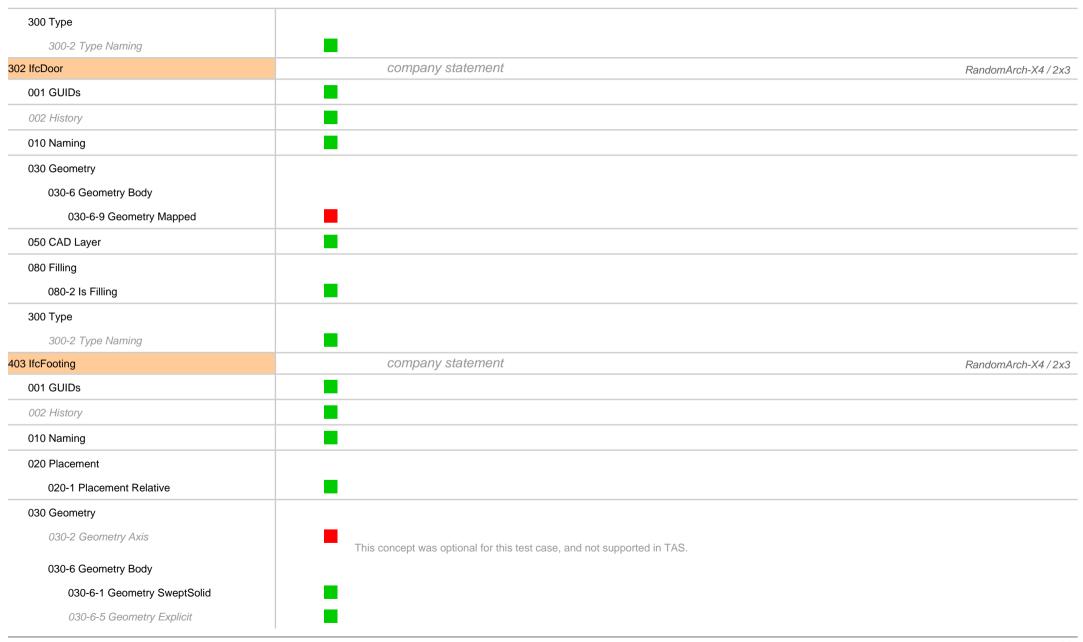
Restricted

Not Supported

020 Placement		
020-2 Placement Relative	This concept was not supported.	
030 Geometry		
030-6 Geometry Body		
030-6-5 Geometry Explicit	This concept was not supported.	
040 Presentation		
040-2 Material Presentation	This concept was not supported.	
050 CAD Layer	This concept was not supported.	
120 Spatial Containment	This concept was not supported.	
200 Material		
200-1 Single Material	This concept was not supported.	
210 Property Set		
210-3 Property Set User Defined	This concept was not supported.	
01 IfcWindow	company statement Randon	mArch-X4 / 2x3
001 GUIDs		
002 History		
010 Naming		
030 Geometry		
030-6 Geometry Body		
030-6-9 Geometry Mapped	In this test case, the Geometry Mapped were exported as BReps.	
050 CAD Layer		

Restricted Not Supported

Supported



Restricted

Not Supported

040 Presentation		
040-2 Material Presentation	This concept was optional for this test case, and not supported in TAS.	
050 CAD Layer		
120 Spatial Containment		
200 Material		
200-1 Single Material		
01 IfcProject	company statement	RandomArch-X4 / 2x
001 GUIDs		
002 History		
005 Project Units		
005-1 Project Metric Units	We have fixed it.	
010 Naming		
150 Spatial Aggregation		
150-1 Spatial Composition		
150-2 Spatial Decomposition	This concept was optional for this test case, and not supported in TAS.	
502 IfcSite	company statement	RandomArch-X4 / 2x
001 GUIDs	This concept was not supported.	
002 History	This concept was not supported.	
010 Naming	This concept was not supported.	
020 Placement		
020-1 Placement Absolute	This concept was not supported.	

030 Geometry		
030-1 Geometry Box	This concept was not supported.	
030-6 Geometry Body		
030-6-5 Geometry Explicit	This concept was not supported.	
040 Presentation		
040-1 Geometric Presentation	This concept was not supported.	
050 CAD Layer	This concept was not supported.	
060 Location		
060-1 Geographic Location	This concept was not supported.	
120 Spatial Containment	This concept was not supported.	
150 Spatial Aggregation		
150-1 Spatial Composition	This concept was not supported.	
150-2 Spatial Decomposition	This concept was not supported.	
210 Property Set		
210-9 Property Set User Defined	This concept was not supported.	
Seneral	company statement	RandomArch-X4 / 2x
_G4 Remarks		

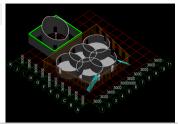
Supported Restricted Not Supported

## RandomArch-X5 / 2x3

Supported

Restricted

Not Supported



101 IfcWallStandardCase	company statement	RandomArch-X5 / 2x
010 Naming		
030 Geometry		
030-6 Geometry Body		
030-6-2 Geometry Clipping	This concept was not supported.	
050 CAD Layer		
080 Filling		
081 Has Filling		
081-2 Has Filling Window		
120 Spatial Containment		
02 IfcWall	company statement	RandomArch-X5 / 2x
001 GUIDs		
002 History		
010 Naming		
020 Placement		
020-2 Placement Relative		
100 Element Aggregation		
100-2 Element Decomposition	This concept was not supported.	
120 Spatial Containment		
103 IfcBeam	company statement	RandomArch-X5 / 2x

010 Naming		
020 Placement		
020-2 Placement Relative		
030 Geometry		
030-6 Geometry Body		
030-6-5 Geometry Explicit	This concept was not supported in TAS export.	
050 CAD Layer		
120 Spatial Containment		
200 Material		
200-1 Single Material		
210 Property Set		
210-1 Property Set IFC Common		
05 lfcSlab	company statement	RandomArch-X5 / 2x
030 Geometry		
030-9 Geometry By Components	This concept was not supported.	
050 CAD Layer		
100 Element Aggregation		
100-1 Element Composition	This concept was not supported.	
100-2 Element Decomposition	This concept was not supported.	
200 Material		
200-1 Single Material		
06 lfcStair	company statement	RandomArch-X5 / 2x
001 GUIDs		
002 History		

Supported

Restricted

Not Supported

010 Naming		
020 Placement		
020-1 Placement Relative		
030 Geometry		
030-9 Geometry By Components	This concept was not supported.	
040 Presentation		
040-1 Geometric Presentation		
040-2 Material Presentation	This concept was not supported.	
120 Spatial Containment		
08 IfcRailing	company statement	RandomArch-X5 / 2x3
001 GUIDs		
002 History		
010 Naming		
020 Placement		
020-2 Placement Relative		
030 Geometry		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid		
030-6-5 Geometry Explicit	This concept was not supported in TAS export.	
030-6-9 Geometry Mapped	In this test case, the Geometry Mapped were exported as BReps.	
040 Presentation		
040-1 Geometric Presentation		
050 CAD Layer		
120 Spatial Containment		

Supported

Restricted

Not Supported

200 Material		
200-1 Single Material		
200-5 Material List	This concept was not supported.	
210 Property Set	This concept was not supported.	
210-1 Property Set IFC Common		
210-3 Property Set User Defined		
09 IfcCurtainWall	company statement	RandomArch-X5 / 2x3
001 GUIDs	This concept was not supported.	
002 History	This concept was not supported.	
010 Naming	This concept was not supported.	
020 Placement		
020-1 Placement Relative	This concept was not supported.	
100 Element Aggregation		
100-2 Element Decomposition	This concept was not supported.	
120 Spatial Containment	This concept was not supported.	
110 IfcRoof	company statement	RandomArch-X5 / 2x3
010 Naming	This concept was not supported.	
100 Element Aggregation		
100-2 Element Decomposition	This concept was not supported.	
120 Spatial Containment	This concept was not supported.	

Not Supported



Supported

Restricted

Not Supported

001 GUIDs	This concept was not supported.	
002 History	This concept was not supported.	
020 Placement	The concept was not supported.	
020-2 Placement Relative	This concept was not supported	
030 Geometry	This concept was not supported.	
030-6 Geometry Body		
030-6-5 Geometry Explicit	This concept was not supported.	
120 Spatial Containment	This concept was not supported.	
120 Oparial Containment	This concept was not supported.	
402 IfcPlate	company statement	RandomArch-X5 / 2x3
001 GUIDs	This concept was not supported.	
002 History	This concept was not supported.	
020 Placement		
020-2 Placement Relative	This concept was not supported.	
030 Geometry		
030-6 Geometry Body		
030-6-5 Geometry Explicit	This concept was not supported.	
120 Spatial Containment	This concept was not supported.	
501 IfcProject	company statement	RandomArch-X5 / 2x3
001 GUIDs		
002 History		
010 Naming		
502 IfcSite	company statement	RandomArch-X5 / 2x3

Supported

Restricted

Not Supported

001 GUIDs	This concept was not supported.	
002 History	This concept was not supported.	
503 IfcBuilding	company statement	RandomArch-X5 / 2x3
001 GUIDs		
002 History		
010 Naming		
020 Placement		
020-2 Placement Relative		
504 IfcBuildingStorey	company statement	RandomArch-X5 / 2x3
001 GUIDs		
002 History		
010 Naming		
020 Placement		
020-2 Placement Relative		
150 Spatial Aggregation		
150-1 Spatial Composition		
150-2 Spatial Decomposition		
509 IfcGrid	company statement	RandomArch-X5 / 2x3
001 GUIDs		
002 History		
010 Naming		
020 Placement		
020-2 Placement Relative		

030 Geometry		
030-3 Geometry FootPrint		
050 CAD Layer		
270 Grid Usage		
270-1 Grid Axes		
General	company statement	RandomArch-X5 / 2x3
_G4 Remarks	Member, CurtainWall, Roof, Site and plate cannot be drawn in TAS.	

## Roof 01 / 2x3

Supported

Restricted

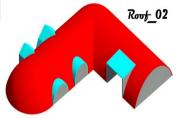
Not Supported



Roof 01 / 2x3

Geometry Box of Roof is not supported by TAS.	
This concept was optional for this test case, and not included in the TAS export.	
IfcRoof is separated and exported as several slabs.	
company statement	Roof 01 / 2x3
	This concept was optional for this test case, and not included in the TAS export.  IfcRoof is separated and exported as several slabs.

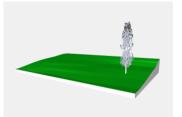
#### Roof 02 / 2x3



101 IfcWallStandardCase	company statement	Roof 02 / 2x3
010 Naming		
030 Geometry		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid		
030-6-2 Geometry Clipping		
050 CAD Layer		
110 IfcRoof	company statement	Roof 02 / 2x
010 Naming		
020 Placement		
020-2 Placement Relative		
030 Geometry		
030-6 Geometry Body		
030-6-5 Geometry Explicit		
050 CAD Layer		
100 Element Aggregation		
100-2 Element Decomposition		
210 Property Set		
210-1 Property Set IFC Common		
210-3 Property Set User Defined		

General	company statement	Roof 02 / 2x3
_G4 Remarks		

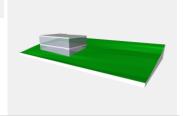
## Site 01 / 2x3



502 IfcSite	company statement	Site 01 / 2x3
001 GUIDs		
002 History		
010 Naming		
020 Placement		
020-1 Placement Absolute		
030 Geometry		
030-1 Geometry Box	This is optional. IfcBoundingbox is not applicable here. Each entity in TAS has its own box property.	
030-3 Geometry FootPrint	Access to FootPrint is irrelevant to quantity takeoff.	
030-6 Geometry Body		
030-6-5 Geometry Explicit		
040 Presentation		
040-1 Geometric Presentation		
050 CAD Layer		
060 Location		
060-1 Geographic Location		
060-2 Address		
120 Spatial Containment		

210 Property Set		
210-1 Property Set IFC Common		
General	company statement	Site 01 / 2x3
_G4 Remarks		

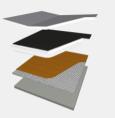
#### Site 02 / 2x3



502 IfcSite	company statement	Site 02 / 2x3
010 Naming		
020 Placement		
020-1 Placement Absolute		
030 Geometry		
030-3 Geometry FootPrint	Access to footprint is irrelevant to quantity takeoff.	
030-6 Geometry Body		
030-6-5 Geometry Explicit		
150 Spatial Aggregation		
150-1 Spatial Composition		
150-2 Spatial Decomposition		
210 Property Set		
210-9 Property Set User Defined		
503 IfcBuilding	company statement	Site 02 / 2x3
010 Naming		
020 Placement		
020-2 Placement Relative		
150 Spatial Aggregation		
150-1 Spatial Composition		
150-2 Spatial Decomposition		

210 Property Set		
210-1 Property Set IFC Common		
General	company statement	Site 02 / 2x3
_G4 Remarks		

## Slab 01A / 2x3



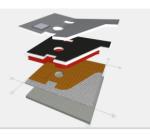
105 IfcSlab	company statement	Slab 01A / 2x3
010 Naming		
020 Placement		
020-2 Placement Relative		
030 Geometry		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid		
030-6-2 Geometry Clipping		
	Slabs can be exported in brep format.	
050 CAD Layer		
200 Material		
200-2 Material Layer Set		
200-3 Material Layer Usage		
210 Property Set		
210-1 Property Set IFC Common		
General	company statement	Slab 01A / 2x3
_G4 Remarks		

## Slab 02A / 2x3

Supported

Restricted

Not Supported



05 lfcSlab	company statement	Slab 02A / 2x
010 Naming		
020 Placement		
020-2 Placement Relative		
030 Geometry		
030-1 Geometry Box	This concept was optional for this test case, and not supported in TAS.	
030-6 Geometry Body		
030-6-1 Geometry SweptSolid		
030-6-2 Geometry Clipping	The Slab with Clipping Geometry in this test case are exported as BReps.	
030-6-5 Geometry Explicit		
030-6-9 Geometry Mapped	The Slab with Mapped Geometry in this test case are exported as BReps.	
070 Voiding		
070-1 Voiding Geometry Explicit		
070-2 Voiding Geometry Mapped	The Slabs with openings in this test case are exported as Breps.	
070-3 Voiding Geometry SweptSolid		
080 Filling		
080-1 Has Filling		
080-1-1 Has Filling Door	Door can't lay out on slab in TAS.	
080-1-2 Has Filling Window		

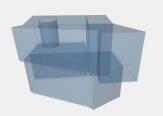
120 Spatial Containment		
130 Grouping		
130-1 Grouping General		
200 Material		
200-1 Single Material		
200-2 Material Layer Set		
210 Property Set		
210-1 Property Set IFC Common		
210-2 Property Set IFC any		
210-3 Property Set User Defined		
300 Type		
300-1 Type Geometry	This concept was optional for this test case, and not supported in TAS.	
300-2 Type Naming		
300-3 Type Material	This concept was optional for this test case, and not supported in TAS.	
300-5 Type Property Set		
eneral	company statement	Slab 02A / 2x:
_G4 Remarks		

# Space 01A / 2x3

Supported

Restricted

Not Supported



505 IfcSpace	company statement	Space 01A / 2x
001 GUIDs		
002 History		
010 Naming		
020 Placement		
020-2 Placement Relative		
030 Geometry		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid		
030-6-2 Geometry Clipping	In this test case, the spaces are exported as BReps.	
040 Presentation		
040-1 Geometric Presentation		
050 CAD Layer		
150 Spatial Aggregation		
150-1 Spatial Composition		
210 Property Set		
210-1 Property Set IFC Common		
210-6 Property Set IFC any		
Seneral	company statement	Space 01A / 2>
_G4 Remarks		

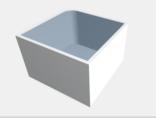
## StairSlab-01 / 2x3



105 lfcSlab	company statement	StairSlab-01 / 2x3
001 GUIDs		
002 History		
030 Geometry		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid		
040 Presentation		
040-1 Geometric Presentation		
040-2 Material Presentation	This concept was optional for this test case, and not supported in TAS.	
070 Voiding		
070-3 Voiding Geometry SweptSolid		
106 IfcStair	company statement	StairSlab-01 / 2x3
001 GUIDs		
002 History		
010 Naming		
020 Placement		
020-1 Placement Relative		

company statement	StairSlab-01 / 2x3
We imported StairSlab-01_RAC.ifc into TAS and then export this file.	

## UnitTest-01A / 2x3



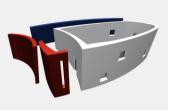
501 IfcProject	company statement	UnitTest-01A / 2x3
005 Project Units		
005-1 Project Metric Units		
005-2 Project Imperial Units		
General	company statement	UnitTest-01A / 2x3
_G4 Remarks		

## UnitTest-01S / 2x3



501 IfcProject	company statement	UnitTest-01S / 2x3
005 Project Units		
005-1 Project Metric Units		
005-2 Project Imperial Units		
General	company statement	UnitTest-01S / 2x3
_G4 Remarks		

## Wall 01 / 2x3



102 IfcWall	company statement	Wall 01 / 2x3
002 History		
010 Naming		
020 Placement		
020-2 Placement Relative		
030 Geometry		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid	In this test case, the Geometry SweptSolid were exported as BReps.	
030-6-2 Geometry Clipping	In this test case, the Geometry Clipping were exported as BReps.	
030-6-5 Geometry Explicit		
040 Presentation		
040-1 Geometric Presentation		
040-2 Material Presentation	Only geometry representation is supported here.	
070 Voiding		
070-1 Voiding Geometry Explicit		
070-3 Voiding Geometry SweptSolid	In this test case, the Geometry SweptSolid were exported as BReps.	

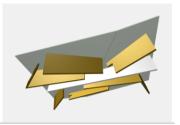
Only single material is supported here.	
Type Property Set is not supported here.	
company statement	Wall 01 / 2x3
company statement	Wall 01 / 2x3
company statement	Wall 01 / 2x3
	Type Property Set is not supported here.  company statement  company statement

## Wall 02 / 2x3

Supported

Restricted

Not Supported



102 IfcWall	company statement	Wall 02 / 2x3
010 Naming		
020 Placement		
020-2 Placement Relative		
030 Geometry		
030-2 Geometry Axis	This concept was optional for this test case, and are not supported in TAS.	
030-6 Geometry Body		
030-6-1 Geometry SweptSolid	This case does not have SweptSolid.	
030-6-2 Geometry Clipping	In this test case, the Geometry Clipping were exported as BReps.	
030-6-5 Geometry Explicit		
050 CAD Layer		
070 Voiding		
070-1 Voiding Geometry Explicit		
070-3 Voiding Geometry SweptSolid	This case does not have an opening with SweptSolid geometry	
120 Spatial Containment		
130 Grouping		
130-1 Grouping General		
200 Material		
200-3 Material Layer Set		

300 Type		
300-2 Type Naming		
General	company statement	Wall 02 / 2x3
_G4 Remarks		

#### WallSlab 03 / 2x3



102 IfcWall	company statement	WallSlab 03 / 2x3
010 Naming		
020 Placement		
020-2 Placement Relative		
030 Geometry		
030-9 Geometry By Components	This concept was optional for this test case, object is stored with complete geometry in TAS and exported this way.	
070 Voiding		
070-3 Voiding Geometry SweptSolid	We exported it as Breps.	
100 Element Aggregation		
100-2 Element Decomposition	This concept was optional for this test case, object is stored with complete geometry in TAS and exported this way.	
210 Property Set		
210-1 Property Set IFC Common		
105 lfcSlab	company statement	WallSlab 03 / 2x3
010 Naming		
020 Placement		
020-2 Placement Relative		

030 Geometry		
030-9 Geometry By Components	This concept was optional for this test case, object is stored with complete geometry in TAS and exported this way.	
100 Element Aggregation		
100-2 Element Decomposition	This concept was optional for this test case, object is stored with complete geometry in TAS and exported this way.	
501 IfcProject	company statement	WallSlab 03 / 2x
001 GUIDs		
002 History		
005 Project Units		
005-1 Project Metric Units		
008 Representation Context		
008-1 Representation Main Context		
008-2 Representation Sub Context		
008-2-2 Representation Sub Context 3D		
010 Naming		
150 Spatial Aggregation		
150-2 Spatial Decomposition		
503 IfcBuilding	company statement	WallSlab 03 / 2x
001 GUIDs		
002 History		
010 Naming		
020 Placement		
020-1 Placement Absolute	Building is relative to site and site is placement absolaute.	

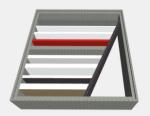
Supported

Restricted

Not Supported

150 Spatial Aggregation		
150-1 Spatial Composition		
150-2 Spatial Decomposition		
504 IfcBuildingStorey	company statement	WallSlab 03 / 2x3
001 GUIDs		
002 History		
010 Naming		
020 Placement		
020-2 Placement Relative		
150 Spatial Aggregation		
150-1 Spatial Composition		
150-2 Spatial Decomposition		
505 IfcSpace	company statement	WallSlab 03 / 2x3
010 Naming		
030 Geometry		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid	We exported it as Breps.	
General	company statement	WallSlab 03 / 2x3

## WallStandardCase 01A / 2x3



01 IfcWallStandardCase	company statement	WallStandardCase 01A / 2x
010 Naming		
020 Placement		
020-2 Placement Relative		
030 Geometry		
030-2 Geometry Axis	All walls in IfcWallStandardCase of this test case are exported as IFCWall.  Geometry Axis is not supported.	
030-6 Geometry Body		
030-6-1 Geometry SweptSolid		
030-6-2 Geometry Clipping	In this test case, the Geometry Clipping were exported as BReps	
040 Presentation		
040-1 Geometric Presentation		
040-2 Material Presentation	Material Presentation is not supported in the TAS export.	
050 CAD Layer		
110 Connectivity		
110-2 Connectivity Path	The application is mainly used to calculate project quantities and it is not necessary to show connectivity path, so the storage of connectivity path is not supported here.	
120 Spatial Containment		

200 Material		
200-4 Material Layer Usage	All walls in IfcWallStandardCase of this test case are exported as IFCWall, so	
	the Material Layer Usage is not support.	
210 Property Set		
210-3 Property Set User Defined		
300 Type		
300-3 Type Material	Type Material is not support.	
200 5 Tuna Pranarty Sat	Type Material is not support.	
300-5 Type Property Set	This concept was optional for this test case, and not included in TAS.	
General	company statement	WallStandardCase 01A / 2x3
_G4 Remarks		

## WallStandardCase 02A / 2x3

Supported

Restricted

Not Supported



01 IfcWallStandardCase	company statement	WallStandardCase 02A / 2x3
010 Naming		
020 Placement		
020-2 Placement Relative		
030 Geometry		
030-2 Geometry Axis		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid		
030-6-2 Geometry Clipping	In this test case, the Geometry Clipping were exported as BReps.	
050 CAD Layer		
110 Connectivity		
110-2 Connectivity Path	Access to connectivity path is irrelevant to quantity takeoff.	
120 Spatial Containment		
200 Material		
200-4 Material Layer Usage	Some walls in IfcWallStandardCase are exported as IfcWall in this test. In export, TAS suports the Material Layer Usage of IfcWallStandardCase, but not that of IfcWall.	
210 Property Set		
210-1 Property Set IFC Common		
General	company statement	WallStandardCase 02A / 2x3

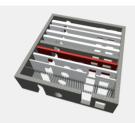
\_G4 Remarks

Supported

Restricted Not Supported

## WallStandardCase 03A / 2x3

Supported



101 IfcWallStandardCase	company statement	WallStandardCase 03A / 2x3
010 Naming		
020 Placement		
020-2 Placement Relative		
030 Geometry		
030-2 Geometry Axis		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid		
070 Voiding		
070-1 Voiding Geometry SweptSolid		
070-2 Voiding Geometry Explicit	This test case does not have Geometry Explicit	
070-3 Voiding Geometry Mapped	In this test case, the Geometry Mapped were exported as BReps.	
120 Spatial Containment		
General	company statement	WallStandardCase 03A / 2x3
_G4 Remarks		

Restricted Not Supported

#### WallStandardCase 04A / 2x3



101 IfcWallStandardCase	company statement	WallStandardCase 04A / 2x3
010 Naming		
030 Geometry		
030-2 Geometry Axis		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid		
070 Voiding		
070-1 Voiding Geometry SweptSolid		
070-2 Voiding Geometry Explicit		
070-3 Voiding Geometry Mapped	In this test case, the Geometry Mapped were exported as BReps.	
120 Spatial Containment		
General	company statement	WallStandardCase 04A / 2x3
_G4 Remarks		

## Window 01 / 2x3

Supported

Restricted

Not Supported



01 IfcWindow	company statement	Window 01 / 2x3
001 GUIDs		
002 History		
010 Naming		
020 Placement		
020-2 Placement Relative		
030 Geometry		
030-5 Geometry Profile	Our doors and windows are represented by the Brep, it does not support	
030-6 Geometry Body	,	
030-6-5 Geometry Explicit		
030-6-9 Geometry Mapped	Our doors and windows are represented by the Brep, it does not support	
040 Presentation		
040-1 Geometric Presentation		
050 CAD Layer		
080 Filling		
080-2 Is Filling		
120 Spatial Containment		
200 Material		
200-1 Single Material		
200-5 Material List		

210 Property Set		
210-1 Property Set IFC Common		
210-2 Property Set IFC any		
210-3 Property Set User Defined		
300 Type		
300-1 Type Geometry	Type Geometry is not supported in TAS	
300-2 Type Naming		
300-3 Type Material	Type Material is not supported in TAS	
300-5 Type Property Set		
300-6 Type Predefined Properties		
300-6-1 Type Predefined Properties Window		
General	company statement	Window 01 / 2x3
_G4 Remarks		