CoordinationView 2.0 / Export

Architecture / MEP / Structural

Bentley Systems, Incorporated

AECOsim Building Designer

18/12/2015

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Introduction

Release: SELECTseries 6

AECOsim Building Designer is a single building information modeling (BIM) software application for multi-discipline teams. It enables architects, structural, mechanical, and electrical engineers to design, analyze, construct, document, and visualize buildings of any size, form, and complexity.

Testlist

Name test	concepts total	manually checked		
BeamColumn 04 / 2x3	47	31		16
Beam_01 / 2x3	10	8		2
Beam_02 / 2x3	12	8		4
Beam_03 / 2x3	6	4		2
CharsetTest-01A / 2x3	2	2		
CharsetTest-01MEP / 2x3	2	2		
CharsetTest-01S / 2x3	2	2		
Column 01 / 2x3	11	9		2
Column_02 / 2x3	6	4		2
CoveringFurnishing-01 / 2x3	57	49		8
CurtainWall-01 / 2x3	29	23	1	5
Door 01 / 2x3	22	19	1	2
DoorWindow-02 / 2x3	11	9		2
DuplexHouse_Electrical / 2x3	65	31		34
DuplexHouse_Heating / 2x3	56	43		13
DuplexHouse_Sanitary / 2x3	52	42		10
DuplexHouse_Ventilation / 2x3	44	36		8
Grid 01 / 2x3	11	9		2
Member 01A / 2x3	10	7		3
Member_01S / 2x3	10	6		4
Pile 01 / 2x3	19	15		4
RampRailing-01 / 2x3	28	23		5
RandomArch-X1 / 2x3	18	18		
RandomArch-X2 / 2x3	13	13		
RandomArch-X3 / 2x3	11	11		
RandomArch-X4 / 2x3	14	14		

Supported Restricted Not Supported

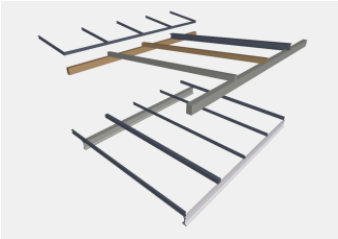
Name test	concepts total	manually checked		
RandomArch-X5 / 2x3	23	23		
RandomMEP-X1 / 2x3	23	23		
RandomMEP-X2 / 2x3	25	25		
RandomMEP-X3 / 2x3	15	15		
RandomMEP-X4 / 2x3	18	18		
RandomMEP-X5 / 2x3	29	29		
RandomStruc-X1 / 2x3	26	26		
RandomStruc-X2 / 2x3	10	10		
RandomStruc-X3 / 2x3	8	8		
RandomStruc-X4 / 2x3	22	22		
RandomStruc-X5 / 2x3	12	12		
Reinforcement-01 / 2x3	93	64		29
Roof 01 / 2x3	15	9		6
Roof 02 / 2x3	12	11		1
Site 01 / 2x3	14	12	1	1
Site 02 / 2x3	13	11	1	1
Slab 01A / 2x3	9	6		3
Slab 01S / 2x3	11	7		4
Slab 02A / 2x3	24	17		7
Slab 02S / 2x3	22	15		7
Space 01A / 2x3	12	12		
Space_01MEP / 2x3	15	15		
StairSlab-01 / 2x3	19	16		3
UnitTest-01A / 2x3	3	1	2	
UnitTest-01MEP / 2x3	3	1	2	
UnitTest-01S / 2x3	3	3		
Wall 01 / 2x3	19	15		4
Wall 02 / 2x3	14	11	1	2

Supported Restricted Not Supported

Name test	concepts total	manually checked		
WallSlab 03 / 2x3	32	26		6
WallStandardCase 01A / 2x3	15	12	1	2
WallStandardCase 01S / 2x3	15	12	1	2
WallStandardCase 02A / 2x3	11	11		
WallStandardCase 02S / 2x3	11	10	1	
WallStandardCase 03A / 2x3	9	7		2
WallStandardCase 03S / 2x3	8	7		1
WallStandardCase 04A / 2x3	8	7		1
WallStandardCase 04S / 2x3	7	7		
Window 01 / 2x3	22	19		3

Concepts

Beam_01 / 2x3

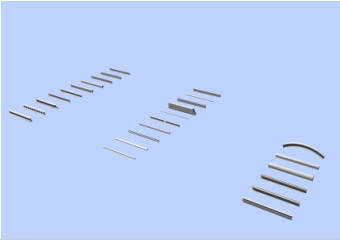


103 IfcBeam	*company statement*	*Beam_01 / 2x3*
010 Naming		
020 Placement		
020-2 Placement Relative		
030 Geometry		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid		
030-6-2 Geometry Clipping	AECOsim Building Designer uses CSG Boolean difference for beam connection, it can not be evaluated to IFC clipping and Brep is used	
040 Presentation		
040-1 Geometric Presentation		
040-2 Material Presentation	Presentation information is provided by a "Geometric Presentation" (040-1)	
120 Spatial Containment		
200 Material		
200-1 Single Material		
210 Property Set		
210-1 Property Set IFC Common		
General	*company statement*	*Beam_01 / 2x3*

Supported Restricted Not Supported

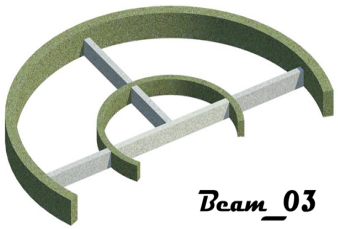
_G4 Remarks	

Beam_02 / 2x3



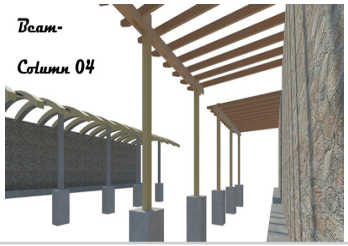
103 IfcBeam	*company statement*	*Beam_02 / 2x3*
010 Naming		
030 Geometry		
030-2 Geometry Axis		AECOsim Building Designer does not export beam axis
030-6 Geometry Body		
030-6-1 Geometry SweptSolid		
030-6-2 Geometry Clipping		AECOsim Building Designer uses CSG boolean difference can not be evaluated to IFC clipping and Brep is used
030-6-5 Geometry Explicit		
050 CAD Layer		
070 Voiding		
070-1 Voiding Geometry Explicit		All openings in this example are simple swept of IfcCircle
070-2 Voiding Geometry Mapped		Mapped voiding geometry is not used in ABD
070-3 Voiding Geometry SweptSolid		
120 Spatial Containment		
200 Material		
200-1 Single Material		
General	*company statement*	*Beam_02 / 2x3*
_G4 Remarks		

Beam_03 / 2x3



103 IfcBeam	*company statement*	*Beam_03 / 2x3*
030 Geometry		
030-1 Geometry Box		
030-2 Geometry Axis	AECOsim Building Designer does not export beam axis	
030-6 Geometry Body		
030-6-1 Geometry SweptSolid		
030-6-2 Geometry Clipping	There are no clipped beam in this example	
300 Type		
300-5 Type Property Set		
General	*company statement*	*Beam_03 / 2x3*
_G4 Remarks		

BeamColumn 04 / 2x3



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		AECOsim Building Designer does not use shared geometry for beams
070 Voiding		
070-1 Voiding Geometry Explicit		There are no openings in this test-case
070-2 Voiding Geometry Mapped		AECOsim Building Designer does not use shared geometry for openings
070-3 Voiding Geometry SweptSolid		There are no openings in this design
130 Grouping		
130-1 Grouping General		
200 Material		
200-1 Single Material		

Supported Restricted Not Supported

210 Property Set		
210-1 Property Set IFC Common		
210-3 Property Set User Defined		
300 Type		
300-1 Type Geometry		AECOsim Building Designer does not have type geometry for beams
300-2 Type Naming		
300-3 Type Material		AECOsim Building Designer does not have type materials
300-5 Type Property Set		
104 IfcColumn	*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		all columns in this test-case are CSG solids (boolean difference) and can not be represented as swept solid
030-6-9 Geometry Mapped		AECOsim Building Designer does not use shared geometry for beams
070 Voiding		
070-1 Voiding Geometry Explicit		There are no openings in this design
070-2 Voiding Geometry Mapped		AECOsim Building Designer does not use shared geometry for openings
070-3 Voiding Geometry SweptSolid		There are no openings in this design
130 Grouping		
130-1 Grouping General		

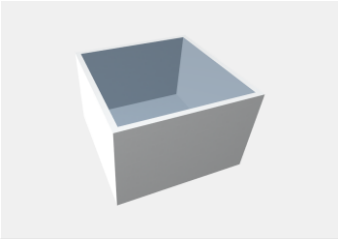
Supported Restricted Not Supported

200 Material		
200-1 Single Material	Supported	
210 Property Set		
210-2 Property Set IFC any	Supported	
300 Type		
300-1 Type Geometry	Not Supported	AECOsim Building Designer does not have type geometry for beams
300-2 Type Naming	Supported	
300-3 Type Material	Not Supported	AECOsim Building Designer does not have type materials
300-5 Type Property Set	Supported	
403 IfcFooting	*company statement*	*BeamColumn 04 / 2x3*
001 GUIDs	Supported	
002 History	Supported	
010 Naming	Supported	
020 Placement		
020-1 Placement Relative	Supported	
030 Geometry		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid	Supported	
030-6-9 Geometry Mapped	Not Supported	AECOsim Building Designer does not use shared geometry for footings
130 Grouping		
130-1 Grouping General	Supported	
200 Material		
200-1 Single Material	Supported	
210 Property Set		
210-2 Property Set IFC any	Supported	

Supported Restricted Not Supported

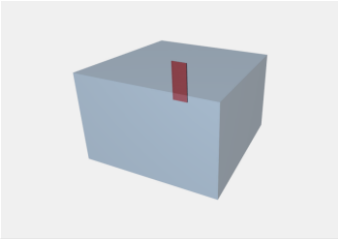
300 Type		
300-1 Type Geometry		AECOsim Building Designer does not have type geometry for footings
300-2 Type Naming		
300-3 Type Material		AECOsim Building Designer does not have type materials
300-5 Type Property Set		
General	*company statement*	*BeamColumn 04 / 2x3*
_G4 Remarks		

CharsetTest-01A / 2x3



General	*company statement*	*CharsetTest-01A / 2x3*
_G1 Character sets	SE material name changed to use ä	
_G4 Remarks	Russian and Chinese IFC files are uploaded. We have not full Ru/Cn translation for this ABD version yet, so these are SE file with some properties and space name use Russian or Chinese language, just to demonstrate ABD supports.	

CharsetTest-01MEP / 2x3

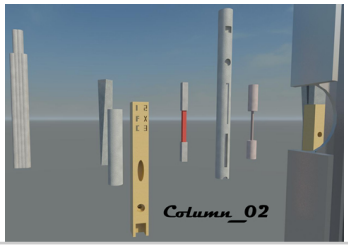


General	*company statement*	*CharsetTest-01MEP / 2x3*
_G1 Character sets		
_G4 Remarks		

CharsetTest-01S / 2x3

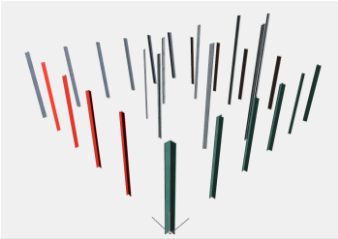
General	*company statement*	*CharsetTest-01S / 2x3*
_G1 Character sets		
_G4 Remarks		

Column_02 / 2x3



104 IfcColumn	*company statement*		*Column_02 / 2x3*
030 Geometry			
030-6 Geometry Body			
030-6-1 Geometry SweptSolid	Supported		
030-6-5 Geometry Explicit	Supported		
070 Voiding			
070-1 Voiding Geometry Explicit	Not Supported	all openings are simple swepts in this model	
070-2 Voiding Geometry Mapped	Not Supported	ABD does not use mapped void geometry	
070-3 Voiding Geometry SweptSolid	Supported		
General	*company statement*		*Column_02 / 2x3*
_G4 Remarks	Supported		

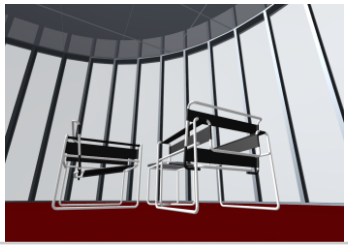
Column 01 / 2x3



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		There are no clipped columns in this example	
040 Presentation			
040-1 Geometric Presentation			
040-2 Material Presentation		Presentation information is provided by a "Geometric Presentation" (040-1)	
050 CAD Layer			
120 Spatial Containment		corrected spatial containment, i.e. site, building and building storey names.	
200 Material			
200-1 Single Material			
210 Property Set			
210-1 Property Set IFC Common		added slope values as per test instructions.	
General		*company statement*	*Column 01 / 2x3*
_G4 Remarks		corrected all columns to have horizontal tops and bottoms.	

Supported Restricted Not Supported

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	■	
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	Supported	
300-2 Type Naming	Supported	
300-3 Type Material	Not Supported	type materials are not supported
300-5 Type Property Set	Supported	
303 IfcCovering	*company statement*	*CoveringFurnishing-01 / 2x3*
010 Naming	Supported	
020 Placement		
020-2 Placement Relative	Supported	
030 Geometry		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid	Supported	
030-6-9 Geometry Mapped	Not Supported	all coverings in this example are swept solids
040 Presentation		
040-1 Geometric Presentation	Supported	
050 CAD Layer	Supported	
070 Voiding		
120 Spatial Containment	Supported	
200 Material		
200-1 Single Material	Supported	
200-3 Material Layer Set	Not Supported	AECOsim Building Designer does not support composite coverings
210 Property Set		
210-1 Property Set IFC Common	Supported	

Supported Restricted Not Supported

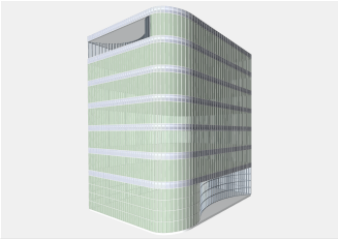
300 Type		
300-1 Type Geometry	🟥	all coverings in this example are swept solids
300-2 Type Naming	🟩	
300-3 Type Material	🟥	type materials are not supported
300-5 Type Property Set	🟩	
304 IfcFurnishingElement	*company statement*	*CoveringFurnishing-01 / 2x3*
001 GUIDs	🟩	
010 Naming	🟩	
020 Placement		
020-2 Placement Relative	🟩	fixed
030 Geometry		
030-6 Geometry Body		
030-6-5 Geometry Explicit	🟩	
030-6-9 Geometry Mapped	🟩	
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		
210-6 Property Set IFC any	🟩	
210-9 Property Set User Defined	🟩	

🟩 Supported 🟨 Restricted 🟥 Not Supported

300 Type		
300-1 Type Geometry		
300-2 Type Naming		
300-3 Type Material	type materials are not supported	
300-5 Type Property Set		
505 IfcSpace	*company statement*	*CoveringFurnishing-01 / 2x3*
030 Geometry		
030-3 Geometry FootPrint	Space bodies are exported as footprint extrusion, so separate footpint representation sounds redundant	
030-6 Geometry Body		
030-6-1 Geometry SweptSolid		
120 Spatial Containment		
130 Grouping		
130-3 Grouping to Zones		
230 Classification	space classification is not set in this example	
508 IfcZone	*company statement*	*CoveringFurnishing-01 / 2x3*
001 GUIDs		
002 History		
010 Naming	fixed	
130 Grouping		
130-5 Is Group		
210 Property Set		
210-1 Property Set IFC Common	fixed	
210-9 Property Set User Defined		
General	*company statement*	*CoveringFurnishing-01 / 2x3*
_G4 Remarks		

Supported Restricted Not Supported

CurtainWall-01 / 2x3



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	AECOsim Building Designer does not break curtain walls into parts	
040 Presentation		
040-1 Geometric Presentation	AECOsim Building Designer does not break curtain walls into parts and uses only one color per IFC entity	
050 CAD Layer		
100 Element Aggregation		
100-2 Element Decomposition	AECOsim Building Designer does not break curtain walls into parts	
120 Spatial Containment		
200 Material		
200-1 Single Material		
200-5 Material List	AECOsim Building Designer uses single materials for curtain wall	

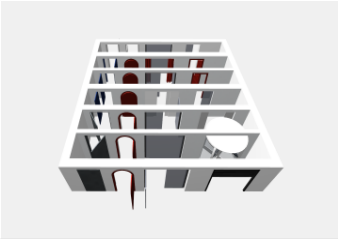
Supported Restricted Not Supported

210 Property Set			
210-1 Property Set IFC Common	Supported		
210-3 Property Set User Defined	Supported		
300 Type			
300-1 Type Geometry	Not Supported	AECOsim Building Designer does not use shared geometry for curtain walls	
300-2 Type Naming	Supported		
300-3 Type Material	Not Supported	AECOsim Building Designer does not use type materials	
300-5 Type Property Set	Supported		
501 IfcProject		*company statement*	*CurtainWall-01 / 2x3*
010 Naming	Supported		
502 IfcSite		*company statement*	*CurtainWall-01 / 2x3*
010 Naming	Supported		
060 Location			
060-1 Geographic Location	Supported		
060-2 Address	Supported	Address is exported at building level	
503 IfcBuilding		*company statement*	*CurtainWall-01 / 2x3*
010 Naming	Supported		
020 Placement			
020-2 Placement Relative	Supported		
504 IfcBuildingStorey		*company statement*	*CurtainWall-01 / 2x3*
010 Naming	Supported		
020 Placement			
020-2 Placement Relative	Supported		
060 Location			
060-4 Storey Elevation	Supported		

Supported Restricted Not Supported

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

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	■	Doors profiles for D1.09-D1.13 are modelled with using polygonal approximation for top arc. Particularly it gives approximate value for IfcDoor.OverallHeight: 2200.534967 vs 2200
030-6 Geometry Body		
030-6-5 Geometry Explicit	■	
030-6-9 Geometry Mapped	■	
040 Presentation		
040-1 Geometric Presentation	■	
050 CAD Layer	■	
080 Filling		
080-2 Is Filling	■	
120 Spatial Containment	■	

■ Supported ■ Restricted ■ Not Supported

200 Material		
200-1 Single Material	■	
200-5 Material List	■	ABD does not support material list for doors
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	■	
300-2 Type Naming	■	
300-3 Type Material	■	ABD does not support type materials
300-5 Type Property Set	■	
300-6 Type Predefined Properties		
300-6-1 Type Predefined Properties Door	■	
General	*company statement*	*Door 01 / 2x3*
_G4 Remarks	■	

■ Supported ■ Restricted ■ Not Supported

DoorWindow-02 / 2x3

301 IfcWindow	*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	TypeGeometry supported (see Door_01 test case), but not used for this test case because all windows are individual in this test-case	

302 IfcDoor	*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		

Supported Restricted Not Supported

300 Type		
300-1 Type Geometry	TypeGeometry supported (see Door_01 test case), but not used for this test case because all doors instances are individual in this test-case	
General	*company statement*	*DoorWindow-02 / 2x3*
_G4 Remarks		

DuplexHouse_Electrical / 2x3

204 IfcEnergyConversionDevice	*company statement*	*DuplexHouse_Electrical / 2x3*
010 Naming		
020 Placement		
020-2 Placement Relative		
030 Geometry		
030-6 Geometry Body		
030-6-5 Geometry Explicit		
030-6-9 Geometry Mapped		ABD does not use common/type geometry for MEP objects.
100 Element Aggregation		
100-4 Port Assignment		ABD does not support ports of electrical energy conversion devices, because electrical flow segments and flow fittings are not modelled.
110 Connectivity		
110-5 Connectivity by Ports		ABD does not support ports of electrical energy conversion devices, because electrical flow segments and flow fittings are not modelled.
120 Spatial Containment		
130 Grouping		
130-2 Grouping to Systems		
300 Type		
300-1 Type Geometry		ABD does not use common/type geometry for MEP objects.
300-2 Type Naming		
205 IfcFlowController	*company statement*	*DuplexHouse_Electrical / 2x3*
010 Naming		

Supported Restricted Not Supported

020 Placement		
020-2 Placement Relative	Supported	
030 Geometry		
030-6 Geometry Body		
030-6-5 Geometry Explicit	Supported	
030-6-9 Geometry Mapped	Not Supported	ABD does not use common/type geometry for MEP objects.
100 Element Aggregation		
100-4 Port Assignment	Not Supported	ABD does not support ports of electrical flow controllers, because electrical flow segments and flow fittings are not modelled.
110 Connectivity		
110-5 Connectivity by Ports	Not Supported	ABD does not support ports of electrical flow controllers, because electrical flow segments and flow fittings are not modelled.
120 Spatial Containment	Supported	
130 Grouping		
130-2 Grouping to Systems	Supported	
300 Type		
300-1 Type Geometry	Not Supported	ABD does not use common/type geometry for MEP objects.
300-2 Type Naming	Supported	
206 IfcFlowFitting	*company statement*	*DuplexHouse_Electrical / 2x3*
010 Naming	Not Supported	ABD does not model electrical flow fittings.
020 Placement		
020-2 Placement Relative	Not Supported	ABD does not model electrical flow fittings.
030 Geometry		
030-6 Geometry Body		
030-6-5 Geometry Explicit	Not Supported	ABD does not model electrical flow fittings.
030-6-9 Geometry Mapped	Not Supported	ABD does not model electrical flow fittings.

100 Element Aggregation		
100-4 Port Assignment	■	ABD does not model electrical flow fittings.
110 Connectivity		
110-5 Connectivity by Ports	■	ABD does not model electrical flow fittings.
120 Spatial Containment	■	ABD does not model electrical flow fittings.
130 Grouping		
130-2 Grouping to Systems	■	ABD does not model electrical flow fittings.
300 Type		
300-1 Type Geometry	■	ABD does not model electrical flow fittings.
300-2 Type Naming	■	ABD does not model electrical flow fittings.
208 IfcFlowSegment	*company statement*	*DuplexHouse_Electrical / 2x3*
010 Naming	■	ABD does not model electrical flow segments.
020 Placement		
020-2 Placement Relative	■	ABD does not model electrical flow segments.
030 Geometry		
030-6 Geometry Body		
030-6-5 Geometry Explicit	■	ABD does not model electrical flow segments.
030-6-9 Geometry Mapped	■	ABD does not use common/type geometry for MEP objects.
040 Presentation		
040-1 Geometric Presentation	■	ABD does not model electrical flow segments.
100 Element Aggregation		
100-4 Port Assignment	■	ABD does not model electrical flow segments.
110 Connectivity		
110-5 Connectivity by Ports	■	ABD does not model electrical flow segments.
120 Spatial Containment	■	ABD does not model electrical flow segments.

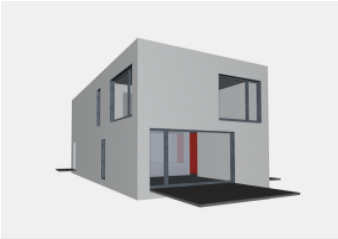
■ Supported ■ Restricted ■ Not Supported

130 Grouping		
130-2 Grouping to Systems	Not Supported	ABD does not model electrical flow segments.
300 Type		
300-1 Type Geometry	Not Supported	ABD does not model electrical flow segments.
300-2 Type Naming	Not Supported	ABD does not model electrical flow segments.
210 IfcFlowTerminal	*company statement*	*DuplexHouse_Electrical / 2x3*
010 Naming	Supported	
020 Placement		
020-2 Placement Relative	Supported	
030 Geometry		
030-6 Geometry Body		
030-6-5 Geometry Explicit	Supported	
030-6-9 Geometry Mapped	Not Supported	ABD does not use common/type geometry for MEP objects.
040 Presentation		
040-1 Geometric Presentation	Supported	
050 CAD Layer	Supported	
100 Element Aggregation		
100-4 Port Assignment	Not Supported	ABD does not support ports of electrical flow terminals, because electrical flow segments and flow fittings are not modelled.
110 Connectivity		
110-5 Connectivity by Ports	Not Supported	ABD does not support ports of electrical flow terminals, because electrical flow segments and flow fittings are not modelled.
120 Spatial Containment	Supported	
130 Grouping		
130-2 Grouping to Systems	Supported	

Supported Restricted Not Supported

210 Property Set			
210-1 Property Set IFC Common	Supported		
210-6 Property Set IFC any	Supported		
210-9 Property Set User Defined	Supported		
300 Type			
300-1 Type Geometry	Not Supported	ABD does not use common/type geometry for MEP objects.	
300-2 Type Naming	Supported		
501 IfcProject		*company statement*	*DuplexHouse_Electrical / 2x3*
010 Naming	Supported		
503 IfcBuilding		*company statement*	*DuplexHouse_Electrical / 2x3*
010 Naming	Supported		
504 IfcBuildingStorey		*company statement*	*DuplexHouse_Electrical / 2x3*
010 Naming	Supported		
020 Placement			
020-2 Placement Relative	Supported		
150 Spatial Aggregation			
150-1 Spatial Composition	Supported		
507 IfcSystem		*company statement*	*DuplexHouse_Electrical / 2x3*
010 Naming	Supported		
130 Grouping			
130-2 Grouping to Systems	Not Supported	ABD does not support groupings of systems to subsystems.	
130-5 Is Group	Supported		
General		*company statement*	*DuplexHouse_Electrical / 2x3*
_G4 Remarks	Supported		

DuplexHouse_Heating / 2x3



204 IfcEnergyConversionDevice	*company statement*	*DuplexHouse_Heating / 2x3*
010 Naming		
030 Geometry		
030-6 Geometry Body		
030-6-5 Geometry Explicit		
030-6-9 Geometry Mapped	ABD does not use common/type geometry for MEP objeccts	
040 Presentation		
040-1 Geometric Presentation		
100 Element Aggregation		
100-4 Port Assignment		
110 Connectivity		
110-5 Connectivity by Ports		
130 Grouping		
130-2 Grouping to Systems		
300 Type		
300-1 Type Geometry	ABD does not use common/type geometry for MEP objeccts	
300-5 Type Property Set		

205 IfcFlowController	*company statement*	*DuplexHouse_Heating / 2x3*
010 Naming		

030 Geometry		
030-6 Geometry Body		
030-6-5 Geometry Explicit	Supported	
030-6-9 Geometry Mapped	Not Supported	ABD does not use common/type geometry for MEP objeccts
040 Presentation		
040-1 Geometric Presentation	Supported	
100 Element Aggregation		
100-4 Port Assignment	Supported	
110 Connectivity		
110-5 Connectivity by Ports	Supported	
130 Grouping		
130-2 Grouping to Systems	Supported	
300 Type		
300-1 Type Geometry	Not Supported	ABD does not use common/type geometry for MEP objeccts
300-5 Type Property Set	Supported	
206 IfcFlowFitting	*company statement*	*DuplexHouse_Heating / 2x3*
010 Naming	Supported	
030 Geometry		
030-6 Geometry Body		
030-6-5 Geometry Explicit	Supported	
030-6-9 Geometry Mapped	Not Supported	ABD does not use common/type geometry for MEP objeccts
040 Presentation		
040-1 Geometric Presentation	Supported	
100 Element Aggregation		
100-4 Port Assignment	Supported	

Supported Restricted Not Supported

110 Connectivity		
110-5 Connectivity by Ports	■	
130 Grouping		
130-2 Grouping to Systems	■	
300 Type		
300-1 Type Geometry	■	ABD does not use common/type geometry for MEP objeccts
300-5 Type Property Set	■	
207 IfcFlowMovingDevice	*company statement*	*DuplexHouse_Heating / 2x3*
010 Naming	■	
030 Geometry		
030-6 Geometry Body		
030-6-5 Geometry Explicit	■	
030-6-9 Geometry Mapped	■	ABD does not use common/type geometry for MEP objeccts
040 Presentation		
040-1 Geometric Presentation	■	
100 Element Aggregation		
100-4 Port Assignment	■	
110 Connectivity		
110-5 Connectivity by Ports	■	
130 Grouping		
130-2 Grouping to Systems	■	
300 Type		
300-1 Type Geometry	■	ABD does not use common/type geometry for MEP objeccts
300-5 Type Property Set	■	
208 IfcFlowSegment	*company statement*	*DuplexHouse_Heating / 2x3*

■ Supported ■ Restricted ■ Not Supported

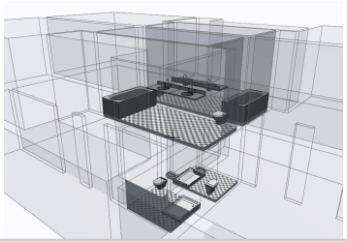
010 Naming		
030 Geometry		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid		MEP components are not exported as swept solids, but as breps only
030-6-5 Geometry Explicit		
030-6-9 Geometry Mapped		ABD does not use mapped geometry for flow segments as nearly every instance has individual length
040 Presentation		
040-1 Geometric Presentation		
100 Element Aggregation		
100-4 Port Assignment		
110 Connectivity		
110-5 Connectivity by Ports		
130 Grouping		
130-2 Grouping to Systems		
300 Type		
300-1 Type Geometry		ABD does not use mapped geometry for flow segments as nearly every instance has individual length
300-5 Type Property Set		
210 IfcFlowTerminal	*company statement*	*DuplexHouse_Heating / 2x3*
010 Naming		
030 Geometry		
030-6 Geometry Body		
030-6-5 Geometry Explicit		
030-6-9 Geometry Mapped		ABD does not use common/type geometry for MEP objeccts

Supported Restricted Not Supported

040 Presentation		
040-1 Geometric Presentation	■	
100 Element Aggregation		
100-4 Port Assignment	■	
110 Connectivity		
110-5 Connectivity by Ports	■	
130 Grouping		
130-2 Grouping to Systems	■	
300 Type		
300-1 Type Geometry	■	ABD does not use common/type geometry for MEP objeccts
300-5 Type Property Set	■	
General	*company statement*	*DuplexHouse_Heating / 2x3*
_G4 Remarks	■	

■ Supported ■ Restricted ■ Not Supported

DuplexHouse_Sanitary / 2x3



205 IfcFlowController	*company statement*	*DuplexHouse_Sanitary / 2x3*
010 Naming		
020 Placement		
020-2 Placement Relative		
030 Geometry		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid	ABD exports all MEP components as brep	
030-6-5 Geometry Explicit		
030-6-9 Geometry Mapped	ABD does not use common/type geometry for MEP objeccts	
040 Presentation		
040-1 Geometric Presentation		
100 Element Aggregation		
100-4 Port Assignment		
110 Connectivity		
110-5 Connectivity by Ports		
120 Spatial Containment		
130 Grouping		
130-2 Grouping to Systems		

206 IfcFlowFitting	*company statement*	*DuplexHouse_Sanitary / 2x3*
010 Naming		

Supported Restricted Not Supported

020 Placement		
020-2 Placement Relative	🟩	
030 Geometry		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid	🟥	ABD exports all MEP components as brep
030-6-5 Geometry Explicit	🟩	
030-6-9 Geometry Mapped	🟥	ABD does not use common/type geometry for MEP objeccts
040 Presentation		
040-1 Geometric Presentation	🟩	
100 Element Aggregation		
100-4 Port Assignment	🟩	
110 Connectivity		
110-5 Connectivity by Ports	🟩	
120 Spatial Containment	🟩	
130 Grouping		
130-2 Grouping to Systems	🟩	
208 IfcFlowSegment	*company statement*	*DuplexHouse_Sanitary / 2x3*
010 Naming	🟩	
020 Placement		
020-2 Placement Relative	🟩	
030 Geometry		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid	🟥	ABD exports all MEP components as brep
030-6-5 Geometry Explicit	🟩	
030-6-9 Geometry Mapped	🟥	ABS does not use mapped geometry for flow segments as nearly each instance has individual length

🟩 Supported 🟨 Restricted 🟥 Not Supported

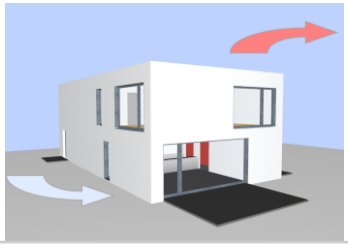
040 Presentation			
040-1 Geometric Presentation	Supported		
100 Element Aggregation			
100-4 Port Assignment	Supported		
110 Connectivity			
110-5 Connectivity by Ports	Supported		
120 Spatial Containment	Supported		
130 Grouping			
130-2 Grouping to Systems	Supported		
210 IfcFlowTerminal		*company statement*	*DuplexHouse_Sanitary / 2x3*
010 Naming	Supported		
020 Placement			
020-2 Placement Relative	Supported		
030 Geometry			
030-6 Geometry Body			
030-6-1 Geometry SweptSolid	Not Supported	ABD exports all MEP components as brep	
030-6-5 Geometry Explicit	Supported		
030-6-9 Geometry Mapped	Not Supported	ABD does not use common/type geometry for MEP objeccts	
040 Presentation			
040-1 Geometric Presentation	Supported		
050 CAD Layer	Supported		
100 Element Aggregation			
100-4 Port Assignment	Supported		
110 Connectivity			
110-5 Connectivity by Ports	Supported		

Supported Restricted Not Supported

120 Spatial Containment		
130 Grouping		
130-2 Grouping to Systems		
200 Material		
200-1 Single Material		
210 Property Set		
210-6 Property Set IFC any		
210-9 Property Set User Defined		
300 Type		
300-1 Type Geometry	ABD does not use common/type geometry for MEP objeccts	
300-2 Type Naming		
300-3 Type Material	ABD does not support type material	
300-5 Type Property Set		
507 IfcSystem	*company statement*	*DuplexHouse_Sanitary / 2x3*
010 Naming		
130 Grouping		
130-5 Is Group		
250 System Assignment		
250-2 Services Spatial Element		
General	*company statement*	*DuplexHouse_Sanitary / 2x3*
_G4 Remarks		

Supported Restricted Not Supported

DuplexHouse_Ventilation / 2x3



206 IfcFlowFitting	*company statement*	*DuplexHouse_Ventilation / 2x3*
010 Naming		
020 Placement		
020-2 Placement Relative		
030 Geometry		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid	ABD uses explicit geometry for MEP components	
030-6-5 Geometry Explicit		
030-6-9 Geometry Mapped	ABD does not use common/type geometry for MEP objeccts	
040 Presentation		
040-1 Geometric Presentation		
100 Element Aggregation		
100-4 Port Assignment		
110 Connectivity		
110-5 Connectivity by Ports		
120 Spatial Containment		
130 Grouping		
130-2 Grouping to Systems		

207 IfcFlowMovingDevice	*company statement*	*DuplexHouse_Ventilation / 2x3*
010 Naming		

Supported Restricted Not Supported

020 Placement		
020-2 Placement Relative		
030 Geometry		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid		ABD uses explicit geometry for MEP components
030-6-5 Geometry Explicit		
030-6-9 Geometry Mapped		ABD does not use common/type geometry for MEP objeccts
040 Presentation		
040-1 Geometric Presentation		
100 Element Aggregation		
100-4 Port Assignment		
110 Connectivity		
110-5 Connectivity by Ports		
120 Spatial Containment		
130 Grouping		
130-2 Grouping to Systems		
208 IfcFlowSegment	*company statement*	*DuplexHouse_Ventilation / 2x3*
010 Naming		
020 Placement		
020-2 Placement Relative		
030 Geometry		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid		ABD uses explicit geometry for MEP components
030-6-5 Geometry Explicit		
030-6-9 Geometry Mapped		ABD does not use common/type geometry for MEP objeccts

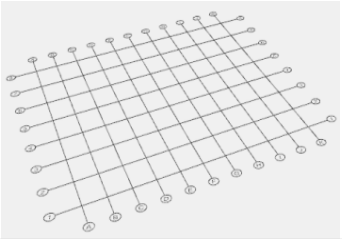
Supported Restricted Not Supported

040 Presentation		
040-1 Geometric Presentation	Supported	
100 Element Aggregation		
100-4 Port Assignment	Supported	
110 Connectivity		
110-5 Connectivity by Ports	Supported	
120 Spatial Containment	Supported	
130 Grouping		
130-2 Grouping to Systems	Supported	
210 IfcFlowTerminal	*company statement*	*DuplexHouse_Ventilation / 2x3*
010 Naming	Supported	
020 Placement		
020-2 Placement Relative	Supported	
030 Geometry		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid	Not Supported	ABD uses explicit geometry for MEP components
030-6-5 Geometry Explicit	Supported	
030-6-9 Geometry Mapped	Not Supported	ABD does not use common/type geometry for MEP objeccts
040 Presentation		
040-1 Geometric Presentation	Supported	
100 Element Aggregation		
100-4 Port Assignment	Supported	
110 Connectivity		
110-5 Connectivity by Ports	Supported	
120 Spatial Containment	Supported	

Supported Restricted Not Supported

130 Grouping		
130-2 Grouping to Systems	■	
507 IfcSystem	*company statement*	*DuplexHouse_Ventilation / 2x3*
010 Naming	■	
130 Grouping		
130-5 Is Group	■	
250 System Assignment		
250-2 Services Spatial Element	■	
General	*company statement*	*DuplexHouse_Ventilation / 2x3*
_G4 Remarks	■	

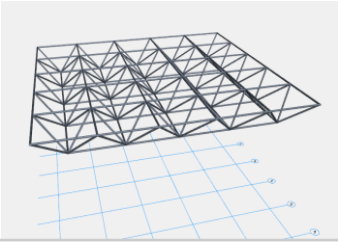
Grid 01 / 2x3



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		CAD layer is not relevant in ABD, because grids are not instantiated in models, but transient elements per building and floor as defined by the user.	
120 Spatial Containment			
210 Property Set			
210-3 Property Set User Defined		ABD does not export property sets for grids	
270 Grid Usage			
270-1 Grid Axes			
General		*company statement*	*Grid 01 / 2x3*
_G4 Remarks		A wall is added to each floor to enable Spatial Containment of grids to Building Storeys.	

Supported Restricted Not Supported

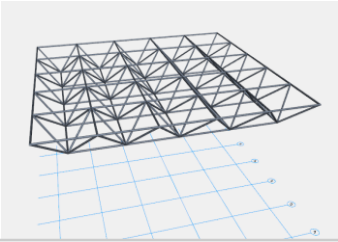
Member_01S / 2x3



401 IfcMember		*company statement*	*Member_01S / 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		AECOsim Building Designer uses CSG Boolean difference for beam connection, it can not be evaluated to IFC clipping and Brep is used	
110 Connectivity			
110-1 Connectivity Basic		AECOsim Building Designer does not export structural elements connectivity	
110-3 Connectivity Realization			
110-3-1 Connectivity Realized		AECOsim Building Designer does not export structural elements connectivity	
120 Spatial Containment			
200 Material			
200-1 Single Material			
300 Type			
300-1 Type Geometry		AECOsim Building Designer does not usually use type geometry for structurals	
General		*company statement*	*Member_01S / 2x3*
_G4 Remarks			

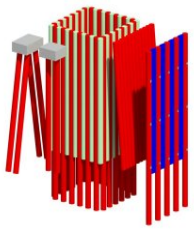
Supported Restricted Not Supported

Member 01A / 2x3



401 IfcMember	*company statement*	*Member 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	AECOsim Building Designer uses CSG Boolean difference for beam connection, it can not be evaluated to IFC clipping and Brep is used	
040 Presentation		
040-1 Geometric Presentation		
040-2 Material Presentation	Presentation information is provided by a "Geometric Presentation" (040-1)	
120 Spatial Containment		
200 Material		
200-1 Single Material		
300 Type		
300-1 Type Geometry	ABD does not use type geometry	
General	*company statement*	*Member 01A / 2x3*
_G4 Remarks		

Pile 01 / 2x3

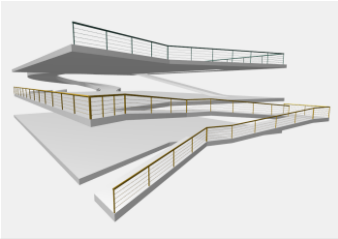


404 IfcPile	*company statement*	*Pile 01 / 2x3*
001 GUIDs		
002 History		
010 Naming		
020 Placement		
020-1 Placement Relative		
030 Geometry		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid		
030-6-2 Geometry Clipping	AECOsim Building Designer uses CSG Boolean difference for pile connection, it can not be evaluated to IFC clipping and Brep is used	
030-6-9 Geometry Mapped		
040 Presentation		
040-1 Geometric Presentation		
040-2 Material Presentation	Presentation information is provided by a "Geometric Presentation" (040-1)	
050 CAD Layer		
070 Voiding		
070-3 Voiding Geometry SweptSolid		
100 Element Aggregation		
100-2 Element Decomposition	Test instructions does not specify what should be decomposed	
120 Spatial Containment		

Supported Restricted Not Supported

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	■	ABD does not use type materials
300-5 Type Property Set	■	
General	*company statement*	*Pile 01 / 2x3*
_G4 Remarks	■	

RampRailing-01 / 2x3



107 IfcRamp	*company statement*	*RampRailing-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		AECOsim Building Designer does not break down IFC ramps to components
040 Presentation		
040-1 Geometric Presentation		
050 CAD Layer		
100 Element Aggregation		
100-2 Element Decomposition		AECOsim Building Designer does not break down IFC ramps to components
120 Spatial Containment		
200 Material		
200-1 Single Material		

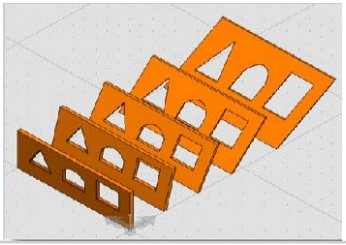
Supported Restricted Not Supported

210 Property Set		
210-1 Property Set IFC Common	■	
210-3 Property Set User Defined	■	Cert_production-assembly property set is added to Ramp_I-PL2
108 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	■	Railing geometry is too complex to be expressed as IFC swept solid
030-6-5 Geometry Explicit	■	
030-6-9 Geometry Mapped	■	AECOsim Building Designer does not use shared geometry for railing because it is very individual.
040 Presentation		
040-1 Geometric Presentation	■	
050 CAD Layer	■	
120 Spatial Containment	■	
200 Material		
200-1 Single Material	■	
200-5 Material List	■	AECOsim Building Designer does not break down IFC railings to components
210 Property Set		
210-1 Property Set IFC Common	■	
210-3 Property Set User Defined	■	
General	*company statement*	*RampRailing-01 / 2x3*

■ Supported ■ Restricted ■ Not Supported

_G4 Remarks	

RandomArch-X1 / 2x3



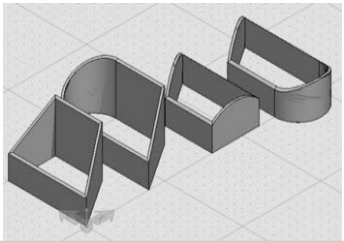
101 IfcWallStandardCase	*company statement*	*RandomArch-X1 / 2x3*
001 GUIDs	■	
002 History	■	
010 Naming	■	
030 Geometry		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid	■	
050 CAD Layer	■	
070 Voiding		
070-1 Voiding Geometry SweptSolid	■	
210 Property Set		
210-1 Property Set IFC Common	■	
210-3 Property Set User Defined	■	
300 Type		
300-2 Type Naming	■	

102 IfcWall	*company statement*	*RandomArch-X1 / 2x3*
001 GUIDs	■	
002 History	■	
010 Naming	■	
050 CAD Layer	■	

■ Supported ■ Restricted ■ Not Supported

070 Voiding		
070-3 Voiding Geometry SweptSolid	■	
210 Property Set		
210-1 Property Set IFC Common	■	
210-3 Property Set User Defined	■	
300 Type		
300-2 Type Naming	■	
General	*company statement*	*RandomArch-X1 / 2x3*
_G4 Remarks	■	

RandomArch-X2 / 2x3

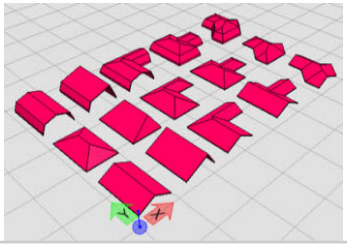


101 IfcWallStandardCase	*company statement*	*RandomArch-X2 / 2x3*
030 Geometry		
030-6 Geometry Body		
030-6-2 Geometry Clipping	■	
102 IfcWall	*company statement*	*RandomArch-X2 / 2x3*
001 GUIDs	■	
002 History	■	LastModifiedDate is changed to $
010 Naming	■	
030 Geometry		
030-6 Geometry Body		
030-6-5 Geometry Explicit	■	
050 CAD Layer	■	
120 Spatial Containment	■	
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	■	

■ Supported ■ Restricted ■ Not Supported

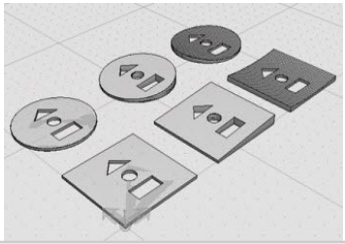
300 Type		
300-2 Type Naming	■	
General	*company statement*	*RandomArch-X2 / 2x3*
_G4 Remarks	■	

RandomArch-X3 / 2x3



110 IfcRoof	*company statement*	*RandomArch-X3 / 2x3*
001 GUIDs	■	
002 History	■	
010 Naming	■	
030 Geometry		
030-1 Geometry Box	■	
030-6 Geometry Body		
030-6-5 Geometry Explicit	■	
050 CAD Layer	■	
120 Spatial Containment	■	
200 Material		
200-1 Single Material	■	
210 Property Set		
210-1 Property Set IFC Common	■	
210-3 Property Set User Defined	■	
General	*company statement*	*RandomArch-X3 / 2x3*
_G4 Remarks	■	

RandomArch-X4 / 2x3

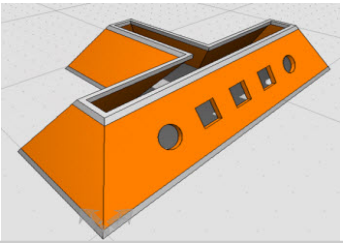


105 IfcSlab	*company statement*	*RandomArch-X4 / 2x3*
001 GUIDs	■	
002 History	■	
010 Naming	■	
030 Geometry		
030-1 Geometry Box	■	
030-6 Geometry Body		
030-6-1 Geometry SweptSolid	■	
030-6-2 Geometry Clipping	■	
050 CAD Layer	■	
070 Voiding		
070-3 Voiding Geometry SweptSolid	■	
120 Spatial Containment	■	
200 Material		
200-1 Single Material	■	
210 Property Set		
210-1 Property Set IFC Common	■	
210-3 Property Set User Defined	■	
300 Type		
300-2 Type Naming	■	

■ Supported ■ Restricted ■ Not Supported

General	*company statement*	*RandomArch-X4 / 2x3*
_G4 Remarks	■	

RandomArch-X5 / 2x3

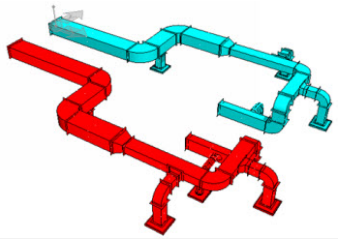


102 IfcWall	*company statement*		*RandomArch-X5 / 2x3*
001 GUIDs	■		
002 History	■		
010 Naming	■		
030 Geometry			
030-6 Geometry Body			
030-6-2 Geometry Clipping	■	Geometry issues fixed.	
030-6-5 Geometry Explicit	■		
050 CAD Layer	■		
070 Voiding			
070-3 Voiding Geometry SweptSolid	■		
120 Spatial Containment	■		
200 Material			
200-1 Single Material	■		
210 Property Set			
210-1 Property Set IFC Common	■		
210-3 Property Set User Defined	■		
300 Type			
300-2 Type Naming	■		
105 IfcSlab	*company statement*		*RandomArch-X5 / 2x3*

■ Supported ■ Restricted ■ Not Supported

001 GUIDs		
002 History		
010 Naming		
030 Geometry		
030-6 Geometry Body		
030-6-5 Geometry Explicit		VT 2015-02-06] changed 030-6-1 Geometry SweptSolid to 030-6-5 Geometry Explicit.
050 CAD Layer		
070 Voiding		
070-3 Voiding Geometry SweptSolid		
120 Spatial Containment		
200 Material		
200-1 Single Material		
210 Property Set		
210-1 Property Set IFC Common		
210-3 Property Set User Defined		
General	*company statement*	*RandomArch-X5 / 2x3*
_G4 Remarks		All geometry issues fixed.

RandomMEP-X1 / 2x3



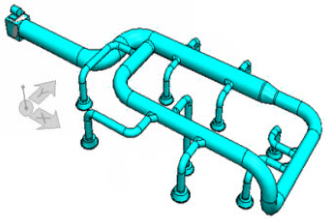
206 IfcFlowFitting	*company statement*	*RandomMEP-X1 / 2x3*
001 GUIDs	■	
002 History	■	
030 Geometry		
030-6 Geometry Body		
030-6-5 Geometry Explicit	■	
050 CAD Layer	■	
120 Spatial Containment	■	
130 Grouping		
130-2 Grouping to Systems	■	
210 Property Set		
210-1 Property Set IFC Common	■	

208 IfcFlowSegment	*company statement*	*RandomMEP-X1 / 2x3*
001 GUIDs	■	
002 History	■	
030 Geometry		
030-6 Geometry Body		
030-6-5 Geometry Explicit	■	
050 CAD Layer	■	
120 Spatial Containment	■	

130 Grouping		
130-2 Grouping to Systems	■	
210 Property Set		
210-1 Property Set IFC Common	■	
210 IfcFlowTerminal	*company statement*	*RandomMEP-X1 / 2x3*
001 GUIDs	■	
002 History	■	
030 Geometry		
030-6 Geometry Body		
030-6-5 Geometry Explicit	■	
050 CAD Layer	■	
120 Spatial Containment	■	
130 Grouping		
130-2 Grouping to Systems	■	
210 Property Set		
210-1 Property Set IFC Common	■	
300 Type		
300-2 Type Naming	■	
General	*company statement*	*RandomMEP-X1 / 2x3*
_G4 Remarks	■	

■ Supported ■ Restricted ■ Not Supported

RandomMEP-X2 / 2x3



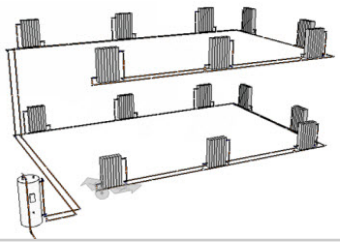
206 IfcFlowFitting	*company statement*	*RandomMEP-X2 / 2x3*
001 GUIDs	■	
002 History	■	
030 Geometry		
030-6 Geometry Body		
030-6-5 Geometry Explicit	■	
120 Spatial Containment	■	
130 Grouping		
130-2 Grouping to Systems	■	
207 IfcFlowMovingDevice	*company statement*	*RandomMEP-X2 / 2x3*
002 History	■	
030 Geometry		
030-6 Geometry Body		
030-6-5 Geometry Explicit	■	
120 Spatial Containment	■	
130 Grouping		
130-2 Grouping to Systems	■	
208 IfcFlowSegment	*company statement*	*RandomMEP-X2 / 2x3*
001 GUIDs	■	
002 History	■	

■ Supported ■ Restricted ■ Not Supported

030 Geometry			
030-6 Geometry Body			
030-6-5 Geometry Explicit	■		
050 CAD Layer	■		
120 Spatial Containment	■		
130 Grouping			
130-2 Grouping to Systems	■		
210 Property Set			
210-9 Property Set User Defined	■		
210 IfcFlowTerminal		*company statement*	*RandomMEP-X2 / 2x3*
001 GUIDs	■		
002 History	■		
030 Geometry			
030-6 Geometry Body			
030-6-5 Geometry Explicit	■		
050 CAD Layer	■		
120 Spatial Containment	■		
130 Grouping			
130-2 Grouping to Systems	■		
210 Property Set			
210-9 Property Set User Defined	■		
300 Type			
300-2 Type Naming	■		
General		*company statement*	*RandomMEP-X2 / 2x3*
_G4 Remarks	■		

■ Supported ■ Restricted ■ Not Supported

RandomMEP-X3 / 2x3

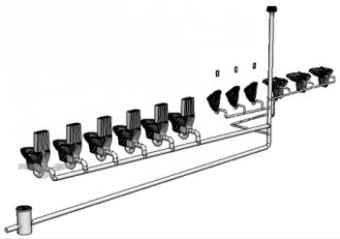


206 IfcFlowFitting	*company statement*	*RandomMEP-X3 / 2x3*
001 GUIDs	■	
002 History	■	
030 Geometry		
030-6 Geometry Body		
030-6-5 Geometry Explicit	■	
050 CAD Layer	■	
130 Grouping		
130-2 Grouping to Systems	■	
200 Material		
200-1 Single Material	■	
208 IfcFlowSegment	*company statement*	*RandomMEP-X3 / 2x3*
001 GUIDs	■	
002 History	■	
130 Grouping		
130-2 Grouping to Systems	■	
210 Property Set		
210-6 Property Set IFC any	■	
210 IfcFlowTerminal	*company statement*	*RandomMEP-X3 / 2x3*
001 GUIDs	■	

■ Supported ■ Restricted ■ Not Supported

002 History	■	
130 Grouping		
130-2 Grouping to Systems	■	
210 Property Set		
210-6 Property Set IFC any	■	
General	*company statement*	*RandomMEP-X3 / 2x3*
_G4 Remarks	■	

RandomMEP-X4 / 2x3



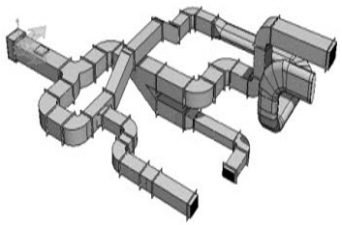
206 IfcFlowFitting	*company statement*	*RandomMEP-X4 / 2x3*
001 GUIDs	■	
002 History	■	
030 Geometry		
030-6 Geometry Body		
030-6-5 Geometry Explicit	■	
130 Grouping		
130-2 Grouping to Systems	■	
200 Material		
200-1 Single Material	■	
208 IfcFlowSegment	*company statement*	*RandomMEP-X4 / 2x3*
001 GUIDs	■	
002 History	■	
010 Naming	■	
130 Grouping		
130-2 Grouping to Systems	■	
200 Material		
200-1 Single Material	■	
210 IfcFlowTerminal	*company statement*	*RandomMEP-X4 / 2x3*
001 GUIDs	■	

■ Supported ■ Restricted ■ Not Supported

002 History	■	
010 Naming	■	
030 Geometry		
030-6 Geometry Body		
030-6-5 Geometry Explicit	■	
130 Grouping		
130-2 Grouping to Systems	■	
200 Material		
200-1 Single Material	■	
300 Type		
300-2 Type Naming	■	
General	*company statement*	*RandomMEP-X4 / 2x3*
_G4 Remarks	■	

■ Supported ■ Restricted ■ Not Supported

RandomMEP-X5 / 2x3



205 IfcFlowController	*company statement*	*RandomMEP-X5 / 2x3*
001 GUIDs	■	
002 History	■	
030 Geometry		
030-6 Geometry Body		
030-6-5 Geometry Explicit	■	
120 Spatial Containment	■	
130 Grouping		
130-2 Grouping to Systems	■	
210 Property Set		
210-1 Property Set IFC Common	■	

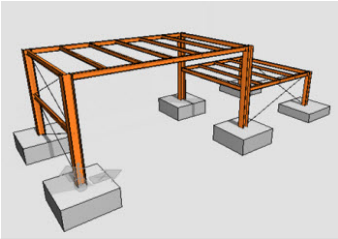
206 IfcFlowFitting	*company statement*	*RandomMEP-X5 / 2x3*
001 GUIDs	■	
002 History	■	
030 Geometry		
030-6 Geometry Body		
030-6-5 Geometry Explicit	■	
120 Spatial Containment	■	
130 Grouping		
130-2 Grouping to Systems	■	

■ Supported ■ Restricted ■ Not Supported

210 Property Set			
210-1 Property Set IFC Common	■		
207 IfcFlowMovingDevice		*company statement*	*RandomMEP-X5 / 2x3*
001 GUIDs	■		
002 History	■		
030 Geometry			
030-6 Geometry Body			
030-6-5 Geometry Explicit	■		
130 Grouping			
130-2 Grouping to Systems	■		
210 Property Set			
210-1 Property Set IFC Common	■		
208 IfcFlowSegment		*company statement*	*RandomMEP-X5 / 2x3*
001 GUIDs	■		
002 History	■		
030 Geometry			
030-6 Geometry Body			
030-6-5 Geometry Explicit	■		
120 Spatial Containment	■		
130 Grouping			
130-2 Grouping to Systems	■		
210 IfcFlowTerminal		*company statement*	*RandomMEP-X5 / 2x3*
001 GUIDs	■		
002 History	■		

030 Geometry			
030-6 Geometry Body			
030-6-5 Geometry Explicit	■		
120 Spatial Containment	■		
130 Grouping			
130-2 Grouping to Systems	■		
210 Property Set			
210-1 Property Set IFC Common	■		
General		*company statement*	*RandomMEP-X5 / 2x3*
_G4 Remarks	■		

RandomStruc-X1 / 2x3



103 IfcBeam	*company statement*	*RandomStruc-X1 / 2x3*
001 GUIDs	■	
002 History	■	
010 Naming	■	
030 Geometry		
030-6 Geometry Body		
030-6-5 Geometry Explicit	■	
050 CAD Layer	■	
120 Spatial Containment	■	
200 Material		
200-1 Single Material	■	
210 Property Set		
210-1 Property Set IFC Common	■	
210-3 Property Set User Defined	■	
300 Type		
300-2 Type Naming	■	

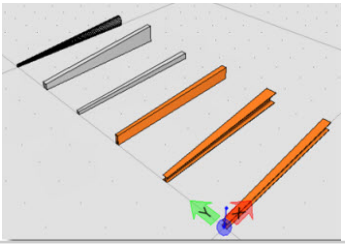
104 IfcColumn	*company statement*	*RandomStruc-X1 / 2x3*
001 GUIDs	■	
002 History	■	
010 Naming	■	

■ Supported ■ Restricted ■ Not Supported

030 Geometry			
030-1 Geometry Box	■		
030-6 Geometry Body			
030-6-5 Geometry Explicit	■		
050 CAD Layer	■		
120 Spatial Containment	■		
200 Material			
200-1 Single Material	■		
210 Property Set			
210-1 Property Set IFC Common	■		
210-3 Property Set User Defined	■		
300 Type			
300-2 Type Naming	■		
401 IfcMember		*company statement*	*RandomStruc-X1 / 2x3*
010 Naming	■		
200 Material			
200-1 Single Material	■		
403 IfcFooting		*company statement*	*RandomStruc-X1 / 2x3*
050 CAD Layer	■		
200 Material			
200-1 Single Material	■		
General		*company statement*	*RandomStruc-X1 / 2x3*
_G4 Remarks	■		

■ Supported ■ Restricted ■ Not Supported

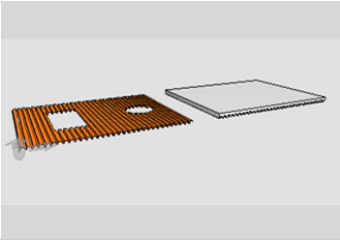
RandomStruc-X2 / 2x3



103 IfcBeam	*company statement*	*RandomStruc-X2 / 2x3*
001 GUIDs	■	
002 History	■	
010 Naming	■	
030 Geometry		
030-6 Geometry Body		
030-6-5 Geometry Explicit	■	
040 Presentation		
040-1 Geometric Presentation	■	
200 Material		
200-1 Single Material	■	
210 Property Set		
210-1 Property Set IFC Common	■	
210-3 Property Set User Defined	■	
300 Type		
300-2 Type Naming	■	

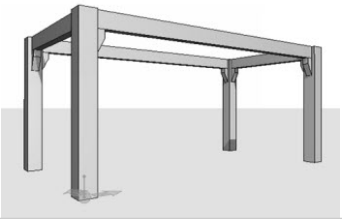
General	*company statement*	*RandomStruc-X2 / 2x3*
_G4 Remarks	■	

RandomStruc-X3 / 2x3



105 IfcSlab	*company statement*	*RandomStruc-X3 / 2x3*
001 GUIDs	■	
002 History	■	
030 Geometry		
030-6 Geometry Body		
030-6-5 Geometry Explicit	■	
070 Voiding		
070-3 Voiding Geometry SweptSolid	■	
120 Spatial Containment	■	
200 Material		
200-1 Single Material	■	
210 Property Set		
210-1 Property Set IFC Common	■	
General	*company statement*	*RandomStruc-X3 / 2x3*
_G4 Remarks	■	

RandomStruc-X4 / 2x3



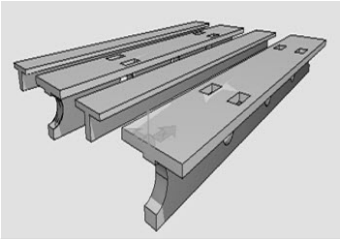
103 IfcBeam	*company statement*	*RandomStruc-X4 / 2x3*
001 GUIDs	■	
002 History	■	
010 Naming	■	
030 Geometry		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid	■	
050 CAD Layer	■	
120 Spatial Containment	■	
200 Material		
200-1 Single Material	■	
210 Property Set		
210-1 Property Set IFC Common	■	
210-3 Property Set User Defined	■	
300 Type		
300-2 Type Naming	■	

104 IfcColumn	*company statement*	*RandomStruc-X4 / 2x3*
001 GUIDs	■	
002 History	■	
010 Naming	■	

■ Supported ■ Restricted ■ Not Supported

030 Geometry		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid	■	
050 CAD Layer	■	
120 Spatial Containment	■	
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		
300-2 Type Naming	■	
General	*company statement*	*RandomStruc-X4 / 2x3*
_G4 Remarks	■	

RandomStruc-X5 / 2x3

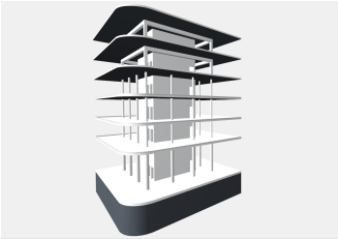


103 IfcBeam	*company statement*	*RandomStruc-X5 / 2x3*
001 GUIDs	■	
002 History	■	
010 Naming	■	
030 Geometry		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid	■	
050 CAD Layer	■	
070 Voiding		
070-3 Voiding Geometry SweptSolid	■	
120 Spatial Containment	■	
200 Material		
200-1 Single Material	■	
210 Property Set		
210-1 Property Set IFC Common	■	
210-3 Property Set User Defined	■	
300 Type		
300-2 Type Naming	■	

General	*company statement*	*RandomStruc-X5 / 2x3*
_G4 Remarks	■	

■ Supported ■ Restricted ■ Not Supported

Reinforcement-01 / 2x3



101 IfcWallStandardCase	*company statement*	*Reinforcement-01 / 2x3*
020 Placement		
020-2 Placement Relative	■	
030 Geometry		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid	■	
120 Spatial Containment	■	
103 IfcBeam	*company statement*	*Reinforcement-01 / 2x3*
020 Placement		
020-2 Placement Relative	■	
030 Geometry		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid	■	
120 Spatial Containment	■	
104 IfcColumn	*company statement*	*Reinforcement-01 / 2x3*
020 Placement		
020-2 Placement Relative	■	
030 Geometry		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid	■	

■ Supported ■ Restricted ■ Not Supported

120 Spatial Containment		
105 IfcSlab	*company statement*	*Reinforcement-01 / 2x3*
020 Placement		
020-2 Placement Relative		
030 Geometry		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid		
120 Spatial Containment		
403 IfcFooting	*company statement*	*Reinforcement-01 / 2x3*
010 Naming		
030 Geometry		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid		
040 Presentation		
040-1 Geometric Presentation		
050 CAD Layer		
120 Spatial Containment		
210 Property Set		
210-3 Property Set User Defined		
407 IfcDiscreteAccessory	*company statement*	*Reinforcement-01 / 2x3*
001 GUIDs	Ther is no specified discrete accessory elements in test-case instruction	
010 Naming	Ther is no specified discrete accessory elements in test-case instruction	
020 Placement		
020-2 Placement Relative	Ther is no specified discrete accessory elements in test-case instruction	

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030 Geometry		
030-6 Geometry Body		
030-6-5 Geometry Explicit		Ther is no specified discrete accessory elements in test-case instruction
030-6-9 Geometry Mapped		Ther is no specified discrete accessory elements in test-case instruction
040 Presentation		
040-1 Geometric Presentation		Ther is no specified discrete accessory elements in test-case instruction
050 CAD Layer		Ther is no specified discrete accessory elements in test-case instruction
120 Spatial Containment		Ther is no specified discrete accessory elements in test-case instruction
200 Material		
200-1 Single Material		Ther is no specified discrete accessory elements in test-case instruction
210 Property Set		
210-9 Property Set User Defined		Ther is no specified discrete accessory elements in test-case instruction
300 Type		
300-1 Type Geometry		Ther is no specified discrete accessory elements in test-case instruction
300-2 Type Naming		Ther is no specified discrete accessory elements in test-case instruction
300-3 Type Material		Ther is no specified discrete accessory elements in test-case instruction
300-5 Type Property Set		Ther is no specified discrete accessory elements in test-case instruction
408 IfcElementAssembly	*company statement*	*Reinforcement-01 / 2x3*
001 GUIDs		ABD does not export aggregations except IfcGroup
010 Naming		ABD does not export aggregations except IfcGroup
020 Placement		
020-2 Placement Relative		ABD does not export aggregations except IfcGroup
030 Geometry		
030-6 Geometry Body		
030-9 Geometry By Components		ABD does not export aggregations except IfcGroup

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040 Presentation		
040-1 Geometric Presentation	Not Supported	ABD does not export aggregations except IfcGroup
050 CAD Layer	Not Supported	ABD does not export aggregations except IfcGroup
100 Element Aggregation		
100-2 Element Decomposition	Not Supported	ABD does not export aggregations except IfcGroup
120 Spatial Containment	Not Supported	ABD does not export aggregations except IfcGroup
210 Property Set		
210-9 Property Set User Defined	Not Supported	ABD does not export aggregations except IfcGroup
409 IfcReinforcingBar	*company statement*	*Reinforcement-01 / 2x3*
001 GUIDs	Supported	
010 Naming	Supported	
020 Placement		
020-2 Placement Relative	Supported	
030 Geometry		
030-6 Geometry Body		
030-6-4 Geometry AdvancedSweptSolid	Not Supported	ABD does not use uses advanced swept solid geometry
030-6-5 Geometry Explicit	Supported	
030-6-9 Geometry Mapped	Supported	
040 Presentation		
040-1 Geometric Presentation	Supported	
050 CAD Layer	Supported	
120 Spatial Containment	Supported	
200 Material		
200-1 Single Material	Supported	

210 Property Set		
210-9 Property Set User Defined	Supported	
300 Type		
300-1 Type Geometry	Supported	added IfcBuildingElementProxyType
300-2 Type Naming	Supported	added IfcBuildingElementProxyType
300-3 Type Material	Not Supported	ABD does not use type materials
300-5 Type Property Set	Supported	added IfcBuildingElementProxyType
410 IfcReinforcingMesh	*company statement*	*Reinforcement-01 / 2x3*
001 GUIDs	Supported	
010 Naming	Supported	
020 Placement		
020-2 Placement Relative	Supported	
030 Geometry		
030-6 Geometry Body		
030-6-4 Geometry AdvancedSweptSolid	Not Supported	ABD does not use uses advanced swept solid geometry
030-6-5 Geometry Explicit	Supported	
030-6-9 Geometry Mapped	Supported	
040 Presentation		
040-1 Geometric Presentation	Supported	
050 CAD Layer	Supported	
120 Spatial Containment	Supported	
200 Material		
200-1 Single Material	Supported	
210 Property Set		
210-9 Property Set User Defined	Supported	

Supported Restricted Not Supported

300 Type		
300-1 Type Geometry	Supported	added IfcBuildingElementProxyType
300-2 Type Naming	Supported	added IfcBuildingElementProxyType
300-3 Type Material	Not Supported	ABD does not use type materials
300-5 Type Property Set	Supported	added IfcBuildingElementProxyType
501 IfcProject	*company statement*	*Reinforcement-01 / 2x3*
001 GUIDs	Supported	
002 History	Supported	
005 Project Units		
005-1 Project Metric Units	Supported	
008 Representation Context		
008-1 Representation Main Context	Supported	
008-2 Representation Sub Context		
008-2-2 Representation Sub Context 3D	Supported	
010 Naming	Supported	
150 Spatial Aggregation		
150-2 Spatial Decomposition	Supported	
503 IfcBuilding	*company statement*	*Reinforcement-01 / 2x3*
001 GUIDs	Supported	
002 History	Supported	
010 Naming	Supported	
020 Placement		
020-1 Placement Absolute	Not Supported	Site placement is absolute. Building placement is relative to site.
060 Location		
060-2 Address	Supported	corrected city/town to 'Sydney' and country to 'Australia.

Supported Restricted Not Supported

150 Spatial Aggregation		
150-1 Spatial Composition	■	
150-2 Spatial Decomposition	■	
504 IfcBuildingStorey	*company statement*	*Reinforcement-01 / 2x3*
001 GUIDs	■	
002 History	■	
010 Naming	■	
020 Placement		
020-2 Placement Relative	■	
060 Location		
060-4 Storey Elevation	■	IfcBuildingStorey.Elevation is relative to IfcBuilding.ElevationOfRefHeight
120 Spatial Containment	■	
150 Spatial Aggregation		
150-1 Spatial Composition	■	
150-2 Spatial Decomposition	■	decomposition of storeys not required as there are no spaces

Roof 01 / 2x3

101 IfcWallStandardCase	*company statement*	*Roof 01 / 2x3*
030 Geometry		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid	■	
030-6-2 Geometry Clipping	■	

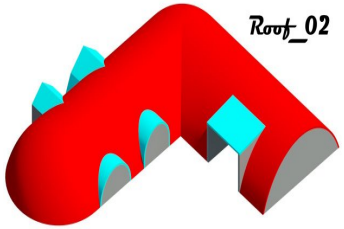
105 IfcSlab	*company statement*	*Roof 01 / 2x3*
030 Geometry		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid	■	There are no slabs in the testcase
030-6-2 Geometry Clipping	■	There are no slabs in the testcase
030-6-9 Geometry Mapped	■	There are no slabs in the testcase
070 Voiding		
070-3 Voiding Geometry SweptSolid	■	
080 Filling		
080-1 Has Filling		
080-1-2 Has Filling Window	■	
200 Material		
200-2 Material Layer Set	■	There are no slabs in the testcase

110 IfcRoof	*company statement*	*Roof 01 / 2x3*
030 Geometry		
030-1 Geometry Box	■	

■ Supported ■ Restricted ■ Not Supported

040 Presentation		
040-1 Geometric Presentation		
040-2 Material Presentation		040-1 Geometric Presentation is used
100 Element Aggregation		
100-2 Element Decomposition		AECOsim Building Designer provides geometry and material at IfcRoof level
120 Spatial Containment		
200 Material		
200-1 Single Material		
General	*company statement*	*Roof 01 / 2x3*
_G4 Remarks		

Roof 02 / 2x3



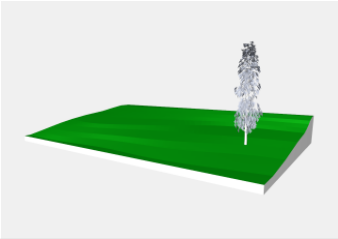
101 IfcWallStandardCase	*company statement*	*Roof 02 / 2x3*
010 Naming	■	
030 Geometry		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid	■	
030-6-2 Geometry Clipping	■	
050 CAD Layer	■	

110 IfcRoof	*company statement*	*Roof 02 / 2x3*
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	■	AECOsim Building Designer provides geometry and material at IfcRoof level
210 Property Set		
210-1 Property Set IFC Common	■	
210-3 Property Set User Defined	■	

■ Supported ■ Restricted ■ Not Supported

General	*company statement*	*Roof 02 / 2x3*
_G4 Remarks	■	

Site 01 / 2x3

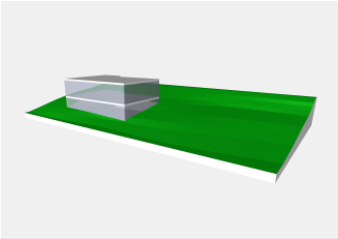


502 IfcSite	*company statement*	*Site 01 / 2x3*
001 GUIDs		
002 History		
010 Naming		
020 Placement		
020-1 Placement Absolute		
030 Geometry		
030-1 Geometry Box		
030-3 Geometry FootPrint	ABD does not export site footprint	
030-6 Geometry Body		
030-6-5 Geometry Explicit		
040 Presentation		
040-1 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		

Supported Restricted Not Supported

General	*company statement*	*Site 01 / 2x3*
_G4 Remarks	A building was added, because the checker tool does not accept test-case without a building. ABD can not export empty building and need a building element.	

Site 02 / 2x3



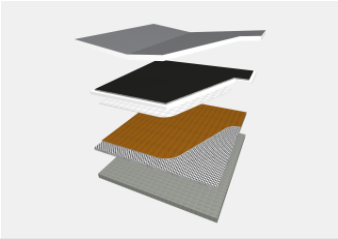
502 IfcSite	*company statement*	*Site 02 / 2x3*
010 Naming		
020 Placement		
020-1 Placement Absolute		
030 Geometry		
030-3 Geometry FootPrint	ABD does not export site footprint	
030-6 Geometry Body		
030-6-5 Geometry Explicit		
150 Spatial Aggregation		
150-1 Spatial Composition		
150-2 Spatial Decomposition		
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		

Supported Restricted Not Supported

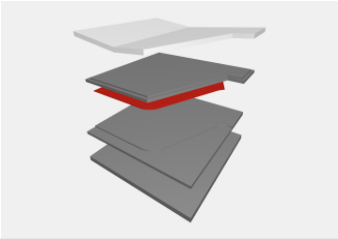
210 Property Set			
210-1 Property Set IFC Common	■		
General		*company statement*	*Site 02 / 2x3*
_G4 Remarks	■		

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		AECOsim Building Designer does not support compound slabs and slabs modelled by its layers; therefore, there are no clipped slabs in this example.	
050 CAD Layer			
200 Material			
200-2 Material Layer Set		AECOsim Building Designer does not support compound slabs and slabs exported by its layers with single materials, so 'named groups' are used to group them.	
200-3 Material Layer Usage		AECOsim Building Designer does not support compound slabs and slabs exported by its layers with single materials, so 'named groups' are used to group them.	
210 Property Set			
210-1 Property Set IFC Common			
General		*company statement*	*Slab 01A / 2x3*
_G4 Remarks			

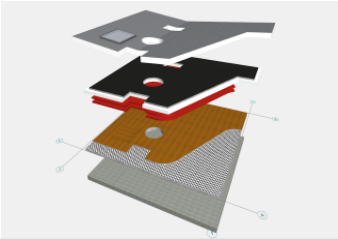
Slab 01S / 2x3



105 IfcSlab	*company statement*	*Slab 01S / 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	AECOsim Building Designer uses CSG Boolean difference for the slab can not be evaluated to IFC clipping; Brep is used.	
040 Presentation		
040-1 Geometric Presentation		
040-2 Material Presentation	Material presentation is used	
050 CAD Layer		
200 Material		
200-2 Material Layer Set	There are no material layers in this test-case	
200-3 Material Layer Usage	There are no material layers in this test-case	
210 Property Set		
210-1 Property Set IFC Common		
General	*company statement*	*Slab 01S / 2x3*
_G4 Remarks		

Supported Restricted Not Supported

Slab 02A / 2x3

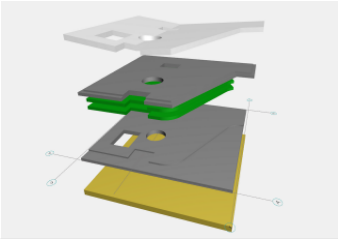


105 IfcSlab		*company statement*	*Slab 02A / 2x3*
010 Naming			
020 Placement			
020-2 Placement Relative			
030 Geometry			
030-1 Geometry Box			
030-6 Geometry Body			
030-6-1 Geometry SweptSolid			
030-6-2 Geometry Clipping		AECOsim Building Designer used CSG boolean difference for cutout in slabs. It is exported as Brep.	
030-6-5 Geometry Explicit			
030-6-9 Geometry Mapped		AECOsim Building Designer does not use shared geometry for slabs	
070 Voiding			
070-1 Voiding Geometry Explicit		All openings are made as Swept Solids in this example	
070-2 Voiding Geometry Mapped		AECOsim Building Designer does not use shared geometry for openings	
070-3 Voiding Geometry SweptSolid			
080 Filling			
080-1 Has Filling			
080-1-1 Has Filling Door			
080-1-2 Has Filling Window			
120 Spatial Containment			

Supported Restricted Not Supported

130 Grouping		
130-1 Grouping General		slabs 6 and 7 are grouped
200 Material		
200-1 Single Material		fixed
200-2 Material Layer Set		AECOsim Building Designer does not support compound slabs and slabs exported by its layers with single materials, so 'named groups' are used to group them.
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		AECOsim Building Designer does not use type geometry
300-2 Type Naming		
300-3 Type Material		AECOsim Building Designer does not use type materials
300-5 Type Property Set		
General	*company statement*	*Slab 02A / 2x3*
_G4 Remarks		

Slab 02S / 2x3

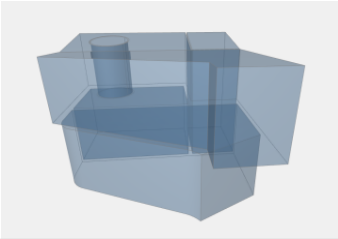


105 IfcSlab		*company statement*	*Slab 02S / 2x3*
010 Naming			
020 Placement			
020-2 Placement Relative			
030 Geometry			
030-1 Geometry Box			
030-6 Geometry Body			
030-6-1 Geometry SweptSolid			
030-6-2 Geometry Clipping		AECOsim Building Designer used CSG boolean difference for cutout in slabs. It is exported as Brep.	
030-6-5 Geometry Explicit			
030-6-9 Geometry Mapped		AECOsim Building Designer does not use shared geometry for slabs.	
070 Voiding			
070-1 Voiding Geometry Explicit		All openings are simple rect and circle swept solids, there is no need for brep	
070-2 Voiding Geometry Mapped		AECOsim Building Designer does not use shared geometry for slabs.	
070-3 Voiding Geometry SweptSolid		corrected position of opening	
120 Spatial Containment			
130 Grouping			
130-1 Grouping General		corrected; added slab 6 and 7 to a group	

Supported Restricted Not Supported

200 Material		
200-1 Single Material		
200-2 Material Layer Set		There are no material layers in this test-case
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		AECOsim Building Desiger does not use shared geometry for slabs
300-2 Type Naming		
300-3 Type Material		AECOsim Building Desiger does not use type materials
300-5 Type Property Set		
General	*company statement*	*Slab 02S / 2x3*
_G4 Remarks		

Space_01MEP / 2x3

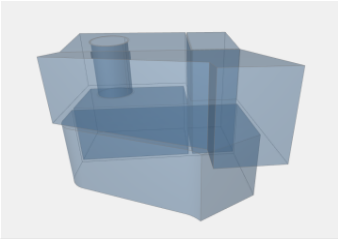


111 IfcBuildingElementProxy	*company statement*	*Space_01MEP / 2x3*
010 Naming	■	
020 Placement		
020-2 Placement Relative	■	
030 Geometry		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid	■	
210 Property Set		
210-2 Property Set IFC any	■	

505 IfcSpace	*company statement*	*Space_01MEP / 2x3*
001 GUIDs	■	
002 History	■	
010 Naming	■	
020 Placement		
020-2 Placement Relative	■	
030 Geometry		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid	■	
030-6-2 Geometry Clipping	■	

040 Presentation			
040-1 Geometric Presentation	■		
050 CAD Layer	■		
150 Spatial Aggregation			
150-1 Spatial Composition	■		
210 Property Set			
210-6 Property Set IFC any	■		
General		*company statement*	*Space_01MEP / 2x3*
_G4 Remarks	■		

Space 01A / 2x3

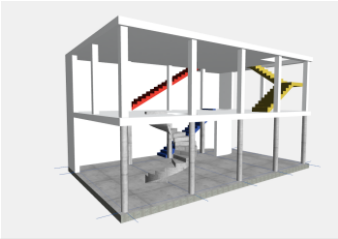


505 IfcSpace	*company statement*	*Space 01A / 2x3*
001 GUIDs	■	
002 History	■	
010 Naming	■	
020 Placement		
020-2 Placement Relative	■	
030 Geometry		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid	■	
030-6-2 Geometry Clipping	■	
040 Presentation		
040-1 Geometric Presentation	■	
050 CAD Layer	■	
150 Spatial Aggregation		
150-1 Spatial Composition	■	
210 Property Set		
210-1 Property Set IFC Common	■	
210-6 Property Set IFC any	■	

General	*company statement*	*Space 01A / 2x3*
_G4 Remarks	■	

■ Supported ■ Restricted ■ Not Supported

StairSlab-01 / 2x3

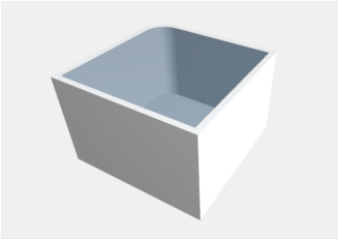


105 IfcSlab	*company statement*	*StairSlab-01 / 2x3*
001 GUIDs	■	
002 History	■	
030 Geometry		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid	■	
040 Presentation		
040-1 Geometric Presentation	■	
040-2 Material Presentation	■	Geometric Presentation is used
070 Voiding		
070-3 Voiding Geometry SweptSolid	■	

106 IfcStair	*company statement*	*StairSlab-01 / 2x3*
001 GUIDs	■	
002 History	■	
010 Naming	■	
020 Placement		
020-1 Placement Relative	■	

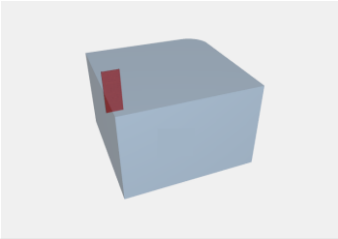
030 Geometry		
030-6 Geometry Body		
030-6-5 Geometry Explicit		
030-9 Geometry By Components		AECOsim Building Designer does not break IFC stairs to components
040 Presentation		
040-1 Geometric Presentation		
050 CAD Layer		
100 Element Aggregation		
100-2 Element Decomposition		AECOsim Building Designer does not break IFC stairs to components
120 Spatial Containment		
200 Material		
200-1 Single Material		
210 Property Set		
210-1 Property Set IFC Common		
General	*company statement*	*StairSlab-01 / 2x3*
_G4 Remarks		

UnitTest-01A / 2x3



501 IfcProject	*company statement*	*UnitTest-01A / 2x3*
005 Project Units		
005-1 Project Metric Units	ABD used only deg for plane angles	
005-2 Project Imperial Units	ABD used only deg for plane angles	
General	*company statement*	*UnitTest-01A / 2x3*
_G4 Remarks		

UnitTest-01MEP / 2x3

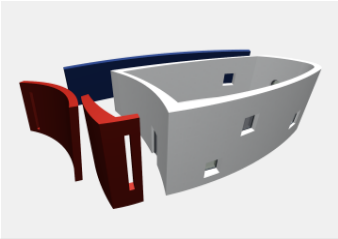


501 IfcProject	*company statement*	*UnitTest-01MEP / 2x3*
005 Project Units		
005-1 Project Metric Units	ABD used only deg for plane angles	
005-2 Project Imperial Units	ABD used only deg for plane angles	
General	*company statement*	*UnitTest-01MEP / 2x3*
_G4 Remarks		

UnitTest-01S / 2x3

501 IfcProject	*company statement*	*UnitTest-01S / 2x3*
005 Project Units		
005-1 Project Metric Units	ABD used only deg for plane angles	
005-2 Project Imperial Units	ABD used only deg for plane angles	
General	*company statement*	*UnitTest-01S / 2x3*
_G4 Remarks		

Wall 01 / 2x3



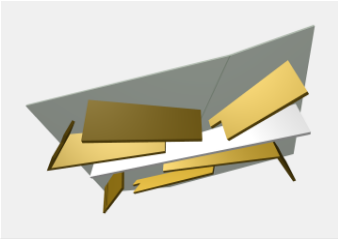
102 IfcWall	*company statement*	*Wall 01 / 2x3*
002 History		
010 Naming		
020 Placement		
020-2 Placement Relative		
030 Geometry		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid	All walls except Wall01.7 are specified as extrusions but can be modelled only as Clipping. Wall01.7 may be modelled as Brep or SweptSoild but we can not support both with one wall. In this case it is modelled as Brep.	
030-6-2 Geometry Clipping	Geometry of wall 01.6 is fixed	
030-6-5 Geometry Explicit		
040 Presentation		
040-1 Geometric Presentation		
040-2 Material Presentation	Presentation information is provided by a "Geometric Presentation" (040-1)	
070 Voiding		
070-1 Voiding Geometry Explicit	All openings in the example are swept solids	
070-3 Voiding Geometry SweptSolid		

Supported Restricted Not Supported

080 Filling			
080-1 Has Filling			
080-1-1 Has Filling Door	■		
080-1-2 Has Filling Window	■		
200 Material			
200-1 Single Material	■		
210 Property Set			
210-1 Property Set IFC Common	■		
300 Type			
300-3 Type Material	■	IFC does not use material for types	
300-5 Type Property Set	■		
301 IfcWindow		*company statement*	*Wall 01 / 2x3*
020 Placement			
020-2 Placement Relative	■		
302 IfcDoor		*company statement*	*Wall 01 / 2x3*
020 Placement			
020-2 Placement Relative	■		
General		*company statement*	*Wall 01 / 2x3*
_G4 Remarks	■		

■ Supported ■ Restricted ■ Not Supported

Wall 02 / 2x3

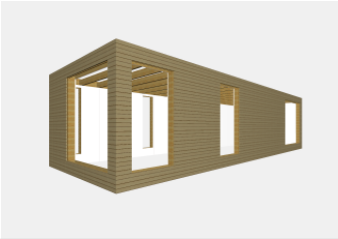


102 IfcWall	*company statement*	*Wall 02 / 2x3*
010 Naming		
020 Placement		
020-2 Placement Relative		
030 Geometry		
030-2 Geometry Axis		There are only custom walls in this exampe so no axis
030-6 Geometry Body		
030-6-1 Geometry SweptSolid		
030-6-2 Geometry Clipping		clipping issue fixed
030-6-5 Geometry Explicit		
050 CAD Layer		
070 Voiding		
070-1 Voiding Geometry Explicit		all openings in the example are simple swept solids
070-3 Voiding Geometry SweptSolid		
120 Spatial Containment		storey name is corrected
130 Grouping		
130-1 Grouping General		
200 Material		
200-3 Material Layer Set		Supported for IfcWallStandardCase; however, for IfcWalls, compound walls are exported as aggregations and materials are on parts according to CV-2x3-134

Supported Restricted Not Supported

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	Not supported for this testcase Please see the remark on 100-2 Element Decomposition. If fact geomery of components are provided but components are grouped, not aggregated.	
070 Voiding		
070-3 Voiding Geometry SweptSolid	There are no openings in this model	
100 Element Aggregation		
100-2 Element Decomposition	Not supported for this testcase ABD can export layered (mult-leafs) walls as aggregation, the example is Wall-02_ABD.ifc. Custom walls constructed from free parts like in this test-case are not aggregated, we currently can only group components.	
210 Property Set		
210-1 Property Set IFC Common		
105 IfcSlab	*company statement*	*WallSlab 03 / 2x3*
010 Naming		

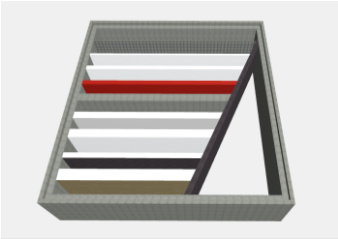
020 Placement		
020-2 Placement Relative		
030 Geometry		
030-9 Geometry By Components		aggregated slabs are not supported by ABD
100 Element Aggregation		
100-2 Element Decomposition		aggregated slabs are not supported by ABD
501 IfcProject	*company statement*	*WallSlab 03 / 2x3*
001 GUIDs		
002 History		
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 / 2x3*
001 GUIDs		
002 History		
010 Naming		
020 Placement		
020-1 Placement Absolute		Building contained by site, site placement is absolute.

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	■		
General		*company statement*	*WallSlab 03 / 2x3*
_G4 Remarks	■		

■ Supported ■ Restricted ■ Not Supported

WallStandardCase 01A / 2x3

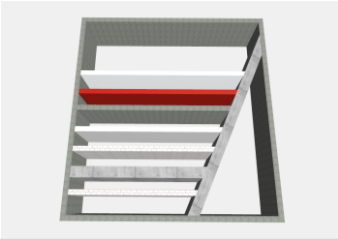


101 IfcWallStandardCase	*company statement*	*WallStandardCase 01A / 2x3*
010 Naming		
020 Placement		
020-2 Placement Relative		
030 Geometry		
030-2 Geometry Axis		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid		
030-6-2 Geometry Clipping		
040 Presentation		
040-1 Geometric Presentation	Transparensy is not supported by AECOsim Building Designer Geometric color is defined by part-family of the element. Part-family is mapped to IFC material of the element. For layered materials it takes color of first layer.	
040-2 Material Presentation	Presentation information is provided by a "Geometric Presentation" (040-1)	
050 CAD Layer		
110 Connectivity		
110-2 Connectivity Path	connection types are fixed	
120 Spatial Containment		
200 Material		
200-4 Material Layer Usage		

Supported Restricted Not Supported

210 Property Set			
210-3 Property Set User Defined			
300 Type			
300-3 Type Material		ABD allows changing of material per wall instance, the material for the Type is only a default; hence not exported.	
300-5 Type Property Set			
General		*company statement*	*WallStandardCase 01A / 2x3*
_G4 Remarks			

WallStandardCase 01S / 2x3

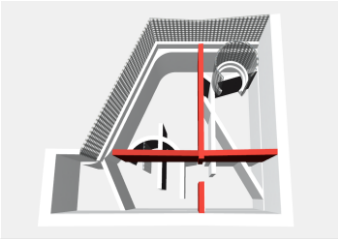


101 IfcWallStandardCase		*company statement*	*WallStandardCase 01S / 2x3*
010 Naming			
020 Placement			
020-2 Placement Relative			
030 Geometry			
030-2 Geometry Axis			
030-6 Geometry Body			
030-6-1 Geometry SweptSolid			
030-6-2 Geometry Clipping		There are not walls in the test case that need to be clipped.	
040 Presentation			
040-1 Geometric Presentation		Geometric color is defined by part-family of the element. Part-family is mapped to IFC material of the element. For layered materials it takes color of first layer.	
040-2 Material Presentation		Presentation information is provided by a "Geometric Presentation" (040-1)	
050 CAD Layer			
110 Connectivity			
110-2 Connectivity Path			
120 Spatial Containment			
200 Material			
200-4 Material Layer Usage			
210 Property Set			
210-3 Property Set User Defined			

Supported Restricted Not Supported

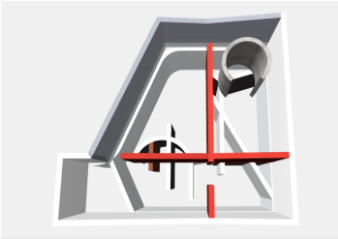
300 Type			
300-3 Type Material		ABD allows changing of material per wall instance; the material for the Type is only a default; hence not exported.	
300-5 Type Property Set			
General		*company statement*	*WallStandardCase 01S / 2x3*
_G4 Remarks			

WallStandardCase 02A / 2x3



101 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	■	
050 CAD Layer	■	
110 Connectivity		
110-2 Connectivity Path	■	
120 Spatial Containment	■	
200 Material		
200-4 Material Layer Usage	■	
210 Property Set		
210-1 Property Set IFC Common	■	
General	*company statement*	*WallStandardCase 02A / 2x3*
_G4 Remarks	■	

WallStandardCase 02S / 2x3

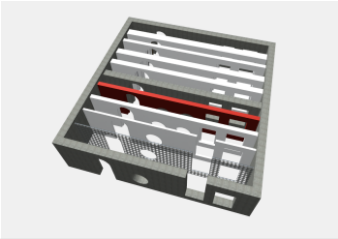


101 IfcWallStandardCase	*company statement*	*WallStandardCase 02S / 2x3*
010 Naming		
020 Placement		
020-2 Placement Relative		
030 Geometry		
030-2 Geometry Axis		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid		
030-6-2 Geometry Clipping		
050 CAD Layer		
110 Connectivity		
110-2 Connectivity Path	L- and T- wall connections are fully supported. The geometry of 3-way wall connections is correctly exported to IFC; however, one wall does not have connection information to the other two.'	
120 Spatial Containment		
200 Material		
200-4 Material Layer Usage		
210 Property Set		
210-1 Property Set IFC Common		

General	*company statement*	*WallStandardCase 02S / 2x3*
_G4 Remarks		

Supported Restricted Not Supported

WallStandardCase 03A / 2x3

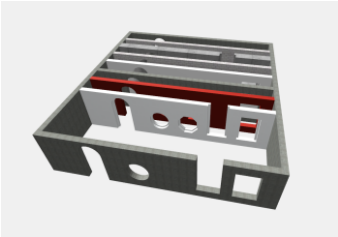


101 IfcWallStandardCase	*company statement*	*WallStandardCase 03A / 2x3*
010 Naming		
020 Placement		
020-2 Placement Relative		
030 Geometry		
030-2 Geometry Axis		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid		
070 Voiding		
070-1 Voiding Geometry SweptSolid		
070-2 Voiding Geometry Explicit	In this testcase all openings are represented by swept solids	
070-3 Voiding Geometry Mapped	AECOsim Building Designer does not use voiding geometry mapped, respectively it is not supported in IFC export	
120 Spatial Containment		

General	*company statement*	*WallStandardCase 03A / 2x3*
_G4 Remarks		

Supported Restricted Not Supported

WallStandardCase 03S / 2x3

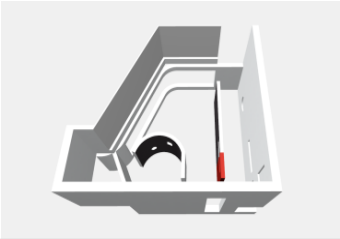


101 IfcWallStandardCase	*company statement*	*WallStandardCase 03S / 2x3*
010 Naming		
020 Placement		
020-2 Placement Relative		
030 Geometry		
030-2 Geometry Axis		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid		
070 Voiding		
070-1 Voiding Geometry SweptSolid		
070-2 Voiding Geometry Explicit	AECOsim Building Designer exports some openings in brep, but all openings in this example may be exported as Swept	
120 Spatial Containment		

General	*company statement*	*WallStandardCase 03S / 2x3*
_G4 Remarks		

Supported Restricted Not Supported

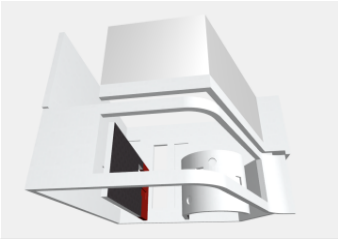
WallStandardCase 04A / 2x3



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	AECOsim Building Designer does not use voiding geometry mapped, respectively it is not supported in IFC export	
120 Spatial Containment		

General	*company statement*	*WallStandardCase 04A / 2x3*
_G4 Remarks		

WallStandardCase 04S / 2x3



101 IfcWallStandardCase	*company statement*	*WallStandardCase 04S / 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	■	
120 Spatial Containment	■	
General	*company statement*	*WallStandardCase 04S / 2x3*
_G4 Remarks	■	

Window 01 / 2x3

301 IfcWindow	*company statement*	*Window 01 / 2x3*
001 GUIDs		
002 History		
010 Naming		
020 Placement		
020-2 Placement Relative		
030 Geometry		
030-5 Geometry Profile	ABD does not export window profile. According to IFC2x3 Final Documentation it is not required for embedded windows in horizontally extruded openings	
030-6 Geometry Body		
030-6-5 Geometry Explicit		
030-6-9 Geometry Mapped		
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	ABD does not support material list for windows	

Supported Restricted Not Supported

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	■	
300-2 Type Naming	■	
300-3 Type Material	■	ABD does not support type material
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	■	