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Introduction




Planca nova supports IFC import and export based on the Coordination View 2.0. The certification of MEP-export is released with Nova 10.1 and will be delivered and installed automatically to all Nova-IFC-users.

Specific item properties, connections between components, as well as their allocation to specific disciplines and building floors are included in the MEP IFC export. The extension of property-sets is possible. It is also possible to export penetrations (provision for voids).

The functionality of IFC-Interface is described in the nova training manual and the IFC guide.

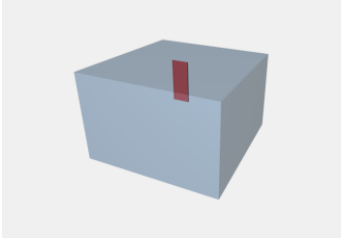
See more details on <http://www.planca.com>

Testlist

Name test	concepts total	manually checked		
				
CharsetTest-01MEP / 2x3	2	2		
DuplexHouse_Electrical / 2x3	65	22		43
DuplexHouse_Heating / 2x3	56	40		16
DuplexHouse_Sanitary / 2x3	52	41		11
DuplexHouse_Ventilation / 2x3	44	38		6
RandomMEP-X1 / 2x3	23	23		
RandomMEP-X2 / 2x3	56	53	3	
RandomMEP-X3 / 2x3	50	50		
RandomMEP-X4 / 2x3	60	60		
RandomMEP-X5 / 2x3	57	57		
Space_01MEP / 2x3	15	13		2
UnitTest-01MEP / 2x3	3	3		

Concepts

CharsetTest-01MEP / 2x3
















General	<i>company statement</i>	<i>CharsetTest-01MEP / 2x3</i>
_G1 Character sets	■	
_G4 Remarks	■	














DuplexHouse_Electrical / 2x3



204 IfcEnergyConversionDevice	<i>company statement</i>		<i>DuplexHouse_Electrical / 2x3</i>
010 Naming	■	Now are the names from the test instruction used.	
020 Placement 020-2 Placement Relative	■		
030 Geometry 030-6 Geometry Body 030-6-5 Geometry Explicit 030-6-9 Geometry Mapped	■	This feature is not supported in Nova version 10.	
100 Element Aggregation 100-4 Port Assignment	■	This feature is not supported in Nova version 10.	
110 Connectivity 110-5 Connectivity by Ports	■	This feature is not supported in Nova version 10.	
120 Spatial Containment	■		
130 Grouping 130-2 Grouping to Systems	■		
300 Type 300-1 Type Geometry 300-2 Type Naming	■	This feature is not supported in Nova version 10.	
205 IfcFlowController	<i>company statement</i>		<i>DuplexHouse_Electrical / 2x3</i>
010 Naming	■	Now are the names from the test instruction used.	

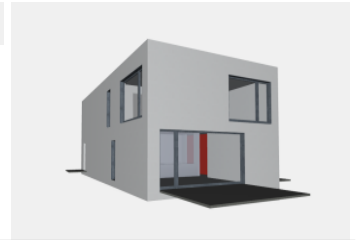
020 Placement		
020-2 Placement Relative		
030 Geometry		
030-6 Geometry Body		
030-6-5 Geometry Explicit		This feature is not supported in Nova version 10.
030-6-9 Geometry Mapped		This feature is not supported in Nova version 10.
100 Element Aggregation		
100-4 Port Assignment		This feature is not supported in Nova version 10.
110 Connectivity		
110-5 Connectivity by Ports		This feature is not supported in Nova version 10.
120 Spatial Containment		
130 Grouping		
130-2 Grouping to Systems		
300 Type		
300-1 Type Geometry		This feature is not supported in Nova version 10.
300-2 Type Naming		This feature is not supported in Nova version 10.
206 IfcFlowFitting		<i>company statement</i> <i>DuplexHouse_Electrical / 2x3</i>
010 Naming		This feature is not supported in Nova version 10.
020 Placement		
020-2 Placement Relative		This feature is not supported in Nova version 10.
030 Geometry		
030-6 Geometry Body		
030-6-5 Geometry Explicit		This feature is not supported in Nova version 10.
030-6-9 Geometry Mapped		This feature is not supported in Nova version 10.

100 Element Aggregation 100-4 Port Assignment	■ This feature is not supported in Nova version 10.
110 Connectivity 110-5 Connectivity by Ports	■ This feature is not supported in Nova version 10.
120 Spatial Containment	■ This feature is not supported in Nova version 10.
130 Grouping 130-2 Grouping to Systems	■ This feature is not supported in Nova version 10.
300 Type 300-1 Type Geometry 300-2 Type Naming	■ This feature is not supported in Nova version 10. ■ This feature is not supported in Nova version 10.
208 IfcFlowSegment	<i>company statement</i> <i>DuplexHouse_Electrical / 2x3</i>
010 Naming	■ This feature is not supported in Nova version 10.
020 Placement 020-2 Placement Relative	■ This feature is not supported in Nova version 10.
030 Geometry 030-6 Geometry Body 030-6-5 Geometry Explicit 030-6-9 Geometry Mapped	■ This feature is not supported in Nova version 10. ■ This feature is not supported in Nova version 10.
040 Presentation 040-1 Geometric Presentation	■ This feature is not supported in Nova version 10.
100 Element Aggregation 100-4 Port Assignment	■ This feature is not supported in Nova version 10.
110 Connectivity 110-5 Connectivity by Ports	■ This feature is not supported in Nova version 10.
120 Spatial Containment	■ This feature is not supported in Nova version 10.

130 Grouping		
130-2 Grouping to Systems		This feature is not supported in Nova version 10.
300 Type		
300-1 Type Geometry		This feature is not supported in Nova version 10.
300-2 Type Naming		This feature is not supported in Nova version 10.
210 IfcFlowTerminal		<i>company statement</i> <i>DuplexHouse_Electrical / 2x3</i>
010 Naming		Now are the names from the test instruction used.
020 Placement		
020-2 Placement Relative		
030 Geometry		
030-6 Geometry Body		
030-6-5 Geometry Explicit		This feature is not supported in Nova version 10.
030-6-9 Geometry Mapped		This feature is not supported in Nova version 10.
040 Presentation		
040-1 Geometric Presentation		Now are the colors from the test instruction used.
050 CAD Layer		Now are the cad layers from the test instruction used.
100 Element Aggregation		
100-4 Port Assignment		This feature is not supported in Nova version 10.
110 Connectivity		
110-5 Connectivity by Ports		This feature is not supported in Nova version 10.
120 Spatial Containment		
130 Grouping		
130-2 Grouping to Systems		












210 Property Set			
210-1 Property Set IFC Common		This feature is not supported in Nova version 10.	
210-6 Property Set IFC any		This feature is not supported in Nova version 10.	
210-9 Property Set User Defined			
300 Type			
300-1 Type Geometry		This feature is not supported in Nova version 10.	
300-2 Type Naming		This feature is not supported in Nova version 10.	
501 IfcProject		<i>company statement</i>	<i>DuplexHouse_Electrical / 2x3</i>
010 Naming			
503 IfcBuilding		<i>company statement</i>	<i>DuplexHouse_Electrical / 2x3</i>
010 Naming			
504 IfcBuildingStorey		<i>company statement</i>	<i>DuplexHouse_Electrical / 2x3</i>
010 Naming			
020 Placement			
020-2 Placement Relative			
150 Spatial Aggregation			
150-1 Spatial Composition			
507 IfcSystem		<i>company statement</i>	<i>DuplexHouse_Electrical / 2x3</i>
010 Naming		This feature is not supported in Nova version 10.	
130 Grouping			
130-2 Grouping to Systems		This feature is not supported in Nova version 10.	
130-5 Is Group			
General		<i>company statement</i>	<i>DuplexHouse_Electrical / 2x3</i>
_G4 Remarks			

DuplexHouse_Heating / 2x3



204 IfcEnergyConversionDevice	<i>company statement</i>		<i>DuplexHouse_Heating / 2x3</i>
010 Naming	■		
030 Geometry			
030-6 Geometry Body			
030-6-5 Geometry Explicit	■		
030-6-9 Geometry Mapped	■	This feature is not supported in Nova version 10.	
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	■	This feature is not supported in Nova version 10.	
300-5 Type Property Set	■	This feature is not supported in Nova version 10.	
205 IfcFlowController	<i>company statement</i>		<i>DuplexHouse_Heating / 2x3</i>
010 Naming	■		

030 Geometry	
030-6 Geometry Body	
030-6-5 Geometry Explicit	■
030-6-9 Geometry Mapped	■
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	■ This feature is not supported in Nova version 10.
300-5 Type Property Set	■ This feature is not supported in Nova version 10.
206 IfcFlowFitting	<i>company statement</i> <i>DuplexHouse_Heating / 2x3</i>
010 Naming	■
030 Geometry	
030-6 Geometry Body	
030-6-5 Geometry Explicit	■
030-6-9 Geometry Mapped	■
040 Presentation	
040-1 Geometric Presentation	■
100 Element Aggregation	
100-4 Port Assignment	■

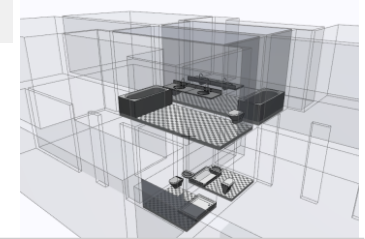
110 Connectivity		
110-5 Connectivity by Ports		
130 Grouping		
130-2 Grouping to Systems		
300 Type		
300-1 Type Geometry		This feature is not supported in Nova version 10.
300-5 Type Property Set		This feature is not supported in Nova version 10.
207 IfcFlowMovingDevice		<i>company statement</i> <i>DuplexHouse_Heating / 2x3</i>
010 Naming		
030 Geometry		
030-6 Geometry Body		
030-6-5 Geometry Explicit		
030-6-9 Geometry Mapped		
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		This feature is not supported in Nova version 10.
300-5 Type Property Set		This feature is not supported in Nova version 10.
208 IfcFlowSegment		<i>company statement</i> <i>DuplexHouse_Heating / 2x3</i>

010 Naming		
030 Geometry		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid		
030-6-5 Geometry Explicit		This feature is not supported in Nova version 10.
030-6-9 Geometry Mapped		This feature is not supported in Nova version 10.
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		This feature is not supported in Nova version 10.
300-5 Type Property Set		This feature is not supported in Nova version 10.
210 IfcFlowTerminal		<i>company statement</i> <i>DuplexHouse_Heating / 2x3</i>
010 Naming		
030 Geometry		
030-6 Geometry Body		
030-6-5 Geometry Explicit		
030-6-9 Geometry Mapped		
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		This feature is not supported in Nova version 10.
300-5 Type Property Set		This feature is not supported in Nova version 10.
General	<i>company statement</i>	
<i>_G4 Remarks</i>		















DuplexHouse_Heating / 2x3

DuplexHouse_Sanitary / 2x3



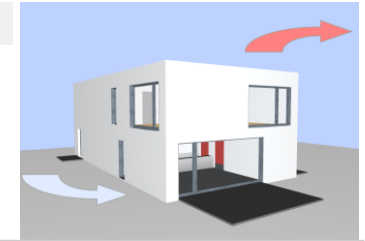
205 IfcFlowController		<i>company statement</i>	<i>DuplexHouse_Sanitary / 2x3</i>
010 Naming	■		
020 Placement			
020-2 Placement Relative	■		
030 Geometry			
030-6 Geometry Body			
030-6-1 Geometry SweptSolid	■		
030-6-5 Geometry Explicit	■		
030-6-9 Geometry Mapped	■		
040 Presentation			
040-1 Geometric 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		<i>company statement</i>	<i>DuplexHouse_Sanitary / 2x3</i>
010 Naming	■		

020 Placement		
020-2 Placement Relative		
030 Geometry		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid		This feature is not supported in Nova version 10.
030-6-5 Geometry Explicit		
030-6-9 Geometry Mapped		
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		<i>company statement</i> <i>DuplexHouse_Sanitary / 2x3</i>
010 Naming		
020 Placement		
020-2 Placement Relative		
030 Geometry		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid		
030-6-5 Geometry Explicit		This feature is not supported in Nova version 10.
030-6-9 Geometry Mapped		This feature is not supported in Nova version 10.




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		
210 IfcFlowTerminal		<i>company statement</i> <i>DuplexHouse_Sanitary / 2x3</i>
010 Naming		
020 Placement		
020-2 Placement Relative		
030 Geometry		
030-6 Geometry Body		
<i>030-6-1 Geometry SweptSolid</i>		
030-6-5 Geometry Explicit		This feature is not supported in Nova version 10.
030-6-9 Geometry Mapped		This feature is not supported in Nova version 10.
040 Presentation		
040-1 Geometric Presentation		
050 CAD Layer		
100 Element Aggregation		
100-4 Port Assignment		
110 Connectivity		
110-5 Connectivity by Ports		















120 Spatial Containment		
130 Grouping		
130-2 Grouping to Systems		
200 Material		
200-1 Single Material		This feature is not supported in Nova version 10.
210 Property Set		
210-6 Property Set IFC any		This feature is not supported in Nova version 10.
210-9 Property Set User Defined		
300 Type		
300-1 Type Geometry		This feature is not supported in Nova version 10.
300-2 Type Naming		This feature is not supported in Nova version 10.
300-3 Type Material		This feature is not supported in Nova version 10.
300-5 Type Property Set		This feature is not supported in Nova version 10.
507 IfcSystem		<i>company statement</i> <i>DuplexHouse_Sanitary / 2x3</i>
010 Naming		
130 Grouping		
130-5 Is Group		
250 System Assignment		
250-2 Services Spatial Element		
General		<i>company statement</i> <i>DuplexHouse_Sanitary / 2x3</i>
_G4 Remarks		

DuplexHouse_Ventilation / 2x3



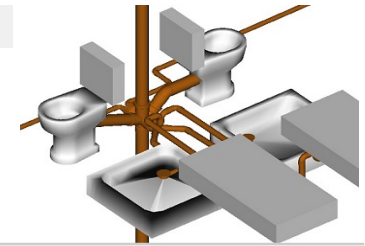
206 IfcFlowFitting	<i>company statement</i>		DuplexHouse_Ventilation / 2x3
010 Naming	■		
020 Placement			
020-2 Placement Relative	■		
030 Geometry			
030-6 Geometry Body			
030-6-1 Geometry SweptSolid	■	This feature is not supported in Nova version 10.	
030-6-5 Geometry Explicit	■		
030-6-9 Geometry Mapped	■		
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	<i>company statement</i>		DuplexHouse_Ventilation / 2x3
010 Naming	■		

020 Placement		
020-2 Placement Relative		
030 Geometry		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid		This feature is not supported in Nova version 10.
030-6-5 Geometry Explicit		
030-6-9 Geometry Mapped		
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		<i>company statement</i> <i>DuplexHouse_Ventilation / 2x3</i>
010 Naming		
020 Placement		
020-2 Placement Relative		
030 Geometry		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid		
030-6-5 Geometry Explicit		This feature is not supported in Nova version 10.
030-6-9 Geometry Mapped		This feature is not supported in Nova version 10.

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		
210 IfcFlowTerminal		<i>company statement</i> <i>DuplexHouse_Ventilation / 2x3</i>
010 Naming		
020 Placement		
020-2 Placement Relative		
030 Geometry		
030-6 Geometry Body		
<i>030-6-1 Geometry SweptSolid</i>		
030-6-5 Geometry Explicit		This feature is not supported in Nova version 10.
030-6-9 Geometry Mapped		This feature is not supported in Nova version 10.
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	■	
507 IfcSystem		<i>company statement</i> <i>DuplexHouse_Ventilation / 2x3</i>
010 Naming	■	
130 Grouping		
130-5 Is Group	■	
250 System Assignment		
250-2 Services Spatial Element	■	
General		<i>company statement</i> <i>DuplexHouse_Ventilation / 2x3</i>
_G4 Remarks	■	

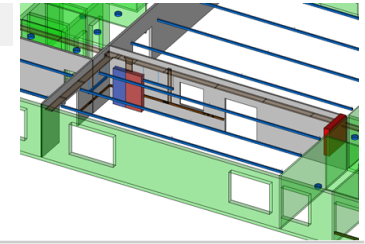
RandomMEP-X1 / 2x3

















206 IfcFlowFitting		company statement	RandomMEP-X1 / 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	■		
040 Presentation			
040-1 Geometric Presentation	■		
050 CAD Layer	■		
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	RandomMEP-X1 / 2x3
010 Naming	■		

020 Placement		
020-2 Placement Relative	■	
030 Geometry		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid	■	
040 Presentation		
040-1 Geometric Presentation	■	
050 CAD Layer	■	
100 Element Aggregation		
100-4 Port Assignment	■	
110 Connectivity		
110-5 Connectivity by Ports	■	
120 Spatial Containment	■	
130 Grouping		
130-2 Grouping to Systems	■	
507 IfcSystem		<i>company statement</i> <i>RandomMEP-X1 / 2x3</i>
010 Naming	■	
130 Grouping		
130-5 Is Group	■	
250 System Assignment		
250-2 Services Spatial Element	■	
General		<i>company statement</i> <i>RandomMEP-X1 / 2x3</i>
_G4 Remarks	■	

RandomMEP-X2 / 2x3



204 IfcEnergyConversionDevice		<i>company statement</i>	<i>RandomMEP-X2 / 2x3</i>
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	■		
100 Element Aggregation			
110 Connectivity			
120 Spatial Containment	■		
130 Grouping			
130-2 Grouping to Systems	■		
210 Property Set			
210-3 Property Set User Defined	■		
205 IfcFlowController		<i>company statement</i>	<i>RandomMEP-X2 / 2x3</i>
010 Naming	■		

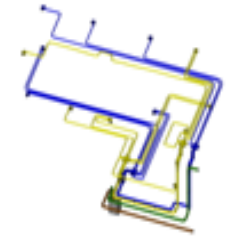
020 Placement		
020-2 Placement Relative		
030 Geometry		
030-6 Geometry Body		
030-6-5 Geometry Explicit		
030-6-9 Geometry Mapped		
040 Presentation		
040-1 Geometric Presentation		
050 CAD Layer		
120 Spatial Containment		
130 Grouping		
130-2 Grouping to Systems		
210 Property Set		
210-3 Property Set User Defined		
206 IfcFlowFitting		<i>company statement</i> <i>RandomMEP-X2 / 2x3</i>
010 Naming		
020 Placement		
020-2 Placement Relative		
030 Geometry		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid		
030-6-5 Geometry Explicit		
030-6-9 Geometry Mapped		
040 Presentation		
040-1 Geometric Presentation		

050 CAD Layer	■		
100 Element Aggregation			
100-4 Port Assignment	■		
110 Connectivity			
110-5 Connectivity by Ports	■		
120 Spatial Containment	■		
130 Grouping			
130-2 Grouping to Systems	■		
210 Property Set			
210-9 Property Set User Defined	■		
208 IfcFlowSegment		<i>company statement</i>	<i>RandomMEP-X2 / 2x3</i>
010 Naming	■		
020 Placement			
020-2 Placement Relative	■		
030 Geometry			
030-6 Geometry Body			
030-6-1 Geometry SweptSolid	■		
040 Presentation			
040-1 Geometric Presentation	■		
050 CAD Layer	■		
100 Element Aggregation			
100-4 Port Assignment	■		
110 Connectivity			
110-5 Connectivity by Ports	■		
120 Spatial Containment	■		















130 Grouping			
130-2 Grouping to Systems		■	
210 Property Set			
210-9 Property Set User Defined		■	
210 IfcFlowTerminal			<i>company statement</i> <i>RandomMEP-X2 / 2x3</i>
010 Naming		■	
020 Placement			
020-2 Placement Relative		■	
030 Geometry			
030-6 Geometry Body			
030-6-1 Geometry SweptSolid		■	
030-6-5 Geometry Explicit		■	
030-6-9 Geometry Mapped		■	
040 Presentation			
040-1 Geometric Presentation		■	
050 CAD Layer		■	
100 Element Aggregation			
100-4 Port Assignment		■	
110 Connectivity			
110-5 Connectivity by Ports		■	
120 Spatial Containment		■	
130 Grouping			
130-2 Grouping to Systems		■	
210 Property Set			
210-9 Property Set User Defined		■	

507 IfcSystem		<i>company statement</i>	<i>RandomMEP-X2 / 2x3</i>
010 Naming	■		
130 Grouping			
130-5 Is Group	■		
250 System Assignment			
250-2 Services Spatial Element	■		
General		<i>company statement</i>	<i>RandomMEP-X2 / 2x3</i>
_G4 Remarks	■		

RandomMEP-X3 / 2x3



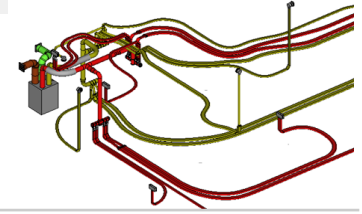
204 IfcEnergyConversionDevice	<i>company statement</i>	<i>RandomMEP-X3 / 2x3</i>
010 Naming	■	
020 Placement 020-2 Placement Relative	■	
030 Geometry 030-6 Geometry Body 030-6-5 Geometry Explicit 030-6-9 Geometry Mapped	■ ■ ■	
040 Presentation 040-1 Geometric Presentation	■	
050 CAD Layer	■	
100 Element Aggregation 100-4 Port Assignment	■	
110 Connectivity 110-5 Connectivity by Ports	■	
120 Spatial Containment	■	
130 Grouping 130-2 Grouping to Systems	■	
210 Property Set 210-3 Property Set User Defined	■	

206 IfcFlowFitting		<i>company statement</i>	<i>RandomMEP-X3 / 2x3</i>
010 Naming			
020 Placement			
020-2 Placement Relative			
030 Geometry			
030-6 Geometry Body			
<i>030-6-1 Geometry SweptSolid</i>			
030-6-5 Geometry Explicit			
030-6-9 Geometry Mapped			
040 Presentation			
040-1 Geometric Presentation			
050 CAD Layer			
100 Element Aggregation			
100-4 Port Assignment			
110 Connectivity			
110-5 Connectivity by Ports			
120 Spatial Containment			
130 Grouping			
130-2 Grouping to Systems			
210 Property Set			
210-9 Property Set User Defined			
208 IfcFlowSegment		<i>company statement</i>	<i>RandomMEP-X3 / 2x3</i>
010 Naming			
020 Placement			
020-2 Placement Relative			














030 Geometry		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid	■	
030-6-5 Geometry Explicit	■	
030-6-9 Geometry Mapped	■	
040 Presentation		
040-1 Geometric Presentation	■	
050 CAD Layer	■	
100 Element Aggregation		
100-4 Port Assignment	■	
110 Connectivity		
110-5 Connectivity by Ports	■	
120 Spatial Containment	■	
130 Grouping		
130-2 Grouping to Systems	■	
210 Property Set		
210-9 Property Set User Defined	■	
210 IfcFlowTerminal		<i>company statement</i> <i>RandomMEP-X3 / 2x3</i>
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	■		
100 Element Aggregation			
100-4 Port Assignment	■		
110 Connectivity			
110-5 Connectivity by Ports	■		
120 Spatial Containment	■		
130 Grouping			
130-2 Grouping to Systems	■		
210 Property Set			
210-9 Property Set User Defined	■		
507 IfcSystem		<i>company statement</i>	<i>RandomMEP-X3 / 2x3</i>
010 Naming	■		
130 Grouping			
130-5 Is Group	■		
250 System Assignment			
250-2 Services Spatial Element	■		
General		<i>company statement</i>	<i>RandomMEP-X3 / 2x3</i>
_G4 Remarks	■		

RandomMEP-X4 / 2x3












204 IfcEnergyConversionDevice	<i>company statement</i>	<i>RandomMEP-X4 / 2x3</i>
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	■	
100 Element Aggregation 100-4 Port Assignment	■	
110 Connectivity 110-5 Connectivity by Ports	■	
120 Spatial Containment	■	
130 Grouping 130-2 Grouping to Systems	■	
210 Property Set 210-3 Property Set User Defined	■	

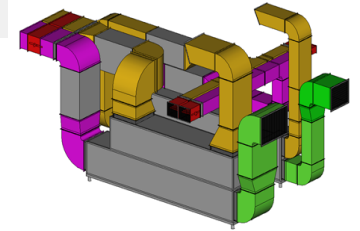
205 IfcFlowController	<i>company statement</i>		<i>RandomMEP-X4 / 2x3</i>
010 Naming			
020 Placement			
020-2 Placement Relative			
030 Geometry			
030-6 Geometry Body			
030-6-5 Geometry Explicit			
030-6-9 Geometry Mapped			
040 Presentation			
040-1 Geometric Presentation			
050 CAD Layer			
100 Element Aggregation			
100-4 Port Assignment			
110 Connectivity			
110-5 Connectivity by Ports			
120 Spatial Containment			
130 Grouping			
130-2 Grouping to Systems			
210 Property Set			
210-3 Property Set User Defined			
206 IfcFlowFitting	<i>company statement</i>		<i>RandomMEP-X4 / 2x3</i>
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	■	
100 Element Aggregation		
100-4 Port Assignment	■	
110 Connectivity		
110-5 Connectivity by Ports	■	
120 Spatial Containment	■	
130 Grouping		
130-2 Grouping to Systems	■	
210 Property Set		
210-9 Property Set User Defined	■	
208 IfcFlowSegment		<i>company statement</i>
		<i>RandomMEP-X4 / 2x3</i>
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	■	
100 Element Aggregation		
100-4 Port Assignment	■	
110 Connectivity		
110-5 Connectivity by Ports	■	
120 Spatial Containment	■	
130 Grouping		
130-2 Grouping to Systems	■	
210 Property Set		
210-9 Property Set User Defined	■	
210 IfcFlowTerminal		<i>company statement</i> <i>RandomMEP-X4 / 2x3</i>
010 Naming	■	
020 Placement		
020-2 Placement Relative	■	
030 Geometry		
030-6 Geometry Body		
030-6-1 Geometry SweptSolid	■	
030-6-5 Geometry Explicit	■	
030-6-9 Geometry Mapped	■	
040 Presentation		
040-1 Geometric Presentation	■	
050 CAD Layer	■	

100 Element Aggregation 100-4 Port Assignment		
110 Connectivity 110-5 Connectivity by Ports		
120 Spatial Containment		
130 Grouping 130-2 Grouping to Systems		
210 Property Set 210-9 Property Set User Defined		
507 IfcSystem		<i>company statement</i> <i>RandomMEP-X4 / 2x3</i>
010 Naming		
130 Grouping 130-5 Is Group		
250 System Assignment 250-2 Services Spatial Element		
General		<i>company statement</i> <i>RandomMEP-X4 / 2x3</i>
_G4 Remarks		

RandomMEP-X5 / 2x3



204 IfcEnergyConversionDevice	<i>company statement</i>	<i>RandomMEP-X5 / 2x3</i>
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	■	
100 Element Aggregation 100-4 Port Assignment	■	
110 Connectivity 110-5 Connectivity by Ports	■	
120 Spatial Containment	■	
130 Grouping 130-2 Grouping to Systems	■	
210 Property Set 210-3 Property Set User Defined	■	

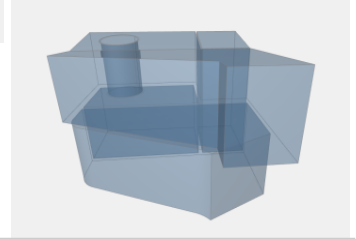
205 IfcFlowController	<i>company statement</i>	<i>RandomMEP-X5 / 2x3</i>
010 Naming		
020 Placement 020-2 Placement Relative		
030 Geometry 030-6 Geometry Body 030-6-5 Geometry Explicit 030-6-9 Geometry Mapped	 	
040 Presentation 040-1 Geometric Presentation		
050 CAD Layer		
100 Element Aggregation 100-4 Port Assignment		
110 Connectivity 110-5 Connectivity by Ports		
120 Spatial Containment		
130 Grouping 130-2 Grouping to Systems		
210 Property Set 210-3 Property Set User Defined		
206 IfcFlowFitting	<i>company statement</i>	<i>RandomMEP-X5 / 2x3</i>
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	■
100 Element Aggregation	
100-4 Port Assignment	■
110 Connectivity	
110-5 Connectivity by Ports	■
120 Spatial Containment	■
130 Grouping	
130-2 Grouping to Systems	■
210 Property Set	
210-9 Property Set User Defined	■
208 IfcFlowSegment	<i>company statement</i>
	<i>RandomMEP-X5 / 2x3</i>
010 Naming	■
020 Placement	
020-2 Placement Relative	■
030 Geometry	
030-6 Geometry Body	
030-6-1 Geometry SweptSolid	■
030-6-5 Geometry Explicit	■
030-6-9 Geometry Mapped	■

040 Presentation		
040-1 Geometric Presentation	■	
050 CAD Layer	■	
100 Element Aggregation		
100-4 Port Assignment	■	
110 Connectivity		
110-5 Connectivity by Ports	■	
120 Spatial Containment	■	
130 Grouping		
130-2 Grouping to Systems	■	
210 Property Set		
210-9 Property Set User Defined	■	
210 IfcFlowTerminal		<i>company statement</i> <i>RandomMEP-X5 / 2x3</i>
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	■	
100 Element Aggregation		
100-4 Port Assignment	■	

110 Connectivity			
110-5 Connectivity by Ports	■		
120 Spatial Containment	■		
130 Grouping			
130-2 Grouping to Systems	■		
210 Property Set			
210-9 Property Set User Defined	■		
General		<i>company statement</i>	<i>RandomMEP-X5 / 2x3</i>
_G4 Remarks	■		

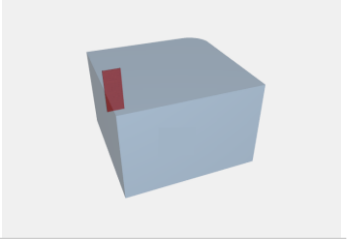
Space_01MEP / 2x3



111 IfcBuildingElementProxy	<i>company statement</i>		<i>Space_01MEP / 2x3</i>
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	■	This feature is not supported in Nova version 10.	
505 IfcSpace	<i>company statement</i>		<i>Space_01MEP / 2x3</i>
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		This feature is not supported in Nova version 10.
General		<i>company statement</i> <i>Space_01MEP / 2x3</i>
_G4 Remarks		

UnitTest-01MEP / 2x3



501 IfcProject	<i>company statement</i>	<i>UnitTest-01MEP / 2x3</i>
005 Project Units		
005-1 Project Metric Units	■	
005-2 Project Imperial Units	■	
General	<i>company statement</i>	<i>UnitTest-01MEP / 2x3</i>
_G4 Remarks	■	