## CoordinationView 2.0 / Export

CV2.0-Struct

## **NEMETSCHEK Scia**

Scia Engineer

03/05/2013

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#### Introduction

The main purpose of export is to support roundtrip between Scia Engineer and other application. Export of following objects is supported – columns, beams, members (rafter, purlin, brace), walls slabs, reinforcing mesh and bars, footing, steel connections as plates and mechanical fasteners.

Export with default setting is as SweptSolid representation if possible. Export of selected objects is also supported.

For more details see http://help.nemetschek-scia.com.

## Testlist

	concepts total	manu	ally ch	ecked
Name test				
BeamColumn 04 / 2x3	47	21	3	23
Beam_01 / 2x3	10	7	2	1
Beam_02 / 2x3	12	8	1	3
Beam_03 / 2x3	6	2		4
CharsetTest-01S / 2x3	2	2		
Column 01 / 2x3	11	6	4	1
Column_02 / 2x3	6	1	3	2
Grid 01 / 2x3	11	8		3
Member_01S / 2x3	10	6	1	3
PlateFastener-01 / 2x3	66	18	4	44
RandomStruc-X1 / 2x3	9	9		
RandomStruc-X2 / 2x3	10	10		
RandomStruc-X3 / 2x3	8	8		
RandomStruc-X4 / 2x3	9	8	1	
RandomStruc-X5 / 2x3	9	9		
Reinforcement-01 / 2x3	93	45	3	45
ReplacementTest_forPile-01 / 2x3	7	6	1	
ReplacementTest_forRampSlab-01 / 2x3	8	8		
ReplacementTest_forRoof-01 / 2x3	12	5	1	6
ReplacementTest_forRoof-02 / 2x3	13	9		4
ReplacementTest_forSite-01 / 2x3	7	7		
ReplacementTest_forSite-02 / 2x3	11	11		
ReplacementTest_forStairSlab-01 / 2x3	6	6		
Slab 01S / 2x3	11	5	2	4
Slab 02S / 2x3	22	7	2	13
UnitTest-01S / 2x3	3	3		

	concepts total	manually checked		
Name test				
Wall 01 / 2x3	20	6	3	11
Wall 02 / 2x3	14	5	1	8
WallStandardCase 01S / 2x3	15	7	3	5
WallStandardCase 02S / 2x3	11	7	1	3
WallStandardCase 03S / 2x3	8	6	1	1
WallStandardCase 04S / 2x3	7	4	2	1

#### Concepts

Beam\_01 / 2x3

		W
103 lfcBeam	company statement	Beam_01 / 2x3
010 Naming	This concept is set to Restricted because in Scia Engineer the naming of building storeys is not fully supported.	
020 Placement 020-2 Placement Relative	In Scia Engineer there is no possibility to place a member relatively to the storey placement. All members are defined in global coordinates.	
030 Geometry		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid		
030-6-2 Geometry Clipping		
040 Presentation		
040-1 Geometric Presentation		
040-2 Material Presentation	Material presentation is not supported because no material presentation is defined in Scia Engineer.	
120 Spatial Containment		
200 Material		
200-1 Single Material		

210 Property Set		
210-1 Property Set IFC Common		
General	company statement	Beam_01/2x3
_G4 Remarks		

## Beam\_02 / 2x3



103 IfcBeam	company statement	Beam_02 / 2x3
010 Naming		
030 Geometry		
030-2 Geometry Axis	Scia Engineer does not support export of axis geometry for 1D members.	
030-6 Geometry Body		
030-6-1 Geometry SweptSolid		
030-6-2 Geometry Clipping	Scia Engineer supports only clipping by plane. That is the clipping is restricted for this test case because some beams have notches etc.	
030-6-5 Geometry Explicit		
050 CAD Layer		
070 Voiding		
070-1 Voiding Geometry Explicit	Voiding Geometry Explicit is not supported in Scia Engineer.	
070-2 Voiding Geometry Mapped	Scia Engineer does not support mapped geometry for voiding.	
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

		Bcam_03
103 lfcBeam	company statement	Beam_03 / 2x3
030 Geometry		
030-1 Geometry Box	Scia Engineer does not support geometry box.	
030-2 Geometry Axis	Scia Engineer does not support export of axis geometry for 1D members.	
030-6 Geometry Body		
030-6-1 Geometry SweptSolid		
030-6-2 Geometry Clipping	Scia Engineer supports only clipping by plane.	
300 Туре		
300-5 Type Property Set	Scia Engineer does not support Type Property Set because no type of properties can be defined.	
General	company statement	Beam_03 / 2x3
_G4 Remarks		



103 lfcBeam	company statement	BeamColumn 04 / 2x3
001 GUIDs		
002 History		
010 Naming		
020 Placement		
020-2 Placement Relative	In Scia Engineer there is no possibility to place a member relatively to the storey placement. All members are defined in global coordinates.	
030 Geometry		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid		
030-6-9 Geometry Mapped	In Scia Engineer it is not possible to use mapping of 1D or 2D members because each one is defined independently.	
070 Voiding		
070-1 Voiding Geometry Explicit	Voiding Geometry Explicit is not supported in Scia Engineer.	
070-2 Voiding Geometry Mapped	Scia Engineer does not support mapped geometry for voiding.	
070-3 Voiding Geometry SweptSolid		
130 Grouping		
130-1Grouping General	Scia Engineer does not support any kind of grouping.	
200 Material		
200-1 Single Material		
		0

210 Property Set		
210-1 Property Set IFC Common		
210-3 Property Set User Defined		
300 Туре		
300-1 Type Geometry	Scia Engineer does not support geometry types for objects.	
300-2 Type Naming	In Scia Engineer there is not possible to define any type naming for beams.	
300-3 Type Material	Scia Engineer does not support material type because it provides a code material name.	
300-5 Type Property Set	Scia Engineer does not support Type Property Set because no type of properties can be defined.	
104 lfcColumn	company statement	BeamColumn 04 / 2x3
001 GUIDs		
002 History		
010 Naming		
020 Placement		
020-2 Placement Relative	In Scia Engineer there is no possibility to place a member relatively to the storey placement. All members are defined in global coordinates.	
030 Geometry		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid		
030-6-9 Geometry Mapped	In Scia Engineer it is not possible to use mapping of 1D or 2D members because each one is defined independently.	

070 Voiding		
070-1 Voiding Geometry Explicit	Voiding Geometry Explicit is not supported in Scia Engineer.	
070-2 Voiding Geometry Mapped	Scia Engineer does not support mapped geometry for voiding.	
070-3 Voiding Geometry SweptSolid		
130 Grouping		
130-1 Grouping General	Scia Engineer does not support any kind of grouping.	
200 Material		
200-1 Single Material		
210 Property Set		
210-2 Property Set IFC any		
300 Туре		
300-1 Type Geometry	Scia Engineer does not support geometry types for objects.	
300-2 Type Naming	In Scia Engineer there is not possible to define any type naming for columns.	
300-3 Type Material	Scia Engineer does not support material type because it provides a code material name.	
300-5 Type Property Set	Scia Engineer does not support Type Property Set because no type of properties can be defined.	
103 IfcFooting	company statement	BeamColumn 04 / 2x3
001 GUIDs		
002 History		
010 Naming		
020 Placement		
020-1 Placement Relative	In Scia Engineer there is no possibility to place a member relatively to the storey placement. All members are defined in global coordinates.	

030 Geometry		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid	Footing in Scia Enginer is only a kind of support which is defined by dimensions. Some shapes cannot be created as SweptSolid, therefore only boundary representation is supported for footings.	
030-6-9 Geometry Mapped		
130 Grouping		
130-1 Grouping General	Scia Engineer does not support any kind of grouping.	
200 Material		
200-1 Single Material		
210 Property Set		
210-2 Property Set IFC any	Scia Engineer supports only user defined property set for footings.	
300 Туре		
300-1 Type Geometry	Scia Engineer does not support geometry types for objects.	
300-2 Type Naming	In Scia Engineer there is not possible to define any type naming for footings.	
300-3 Type Material	Scia Engineer does not support material type because it provides a code material name.	
300-5 Type Property Set	Scia Engineer does not support Type Property Set because no type of properties can be defined.	
General	company statement	BeamColumn 04 / 2x3
_G4 Remarks		

## 

## Column\_02 / 2x3

104 lfcColumn	company statement	Column_02 / 2x3
030 Geometry		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid	Not all columns in this test case can be modelled in Scia Engineer, e.g. Y-shape column, therefore this concept is set to restricted.	
030-6-5 Geometry Explicit	Not all columns in this test case can be modelled in Scia Engineer, e.g. Y-shape column, therefore this concept is set to restricted.	
070 Voiding		
070-1 Voiding Geometry Explicit	Voiding Geometry Explicit is not supported in Scia Engineer.	
070-2 Voiding Geometry Mapped	Scia Engineer does not support mapped geometry for voiding.	
070-3 Voiding Geometry SweptSolid	Not all voids in this test case can be modelled in Scia Engineer, e.g. an ellipse opening or a cap hole in the top of a column, therefore this concept is set to restricted.	
General	company statement	Column_02 / 2x3
_G4 Remarks		



Supported Restricted Not Supported

## Column 01 / 2x3



104 lfcColumn	company statement	Column 01 / 2x3
010 Naming		
020 Placement		
020-2 Placement Relative	In Scia Engineer there is no possibility to place a member relatively to the storey placement. All members are defined in global coordinates.	
030 Geometry		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid		
030-6-2 Geometry Clipping	In Scia Engineer each member is clipped by a plane separately. The clipping plane is always defined in the column local coordination system in the Y and/or Z direction.	
040 Presentation		
040-1 Geometric Presentation	Geometric presentation is presented only as a surface colour. The colour is defined by the CAD layer. Scia Engineer does not support individual colours for each separate column.	
040-2 Material Presentation	Material presentation is not supported because no material presentation is defined in Scia Engineer.	
050 CAD Layer		
120 Spatial Containment		
200 Material		
200-1 Single Material		

210 Property Set		
210-1 Property Set IFC Common		
General	company statement	Column 01 / 2x3
_G4 Remarks	In Scia Engineer there is no option to define the site and building name.	

## Grid 01 / 2x3



509 IfcGrid	company statement	Grid 01 / 2x3
001 GUIDs		
002 History		
010 Naming		
020 Placement		
020-2 Placement Relative	In Scia Engineer it is not possible to place any member relatively to the storey placement and 2D line grid is always located at zero height.	
030 Geometry		
030-3 Geometry FootPrint		
040 Presentation		
040-1 Geometric Presentation		
050 CAD Layer	In Scia Engineer it is not possible to place a line grid into a layer, therefore it is always exported with the default one.	
120 Spatial Containment		
210 Property Set		
210-3 Property Set User Defined	In Scia Engineer it is not possible to define property sets for line grids.	
270 Grid Usage		
270-1 Grid Axes		
General	company statement	Grid 01 / 2x3
_G4 Remarks		

401 lfcMember	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	Scia Engineer supports only clipping by plane.	
110 Connectivity		
110-1 Connectivity Basic	Scia Engineer does not support general information for connectivity between members.	
110-3 Connectivity Realization		
110-3-1 Connectivity Realized	Scia Engineer does not support general information for connectivity between members.	
120 Spatial Containment		
200 Material		
200-1 Single Material		
300 Туре		
300-1 Type Geometry	Scia Engineer does not support geometry types for objects.	
General	company statement	Member_01S / 2x3

Scia Engineer CV2.0-Struct

## PlateFastener-01 / 2x3



103 lfcBeam	company statement	PlateFastener-01 / 2x3
001 GUIDs		
002 History		
030 Geometry		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid		
030-6-9 Geometry Mapped	In Scia Engineer it is not possible to use mapping of 1D or 2D members because each one is defined independently.	
104 lfcColumn	company statement	PlateFastener-01 / 2x3
001 GUIDs		
002 History		
030 Geometry		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid	Restricted for this test case because different profile of a column is used. The reason is that on a double L profile it is not possible to insert a base plate.	
030-6-9 Geometry Mapped	In Scia Engineer it is not possible to use mapping of 1D or 2D members because each one is defined independently.	
100 Element Aggregation		
100-2 Element Decomposition	Scia Engineer does not support element decomposition of elements.	

210 Property Set		
210-3 Property Set User Defined		
300 Туре		
300-1 Type Geometry	Scia Engineer does not support geometry types for objects.	
300-2 Type Naming	In Scia Engineer there is not possible to define any type naming for columns.	
300-3 Type Material	Scia Engineer does not support material type because it provides a code material name.	
300-5 Type Property Set	Scia Engineer does not support Type Property Set because no type of properties can be defined.	
401 lfcMember	company statement	PlateFastener-01 / 2x3
001 GUIDs		
002 History		
020 Placement		
020-2 Placement Relative		
030 Geometry		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid		
030-6-9 Geometry Mapped	In Scia Engineer it is not possible to use mapping of 1D or 2D members because each one is defined independently.	
040 Presentation		
040-1 Geometric Presentation		
050 CAD Layer		

210 Property Set		
210-1 Property Set IFC Common		
210-3 Property Set User Defined	Name of Property Set is currently not supported in Scia Engineer. Only a name of property and value is supported.	
300 Туре		
300-2 Type Naming	In Scia Engineer there is not possible to define any type naming for members.	
300-3 Type Material	Scia Engineer does not support material type because it provides a code material name.	
300-5 Type Property Set	Scia Engineer does not support Type Property Set because no type of properties can be defined.	
402 IfcPlate	company statement	PlateFastener-01 / 2x3
001 GUIDs	Scia Engineer generally supports GUIDs for plates. But in this test case some plates cannot be created in Scia Engineer therefore it is set to Restricted.	
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	Scia Engineer does not support clipping geometry for plates.	
030-6-5 Geometry Explicit	Scia Engineer supports explicit geometry for plates. But in this test case there are all plates exported as SweptSolid.	
040 Presentation		
040-1 Geometric Presentation		

050 CAD Layer	Scia Engineer generally supports CAD layer for plates. But a plate is always in the same CAD layer as the beam which the steel connection plate is connected to.	
070 Voiding		
070-3 Voiding Geometry SweptSolid	Scia Engineer does not support voiding geometry for plates.	
120 Spatial Containment	Scia Engineer generally supports spatial containment for plates. But in this test case some plates cannot be created in Scia Engineer therefore it is set to not supported.	
200 Material		
200-2 Material Layer Set	Scia Engineer does not support material layer sets for plates because no layered plate can be created.	
210 Property Set		
210-1 Property Set IFC Common	Scia Engineer does not support property sets for plates because it cannot be input.	
210-3 Property Set User Defined	Scia Engineer does not support property sets for plates.	
300 Туре		
300-1 Type Geometry	Scia Engineer does not support geometry types for objects.	
300-2 Type Naming	In Scia Engineer there is not possible to define any type naming for plates.	
300-3 Type Material	Scia Engineer does not support material type because it provides a code material name.	
300-5 Type Property Set	Scia Engineer does not support Type Property Set because no type of properties can be defined.	
403 IfcFooting	company statement	PlateFastener-01 / 2x3

030 Geometry		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid	Footing in Scia Enginer is only a kind of support which is defined by dimensions. Some shapes cannot be created as SweptSolid, therefore only boundary representation is supported for footings.	
030-6-2 Geometry Clipping	Scia Engineer does not support clipping geometry for footings.	
405 lfcFastener	company statement	PlateFastener-01 / 2x3
010 Naming	Scia Engineer generally supports naming for fasteners which are defined as welds. But in this test case there is no one presented. Therefore it is set to not supported.	
020 Placement		
020-2 Placement Relative	Scia Engineer generally supports relative placement for fasteners which are defined as welds. But in this test case there is no one presented therefore it is set to not supported.	
030 Geometry		
030-2 Geometry Axis	Scia Engineer does not support geometry axis for fasteners.	
406 IfcMechanicalFastener	company statement	PlateFastener-01 / 2x3
001 GUIDs	Scia Engineer generally supports GUIDs for mechanical fasteners which are modelled as bolts. But in this test case there is no mechanical fastener that can be inputted in Scia Engineer, therefore it is set to not supported.	
002 History	Scia Engineer generally supports history for mechanical fasteners which are modelled as bolts. But in this test case there is no mechanical fastener that can be inputted in Scia Engineer, therefore it is set to not supported.	
010 Naming	Scia Engineer generally supports naming with limitation for mechanical fasteners which are modelled as bolts. But in this test case there is no mechanical fastener which can be inputted in Scia Engineer therefore it is set to not supported.	

020 Placement		
020-2 Placement Relative	Scia Engineer generally supports relative placement for mechanical fasteners which are modelled as bolts. But in this test case there is no mechanical fastener which can be inputted in Scia Engineer therefore it is set to not supported.	
030 Geometry		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid	Scia Engineer does not support SweptSolid geometry for mechanical fasteners.	
030-6-5 Geometry Explicit	Scia Engineer generally supports explicit geometry for mechanical fasteners which are modelled as bolts. But in this test case there is no mechanical fastener which can be inputted in Scia Engineer therefore it is set to not supported.	
030-6-9 Geometry Mapped	Scia Engineer generally supports mapped geometry for mechanical fasteners which are modelled as bolts. But in this test case there is no mechanical fastener which can be inputted in Scia Engineer therefore it is set to not supported.	
040 Presentation		
040-1 Geometric Presentation	Scia Engineer generally supports geometric presentation for mechanical fasteners which are modelled as bolts. But in this test case there is no mechanical fastener which can be inputted in Scia Engineer therefore it is set to not supported.	
050 CAD Layer	Scia Engineer generally supports CAD layer for mechanical fasteners which are modelled as bolts. But in this test case there is no mechanical fastener which can be inputted in Scia Engineer therefore it is set to not supported.	
120 Spatial Containment	Scia Engineer generally supports spatial containment for mechanical fasteners which are modelled as bolts. But in this test case there is no mechanical fastener which can be inputted in Scia Engineer therefore it is set to not supported.	
200 Material		
200-1 Single Material	Scia Engineer generally supports single material for mechanical fasteners which are modelled as bolts. But in this test case there is no mechanical fastener which can be inputted in Scia Engineer therefore it is set to not supported.	

210 Property Set	
210-6 Property Set IFC any	Scia Engineer does not support property sets for mechanical fasteners.
210-9 Property Set User Defined	Scia Engineer does not support property sets for mechanical fasteners.
300 Туре	
300-1 Type Geometry	Scia Engineer does not support geometry types for objects.
300-2 Type Naming	In Scia Engineer there is not possible to define any type naming for mechanical fasteners.
300-3 Type Material	Scia Engineer does not support material type because it provides a code material name.
300-5 Type Property Set	Scia Engineer does not support Type Property Set because no type of properties can be defined.

#### RandomStruc-X1 / 2x3



General	company statement	RandomStruc-X1 / 2x3
_G4 Remarks		



411 IfcTendon	company statement	RandomStruc-X2 / 2x3
001 GUIDs		
002 History		
010 Naming		
020 Placement		
020-2 Placement Relative		
030 Geometry		
030-6 Geometry Body		
030-6-4 Geometry AdvancedSweptSolid		
040 Presentation		
040-1 Geometric Presentation		
050 CAD Layer		
120 Spatial Containment		
200 Material		
200-1 Single Material		
General	company statement	RandomStruc-X2 / 2x3
_G4 Remarks		



410 IfcReinforcingMesh	company statement	RandomStruc-X3 / 2x3
001 GUIDs		
002 History		
010 Naming		
030 Geometry		
030-6 Geometry Body		
030-6-9 Geometry Mapped		
040 Presentation		
040-1 Geometric Presentation		
050 CAD Layer		
200 Material		
200-1 Single Material		
General	company statement	RandomStruc-X3 / 2x3
_G4 Remarks		



409 IfcReinforcingBar	company statement	RandomStruc-X4 / 2x3
001 GUIDs		
002 History		
010 Naming		
030 Geometry		
030-6 Geometry Body		
030-6-4 Geometry AdvancedSweptSolid		
030-6-9 Geometry Mapped		
040 Presentation		
040-1 Geometric Presentation	Geometric presentation is presented only as a surface colour. The colour is defined by the CAD layer. Scia Engineer does not support individual colours for each separate wall.	
050 CAD Layer		
200 Material		
200-1 Single Material		
General	company statement	RandomStruc-X4 / 2x3
_G4 Remarks		

## RandomStruc-X5 / 2x3



403 IfcFooting	company statement	RandomStruc-X5 / 2x3
001 GUIDs		
030 Geometry		
030-6 Geometry Body		
030-6-5 Geometry Explicit		
030-6-9 Geometry Mapped		
200 Material		
200-1 Single Material		
409 IfcReinforcingBar	company statement	RandomStruc-X5 / 2x3
030 Geometry		
030-6 Geometry Body		
030-6-4 Geometry AdvancedSweptSolid		
030-6-9 Geometry Mapped		
050 CAD Layer		
200 Material		
200-1 Single Material		
General	company statement	RandomStruc-X5 / 2x3
_G4 Remarks		

#### Reinforcement-01 / 2x3





030 Geometry		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid		
120 Spatial Containment		
105 lfcSlab	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	Scia Engineer generally supports naming for footing but only foundation pads can be exported. No footing is presented in this test case therefore it is not supported.	
030 Geometry		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid	Footing in Scia Enginer is only a kind of support which is defined by dimensions. Some shapes cannot be created as SweptSolid, therefore only boundary representation is supported for footings.	
040 Presentation		
040-1 Geometric Presentation	Scia Engineer generally supports geometric presentation for footing but only foundation pads can be exported. No footing is presented in this test case therefore it is not supported.	
050 CAD Layer	Scia Engineer generally supports CAD layer for footing but only foundation pads can be exported. No footing is presented in this test case therefore it is not supported.	

120 Spatial Containment	Scia Engineer generally supports spatial containment for footing but only foundation pads can be exported. No footing is presented in this test case therefore it is not supported.	
210 Property Set		
210-3 Property Set User Defined	foundation pads can be exported. No footing is presented in this test case therefore it is not supported.	
407 IfcDiscreteAccessory	company statement	Reinforcement-01 / 2x3
001 GUIDs	Scia Engineer does not support discrete Accessory.	
010 Naming	Scia Engineer does not support discrete Accessory.	
020 Placement		
020-2 Placement Relative	Scia Engineer does not support discrete Accessory.	
030 Geometry		
030-6 Geometry Body		
030-6-5 Geometry Explicit	Scia Engineer does not support discrete Accessory.	
030-6-9 Geometry Mapped	Scia Engineer does not support discrete Accessory.	
040 Presentation		
040-1 Geometric Presentation	Scia Engineer does not support discrete Accessory.	
050 CAD Layer	Scia Engineer does not support discrete Accessory.	
120 Spatial Containment	Scia Engineer does not support discrete Accessory.	
200 Material		
200-1 Single Material	Scia Engineer does not support discrete Accessory.	

210 Property Set		
210-9 Property Set User Defined	Scia Engineer does not support discrete Accessory.	
300 Туре		
300-1 Type Geometry	Scia Engineer does not support geometry types for objects.	
300-2 Type Naming	Scia Engineer does not support discrete Accessory.	
300-3 Type Material	Scia Engineer does not support discrete Accessory.	
300-5 Type Property Set	Scia Engineer does not support discrete Accessory.	
408 IfcElementAssembly	company statement	Reinforcement-01 / 2x3
001 GUIDs	Scia Engineer does not support element assembly for reinforcement.	
010 Naming	Scia Engineer does not support element assembly for reinforcement.	
020 Placement		
020-2 Placement Relative	Scia Engineer does not support element assembly for reinforcement.	
030 Geometry		
030-6 Geometry Body		
030-9 Geometry By Components	Scia Engineer does not support element assembly for reinforcement.	
040 Presentation		
040-1 Geometric Presentation	Scia Engineer does not support element assembly for reinforcement.	
050 CAD Layer	Scia Engineer does not support element assembly for reinforcement.	
100 Element Aggregation		
100-2 Element Decomposition	Scia Engineer does not support element assembly for reinforcement.	
120 Spatial Containment	Scia Engineer does not support element assembly for reinforcement.	

210 Property Set		
210-9 Property Set User Defined	Scia Engineer does not support element assembly for reinforcement.	
409 IfcReinforcingBar	company statement	Reinforcement-01 / 2x3
001 GUIDs		
010 Naming		
020 Placement		
020-2 Placement Relative		
030 Geometry		
030-6 Geometry Body		
030-6-4 Geometry AdvancedSweptSolid		
030-6-5 Geometry Explicit	Scia Engineer supports explicit geometry for reinforcing bars but in this test case all the reinforcement is exported as sweptSolid.	
030-6-9 Geometry Mapped		
040 Presentation		
040-1 Geometric Presentation		
050 CAD Layer		
120 Spatial Containment		
200 Material		
200-1 Single Material		
210 Property Set		
210-9 Property Set User Defined	Scia Engineer does not support property sets for Reinforcing bars.	

300 Туре		
300-1 Type Geometry	Scia Engineer does not support geometry types for objects.	
300-2 Type Naming	In Scia Engineer there is not possible to define any type naming for reinforcement.	
300-3 Type Material	Scia Engineer does not support material type because it provides a code material name.	
300-5 Type Property Set	Scia Engineer does not support Type Property Set because no type of properties can be defined.	
410 IfcReinforcingMesh	company statement	Reinforcement-01 / 2x3
001 GUIDs		
010 Naming		
020 Placement		
020-2 Placement Relative		
030 Geometry		
030-6 Geometry Body		
030-6-4 Geometry AdvancedSweptSolid		
030-6-5 Geometry Explicit	Scia Engineer supports explicit geometry for reinforcing meshes but in this test case all the reinforcement is exported as sweptSolid.	
030-6-9 Geometry Mapped		
040 Presentation		
040-1 Geometric Presentation		
050 CAD Layer	CAD layer is always taken from the wall/slab in which it is defined. There is no option how to assign a layer directly to the reinforcing mesh.	
120 Spatial Containment		

200 Material		
200-1 Single Material		
210 Property Set		
210-9 Property Set User Defined	Scia Engineer does not support property sets for Reinforcing meshes.	
300 Туре		
300-1 Type Geometry	Scia Engineer does not support geometry types for objects.	
300-2 Type Naming	In Scia Engineer there is not possible to define any type naming for reinforcement.	
300-3 Type Material	Scia Engineer does not support material type because it provides a code material name.	
300-5 Type Property Set	Scia Engineer does not support Type Property Set because no type of properties can be defined.	
501 IfcProject	company statement	Reinforcement-01 / 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 lfcBuilding	company statement	Reinforcement-01 / 2x3
Supported Restricted Not Supported		38

001 GUIDs		
002 History		
010 Naming	No building name can be input in Scia Engineer.	
020 Placement		
020-1 Placement Absolute		
060 Location		
060-2 Address	Not supported because no address is possible to input in Scia Engineer.	
150 Spatial Aggregation		
150-1 Spatial Composition		
150-2 Spatial Decomposition		
504 IfcBuildingStorey	company statement	Reinforcement-01 / 2x3
001 GUIDs		
002 History		
010 Naming	In Scia Engineer it is not possible to define different names for storeys. They always have to have a name + number.	
020 Placement		
020-2 Placement Relative		
060 Location		
060-4 Storey Elevation		
120 Spatial Containment		
150 Spatial Aggregation		
150-1 Spatial Composition		
150-2 Spatial Decomposition	Scia Engineer does not support special decomposition for building storey.	

		Please replace the placeholder with your own thumbnail.
101 IfcWallStandardCase	company statement	ReplacementTest_forPile-01 / 2x3
030 Geometry		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid	In Scia Engineer it is not possible to define SweptSolid shape for some walls as it is in the original test case Pile-01.	
104 lfcColumn	company statement	ReplacementTest_forPile-01 / 2x3
030 Geometry		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid		
030-6-2 Geometry Clipping		
050 CAD Layer		
200 Material		
200-1 Single Material		
210 Property Set		
210-3 Property Set User Defined		
General	company statement	ReplacementTest_forPile-01 / 2x3
_G4 Remarks		

## ReplacementTest\_forPile-01 / 2x3

Thumbnail of ApplicationSpecificTest

## ReplacementTest\_forRampSlab-01 / 2x3

Thumbnail of ApplicationSpecificTest

Please replace the placeholder with your own thumbnail.

102 lfcWall	company statement	ReplacementTest_forRampSlab-01 / 2x3
030 Geometry		
030-6 Geometry Body		
030-6-5 Geometry Explicit		
050 CAD Layer		
200 Material		
200-1 Single Material		
210 Property Set		
210-3 Property Set User Defined		
105 IfcSlab	company statement	ReplacementTest_forRampSlab-01 / 2x3
050 CAD Layer		
200 Material		
200-1 Single Material		
210 Property Set		
210-3 Property Set User Defined		
General	company statement	ReplacementTest_forRampSlab-01 / 2x3
_G4 Remarks		

## ReplacementTest\_forRoof-01 / 2x3



102 IfcWall	company statement	ReplacementTest_forRoof-01 / 2x3
030 Geometry		
030-6 Geometry Body		
030-6-2 Geometry Clipping	Geometry clipping is not supported for 2D members (WallStandardCase) in Scia Engineer.	
030-6-5 Geometry Explicit	Scia Engineer supports explicit geometry for walls but in this test case all 2D members are exported as slabs.	
105 lfcSlab	company statement	ReplacementTest_forRoof-01 / 2x3
030 Geometry		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid	In Scia Engineer it is not possible to define SweptSolid shape for some slabs as it is defined in test case Roof-01.	
030-6-2 Geometry Clipping	Geometry clipping is not supported for 2D members (WallStandardCase) in Scia Engineer.	
030-6-9 Geometry Mapped	In Scia Engineer it is not possible to use mapping of 1D or 2D members because each one is defined independently.	
040 Presentation		
040-1 Geometric Presentation		
040-2 Material Presentation	Material presentation is not supported because no material presentation is defined in Scia Engineer.	

070 Voiding		
070-3 Voiding Geometry SweptSolid		
100 Element Aggregation		
100-2 Element Decomposition	Scia Engineer does not support element decomposition of elements.	
120 Spatial Containment		
200 Material		
200-1 Single Material		
General	company statement	ReplacementTest_forRoof-01 / 2x3
_G4 Remarks		

## ReplacementTest\_forRoof-02 / 2x3

Thumbnail of ApplicationSpecificTest Roof\_02 Please replace the placeholder with your own thumbnail.

102 lfcWall	company statement	ReplacementTest_forRoof-02 / 2x3
010 Naming		
030 Geometry		
030-6 Geometry Body		
030-6-2 Geometry Clipping	Scia Engineer does not support clipping for explicit geometry.	
030-6-5 Geometry Explicit		
050 CAD Layer		
105 lfcSlab	company statement	ReplacementTest_forRoof-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	Scia Engineer does not support element decomposition of elements.	
210 Property Set		
210-3 Property Set User Defined		
408 IfcElementAssembly	company statement	ReplacementTest_forRoof-02 / 2x3

010 Naming	Scia Engineer does not support element assembly for walls and slabs.	
100 Element Aggregation 100-1 Element Composition	Scia Engineer does not support element assembly for walls and slabs.	
General	company statement	ReplacementTest_forRoof-02 / 2x3
_G4 Remarks		

## ReplacementTest\_forSite-01 / 2x3

Thumbnail of ApplicationSpecificTest

# Please replace the placeholder with your own thumbnail.

403 IfcFooting	company statement	ReplacementTest_forSite-01 / 2x3
001 GUIDs		
002 History		
010 Naming		
020 Placement		
030 Geometry		
030-6 Geometry Body		
030-6-5 Geometry Explicit		
120 Spatial Containment		
200 Material		
200-1 Single Material		
General	company statement	ReplacementTest_forSite-01 / 2x3
_G4 Remarks		

## ReplacementTest\_forSite-02 / 2x3

Thumbnail of ApplicationSpecificTest

Please replace the placeholde	er
with your own thumbnail.	

102 IfcWall	company statement	ReplacementTest_forSite-02 / 2x3
001 GUIDs		
010 Naming		
030 Geometry		
030-6 Geometry Body		
030-6-5 Geometry Explicit		
050 CAD Layer		
200 Material		
200-1 Single Material		
105 lfcSlab	company statement	ReplacementTest_forSite-02 / 2x3
001 GUIDs		
010 Naming		
030 Geometry		
030-6 Geometry Body		
030-6-5 Geometry Explicit		
050 CAD Layer		
200 Material		
200-1 Single Material		
General	company statement	ReplacementTest_forSite-02 / 2x3
_G4 Remarks		

### ReplacementTest\_forStairSlab-01 / 2x3

Thumbnail of ApplicationSpecificTest

# Please replace the placeholder with your own thumbnail.



### Slab 01S / 2x3



105 lfcSlab	company statement	Slab 01S / 2x3
010 Naming		
020 Placement		
020-2 Placement Relative	In Scia Engineer there is no possibility to place a member relatively to the storey placement. All members are defined in global coordinates.	
030 Geometry		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid		
030-6-2 Geometry Clipping	Geometry clipping is not supported for 2D members in Scia Engineer.	
040 Presentation		
040-1 Geometric Presentation	Geometric presentation is presented only as a surface colour. The colour is defined by the CAD layer. Scia Engineer does not support individual colours for each separate column.	
040-2 Material Presentation	Material presentation is not supported because no material presentation is defined in Scia Engineer.	
050 CAD Layer		
200 Material		
200-2 Material Layer Set	Scia Engineer supports only 2D members with single material. It is not possible to define layered walls or slabs.	
200-3 Material Layer Usage	Material Layer Usage is presented but in Scia Engineer each wall can have assigned only one material. Scia Engineer does not support layered walls. Always only one layer of material is exported.	

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

### Slab 02S / 2x3

105 IfcSlab	company statement	Slab 02S / 2x3
010 Naming		
020 Placement		
020-2 Placement Relative	In Scia Engineer there is no possibility to place a member relatively to the storey placement. All members are defined in global coordinates.	
030 Geometry		
030-1 Geometry Box	Scia Engineer does not support geometry box.	
030-6 Geometry Body		
030-6-1 Geometry SweptSolid		
030-6-2 Geometry Clipping	Geometry clipping is not supported for 2D members in Scia Engineer.	
030-6-5 Geometry Explicit	Scia Engineer supports explicit geometry for slabs but in this test case all slabs are exported as SweptSolid.	
030-6-9 Geometry Mapped	In Scia Engineer it is not possible to use mapping of 1D or 2D members because each one is defined independently.	
070 Voiding		
070-1 Voiding Geometry Explicit	Voiding Geometry Explicit is not supported in Scia Engineer.	
070-2 Voiding Geometry Mapped	Scia Engineer does not support mapped geometry for voiding.	
070-3 Voiding Geometry SweptSolid		
120 Spatial Containment	Restricted for this test case because in Scia Engineer it is not possible to define storey names.	

130 Grouping 130-1 Grouping General	Scia Engineer does not support any kind of grouping.	
200 Material		
200-1 Single Material		
200-2 Material Layer Set	Scia Engineer supports only 2D members with single material. It is not possible to define layered walls or slabs.	
210 Property Set		
210-1 Property Set IFC Common		
210-2 Property Set IFC any	Scia Engineer supports only Pset_SlabCommon and user defined property set.	
210-3 Property Set User Defined		
300 Туре		
300-1 Type Geometry	Scia Engineer does not support geometry types for objects.	
300-2 Type Naming	In Scia Engineer there is not possible to define any type naming for slabs.	
300-3 Type Material	Scia Engineer does not support material type because it provides a code material name.	
300-5 Type Property Set	Scia Engineer does not support Type Property Set because no type of properties can be defined.	
General	company statement	Slab 02S / 2x3
_G4 Remarks		

### UnitTest-01S / 2x3

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

## Wall 01 / 2x3



102 lfcWall	company statement	Wall 01 / 2x3
002 History		
010 Naming		
020 Placement		
020-2 Placement Relative	In Scia Engineer there is no possibility to place a member relatively to the storey placement. All members are defined in global coordinates.	
030 Geometry		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid	In Scia Engineer it does not exist an object like a polygonal wall but there are general volumes which have only boundary representation, therefore SweptSolid representation is not supported.	
030-6-2 Geometry Clipping	Scia Engineer does not support clipping for explicit geometry.	
030-6-5 Geometry Explicit	Modelling of general volumes (IfcWall) in Scia Engineer is limited, not all curved walls in this test case have a precise shape therefore this concept is set to Restricted.	
040 Presentation		
040-1 Geometric Presentation	Geometric presentation is presented only as a surface colour. The colour is defined by the CAD layer. Scia Engineer does not support individual colours for each separate wall.	
040-2 Material Presentation	Material presentation is not supported because no material presentation is defined in Scia Engineer.	

070 Voiding		
070-1 Voiding Geometry Explicit	Voiding Geometry Explicit is not supported in Scia Engineer.	
070-3 Voiding Geometry SweptSolid	Voiding Geometry SweptSolid is not supported in this test case because all walls are exported with explicit geometry.	
080 Filling		
080-1 Has Filling		
080-1-1 Has Filling Door	Not supported because no door element exists in Scia Engineer.	
080-1-2 Has Filling Window	Not supported because no window element exists in Scia Engineer.	
200 Material		
200-1 Single Material		
210 Property Set		
210-1 Property Set IFC Common		
300 Туре		
300-3 Type Material	Scia Engineer does not support material type because it provides a code material name.	
300-5 Type Property Set	Scia Engineer does not support Type Property Set because no type of properties can be defined.	
301 IfcWindow	company statement	Wall 01 / 2x3
020 Placement		
020-2 Placement Relative	No window element exists in Scia Engineer.	
302 lfcDoor	company statement	Wall 01 / 2x3
020 Placement		
020-2 Placement Relative	No door element exists in Scia Engineer.	
General	company statement	Wall 01 / 2x3

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## Wall 02 / 2x3



102 lfcWall	company statement	Wall 02 / 2x3
010 Naming		
020 Placement		
020-2 Placement Relative	In Scia Engineer there is no possibility to place a member relatively to the storey placement. All members are defined in global coordinates.	
030 Geometry		
030-2 Geometry Axis	In Scia Engineer there is no wall axis entity for general volumes (walls).	
030-6 Geometry Body		
030-6-1 Geometry SweptSolid	In Scia Engineer it does not exist an object like a polygonal wall but there are general volumes which have only boundary representation, therefore SweptSolid representation is not supported.	
030-6-2 Geometry Clipping	Scia Engineer does not support clipping for explicit geometry.	
030-6-5 Geometry Explicit		
050 CAD Layer		
070 Voiding		
070-1 Voiding Geometry Explicit	Voiding Geometry Explicit is not supported in Scia Engineer.	
070-3 Voiding Geometry SweptSolid	Voiding Geometry SweptSolid is not supported in this test case because all walls are exported with explicit geometry.	
120 Spatial Containment		

130 Grouping 130-1 Grouping General	Scia Engineer does not support any kind of grouping.	
200 Material 200-3 Material Layer Set	Scia Engineer supports only 2D members with single material. It is not possible to define layered walls or slabs.	
<b>300 Type</b> 300-2 Type Naming	In Scia Engineer it is not possible to define any type naming for general volumes (IfcWall).	
General	company statement	Wall 02 / 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	Geometry Axis is presented but axes cannot be connected to each other. In Scia Engineer there is no wall axis entity therefore for export to IFC the axis is generated from the wall profile. That means the axis cannot be longer or shorter than the wall body.	
030-6 Geometry Body		
030-6-1 Geometry SweptSolid		
030-6-2 Geometry Clipping	Geometry clipping is not supported for 2D members (WallStandardCase) in Scia Engineer.	
040 Presentation		
040-1 Geometric Presentation	Geometric presentation is presented only as a surface colour. The colour is defined by the CAD layer. Scia Engineer does not support individual colours for each separate wall.	
040-2 Material Presentation	Material presentation is not supported because no material presentation is defined in Scia Engineer.	
050 CAD Layer		
110 Connectivity		
110-2 Connectivity Path	Connectivity Path is not supported because no connectivity path element exists in Scia Engineer.	
120 Spatial Containment		



200 Material 200-4 Material Layer Usage	Material Layer Usage is presented but in Scia Engineer each wall can have assigned only one material. Scia Engineer does not support layered walls. Always only one layer of material is exported.	
210 Property Set		
210-3 Property Set User Defined		
300 Туре		
300-3 Type Material	Scia Engineer does not support material type because it provides a code material name.	
300-5 Type Property Set	Scia Engineer does not support Type Property Set because no type of properties can be defined.	
General	company statement	WallStandardCase 01S / 2x3
_G4 Remarks		

## WallStandardCase 02S / 2x3

Supported

Restricted

101 IfcWallStandardCase	company statement	WallStandardCase 02S / 2x3
010 Naming		
020 Placement		
020-2 Placement Relative	In Scia Engineer there is no possibility to place a member relatively to the storey placement. All members are defined in global coordinates.	
030 Geometry		
030-2 Geometry Axis		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid		
030-6-2 Geometry Clipping	Geometry clipping is not supported for 2D members (WallStandardCase) in Scia Engineer.	
050 CAD Layer		
110 Connectivity		
110-2 Connectivity Path	Connectivity Path is not supported because no connectivity path element exists in Scia Engineer.	
120 Spatial Containment		
200 Material		
200-4 Material Layer Usage	Material Layer Usage is presented but in Scia Engineer each wall can have assigned only one material. Scia Engineer does not support layered walls. Always only one layer of material is exported.	
210 Property Set		
210-1 Property Set IFC Common		



General	company statement	WallStandardCase 02S / 2x3
_G4 Remarks		

## 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	Scia Engineer supports only openings with constant thickness, which means openings cannot have any notches etc. Also two or more openings cannot have the same name.	
070-2 Voiding Geometry Explicit	Voiding Geometry Explicit is not supported in Scia Engineer.	
120 Spatial Containment		
General	company statement	WallStandardCase 03S / 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	In Scia Engineer it is not possible to create a polygonal wall and it is not allowed to input an opening into curved walls therefore it is modelled as series of walls.	
070 Voiding		
070-1 Voiding Geometry SweptSolid	Voiding is supported only for flat walls. It is not possible to input opening or recess into curved wall in Scia Engineer.	
070-2 Voiding Geometry Explicit	Voiding Geometry Explicit is not supported in Scia Engineer.	
120 Spatial Containment		
General	company statement	WallStandardCase 04S / 2x3
_G4 Remarks		