

IFC Release Specific Concept Description (IFC2x3)

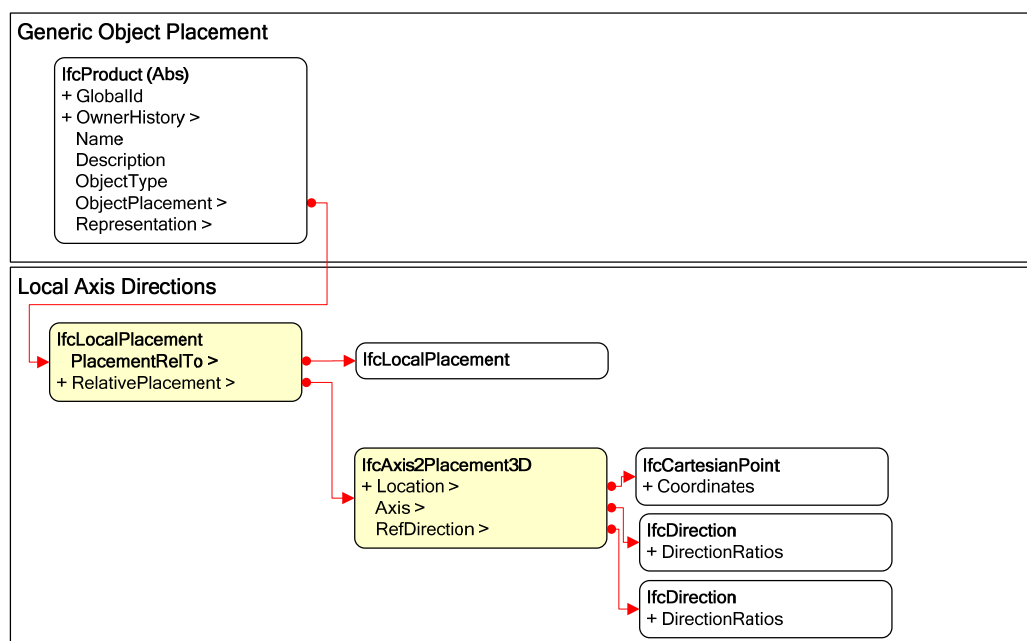
Structural Object Placement

Reference	VBL-202	Version	3	Status	Proposal
Relationships	Implements general concept 'Structural Object Placement'.				
History	Created 23.10.2006, improved 28.9.2007, Name changed, PlacementRelTo added 11.11.2007				
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Usage in view definition diagram



Instantiation diagram



Implementation agreements

IfcLocalPlacement

Attribute	Implementation agreements
PlacementRelTo	The object placement of every structural object in the same structural analysis model must point to the same IfcLocalPlacement. This can be the IfcLocalPlacement of the IfcBuilding or IfcBuildingStorey.
RelativePlacement	N/A

IfcAxis2Placement3D

Attribute	Implementation agreements
Location	Giving Location is mandatory. However usually (0,0,0) coordinates are used.
Dim	N/A
Axis	N/A
RefDirection	N/A
P	N/A

IfcDirection

Attribute	Implementation agreements
DirectionRatios	Must be in three dimensions.
Dim	N/A

Additional information

P21 example

```
#9= IFCCARTESIANPOINT((0.,0.,0.));
#11= IFCDIRECTION((0.,0.,1.));
#13= IFCDIRECTION((1.,0.,0.));
#15= IFCAXIS2PLACEMENT3D(#9,#11,#13);
#41= IFCDIRECTION((0.,0.,1.));
#43= IFCGEOMETRICREPRESENTATIONCONTEXT($,$,3,$,#15,#41);

#89= IFCBUILDING('1qmHF$Bzr2YweDHmcbDum',#28,$,$,$,#90,$,$,.ELEMENT.,$,$,$);
#90= IFCLOCALPLACEMENT(#15,#43);

#246= IFCSTRUCTURALCURVEMEMBER('2Iekk$zf4khCF1qWGDGVP',#28,'1',$,$,#257,#274,.NOTDEFINED.);
#255= IFCCARTESIANPOINT((0.,0.,0.));
#257= IFCLOCALPLACEMENT(#90,#263);
#259= IFCDIRECTION((0.,-1.,0.));
#261= IFCDIRECTION((1.,0.,0.));
#263= IFCAXIS2PLACEMENT3D(#255,#259,#261);
#264= IFCCARTESIANPOINT((6.,0.,0.));
#266= IFCVERTEXPOINT(#264);
#267= IFCCARTESIANPOINT((10.,0.,0.));
#269= IFCVERTEXPOINT(#267);
#369= IFCDIRECTION((0.,0.,1.));
#373= IFCCARTESIANPOINT((8.,0.,0.));
#377= IFCAXIS2PLACEMENT3D(#373,#369,$);
#380= IFCCIRCLE(#377,2.);
#270= IFCEDGE CURVE(#266,#269,#380,.T.);
#271= IFCTOPOLOGYREPRESENTATION(#43,$,'Edge',( #270));
#274= IFCPRODUCTDEFINITIONSHAPE($,$,(#271));
```

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