BIM Guideline

Detailed Exchange Requirements

Project

SeeBridge

for the Project Phase

Inspection & Data Collection

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Project Description:
Automated Compilation of Semantically Rich BIM Models of Bridges – Information Delivery Manual

Exchange Models

P2-EM1 : Exchange Model 1	The As-Built BIM model (EM-1) is imported from the construction stage of the bridge into the BMS and then is verified (task 2.1.1) by the inspector in order to create the 'Pre-Inspection BIM model'(EM-3A). The EM-1 model contains full geometry of all bridge elements with the final As-Built location, alignment, dimensions, material properties, and preferably any data regarding material testing and quality issue tracking and reporting per element to be used during inspection and maintenance design.
P2-EM2 : Exchange Model 2	This model contains a collection of 3D solid objects modeled either as a) solid extrusions or b) boundary representations (BREP). Solid extrusions are preferred wherever possible.
P2-EM3A : Exchange Model 3A	A full semantic building model of the bridge, including objects, properties and relationships.
P2-EM3B : Exchange Model 3B	A full semantic building model of the bridge, including objects, properties and relationships. Note that the geometry is reduced to BREP.
P2-EM4 : Exchange Model 4	Contains the, objects, properties and relationships that represent all of the bridge elements and all of the identified defects.

00 Project

mandatory in Inspection & Data Collection

Object Description	'Project'=Bridge maintenance and/or rehabilitation project. The main parameters are: Type of project (Construction, Maintenance, Rehabilitation, evaluation), Type of Permit needed (Building permit, Traffic arrangement permit, Construction permit, Other authorities permit), List of the structures included in the project, Start day, End day, Contractor, Bridge consultant/designer, Authority department in charge, List of site included in the project.
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Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

01-01 Site

mandatory in Inspection & Data Collection

Object Description	'Site'=A geometrical definition of the site including representative coordinates and a polygon showing the site borders and defining its area. The site definition will include a list of all the structures included in the site (by their names).
IFC4	IfcSite.-

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Location							
- Coordinates N,E,Z	**IFC4 :** Site Attributes from IDM	**MAN**	X	X	X	X	X
- Linear Referencing	**IFC4 :** SeeBridge_Location.LinearReferencing The linear reference location of a bridge will composed of the following fields: Kilometer Referencing and Meter Referencing. The exact location of the structure on the roadway (or ramp) to which it belongs. The distance refers to the coordinate origins of the structure. If an inventory form for the structure exists, the number will be taken from the relevant section in the inventory form of the said structure, and will be written according to the above format.	**MAN**	X	N	X	X	X
- Near street number	**IFC4 :** SeeBridge_Location.NearStreetNumber This item is valid only for urban areas where the road is not a part of the inter-city road network.	**OPT**	?	N	?	?	?
- Road No.	**IFC4 :** SeeBridge_Location.RoadNumber The road (or ramp) number to which the structure belongs will be written in four digits.	**MAN**	X	N	X	X	X
- Street name	**IFC4 :** SeeBridge_Location.StreetName This item is valid only for urban areas where the road is not a part of the inter-city road network.	**OPT**	?	N	?	?	?
Site ID	**IFC4 :** Object User Identity 'Site ID'=is normaly used in cases where more than one structure exist. e.g. Interchange. The Site ID format depends on the DOT. Can be plain text to be filled by the user.	**MAN**	X	X	X	X	X
Spatial Composition	**IFC4 :** Spatial Composition Related to='IfcProject'	**MAN**	X	X	X	X	X

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

02-01 Bridge

mandatory in Inspection & Data Collection

Object Description	'Bridge'=
IFC4	IfcBuilding.-

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Bridge ID	**IFC4 :** Object User Identity 'ROAD-KKK+MMMM-AA/nn- Road Bridge' 'ROAD=Road/ramp no.' 'KKK=Kilometer point on the road' 'MMMM=Meter point' normally 0 to 999 but can be more than 1000m if due to changes in the Km on the road or road changes were done. 'AA=Width identifier' 'nn=Substructure double-digit mark'	**MAN**	X	X	X	X	X
Bridge Type							
- Bridge primary type	**IFC4 :** SeeBridge_BridgeType.BridgePrimaryType Enumerated set	**OPT**	?	?	N	N	N
- Bridge secondary type	**IFC4 :** SeeBridge_BridgeType.BridgeSecondaryType Enumerated set (only for bridges where type is changed between spans)	**OPT**	?	?	N	N	N
General Classification							
- Historic	**IFC4 :** SeeBridge_GeneralClassification.Historic Documentation describing whether the structure has historical value (= 'A structure with historical value') or not (= 'A structure without historical value').	**OPT**	N	N	?	?	?
- Primary classification	**IFC4 :** SeeBridge_GeneralClassification.PrimaryClassification A three digit English letter code, which will be chosen from the primary classification list in the key table in Appendix B of the “Identification, Numbering and Marking of Bridges and Road Structures” procedure. If the primary classification exists in the inventory form of the structure, the code will be taken from the relevant location from the inventory form of the said structure.	**MAN**	N	N	X	X	X

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
- Secondary classification	**IFC4 :** SeeBridge_GeneralClassification.SecondaryClassification A three digit English letter code, which will be chosen from the secondary classification list in the key table in Appendix B of the “Identification, Numbering and Marking of Bridges and Road Structures” procedure. If the secondary classification exists in the inventory form of the structure, the code will be taken from the relevant location from the inventory form of the said structure.	**MAN**	N	N	X	X	X
- Temporary	**IFC4 :** SeeBridge_GeneralClassification.Temporary Documentation describing whether the structure is a temporary structure (= 'A Temporary structure') or not (= 'Not a temporary structure').	**OPT**	N	N	?	?	?
- Toll	**IFC4 :** SeeBridge_GeneralClassification.Toll Documentation describing whether the road is a toll road (= 'yes') or not a toll road (= 'no').	**OPT**	N	N	?	?	?
Identification							
- Mark	**IFC4 :** SeeBridge_Identification.Mark 'ROAD-S-BRG-BNNNNNnn' 'ROAD=Road/ramp No.' 'S=Group classification' 'BRG=Main classification' 'B=Single digit build attribution' 'NNNNN=5 digit number identifier' 'nn=Substructure double-digit mark' The structure (infrastructure) identification mark will be composed of the following fields: Road/ramp No., Group classification, Main classification, Single digit build attribution, 5 digit number identifier, Substructure double-digit mark. The mark will be identical to the infrastructure number with the addition of the road number (in 4 digits).	**OPT**	?	N	?	?	?
- Number	**IFC4 :** SeeBridge_Identification.Number 'S-BRG-BNNNNNnn' 'S=Group classification' 'BRG=Primary classification' 'B=Single digit establishment attribution' 'NNNNN=5 digit number identifier' 'nn=Double digit sub-structure marking'	**MAN**	X	X	X	X	X
- Site ID	**IFC4 :** SeeBridge_Identification.SiteID Related to Site='IfcSite'	**MAN**	X	X	X	X	X
Ownership							
- Owner ID	**IFC4 :** SeeBridge_Ownership.OwnerID	**MAN**	X	N	X	X	X

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
- Owner description	**IFC4 :** SeeBridge_Ownership.OwnerDescription Description of the authority that owns the structure. This information will be chosen from the list documented in "Guide for Documenting Bridges and Road Structures Data".	**MAN**	?	N	?	?	X
- Owner name	**IFC4 :** SeeBridge_Ownership.OwnerName	**MAN**	X	N	X	X	X
- Owner's agent name	**IFC4 :** SeeBridge_Ownership.OwnersAgentName	**OPT**	?	N	?	?	?

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

02-02 Bridge Axis

mandatory in Inspection & Data Collection

Object Description	'Bridge Axis'=
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Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

02-03 Bridge Grid

mandatory in Inspection & Data Collection

Object Description	'Bridge Grid'= A grid is a 2D rectangular or skewed grid that applies to a span (i.e. there is a separate grid for each span). The grids are related to the Span entities by IfcRelContainedInSpatialStructure, between IfcGrid and IfcSpace.
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Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

03-01 Span

mandatory in Inspection & Data Collection

Object Description	'Span'=A section of a bridge between lines of support. The IfcSpace representing the SPAN should be contained in the IfcBuilding representing the bridge (i.e. the ifcBuildingStorey is not needed).
IFC4	IfcSpace.-

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Aggregated geometric properties							
- Deck area	**IFC4 :** SeeBridge_AggregatedGeometricProperties.DeckArea	**MAN**	?	?	?	?	X
- Nominal span length	**IFC4 :** SeeBridge_AggregatedGeometricProperties.NominalSpanLength	**MAN**	X	X	X	X	X
Span ID	**IFC4 :** Object User Identity A unique identification defined for each span in a Bridge (e.g. Span no. 1, Span No. 2 or Span A-B, Span B-C etc.).	**MAN**	X	X	X	X	X
Span type							
- Span technology	**IFC4 :** SeeBridge_SpanType.SpanTechnology Enumerated set	**MAN**	?	?	?	?	X

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

04-01 Drainage

mandatory in Inspection & Data Collection

Object Description	'Drainage'=
IFC4	IfcDistributionSystem.DRAINAGE

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Bridge System ID	**IFC4 :** Object User Identity	**MAN**	?	N	X	X	X
Bridge System Type	**IFC4 :** Object Predefined Type Object Predefined Type='DRAINAGE'	**MAN**	?	N	X	X	X
Identification							
- Description	**IFC4 :** SeeBridge_Identification.Description A short description of the structure, its components and surroundings.	**MAN**	?	N	X	X	?
Performance Indices							
- Availability index	**IFC4 :** SeeBridge_PerformanceIndices.AvailabilityIndex	**OPT**	N	N	N	N	?
- Condition Index	**IFC4 :** SeeBridge_PerformanceIndices.ConditionIndex	**MAN**	N	N	N	N	X
- Load rating Index	**IFC4 :** SeeBridge_PerformanceIndices.LoadRatingIndex	**OPT**	N	N	N	N	?
- Other Index	**IFC4 :** SeeBridge_PerformanceIndices.OtherIndex	**OPT**	N	N	N	N	?
- Reliability Index	**IFC4 :** SeeBridge_PerformanceIndices.ReliabilityIndex	**OPT**	N	N	N	N	?
- Seismic Vulnerability Index	**IFC4 :** SeeBridge_PerformanceIndices.SeismicVulnerabilityIndex	**OPT**	N	N	N	N	?

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

04-02 Lighting

mandatory in Inspection & Data Collection

Object Description	'Lighting'=
IFC4	IfcDistributionSystem.LIGHTING

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Bridge System ID	**IFC4 :** Object User Identity	**MAN**	?	N	X	X	X
Bridge System Type	**IFC4 :** Object Predefined Type Object Predefined Type='LIGHTING'	**MAN**	?	N	X	X	X
Identification							
- Description	**IFC4 :** SeeBridge_Identification.Description A short description of the structure, its components and surroundings.	**MAN**	?	N	X	X	?
Performance Indices							
- Availability index	**IFC4 :** SeeBridge_PerformanceIndices.AvailabilityIndex	**OPT**	N	N	N	N	?
- Condition Index	**IFC4 :** SeeBridge_PerformanceIndices.ConditionIndex	**MAN**	N	N	N	N	X
- Load rating Index	**IFC4 :** SeeBridge_PerformanceIndices.LoadRatingIndex	**OPT**	N	N	N	N	?
- Other Index	**IFC4 :** SeeBridge_PerformanceIndices.OtherIndex	**OPT**	N	N	N	N	?
- Reliability Index	**IFC4 :** SeeBridge_PerformanceIndices.ReliabilityIndex	**OPT**	N	N	N	N	?
- Seismic Vulnerability Index	**IFC4 :** SeeBridge_PerformanceIndices.SeismicVulnerabilityIndex	**OPT**	N	N	N	N	?

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

04-03 Safety

mandatory in Inspection & Data Collection

Object Description	'Safety'=This system contains all of the bridge elements that are part of the safety system.
IFC4	IfcBuildingSystem.USERDEFINED

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Bridge System ID	**IFC4 :** Object User Identity	**MAN**	?	N	X	X	X
Bridge System Type	**IFC4 :** Object Predefined Type Object Predefined Type='USERDEFINED'; Object Type='SAFETY'.	**MAN**	?	N	X	X	X
Identification							
- Description	**IFC4 :** SeeBridge_Identification.Description A short description of the structure, its components and surroundings.	**MAN**	?	N	X	X	?
Performance Indices							
- Availability index	**IFC4 :** SeeBridge_PerformanceIndices.AvailabilityIndex	**OPT**	N	N	N	N	?
- Condition Index	**IFC4 :** SeeBridge_PerformanceIndices.ConditionIndex	**MAN**	N	N	N	N	X
- Load rating Index	**IFC4 :** SeeBridge_PerformanceIndices.LoadRatingIndex	**OPT**	N	N	N	N	?
- Other Index	**IFC4 :** SeeBridge_PerformanceIndices.OtherIndex	**OPT**	N	N	N	N	?
- Reliability Index	**IFC4 :** SeeBridge_PerformanceIndices.ReliabilityIndex	**OPT**	N	N	N	N	?
- Seismic Vulnerability Index	**IFC4 :** SeeBridge_PerformanceIndices.SeismicVulnerabilityIndex	**OPT**	N	N	N	N	?

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

04-04 Signs

mandatory in Inspection & Data Collection

Object Description	'Signs'=
IFC4	IfcBuildingSystem.USERDEFINED

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Bridge System ID	**IFC4 :** Object User Identity	**MAN**	?	N	X	X	X
Bridge System Type	**IFC4 :** Object Predefined Type Object Predefined Type='USERDEFINED'; Object Type='SIGNS'.	**MAN**	?	N	X	X	X
Identification							
- Description	**IFC4 :** SeeBridge_Identification.Description A short description of the structure, its components and surroundings.	**MAN**	?	N	X	X	?
Performance Indices							
- Availability index	**IFC4 :** SeeBridge_PerformanceIndices.AvailabilityIndex	**OPT**	N	N	N	N	?
- Condition Index	**IFC4 :** SeeBridge_PerformanceIndices.ConditionIndex	**MAN**	N	N	N	N	X
- Load rating Index	**IFC4 :** SeeBridge_PerformanceIndices.LoadRatingIndex	**OPT**	N	N	N	N	?
- Other Index	**IFC4 :** SeeBridge_PerformanceIndices.OtherIndex	**OPT**	N	N	N	N	?
- Reliability Index	**IFC4 :** SeeBridge_PerformanceIndices.ReliabilityIndex	**OPT**	N	N	N	N	?
- Seismic Vulnerability Index	**IFC4 :** SeeBridge_PerformanceIndices.SeismicVulnerabilityIndex	**OPT**	N	N	N	N	?

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

04-06 Substructure

mandatory in Inspection & Data Collection

Object Description	'Substructure'=
IFC4	IfcBuildingSystem.USERDEFINED

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Bridge System ID	**IFC4 :** Object User Identity	**MAN**	?	N	X	X	X
Bridge System Type	**IFC4 :** Object Predefined Type Predefined Type='USERDEFINED'; Object Type='SUBSTRUCTURE'	**MAN**	?	N	X	X	X
Identification							
- Description	**IFC4 :** SeeBridge_Identification.Description A short description of the structure, its components and surroundings.	**MAN**	?	N	X	X	?
Performance Indices							
- Availability index	**IFC4 :** SeeBridge_PerformanceIndices.AvailabilityIndex	**OPT**	N	N	N	N	?
- Condition Index	**IFC4 :** SeeBridge_PerformanceIndices.ConditionIndex	**MAN**	N	N	N	N	X
- Load rating Index	**IFC4 :** SeeBridge_PerformanceIndices.LoadRatingIndex	**OPT**	N	N	N	N	?
- Other Index	**IFC4 :** SeeBridge_PerformanceIndices.OtherIndex	**OPT**	N	N	N	N	?
- Reliability Index	**IFC4 :** SeeBridge_PerformanceIndices.ReliabilityIndex	**OPT**	N	N	N	N	?
- Seismic Vulnerability Index	**IFC4 :** SeeBridge_PerformanceIndices.SeismicVulnerabilityIndex	**OPT**	N	N	N	N	?
Spatial Containment	**IFC4 :** Spatial Containment	**MAN**	X	X	X	X	X

Legend: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

04-07 Superstructure

mandatory in Inspection & Data Collection

Object Description	'Superstructure'=
IFC4	IfcBuildingSystem.USERDEFINED

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Bridge System ID	**IFC4 :** Object User Identity	**MAN**	?	N	X	X	X
Bridge System Type	**IFC4 :** Object Predefined Type Predefined Type='USERDEFINED'; Object Type='SUPERSTRUCTURE'	**MAN**	?	N	X	X	X
Identification							
- Description	**IFC4 :** SeeBridge_Identification.Description A short description of the structure, its components and surroundings.	**MAN**	?	N	X	X	?
Performance Indices							
- Availability index	**IFC4 :** SeeBridge_PerformanceIndices.AvailabilityIndex	**OPT**	N	N	N	N	?
- Condition Index	**IFC4 :** SeeBridge_PerformanceIndices.ConditionIndex	**MAN**	N	N	N	N	X
- Load rating Index	**IFC4 :** SeeBridge_PerformanceIndices.LoadRatingIndex	**OPT**	N	N	N	N	?
- Other Index	**IFC4 :** SeeBridge_PerformanceIndices.OtherIndex	**OPT**	N	N	N	N	?
- Reliability Index	**IFC4 :** SeeBridge_PerformanceIndices.ReliabilityIndex	**OPT**	N	N	N	N	?
- Seismic Vulnerability Index	**IFC4 :** SeeBridge_PerformanceIndices.SeismicVulnerabilityIndex	**OPT**	N	N	N	N	?

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

04-08 Traffic

mandatory in Inspection & Data Collection

Object Description	'Trafiic'=
IFC4	IfcBuildingSystem.USERDEFINED

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Bridge System ID	**IFC4 :** Object User Identity	**MAN**	?	N	X	X	X
Bridge System Type	**IFC4 :** Object Predefined Type Predefined Type='USERDEFINED'; Object Type='TRAFFIC'	**MAN**	?	N	X	X	X
Identification							
- Description	**IFC4 :** SeeBridge_Identification.Description A short description of the structure, its components and surroundings.	**MAN**	?	N	X	X	?
Performance Indices							
- Availability index	**IFC4 :** SeeBridge_PerformanceIndices.AvailabilityIndex	**OPT**	N	N	N	N	?
- Condition Index	**IFC4 :** SeeBridge_PerformanceIndices.ConditionIndex	**MAN**	N	N	N	N	X
- Load rating Index	**IFC4 :** SeeBridge_PerformanceIndices.LoadRatingIndex	**OPT**	N	N	N	N	?
- Other Index	**IFC4 :** SeeBridge_PerformanceIndices.OtherIndex	**OPT**	N	N	N	N	?
- Reliability Index	**IFC4 :** SeeBridge_PerformanceIndices.ReliabilityIndex	**OPT**	N	N	N	N	?
- Seismic Vulnerability Index	**IFC4 :** SeeBridge_PerformanceIndices.SeismicVulnerabilityIndex	**OPT**	N	N	N	N	?

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

04-09 Utilities

mandatory in Inspection & Data Collection

Object Description	'Utilities'=
IFC4	IfcBuildingSystem.USERDEFINED

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Bridge System ID	**IFC4 :** Object User Identity	**MAN**	?	N	X	X	X
Bridge System Type	**IFC4 :** Object Predefined Type Predefined Type='USERDEFINED'; Object Type='UTILITIES'	**MAN**	?	N	X	X	X
Identification							
- Description	**IFC4 :** SeeBridge_Identification.Description A short description of the structure, its components and surroundings.	**MAN**	?	N	X	X	?
Performance Indices							
- Availability index	**IFC4 :** SeeBridge_PerformanceIndices.AvailabilityIndex	**OPT**	N	N	N	N	?
- Condition Index	**IFC4 :** SeeBridge_PerformanceIndices.ConditionIndex	**OPT**	N	N	N	N	?
- Load rating Index	**IFC4 :** SeeBridge_PerformanceIndices.LoadRatingIndex	**OPT**	N	N	N	N	?
- Other Index	**IFC4 :** SeeBridge_PerformanceIndices.OtherIndex	**OPT**	N	N	N	N	?
- Reliability Index	**IFC4 :** SeeBridge_PerformanceIndices.ReliabilityIndex	**OPT**	N	N	N	N	?
- Seismic Vulnerability Index	**IFC4 :** SeeBridge_PerformanceIndices.SeismicVulnerabilityIndex	**OPT**	N	N	N	N	?

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

05-01 Cable System

mandatory in Inspection & Data Collection

Object Description	'Cable System'=A cable system supporting the structure aggregated from few single elements as 'Cable Anchor block', 'Cable hanger', 'Main Cable' etc.
IFC4	IfcElementAssembly.USERDEFINED

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Assembly ID	**IFC4 :** Object User Identity	**MAN**	?	N	X	X	X
Assembly Type	**IFC4 :** Object Predefined Type Predefined Type='USERDEFINED'; Object Type='CABLESYSTEM'	**MAN**	?	N	X	X	X
Identification							
- Description	**IFC4 :** SeeBridge_Identification.Description	**MAN**	?	N	X	X	X

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

05-02 Deck System

mandatory in Inspection & Data Collection

Object Description	'Bridge Deck'= Bridge deck system aggregated from few single elements including 'Slab', 'Girder', 'Edge beam' etc.
IFC4	IfcElementAssembly.USERDEFINED

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Assembly ID	**IFC4 :** Object User Identity	**MAN**	?	N	X	X	X
Assembly Type	**IFC4 :** Object Predefined Type Predefined Type='USERDEFINED'; Object Type='DECKSYSTEM'	**MAN**	?	N	X	X	X
Identification							
- Description	**IFC4 :** SeeBridge_Identification.Description	**MAN**	?	N	X	X	X

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

05-03 Operation

mandatory in Inspection & Data Collection

Object Description	'Operation'=
IFC4	IfcElementAssembly.USERDEFINED

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Assembly ID	**IFC4 :** Object User Identity	**MAN**	?	N	X	X	X
Assembly Type	**IFC4 :** Object Predefined Type Predefined Type='USERDEFINED'; Object Type='OPERATION'	**MAN**	?	N	X	X	X
Identification							
- Description	**IFC4 :** SeeBridge_Identification.Description	**MAN**	?	N	X	X	X

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

05-04 Pier Assembly

mandatory in Inspection & Data Collection

Object Description	'Pier Assembly'= A bridge pier aggregated from few single elements as 'Column/Pier', Pile cap', 'Pile', ' 'Cross head/Capping beam', 'Bearing' etc.
IFC4	IfcElementAssembly.USERDEFINED

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Assembly ID	**IFC4 :** Object User Identity	**MAN**	?	N	X	X	X
Assembly Type	**IFC4 :** Object Predefined Type Predefined Type='USERDEFINED'; Object Type='PIERASSEMBLY'	**MAN**	?	N	X	X	X
Identification							
- Description	**IFC4 :** SeeBridge_Identification.Description	**MAN**	?	N	X	X	X

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

05-05 Traffic Seperation

mandatory in Inspection & Data Collection

Object Description	'Traffic Seperation'=
IFC4	IfcElementAssembly.USERDEFINED

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Assembly ID	**IFC4 :** Object User Identity	**MAN**	?	N	X	X	X
Assembly Type	**IFC4 :** Object Predefined Type Predefined Type='USERDEFINED'; Object Type='TRAFFICSEPERATION'	**MAN**	?	N	X	X	X
Identification							
- Description	**IFC4 :** SeeBridge_Identification.Description	**MAN**	?	N	X	X	X

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

06-01 Abutment

mandatory in Inspection & Data Collection

Object Description	'Abutment'=A structure built to support the vertical loads coming from the bridge deck and lateral earth pressure at the ends of a bridge. The abutment shape can vary from bridge to bridge and even between the bridge itself. The main properties connected with bridge maintenance are the abutment surface area and the volume. An Abutment can also be defined as an assembly. The main Abutment properties are: Abutment type (Cast In-Situ concrete Abutment, Precast concrete Abutment, Stub Abutment, Stub Abutment with cantilever Retaining Wall façade, Stub Abutment with Reinforced-Earth Wall façade, Embedded cantilever wall with or without Anchors, other*), Material, Geometry properties (Length, Height, Width).
IFC4	IfcBuildingElementProxy.USERDEFINED

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Aggregation							
- Assembly ID	**IFC4 :** SeeBridge_Aggregation.AssemblyID	**MAN**	?	N	X	X	X
- Bridge System ID	**IFC4 :** SeeBridge_Aggregation.BridgeSystemID Single value – each object can only belong to one system	**MAN**	?	N	X	X	X
- Span ID	**IFC4 :** SeeBridge_Aggregation.SpanID 1:n	**MAN**	?	N	X	X	X
Element ID	**IFC4 :** Object User Identity	**MAN**	X	X	X	X	X
Element Type	**IFC4 :** Object Predefined Type Predefined Type='USERDEFINED'; Object Type='ABUTMENT'	**MAN**	X	X	X	X	X
Geometry							
- Alignment curve/line	**IFC4 :** SeeBridge_Geometry.AlignmentCurveLine	**MAN**	X	X	X	X	X
- BREP shape	**IFC4 :** SeeBridge_Geometry.BREPShape	**MAN**	?	?	?	X	X
- End Cross section ID	**IFC4 :** SeeBridge_Geometry.EndCrossSectionID	**MAN**	X	X	X	X	X
- End Cross section parameters	**IFC4 :** SeeBridge_Geometry.EndCrossSectionParameters	**MAN**	X	X	X	X	X
- End Cross section shape	**IFC4 :** SeeBridge_Geometry.EndCrossSectionShape	**MAN**	X	X	X	X	X
- Start Cross section ID	**IFC4 :** SeeBridge_Geometry.StartCrossSectionID	**MAN**	X	X	X	X	X

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
- Start Cross section parameters	**IFC4 :** SeeBridge_Geometry.StartCrossSectionParameters	**MAN**	X	X	X	X	X
- Start Cross section shape	**IFC4 :** SeeBridge_Geometry.StartCrossSectionShape	**MAN**	X	X	X	X	X
Location							
- Global Coordinates	What is the difference to Coordinates N,E,Z (Northing, Easting, Z-Elevation)?	**MAN**	X	X	X	X	X
- Orientation data	Within the local coordinate system of the Element to which it belongs	**MAN**	X	X	X	X	X
Material(s) data							
- Description	**IFC4 :** SeeBridge_MaterialData.Description	**MAN**	?	?	?	?	X
- Material ID	**IFC4 :** SeeBridge_MaterialData.MaterialID	**MAN**	X	X	X	X	X
Nominal shape data							
- Length	**IFC4 :** SeeBridge_NominalShapeData.Length	**MAN**	X	X	X	X	X
- Volume	**IFC4 :** SeeBridge_NominalShapeData.Volume	**OPT**	?	?	?	?	?

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

06-02 Arch Spring

mandatory in Inspection & Data Collection

Object Description	'Arch springing'= The element supporting the ends of an arch at the connection to the foundation.
IFC4	IfcBuildingElementProxy.USERDEFINED

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Aggregation							
- Assembly ID	**IFC4 :** SeeBridge_Aggregation.AssemblyID	**MAN**	?	N	X	X	X
- Bridge System ID	**IFC4 :** SeeBridge_Aggregation.BridgeSystemID Single value – each object can only belong to one system	**MAN**	?	N	X	X	X
- Span ID	**IFC4 :** SeeBridge_Aggregation.SpanID 1:n	**MAN**	?	N	X	X	X
Element ID	**IFC4 :** Object User Identity	**MAN**	X	X	X	X	X
Element Type	**IFC4 :** Object Predefined Type Predefined Type='USERDEFINED'; Object Type='ARCHSPRING'	**MAN**	X	X	X	X	X
Geometry							
- Alignment curve/line	**IFC4 :** SeeBridge_Geometry.AlignmentCurveLine	**MAN**	X	X	X	X	X
- BREP shape	**IFC4 :** SeeBridge_Geometry.BREPShape	**MAN**	?	?	?	X	X
- End Cross section ID	**IFC4 :** SeeBridge_Geometry.EndCrossSectionID	**MAN**	X	X	X	X	X
- End Cross section parameters	**IFC4 :** SeeBridge_Geometry.EndCrossSectionParameters	**MAN**	X	X	X	X	X
- End Cross section shape	**IFC4 :** SeeBridge_Geometry.EndCrossSectionShape	**MAN**	X	X	X	X	X
- Start Cross section ID	**IFC4 :** SeeBridge_Geometry.StartCrossSectionID	**MAN**	X	X	X	X	X
- Start Cross section parameters	**IFC4 :** SeeBridge_Geometry.StartCrossSectionParameters	**MAN**	X	X	X	X	X

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
- Start Cross section shape	**IFC4 :** SeeBridge_Geometry.StartCrossSectionShape	**MAN**	X	X	X	X	X
Location							
- Global Coordinates	What is the difference to Coordinates N,E,Z (Northing, Easting, Z-Elevation)?	**MAN**	X	X	X	X	X
- Orientation data	Within the local coordinate system of the Element to which it belongs	**MAN**	X	X	X	X	X
Material(s) data							
- Description	**IFC4 :** SeeBridge_MaterialData.Description	**MAN**	?	?	?	?	X
- Material ID	**IFC4 :** SeeBridge_MaterialData.MaterialID	**MAN**	X	X	X	X	X
Nominal shape data							
- Length	**IFC4 :** SeeBridge_NominalShapeData.Length	**MAN**	X	X	X	X	X
- Volume	**IFC4 :** SeeBridge_NominalShapeData.Volume	**OPT**	?	?	?	?	?

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

06-03 Arch Support(Piers)

mandatory in Inspection & Data Collection

Object Description	'Arch supports'= the columns rising from an arch and supporting the bridge deck.
IFC4	IfcColumn.USERDEFINED

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Aggregation							
- Assembly ID	**IFC4 :** SeeBridge_Aggregation.AssemblyID	**MAN**	?	N	X	X	X
- Bridge System ID	**IFC4 :** SeeBridge_Aggregation.BridgeSystemID Single value – each object can only belong to one system	**MAN**	?	N	X	X	X
- Span ID	**IFC4 :** SeeBridge_Aggregation.SpanID 1:n	**MAN**	?	N	X	X	X
Element ID	**IFC4 :** Object User Identity	**MAN**	X	X	X	X	X
Element Type	**IFC4 :** Object Predefined Type Predefined Type='USERDEFINED'; Object Type='ARCHSUPPORT'	**MAN**	X	X	X	X	X
Geometry							
- Alignment curve/line	**IFC4 :** SeeBridge_Geometry.AlignmentCurveLine	**MAN**	X	X	X	X	X
- BREP shape	**IFC4 :** SeeBridge_Geometry.BREPShape	**MAN**	?	?	?	X	X
- End Cross section ID	**IFC4 :** SeeBridge_Geometry.EndCrossSectionID	**MAN**	X	X	X	X	X
- End Cross section parameters	**IFC4 :** SeeBridge_Geometry.EndCrossSectionParameters	**MAN**	X	X	X	X	X
- End Cross section shape	**IFC4 :** SeeBridge_Geometry.EndCrossSectionShape	**MAN**	X	X	X	X	X
- Start Cross section ID	**IFC4 :** SeeBridge_Geometry.StartCrossSectionID	**MAN**	X	X	X	X	X
- Start Cross section parameters	**IFC4 :** SeeBridge_Geometry.StartCrossSectionParameters	**MAN**	X	X	X	X	X

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
- Start Cross section shape	**IFC4 :** SeeBridge_Geometry.StartCrossSectionShape	**MAN**	X	X	X	X	X
Location							
- Global Coordinates	What is the difference to Coordinates N,E,Z (Northing, Easting, Z-Elevation)?	**MAN**	X	X	X	X	X
- Orientation data	Within the local coordinate system of the Element to which it belongs	**MAN**	X	X	X	X	X
Material(s) data							
- Description	**IFC4 :** SeeBridge_MaterialData.Description	**MAN**	?	?	?	?	X
- Material ID	**IFC4 :** SeeBridge_MaterialData.MaterialID	**MAN**	X	X	X	X	X
Nominal shape data							
- Length	**IFC4 :** SeeBridge_NominalShapeData.Length	**MAN**	X	X	X	X	X
- Volume	**IFC4 :** SeeBridge_NominalShapeData.Volume	**OPT**	?	?	?	?	?

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

06-04 Box Element

mandatory in Inspection & Data Collection

Object Description	'Box element'=A bridge deck shaped as box element, e.g. segmental box girder bridge. Object Type = "PrimaryBoxGirder"
IFC4	IfcBeam.USERDEFINED

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Aggregation							
- Assembly ID	**IFC4 :** SeeBridge_Aggregation.AssemblyID	**MAN**	?	N	X	X	X
- Bridge System ID	**IFC4 :** SeeBridge_Aggregation.BridgeSystemID Single value – each object can only belong to one system	**MAN**	?	N	X	X	X
- Span ID	**IFC4 :** SeeBridge_Aggregation.SpanID 1:n	**MAN**	?	N	X	X	X
Element ID	**IFC4 :** Object User Identity	**MAN**	X	X	X	X	X
Element Type	**IFC4 :** Object Predefined Type Predefined Type='USERDEFINED'; Object Type='PRIMARYBOXGIRDER'	**MAN**	X	X	X	X	X
Geometry							
- Alignment curve/line	**IFC4 :** SeeBridge_Geometry.AlignmentCurveLine	**MAN**	X	X	X	X	X
- BREP shape	**IFC4 :** SeeBridge_Geometry.BREPShape	**MAN**	?	?	?	X	X
- End Cross section ID	**IFC4 :** SeeBridge_Geometry.EndCrossSectionID	**MAN**	X	X	X	X	X
- End Cross section parameters	**IFC4 :** SeeBridge_Geometry.EndCrossSectionParameters	**MAN**	X	X	X	X	X
- End Cross section shape	**IFC4 :** SeeBridge_Geometry.EndCrossSectionShape	**MAN**	X	X	X	X	X
- Start Cross section ID	**IFC4 :** SeeBridge_Geometry.StartCrossSectionID	**MAN**	X	X	X	X	X
- Start Cross section parameters	**IFC4 :** SeeBridge_Geometry.StartCrossSectionParameters	**MAN**	X	X	X	X	X

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
- Start Cross section shape	**IFC4 :** SeeBridge_Geometry.StartCrossSectionShape	**MAN**	X	X	X	X	X
Location							
- Global Coordinates	What is the difference to Coordinates N,E,Z (Northing, Easting, Z-Elevation)?	**MAN**	X	X	X	X	X
- Orientation data	Within the local coordinate system of the Element to which it belongs	**MAN**	X	X	X	X	X
Material(s) data							
- Description	**IFC4 :** SeeBridge_MaterialData.Description	**MAN**	?	?	?	?	X
- Material ID	**IFC4 :** SeeBridge_MaterialData.MaterialID	**MAN**	X	X	X	X	X
Nominal shape data							
- Length	**IFC4 :** SeeBridge_NominalShapeData.Length	**MAN**	X	X	X	X	X
- Volume	**IFC4 :** SeeBridge_NominalShapeData.Volume	**OPT**	?	?	?	?	?

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

06-05 Bracing

mandatory in Inspection & Data Collection

Object Description	'Bracing'=A secondary supporting element intended to hold the Primary element and prevent lateral movement or buckling
IFC4	IfcMember.BRACE

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Aggregation							
- Assembly ID	**IFC4 :** SeeBridge_Aggregation.AssemblyID	**MAN**	?	N	X	X	X
- Bridge System ID	**IFC4 :** SeeBridge_Aggregation.BridgeSystemID Single value – each object can only belong to one system	**MAN**	?	N	X	X	X
- Span ID	**IFC4 :** SeeBridge_Aggregation.SpanID 1:n	**MAN**	?	N	X	X	X
Element ID	**IFC4 :** Object User Identity	**MAN**	X	X	X	X	X
Element Type	**IFC4 :** Object Predefined Type Predefined Type='BRACE'	**MAN**	X	X	X	X	X
Geometry							
- Alignment curve/line	**IFC4 :** SeeBridge_Geometry.AlignmentCurveLine	**MAN**	X	X	X	X	X
- BREP shape	**IFC4 :** SeeBridge_Geometry.BREPShape	**MAN**	?	?	?	X	X
- End Cross section ID	**IFC4 :** SeeBridge_Geometry.EndCrossSectionID	**MAN**	X	X	X	X	X
- End Cross section parameters	**IFC4 :** SeeBridge_Geometry.EndCrossSectionParameters	**MAN**	X	X	X	X	X
- End Cross section shape	**IFC4 :** SeeBridge_Geometry.EndCrossSectionShape	**MAN**	X	X	X	X	X
- Start Cross section ID	**IFC4 :** SeeBridge_Geometry.StartCrossSectionID	**MAN**	X	X	X	X	X
- Start Cross section parameters	**IFC4 :** SeeBridge_Geometry.StartCrossSectionParameters	**MAN**	X	X	X	X	X
- Start Cross section shape	**IFC4 :** SeeBridge_Geometry.StartCrossSectionShape	**MAN**	X	X	X	X	X

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Location							
- Global Coordinates	What is the difference to Coordinates N,E,Z (Northing, Easting, Z-Elevation)?	**MAN**	X	X	X	X	X
- Orientation data	Within the local coordinate system of the Element to which it belongs	**MAN**	X	X	X	X	X
Material(s) data							
- Description	**IFC4 :** SeeBridge_MaterialData.Description	**MAN**	?	?	?	?	X
- Material ID	**IFC4 :** SeeBridge_MaterialData.MaterialID	**MAN**	X	X	X	X	X
Nominal shape data							
- Length	**IFC4 :** SeeBridge_NominalShapeData.Length	**MAN**	X	X	X	X	X
- Volume	**IFC4 :** SeeBridge_NominalShapeData.Volume	**OPT**	?	?	?	?	?

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

06-06 Cable Anchor Block

mandatory in Inspection & Data Collection

Object Description	'Cable anchor block'=An element intended to anchor the main cables of a suspension bridge into the abutments or cable chambers.
IFC4	IfcBuildingElementProxy.USERDEFINED

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Aggregation							
- Assembly ID	**IFC4 :** SeeBridge_Aggregation.AssemblyID	**MAN**	?	N	X	X	X
- Bridge System ID	**IFC4 :** SeeBridge_Aggregation.BridgeSystemID Single value – each object can only belong to one system	**MAN**	?	N	X	X	X
- Span ID	**IFC4 :** SeeBridge_Aggregation.SpanID 1:n	**MAN**	?	N	X	X	X
Element ID	**IFC4 :** Object User Identity	**MAN**	X	X	X	X	X
Element Type	**IFC4 :** Object Predefined Type Predefined Type='USERDEFINED'; Object Type='CABLEANCHORBLOCK'	**MAN**	X	X	X	X	X
Geometry							
- Alignment curve/line	**IFC4 :** SeeBridge_Geometry.AlignmentCurveLine	**MAN**	X	X	X	X	X
- BREP shape	**IFC4 :** SeeBridge_Geometry.BREPShape	**MAN**	?	?	?	X	X
- End Cross section ID	**IFC4 :** SeeBridge_Geometry.EndCrossSectionID	**MAN**	X	X	X	X	X
- End Cross section parameters	**IFC4 :** SeeBridge_Geometry.EndCrossSectionParameters	**MAN**	X	X	X	X	X
- End Cross section shape	**IFC4 :** SeeBridge_Geometry.EndCrossSectionShape	**MAN**	X	X	X	X	X
- Start Cross section ID	**IFC4 :** SeeBridge_Geometry.StartCrossSectionID	**MAN**	X	X	X	X	X
- Start Cross section parameters	**IFC4 :** SeeBridge_Geometry.StartCrossSectionParameters	**MAN**	X	X	X	X	X

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
- Start Cross section shape	**IFC4 :** SeeBridge_Geometry.StartCrossSectionShape	**MAN**	X	X	X	X	X
Location							
- Global Coordinates	What is the difference to Coordinates N,E,Z (Northing, Easting, Z-Elevation)?	**MAN**	X	X	X	X	X
- Orientation data	Within the local coordinate system of the Element to which it belongs	**MAN**	X	X	X	X	X
Material(s) data							
- Description	**IFC4 :** SeeBridge_MaterialData.Description	**MAN**	?	?	?	?	X
- Material ID	**IFC4 :** SeeBridge_MaterialData.MaterialID	**MAN**	X	X	X	X	X
Nominal shape data							
- Length	**IFC4 :** SeeBridge_NominalShapeData.Length	**MAN**	X	X	X	X	X
- Volume	**IFC4 :** SeeBridge_NominalShapeData.Volume	**OPT**	?	?	?	?	?

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

06-07 Cable Hangers

mandatory in Inspection & Data Collection

Object Description	'Cable hangers'=The elements connecting the hanging cables into the bridge deck/Main cables.
IFC4	IfcMember.STRINGER

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Aggregation							
- Assembly ID	**IFC4 :** SeeBridge_Aggregation.AssemblyID	**MAN**	?	N	X	X	X
- Bridge System ID	**IFC4 :** SeeBridge_Aggregation.BridgeSystemID Single value – each object can only belong to one system	**MAN**	?	N	X	X	X
- Span ID	**IFC4 :** SeeBridge_Aggregation.SpanID 1:n	**MAN**	?	N	X	X	X
Element ID	**IFC4 :** Object User Identity	**MAN**	X	X	X	X	X
Element Type	**IFC4 :** Object Predefined Type Predefined Type='STRINGER'	**MAN**	X	X	X	X	X
Geometry							
- Alignment curve/line	**IFC4 :** SeeBridge_Geometry.AlignmentCurveLine	**MAN**	X	X	X	X	X
- BREP shape	**IFC4 :** SeeBridge_Geometry.BREPShape	**MAN**	?	?	?	X	X
- End Cross section ID	**IFC4 :** SeeBridge_Geometry.EndCrossSectionID	**MAN**	X	X	X	X	X
- End Cross section parameters	**IFC4 :** SeeBridge_Geometry.EndCrossSectionParameters	**MAN**	X	X	X	X	X
- End Cross section shape	**IFC4 :** SeeBridge_Geometry.EndCrossSectionShape	**MAN**	X	X	X	X	X
- Start Cross section ID	**IFC4 :** SeeBridge_Geometry.StartCrossSectionID	**MAN**	X	X	X	X	X
- Start Cross section parameters	**IFC4 :** SeeBridge_Geometry.StartCrossSectionParameters	**MAN**	X	X	X	X	X
- Start Cross section shape	**IFC4 :** SeeBridge_Geometry.StartCrossSectionShape	**MAN**	X	X	X	X	X

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Location							
- Global Coordinates	What is the difference to Coordinates N,E,Z (Northing, Easting, Z-Elevation)?	**MAN**	X	X	X	X	X
- Orientation data	Within the local coordinate system of the Element to which it belongs	**MAN**	X	X	X	X	X
Material(s) data							
- Description	**IFC4 :** SeeBridge_MaterialData.Description	**MAN**	?	?	?	?	X
- Material ID	**IFC4 :** SeeBridge_MaterialData.MaterialID	**MAN**	X	X	X	X	X
Nominal shape data							
- Length	**IFC4 :** SeeBridge_NominalShapeData.Length	**MAN**	X	X	X	X	X
- Volume	**IFC4 :** SeeBridge_NominalShapeData.Volume	**OPT**	?	?	?	?	?

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

06-08 Cantilever

mandatory in Inspection & Data Collection

Object Description	'Cantilever'=The outer part of the bridge deck slab extending as a cantilever outside of the outer girder.
IFC4	IfcBeam.-

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Aggregation							
- Assembly ID	**IFC4 :** SeeBridge_Aggregation.AssemblyID	**MAN**	?	N	X	X	X
- Bridge System ID	**IFC4 :** SeeBridge_Aggregation.BridgeSystemID Single value – each object can only belong to one system	**MAN**	?	N	X	X	X
- Span ID	**IFC4 :** SeeBridge_Aggregation.SpanID 1:n	**MAN**	?	N	X	X	X
Element ID	**IFC4 :** Object User Identity	**MAN**	X	X	X	X	X
Geometry							
- Alignment curve/line	**IFC4 :** SeeBridge_Geometry.AlignmentCurveLine	**MAN**	X	X	X	X	X
- BREP shape	**IFC4 :** SeeBridge_Geometry.BREPShape	**MAN**	?	?	?	X	X
- End Cross section ID	**IFC4 :** SeeBridge_Geometry.EndCrossSectionID	**MAN**	X	X	X	X	X
- End Cross section parameters	**IFC4 :** SeeBridge_Geometry.EndCrossSectionParameters	**MAN**	X	X	X	X	X
- End Cross section shape	**IFC4 :** SeeBridge_Geometry.EndCrossSectionShape	**MAN**	X	X	X	X	X
- Start Cross section ID	**IFC4 :** SeeBridge_Geometry.StartCrossSectionID	**MAN**	X	X	X	X	X
- Start Cross section parameters	**IFC4 :** SeeBridge_Geometry.StartCrossSectionParameters	**MAN**	X	X	X	X	X
- Start Cross section shape	**IFC4 :** SeeBridge_Geometry.StartCrossSectionShape	**MAN**	X	X	X	X	X
Location							

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
- Global Coordinates	What is the difference to Coordinates N,E,Z (Northing, Easting, Z-Elevation)?	**MAN**	X	X	X	X	X
- Orientation data	Within the local coordinate system of the Element to which it belongs	**MAN**	X	X	X	X	X
Material(s) data							
- Description	**IFC4 :** SeeBridge_MaterialData.Description	**MAN**	?	?	?	?	X
- Material ID	**IFC4 :** SeeBridge_MaterialData.MaterialID	**MAN**	X	X	X	X	X
Nominal shape data							
- Length	**IFC4 :** SeeBridge_NominalShapeData.Length	**MAN**	X	X	X	X	X
- Volume	**IFC4 :** SeeBridge_NominalShapeData.Volume	**OPT**	?	?	?	?	?

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

06-09 Column/Pier

mandatory in Inspection & Data Collection

Object Description	'Column/Pier'=A bridge upright support element for the bridge superstructure.
IFC4	IfcColumn.-

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Aggregation							
- Assembly ID	**IFC4 :** SeeBridge_Aggregation.AssemblyID	**MAN**	?	N	X	X	X
- Bridge System ID	**IFC4 :** SeeBridge_Aggregation.BridgeSystemID Single value – each object can only belong to one system	**MAN**	?	N	X	X	X
- Span ID	**IFC4 :** SeeBridge_Aggregation.SpanID 1:n	**MAN**	?	N	X	X	X
Element ID	**IFC4 :** Object User Identity	**MAN**	X	X	X	X	X
Geometry							
- Alignment curve/line	**IFC4 :** SeeBridge_Geometry.AlignmentCurveLine	**MAN**	X	X	X	X	X
- BREP shape	**IFC4 :** SeeBridge_Geometry.BREPShape	**MAN**	?	?	?	X	X
- End Cross section ID	**IFC4 :** SeeBridge_Geometry.EndCrossSectionID	**MAN**	X	X	X	X	X
- End Cross section parameters	**IFC4 :** SeeBridge_Geometry.EndCrossSectionParameters	**MAN**	X	X	X	X	X
- End Cross section shape	**IFC4 :** SeeBridge_Geometry.EndCrossSectionShape	**MAN**	X	X	X	X	X
- Start Cross section ID	**IFC4 :** SeeBridge_Geometry.StartCrossSectionID	**MAN**	X	X	X	X	X
- Start Cross section parameters	**IFC4 :** SeeBridge_Geometry.StartCrossSectionParameters	**MAN**	X	X	X	X	X
- Start Cross section shape	**IFC4 :** SeeBridge_Geometry.StartCrossSectionShape	**MAN**	X	X	X	X	X
Location							

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
- Global Coordinates	What is the difference to Coordinates N,E,Z (Northing, Easting, Z-Elevation)?	**MAN**	X	X	X	X	X
- Orientation data	Within the local coordinate system of the Element to which it belongs	**MAN**	X	X	X	X	X
Material(s) data							
- Description	**IFC4 :** SeeBridge_MaterialData.Description	**MAN**	?	?	?	?	X
- Material ID	**IFC4 :** SeeBridge_MaterialData.MaterialID	**MAN**	X	X	X	X	X
Nominal shape data							
- Length	**IFC4 :** SeeBridge_NominalShapeData.Length	**MAN**	X	X	X	X	X
- Volume	**IFC4 :** SeeBridge_NominalShapeData.Volume	**OPT**	?	?	?	?	?

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

06-10 Cross Head/Capping Beam

mandatory in Inspection & Data Collection

Object Description	'Cross Head/Capping Beam'=A transverse beam connecting the main bridge columns at a pier supporting line.
IFC4	IfcBeam.-

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Aggregation							
- Assembly ID	**IFC4 :** SeeBridge_Aggregation.AssemblyID	**MAN**	?	N	X	X	X
- Bridge System ID	**IFC4 :** SeeBridge_Aggregation.BridgeSystemID Single value – each object can only belong to one system	**MAN**	?	N	X	X	X
- Span ID	**IFC4 :** SeeBridge_Aggregation.SpanID 1:n	**MAN**	?	N	X	X	X
Element ID	**IFC4 :** Object User Identity	**MAN**	X	X	X	X	X
Geometry							
- Alignment curve/line	**IFC4 :** SeeBridge_Geometry.AlignmentCurveLine	**MAN**	X	X	X	X	X
- BREP shape	**IFC4 :** SeeBridge_Geometry.BREPShape	**MAN**	?	?	?	X	X
- End Cross section ID	**IFC4 :** SeeBridge_Geometry.EndCrossSectionID	**MAN**	X	X	X	X	X
- End Cross section parameters	**IFC4 :** SeeBridge_Geometry.EndCrossSectionParameters	**MAN**	X	X	X	X	X
- End Cross section shape	**IFC4 :** SeeBridge_Geometry.EndCrossSectionShape	**MAN**	X	X	X	X	X
- Start Cross section ID	**IFC4 :** SeeBridge_Geometry.StartCrossSectionID	**MAN**	X	X	X	X	X
- Start Cross section parameters	**IFC4 :** SeeBridge_Geometry.StartCrossSectionParameters	**MAN**	X	X	X	X	X
- Start Cross section shape	**IFC4 :** SeeBridge_Geometry.StartCrossSectionShape	**MAN**	X	X	X	X	X
Location							

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
- Global Coordinates	What is the difference to Coordinates N,E,Z (Northing, Easting, Z-Elevation)?	**MAN**	X	X	X	X	X
- Orientation data	Within the local coordinate system of the Element to which it belongs	**MAN**	X	X	X	X	X
Material(s) data							
- Description	**IFC4 :** SeeBridge_MaterialData.Description	**MAN**	?	?	?	?	X
- Material ID	**IFC4 :** SeeBridge_MaterialData.MaterialID	**MAN**	X	X	X	X	X
Nominal shape data							
- Length	**IFC4 :** SeeBridge_NominalShapeData.Length	**MAN**	X	X	X	X	X
- Volume	**IFC4 :** SeeBridge_NominalShapeData.Volume	**OPT**	?	?	?	?	?

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

06-11 Deck Stiffener

mandatory in Inspection & Data Collection

Object Description	'Deck Stiffener'=A longitudinal stiffener mainly used for stiffening the orthotropic bridge steel deck.
IFC4	IfcMember.STRUT

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Aggregation							
- Assembly ID	**IFC4 :** SeeBridge_Aggregation.AssemblyID	**MAN**	?	N	X	X	X
- Bridge System ID	**IFC4 :** SeeBridge_Aggregation.BridgeSystemID Single value – each object can only belong to one system	**MAN**	?	N	X	X	X
- Span ID	**IFC4 :** SeeBridge_Aggregation.SpanID 1:n	**MAN**	?	N	X	X	X
Element ID	**IFC4 :** Object User Identity	**MAN**	X	X	X	X	X
Element Type	**IFC4 :** Object Predefined Type Object Predefined Type='STRUT'	**MAN**	X	X	X	X	X
Geometry							
- Alignment curve/line	**IFC4 :** SeeBridge_Geometry.AlignmentCurveLine	**MAN**	X	X	X	X	X
- BREP shape	**IFC4 :** SeeBridge_Geometry.BREPShape	**MAN**	?	?	?	X	X
- End Cross section ID	**IFC4 :** SeeBridge_Geometry.EndCrossSectionID	**MAN**	X	X	X	X	X
- End Cross section parameters	**IFC4 :** SeeBridge_Geometry.EndCrossSectionParameters	**MAN**	X	X	X	X	X
- End Cross section shape	**IFC4 :** SeeBridge_Geometry.EndCrossSectionShape	**MAN**	X	X	X	X	X
- Start Cross section ID	**IFC4 :** SeeBridge_Geometry.StartCrossSectionID	**MAN**	X	X	X	X	X
- Start Cross section parameters	**IFC4 :** SeeBridge_Geometry.StartCrossSectionParameters	**MAN**	X	X	X	X	X
- Start Cross section shape	**IFC4 :** SeeBridge_Geometry.StartCrossSectionShape	**MAN**	X	X	X	X	X

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Location							
- Global Coordinates	What is the difference to Coordinates N,E,Z (Northing, Easting, Z-Elevation)?	**MAN**	X	X	X	X	X
- Orientation data	Within the local coordinate system of the Element to which it belongs	**MAN**	X	X	X	X	X
Material(s) data							
- Description	**IFC4 :** SeeBridge_MaterialData.Description	**MAN**	?	?	?	?	X
- Material ID	**IFC4 :** SeeBridge_MaterialData.MaterialID	**MAN**	X	X	X	X	X
Nominal shape data							
- Length	**IFC4 :** SeeBridge_NominalShapeData.Length	**MAN**	X	X	X	X	X
- Volume	**IFC4 :** SeeBridge_NominalShapeData.Volume	**OPT**	?	?	?	?	?

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

06-12 Diaphragm

mandatory in Inspection & Data Collection

Object Description	'Diaphragm'=A member that transfers loads to support and resists lateral forces, mainly used for Box sections bridge superstructure. In large bridges it is common to have openings inside the diaphragm enabling the passage of a person for maintenance.
IFC4	IfcBeam.USERDEFINED

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Aggregation							
- Assembly ID	**IFC4 :** SeeBridge_Aggregation.AssemblyID	**MAN**	?	N	X	X	X
- Bridge System ID	**IFC4 :** SeeBridge_Aggregation.BridgeSystemID Single value – each object can only belong to one system	**MAN**	?	N	X	X	X
- Span ID	**IFC4 :** SeeBridge_Aggregation.SpanID 1:n	**MAN**	?	N	X	X	X
Element ID	**IFC4 :** Object User Identity	**MAN**	X	X	X	X	X
Element Type	**IFC4 :** Object Predefined Type Predefined Type='USERDEFINED'; Object Type='DIAPHRAGM'	**MAN**	X	X	X	X	X
Geometry							
- Alignment curve/line	**IFC4 :** SeeBridge_Geometry.AlignmentCurveLine	**MAN**	X	X	X	X	X
- BREP shape	**IFC4 :** SeeBridge_Geometry.BREPShape	**MAN**	?	?	?	X	X
- End Cross section ID	**IFC4 :** SeeBridge_Geometry.EndCrossSectionID	**MAN**	X	X	X	X	X
- End Cross section parameters	**IFC4 :** SeeBridge_Geometry.EndCrossSectionParameters	**MAN**	X	X	X	X	X
- End Cross section shape	**IFC4 :** SeeBridge_Geometry.EndCrossSectionShape	**MAN**	X	X	X	X	X
- Start Cross section ID	**IFC4 :** SeeBridge_Geometry.StartCrossSectionID	**MAN**	X	X	X	X	X
- Start Cross section parameters	**IFC4 :** SeeBridge_Geometry.StartCrossSectionParameters	**MAN**	X	X	X	X	X

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
- Start Cross section shape	**IFC4 :** SeeBridge_Geometry.StartCrossSectionShape	**MAN**	X	X	X	X	X
Location							
- Global Coordinates	What is the difference to Coordinates N,E,Z (Northing, Easting, Z-Elevation)?	**MAN**	X	X	X	X	X
- Orientation data	Within the local coordinate system of the Element to which it belongs	**MAN**	X	X	X	X	X
Material(s) data							
- Description	**IFC4 :** SeeBridge_MaterialData.Description	**MAN**	?	?	?	?	X
- Material ID	**IFC4 :** SeeBridge_MaterialData.MaterialID	**MAN**	X	X	X	X	X
Nominal shape data							
- Length	**IFC4 :** SeeBridge_NominalShapeData.Length	**MAN**	X	X	X	X	X
- Volume	**IFC4 :** SeeBridge_NominalShapeData.Volume	**OPT**	?	?	?	?	?

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

06-13 Drainage Channel

mandatory in Inspection & Data Collection

Object Description	'Drainage Channel'=Substructure drainage Channel intended to drain the surface area near the bridge or if lower road exists is part of the road drainage system.
IFC4	IfcPipeSegment.GUTTER

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Aggregation							
- Assembly ID	**IFC4 :** SeeBridge_Aggregation.AssemblyID	**MAN**	?	N	X	X	X
- Bridge System ID	**IFC4 :** SeeBridge_Aggregation.BridgeSystemID Single value – each object can only belong to one system	**MAN**	?	N	X	X	X
- Span ID	**IFC4 :** SeeBridge_Aggregation.SpanID 1:n	**MAN**	?	N	X	X	X
Element ID	**IFC4 :** Object User Identity	**MAN**	X	X	X	X	X
Element Type	**IFC4 :** Object Predefined Type Object Predefined Type='GUTTER'	**MAN**	X	X	X	X	X
Geometry							
- Alignment curve/line	**IFC4 :** SeeBridge_Geometry.AlignmentCurveLine	**MAN**	X	X	X	X	X
- BREP shape	**IFC4 :** SeeBridge_Geometry.BREPShape	**MAN**	?	?	?	X	X
- End Cross section ID	**IFC4 :** SeeBridge_Geometry.EndCrossSectionID	**MAN**	X	X	X	X	X
- End Cross section parameters	**IFC4 :** SeeBridge_Geometry.EndCrossSectionParameters	**MAN**	X	X	X	X	X
- End Cross section shape	**IFC4 :** SeeBridge_Geometry.EndCrossSectionShape	**MAN**	X	X	X	X	X
- Start Cross section ID	**IFC4 :** SeeBridge_Geometry.StartCrossSectionID	**MAN**	X	X	X	X	X
- Start Cross section parameters	**IFC4 :** SeeBridge_Geometry.StartCrossSectionParameters	**MAN**	X	X	X	X	X
- Start Cross section shape	**IFC4 :** SeeBridge_Geometry.StartCrossSectionShape	**MAN**	X	X	X	X	X

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Location							
- Global Coordinates	What is the difference to Coordinates N,E,Z (Northing, Easting, Z-Elevation)?	**MAN**	X	X	X	X	X
- Orientation data	Within the local coordinate system of the Element to which it belongs	**MAN**	X	X	X	X	X
Material(s) data							
- Description	**IFC4 :** SeeBridge_MaterialData.Description	**MAN**	?	?	?	?	X
- Material ID	**IFC4 :** SeeBridge_MaterialData.MaterialID	**MAN**	X	X	X	X	X
Nominal shape data							
- Length	**IFC4 :** SeeBridge_NominalShapeData.Length	**MAN**	X	X	X	X	X
- Volume	**IFC4 :** SeeBridge_NominalShapeData.Volume	**OPT**	?	?	?	?	?

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

06-14 Edge Beam

mandatory in Inspection & Data Collection

Object Description	'Edge Beam'=A beam supporting the bridge deck edge.
IFC4	IfcBeam.-

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Aggregation							
- Assembly ID	**IFC4 :** SeeBridge_Aggregation.AssemblyID	**MAN**	?	N	X	X	X
- Bridge System ID	**IFC4 :** SeeBridge_Aggregation.BridgeSystemID Single value – each object can only belong to one system	**MAN**	?	N	X	X	X
- Span ID	**IFC4 :** SeeBridge_Aggregation.SpanID 1:n	**MAN**	?	N	X	X	X
Element ID	**IFC4 :** Object User Identity	**MAN**	X	X	X	X	X
Geometry							
- Alignment curve/line	**IFC4 :** SeeBridge_Geometry.AlignmentCurveLine	**MAN**	X	X	X	X	X
- BREP shape	**IFC4 :** SeeBridge_Geometry.BREPShape	**MAN**	?	?	?	X	X
- End Cross section ID	**IFC4 :** SeeBridge_Geometry.EndCrossSectionID	**MAN**	X	X	X	X	X
- End Cross section parameters	**IFC4 :** SeeBridge_Geometry.EndCrossSectionParameters	**MAN**	X	X	X	X	X
- End Cross section shape	**IFC4 :** SeeBridge_Geometry.EndCrossSectionShape	**MAN**	X	X	X	X	X
- Start Cross section ID	**IFC4 :** SeeBridge_Geometry.StartCrossSectionID	**MAN**	X	X	X	X	X
- Start Cross section parameters	**IFC4 :** SeeBridge_Geometry.StartCrossSectionParameters	**MAN**	X	X	X	X	X
- Start Cross section shape	**IFC4 :** SeeBridge_Geometry.StartCrossSectionShape	**MAN**	X	X	X	X	X
Location							

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
- Global Coordinates	What is the difference to Coordinates N,E,Z (Northing, Easting, Z-Elevation)?	**MAN**	X	X	X	X	X
- Orientation data	Within the local coordinate system of the Element to which it belongs	**MAN**	X	X	X	X	X
Material(s) data							
- Description	**IFC4 :** SeeBridge_MaterialData.Description	**MAN**	?	?	?	?	X
- Material ID	**IFC4 :** SeeBridge_MaterialData.MaterialID	**MAN**	X	X	X	X	X
Nominal shape data							
- Length	**IFC4 :** SeeBridge_NominalShapeData.Length	**MAN**	X	X	X	X	X
- Volume	**IFC4 :** SeeBridge_NominalShapeData.Volume	**OPT**	?	?	?	?	?

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

06-15 End Walls

mandatory in Inspection & Data Collection

Object Description	'End Wall'=The closing wall at the upper back of the bridge Abutment (normally just below the deck expansion joint).
IFC4	IfcWall.-

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Aggregation							
- Assembly ID	**IFC4 :** SeeBridge_Aggregation.AssemblyID	**MAN**	?	N	X	X	X
- Bridge System ID	**IFC4 :** SeeBridge_Aggregation.BridgeSystemID Single value – each object can only belong to one system	**MAN**	?	N	X	X	X
- Span ID	**IFC4 :** SeeBridge_Aggregation.SpanID 1:n	**MAN**	?	N	X	X	X
Element ID	**IFC4 :** Object User Identity	**MAN**	X	X	X	X	X
Geometry							
- Alignment curve/line	**IFC4 :** SeeBridge_Geometry.AlignmentCurveLine	**MAN**	X	X	X	X	X
- BREP shape	**IFC4 :** SeeBridge_Geometry.BREPShape	**MAN**	?	?	?	X	X
- End Cross section ID	**IFC4 :** SeeBridge_Geometry.EndCrossSectionID	**MAN**	X	X	X	X	X
- End Cross section parameters	**IFC4 :** SeeBridge_Geometry.EndCrossSectionParameters	**MAN**	X	X	X	X	X
- End Cross section shape	**IFC4 :** SeeBridge_Geometry.EndCrossSectionShape	**MAN**	X	X	X	X	X
- Start Cross section ID	**IFC4 :** SeeBridge_Geometry.StartCrossSectionID	**MAN**	X	X	X	X	X
- Start Cross section parameters	**IFC4 :** SeeBridge_Geometry.StartCrossSectionParameters	**MAN**	X	X	X	X	X
- Start Cross section shape	**IFC4 :** SeeBridge_Geometry.StartCrossSectionShape	**MAN**	X	X	X	X	X
Location							

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
- Global Coordinates	What is the difference to Coordinates N,E,Z (Northing, Easting, Z-Elevation)?	**MAN**	X	X	X	X	X
- Orientation data	Within the local coordinate system of the Element to which it belongs	**MAN**	X	X	X	X	X
Material(s) data							
- Description	**IFC4 :** SeeBridge_MaterialData.Description	**MAN**	?	?	?	?	X
- Material ID	**IFC4 :** SeeBridge_MaterialData.MaterialID	**MAN**	X	X	X	X	X
Nominal shape data							
- Length	**IFC4 :** SeeBridge_NominalShapeData.Length	**MAN**	X	X	X	X	X
- Volume	**IFC4 :** SeeBridge_NominalShapeData.Volume	**OPT**	?	?	?	?	?

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

06-16 Girder

mandatory in Inspection & Data Collection

Object Description	'Girder'=The main bridge deck girder is transferring the deck load to the supports. Girder type should preferably selected from a predefined list of girder types (e.g. AASHTO 1,2,3,4,5,6, U shape, I shape, Invert T, double T, Invert double T, Hollow Box, Bulb T, Rectangular, Other*), Girder material.
IFC4	IfcBeam.-

Properties

Property Group / Name	Mapping / Description	P2	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
			requirements for the exchange models				
Aggregation							
- Assembly ID	**IFC4 :** SeeBridge_Aggregation.AssemblyID	**MAN**	?	N	X	X	X
- Bridge System ID	**IFC4 :** SeeBridge_Aggregation.BridgeSystemID Single value – each object can only belong to one system	**MAN**	?	N	X	X	X
- Span ID	**IFC4 :** SeeBridge_Aggregation.SpanID 1:n	**MAN**	?	N	X	X	X
Element ID	**IFC4 :** Object User Identity	**MAN**	X	X	X	X	X
Element Type	**IFC4 :** Object Predefined Type Predefined Type='USERDEFINED'; Object Type='PRIMARYGIRDER'	**MAN**	X	X	X	X	X
Geometry							
- Alignment curve/line	**IFC4 :** SeeBridge_Geometry.AlignmentCurveLine	**MAN**	X	X	X	X	X
- BREP shape	**IFC4 :** SeeBridge_Geometry.BREPShape	**MAN**	?	?	?	X	X
- End Cross section ID	**IFC4 :** SeeBridge_Geometry.EndCrossSectionID	**MAN**	X	X	X	X	X
- End Cross section parameters	**IFC4 :** SeeBridge_Geometry.EndCrossSectionParameters	**MAN**	X	X	X	X	X
- End Cross section shape	**IFC4 :** SeeBridge_Geometry.EndCrossSectionShape	**MAN**	X	X	X	X	X
- Start Cross section ID	**IFC4 :** SeeBridge_Geometry.StartCrossSectionID	**MAN**	X	X	X	X	X
- Start Cross section parameters	**IFC4 :** SeeBridge_Geometry.StartCrossSectionParameters	**MAN**	X	X	X	X	X

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
- Start Cross section shape	**IFC4 :** SeeBridge_Geometry.StartCrossSectionShape	**MAN**	X	X	X	X	X
Location							
- Global Coordinates	What is the difference to Coordinates N,E,Z (Northing, Easting, Z-Elevation)?	**MAN**	X	X	X	X	X
- Orientation data	Within the local coordinate system of the Element to which it belongs	**MAN**	X	X	X	X	X
Material(s) data							
- Description	**IFC4 :** SeeBridge_MaterialData.Description	**MAN**	?	?	?	?	X
- Material ID	**IFC4 :** SeeBridge_MaterialData.MaterialID	**MAN**	X	X	X	X	X
Nominal shape data							
- Length	**IFC4 :** SeeBridge_NominalShapeData.Length	**MAN**	X	X	X	X	X
- Volume	**IFC4 :** SeeBridge_NominalShapeData.Volume	**OPT**	?	?	?	?	?

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

06-17 Hand Rail

mandatory in Inspection & Data Collection

Object Description	'Hand Rail'=Safety handrail used at the edge of the bridge deck pedestrian sidewalk or other walkways.
IFC4	IfcRailing.-

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Aggregation							
- Assembly ID	**IFC4 :** SeeBridge_Aggregation.AssemblyID	**MAN**	?	N	X	X	X
- Bridge System ID	**IFC4 :** SeeBridge_Aggregation.BridgeSystemID Single value – each object can only belong to one system	**MAN**	?	N	X	X	X
- Span ID	**IFC4 :** SeeBridge_Aggregation.SpanID 1:n	**MAN**	?	N	X	X	X
Element ID	**IFC4 :** Object User Identity	**MAN**	X	X	X	X	X
Geometry							
- Alignment curve/line	**IFC4 :** SeeBridge_Geometry.AlignmentCurveLine	**MAN**	X	X	X	X	X
- BREP shape	**IFC4 :** SeeBridge_Geometry.BREPShape	**MAN**	?	?	?	X	X
- End Cross section ID	**IFC4 :** SeeBridge_Geometry.EndCrossSectionID	**MAN**	X	X	X	X	X
- End Cross section parameters	**IFC4 :** SeeBridge_Geometry.EndCrossSectionParameters	**MAN**	X	X	X	X	X
- End Cross section shape	**IFC4 :** SeeBridge_Geometry.EndCrossSectionShape	**MAN**	X	X	X	X	X
- Start Cross section ID	**IFC4 :** SeeBridge_Geometry.StartCrossSectionID	**MAN**	X	X	X	X	X
- Start Cross section parameters	**IFC4 :** SeeBridge_Geometry.StartCrossSectionParameters	**MAN**	X	X	X	X	X
- Start Cross section shape	**IFC4 :** SeeBridge_Geometry.StartCrossSectionShape	**MAN**	X	X	X	X	X
Location							

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
- Global Coordinates	What is the difference to Coordinates N,E,Z (Northing, Easting, Z-Elevation)?	**MAN**	X	X	X	X	X
- Orientation data	Within the local coordinate system of the Element to which it belongs	**MAN**	X	X	X	X	X
Material(s) data							
- Description	**IFC4 :** SeeBridge_MaterialData.Description	**MAN**	?	?	?	?	X
- Material ID	**IFC4 :** SeeBridge_MaterialData.MaterialID	**MAN**	X	X	X	X	X
Nominal shape data							
- Length	**IFC4 :** SeeBridge_NominalShapeData.Length	**MAN**	X	X	X	X	X
- Volume	**IFC4 :** SeeBridge_NominalShapeData.Volume	**OPT**	?	?	?	?	?

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

06-18 Hangers

mandatory in Inspection & Data Collection

Object Description	'Hangers'=Special Elements used for supporting the bridge deck by hanging. (Cable hanger is a separate element).
IFC4	IfcMember.STRUT

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Aggregation							
- Assembly ID	**IFC4 :** SeeBridge_Aggregation.AssemblyID	**MAN**	?	N	X	X	X
- Bridge System ID	**IFC4 :** SeeBridge_Aggregation.BridgeSystemID Single value – each object can only belong to one system	**MAN**	?	N	X	X	X
- Span ID	**IFC4 :** SeeBridge_Aggregation.SpanID 1:n	**MAN**	?	N	X	X	X
Element ID	**IFC4 :** Object User Identity	**MAN**	X	X	X	X	X
Element Type	**IFC4 :** Object Predefined Type Object Predefined Type='STRUT'	**MAN**	X	X	X	X	X
Geometry							
- Alignment curve/line	**IFC4 :** SeeBridge_Geometry.AlignmentCurveLine	**MAN**	X	X	X	X	X
- BREP shape	**IFC4 :** SeeBridge_Geometry.BREPShape	**MAN**	?	?	?	X	X
- End Cross section ID	**IFC4 :** SeeBridge_Geometry.EndCrossSectionID	**MAN**	X	X	X	X	X
- End Cross section parameters	**IFC4 :** SeeBridge_Geometry.EndCrossSectionParameters	**MAN**	X	X	X	X	X
- End Cross section shape	**IFC4 :** SeeBridge_Geometry.EndCrossSectionShape	**MAN**	X	X	X	X	X
- Start Cross section ID	**IFC4 :** SeeBridge_Geometry.StartCrossSectionID	**MAN**	X	X	X	X	X
- Start Cross section parameters	**IFC4 :** SeeBridge_Geometry.StartCrossSectionParameters	**MAN**	X	X	X	X	X
- Start Cross section shape	**IFC4 :** SeeBridge_Geometry.StartCrossSectionShape	**MAN**	X	X	X	X	X

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Location							
- Global Coordinates	What is the difference to Coordinates N,E,Z (Northing, Easting, Z-Elevation)?	**MAN**	X	X	X	X	X
- Orientation data	Within the local coordinate system of the Element to which it belongs	**MAN**	X	X	X	X	X
Material(s) data							
- Description	**IFC4 :** SeeBridge_MaterialData.Description	**MAN**	?	?	?	?	X
- Material ID	**IFC4 :** SeeBridge_MaterialData.MaterialID	**MAN**	X	X	X	X	X
Nominal shape data							
- Length	**IFC4 :** SeeBridge_NominalShapeData.Length	**MAN**	X	X	X	X	X
- Volume	**IFC4 :** SeeBridge_NominalShapeData.Volume	**OPT**	?	?	?	?	?

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

06-19 Head Wall

mandatory in Inspection & Data Collection

Object Description	'Head wall'=A wall located at the facade of a buried structure (e.g. underpass or a culvert). The Head wall is connected to the Wing walls and together they form the facade of the structure.
IFC4	IfcWall.-

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Aggregation							
- Assembly ID	**IFC4 :** SeeBridge_Aggregation.AssemblyID	**MAN**	?	N	X	X	X
- Bridge System ID	**IFC4 :** SeeBridge_Aggregation.BridgeSystemID Single value – each object can only belong to one system	**MAN**	?	N	X	X	X
- Span ID	**IFC4 :** SeeBridge_Aggregation.SpanID 1:n	**MAN**	?	N	X	X	X
Element ID	**IFC4 :** Object User Identity	**MAN**	X	X	X	X	X
Geometry							
- Alignment curve/line	**IFC4 :** SeeBridge_Geometry.AlignmentCurveLine	**MAN**	X	X	X	X	X
- BREP shape	**IFC4 :** SeeBridge_Geometry.BREPShape	**MAN**	?	?	?	X	X
- End Cross section ID	**IFC4 :** SeeBridge_Geometry.EndCrossSectionID	**MAN**	X	X	X	X	X
- End Cross section parameters	**IFC4 :** SeeBridge_Geometry.EndCrossSectionParameters	**MAN**	X	X	X	X	X
- End Cross section shape	**IFC4 :** SeeBridge_Geometry.EndCrossSectionShape	**MAN**	X	X	X	X	X
- Start Cross section ID	**IFC4 :** SeeBridge_Geometry.StartCrossSectionID	**MAN**	X	X	X	X	X
- Start Cross section parameters	**IFC4 :** SeeBridge_Geometry.StartCrossSectionParameters	**MAN**	X	X	X	X	X
- Start Cross section shape	**IFC4 :** SeeBridge_Geometry.StartCrossSectionShape	**MAN**	X	X	X	X	X
Location							

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
- Global Coordinates	What is the difference to Coordinates N,E,Z (Northing, Easting, Z-Elevation)?	**MAN**	X	X	X	X	X
- Orientation data	Within the local coordinate system of the Element to which it belongs	**MAN**	X	X	X	X	X
Material(s) data							
- Description	**IFC4 :** SeeBridge_MaterialData.Description	**MAN**	?	?	?	?	X
- Material ID	**IFC4 :** SeeBridge_MaterialData.MaterialID	**MAN**	X	X	X	X	X
Nominal shape data							
- Length	**IFC4 :** SeeBridge_NominalShapeData.Length	**MAN**	X	X	X	X	X
- Volume	**IFC4 :** SeeBridge_NominalShapeData.Volume	**OPT**	?	?	?	?	?

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

06-20 Main Cable

mandatory in Inspection & Data Collection

Object Description	'Main cable'=The main cable in suspension bridges
IFC4	IfcBuildingElementProxy.USERDEFINED

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Aggregation							
- Assembly ID	**IFC4 :** SeeBridge_Aggregation.AssemblyID	**MAN**	?	N	X	X	X
- Bridge System ID	**IFC4 :** SeeBridge_Aggregation.BridgeSystemID Single value – each object can only belong to one system	**MAN**	?	N	X	X	X
- Span ID	**IFC4 :** SeeBridge_Aggregation.SpanID 1:n	**MAN**	?	N	X	X	X
Element ID	**IFC4 :** Object User Identity	**MAN**	X	X	X	X	X
Element Type	**IFC4 :** Object Predefined Type Predefined Type='USERDEFINED'; Object Type='MAINCABLE'	**MAN**	X	X	X	X	X
Geometry							
- Alignment curve/line	**IFC4 :** SeeBridge_Geometry.AlignmentCurveLine	**MAN**	X	X	X	X	X
- BREP shape	**IFC4 :** SeeBridge_Geometry.BREPShape	**MAN**	?	?	?	X	X
- End Cross section ID	**IFC4 :** SeeBridge_Geometry.EndCrossSectionID	**MAN**	X	X	X	X	X
- End Cross section parameters	**IFC4 :** SeeBridge_Geometry.EndCrossSectionParameters	**MAN**	X	X	X	X	X
- End Cross section shape	**IFC4 :** SeeBridge_Geometry.EndCrossSectionShape	**MAN**	X	X	X	X	X
- Start Cross section ID	**IFC4 :** SeeBridge_Geometry.StartCrossSectionID	**MAN**	X	X	X	X	X
- Start Cross section parameters	**IFC4 :** SeeBridge_Geometry.StartCrossSectionParameters	**MAN**	X	X	X	X	X

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
- Start Cross section shape	**IFC4 :** SeeBridge_Geometry.StartCrossSectionShape	**MAN**	X	X	X	X	X
Location							
- Global Coordinates	What is the difference to Coordinates N,E,Z (Northing, Easting, Z-Elevation)?	**MAN**	X	X	X	X	X
- Orientation data	Within the local coordinate system of the Element to which it belongs	**MAN**	X	X	X	X	X
Material(s) data							
- Description	**IFC4 :** SeeBridge_MaterialData.Description	**MAN**	?	?	?	?	X
- Material ID	**IFC4 :** SeeBridge_MaterialData.MaterialID	**MAN**	X	X	X	X	X
Nominal shape data							
- Length	**IFC4 :** SeeBridge_NominalShapeData.Length	**MAN**	X	X	X	X	X
- Volume	**IFC4 :** SeeBridge_NominalShapeData.Volume	**OPT**	?	?	?	?	?

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

06-21 Parapet

mandatory in Inspection & Data Collection

Object Description	This is a concrete railing at the edge of a bridge. In some countries, it is also called an apron.
IFC4	IfcWall.PARAPET

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Aggregation							
- Assembly ID	**IFC4 :** SeeBridge_Aggregation.AssemblyID	**MAN**	?	N	X	X	X
- Bridge System ID	**IFC4 :** SeeBridge_Aggregation.BridgeSystemID Single value – each object can only belong to one system	**MAN**	?	N	X	X	X
- Span ID	**IFC4 :** SeeBridge_Aggregation.SpanID 1:n	**MAN**	?	N	X	X	X
Element ID	**IFC4 :** Object User Identity	**MAN**	X	X	X	X	X
Element Type	**IFC4 :** Object Predefined Type Object Predefined Type='PARAPET'	**MAN**	X	X	X	X	X
Geometry							
- Alignment curve/line	**IFC4 :** SeeBridge_Geometry.AlignmentCurveLine	**MAN**	X	X	X	X	X
- BREP shape	**IFC4 :** SeeBridge_Geometry.BREPShape	**MAN**	?	?	?	X	X
- End Cross section ID	**IFC4 :** SeeBridge_Geometry.EndCrossSectionID	**MAN**	X	X	X	X	X
- End Cross section parameters	**IFC4 :** SeeBridge_Geometry.EndCrossSectionParameters	**MAN**	X	X	X	X	X
- End Cross section shape	**IFC4 :** SeeBridge_Geometry.EndCrossSectionShape	**MAN**	X	X	X	X	X
- Start Cross section ID	**IFC4 :** SeeBridge_Geometry.StartCrossSectionID	**MAN**	X	X	X	X	X
- Start Cross section parameters	**IFC4 :** SeeBridge_Geometry.StartCrossSectionParameters	**MAN**	X	X	X	X	X
- Start Cross section shape	**IFC4 :** SeeBridge_Geometry.StartCrossSectionShape	**MAN**	X	X	X	X	X

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Location							
- Global Coordinates	What is the difference to Coordinates N,E,Z (Northing, Easting, Z-Elevation)?	**MAN**	X	X	X	X	X
- Orientation data	Within the local coordinate system of the Element to which it belongs	**MAN**	X	X	X	X	X
Material(s) data							
- Description	**IFC4 :** SeeBridge_MaterialData.Description	**MAN**	?	?	?	?	X
- Material ID	**IFC4 :** SeeBridge_MaterialData.MaterialID	**MAN**	X	X	X	X	X
Nominal shape data							
- Length	**IFC4 :** SeeBridge_NominalShapeData.Length	**MAN**	X	X	X	X	X
- Volume	**IFC4 :** SeeBridge_NominalShapeData.Volume	**OPT**	?	?	?	?	?

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

06-22 Pile

mandatory in Inspection & Data Collection

Object Description	'Pile'=A deep foundation bearing element. Pile type will be selected from predefined list: CIP Bored pile, Prestressed Concrete hammered pile, Steel profile Hammered pile, Wooden profile hammered pile, Helical pile, Other*. Normally the main data values are length, diameter, Material properties.
IFC4	IfcPile.-

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Aggregation							
- Assembly ID	**IFC4 :** SeeBridge_Aggregation.AssemblyID	**MAN**	?	N	X	X	X
- Bridge System ID	**IFC4 :** SeeBridge_Aggregation.BridgeSystemID Single value – each object can only belong to one system	**MAN**	?	N	X	X	X
- Span ID	**IFC4 :** SeeBridge_Aggregation.SpanID 1:n	**MAN**	?	N	X	X	X
Element ID	**IFC4 :** Object User Identity	**MAN**	X	X	X	X	X
Geometry							
- Alignment curve/line	**IFC4 :** SeeBridge_Geometry.AlignmentCurveLine	**MAN**	X	X	X	X	X
- BREP shape	**IFC4 :** SeeBridge_Geometry.BREPShape	**MAN**	?	?	?	X	X
- End Cross section ID	**IFC4 :** SeeBridge_Geometry.EndCrossSectionID	**MAN**	X	X	X	X	X
- End Cross section parameters	**IFC4 :** SeeBridge_Geometry.EndCrossSectionParameters	**MAN**	X	X	X	X	X
- End Cross section shape	**IFC4 :** SeeBridge_Geometry.EndCrossSectionShape	**MAN**	X	X	X	X	X
- Start Cross section ID	**IFC4 :** SeeBridge_Geometry.StartCrossSectionID	**MAN**	X	X	X	X	X
- Start Cross section parameters	**IFC4 :** SeeBridge_Geometry.StartCrossSectionParameters	**MAN**	X	X	X	X	X
- Start Cross section shape	**IFC4 :** SeeBridge_Geometry.StartCrossSectionShape	**MAN**	X	X	X	X	X
Location							

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
- Global Coordinates	What is the difference to Coordinates N,E,Z (Northing, Easting, Z-Elevation)?	**MAN**	X	X	X	X	X
- Orientation data	Within the local coordinate system of the Element to which it belongs	**MAN**	X	X	X	X	X
Material(s) data							
- Description	**IFC4 :** SeeBridge_MaterialData.Description	**MAN**	?	?	?	?	X
- Material ID	**IFC4 :** SeeBridge_MaterialData.MaterialID	**MAN**	X	X	X	X	X
Nominal shape data							
- Length	**IFC4 :** SeeBridge_NominalShapeData.Length	**MAN**	X	X	X	X	X
- Volume	**IFC4 :** SeeBridge_NominalShapeData.Volume	**OPT**	?	?	?	?	?

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

06-23 Pile Cap

mandatory in Inspection & Data Collection

Object Description	'Pile Cap'=A thick concrete element or wooden/steel element that rests on piles and usually forms a foundation of the bridge. The pile cap distributes the load of the bridge into the piles.
IFC4	IfcFooting.PILE_CAP

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Aggregation							
- Assembly ID	**IFC4 :** SeeBridge_Aggregation.AssemblyID	**MAN**	?	N	X	X	X
- Bridge System ID	**IFC4 :** SeeBridge_Aggregation.BridgeSystemID Single value – each object can only belong to one system	**MAN**	?	N	X	X	X
- Span ID	**IFC4 :** SeeBridge_Aggregation.SpanID 1:n	**MAN**	?	N	X	X	X
Element ID	**IFC4 :** Object User Identity	**MAN**	X	X	X	X	X
Element Type	**IFC4 :** Object Predefined Type Object Predefined Type='PILE_CAP'	**MAN**	X	X	X	X	X
Geometry							
- Alignment curve/line	**IFC4 :** SeeBridge_Geometry.AlignmentCurveLine	**MAN**	X	X	X	X	X
- BREP shape	**IFC4 :** SeeBridge_Geometry.BREPShape	**MAN**	?	?	?	X	X
- End Cross section ID	**IFC4 :** SeeBridge_Geometry.EndCrossSectionID	**MAN**	X	X	X	X	X
- End Cross section parameters	**IFC4 :** SeeBridge_Geometry.EndCrossSectionParameters	**MAN**	X	X	X	X	X
- End Cross section shape	**IFC4 :** SeeBridge_Geometry.EndCrossSectionShape	**MAN**	X	X	X	X	X
- Start Cross section ID	**IFC4 :** SeeBridge_Geometry.StartCrossSectionID	**MAN**	X	X	X	X	X
- Start Cross section parameters	**IFC4 :** SeeBridge_Geometry.StartCrossSectionParameters	**MAN**	X	X	X	X	X
- Start Cross section shape	**IFC4 :** SeeBridge_Geometry.StartCrossSectionShape	**MAN**	X	X	X	X	X

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Location							
- Global Coordinates	What is the difference to Coordinates N,E,Z (Northing, Easting, Z-Elevation)?	**MAN**	X	X	X	X	X
- Orientation data	Within the local coordinate system of the Element to which it belongs	**MAN**	X	X	X	X	X
Material(s) data							
- Description	**IFC4 :** SeeBridge_MaterialData.Description	**MAN**	?	?	?	?	X
- Material ID	**IFC4 :** SeeBridge_MaterialData.MaterialID	**MAN**	X	X	X	X	X
Nominal shape data							
- Length	**IFC4 :** SeeBridge_NominalShapeData.Length	**MAN**	X	X	X	X	X
- Volume	**IFC4 :** SeeBridge_NominalShapeData.Volume	**OPT**	?	?	?	?	?

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

06-24 Pylon

mandatory in Inspection & Data Collection

Object Description	'Pylon'=A bridge main vertical element normally used in cable stayed bridges in order to support the cables system. Main properties are: Geometric properties, Material.
IFC4	IfcColumn.USERDEFINED

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Aggregation							
- Assembly ID	**IFC4 :** SeeBridge_Aggregation.AssemblyID	**MAN**	?	N	X	X	X
- Bridge System ID	**IFC4 :** SeeBridge_Aggregation.BridgeSystemID Single value – each object can only belong to one system	**MAN**	?	N	X	X	X
- Span ID	**IFC4 :** SeeBridge_Aggregation.SpanID 1:n	**MAN**	?	N	X	X	X
Element ID	**IFC4 :** Object User Identity	**MAN**	X	X	X	X	X
Element Type	**IFC4 :** Object Predefined Type Predefined Type='USERDEFINED'; Object Type='PYLON'	**MAN**	X	X	X	X	X
Geometry							
- Alignment curve/line	**IFC4 :** SeeBridge_Geometry.AlignmentCurveLine	**MAN**	X	X	X	X	X
- BREP shape	**IFC4 :** SeeBridge_Geometry.BREPShape	**MAN**	?	?	?	X	X
- End Cross section ID	**IFC4 :** SeeBridge_Geometry.EndCrossSectionID	**MAN**	X	X	X	X	X
- End Cross section parameters	**IFC4 :** SeeBridge_Geometry.EndCrossSectionParameters	**MAN**	X	X	X	X	X
- End Cross section shape	**IFC4 :** SeeBridge_Geometry.EndCrossSectionShape	**MAN**	X	X	X	X	X
- Start Cross section ID	**IFC4 :** SeeBridge_Geometry.StartCrossSectionID	**MAN**	X	X	X	X	X
- Start Cross section parameters	**IFC4 :** SeeBridge_Geometry.StartCrossSectionParameters	**MAN**	X	X	X	X	X

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
- Start Cross section shape	**IFC4 :** SeeBridge_Geometry.StartCrossSectionShape	**MAN**	X	X	X	X	X
Location							
- Global Coordinates	What is the difference to Coordinates N,E,Z (Northing, Easting, Z-Elevation)?	**MAN**	X	X	X	X	X
- Orientation data	Within the local coordinate system of the Element to which it belongs	**MAN**	X	X	X	X	X
Material(s) data							
- Description	**IFC4 :** SeeBridge_MaterialData.Description	**MAN**	?	?	?	?	X
- Material ID	**IFC4 :** SeeBridge_MaterialData.MaterialID	**MAN**	X	X	X	X	X
Nominal shape data							
- Length	**IFC4 :** SeeBridge_NominalShapeData.Length	**MAN**	X	X	X	X	X
- Volume	**IFC4 :** SeeBridge_NominalShapeData.Volume	**OPT**	?	?	?	?	?

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

06-25 Retaining Wall

mandatory in Inspection & Data Collection

Object Description	'Retaining Wall'= A retaining wall element type is selected from predefined list: Gravity Wall, Reinforced Concrete cantilever Wall, Counterfort Retaining Wall, Reinforced Earth Wall, Gabions Wall, Cantilever Embedded Wall, Anchored retaining wall, Rock bolts slope stabilization, modular elements Wall, Other*
IFC4	IfcWall.USERDEFINED

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Aggregation							
- Assembly ID	**IFC4 :** SeeBridge_Aggregation.AssemblyID	**MAN**	?	N	X	X	X
- Bridge System ID	**IFC4 :** SeeBridge_Aggregation.BridgeSystemID Single value – each object can only belong to one system	**MAN**	?	N	X	X	X
- Span ID	**IFC4 :** SeeBridge_Aggregation.SpanID 1:n	**MAN**	?	N	X	X	X
Element ID	**IFC4 :** Object User Identity	**MAN**	X	X	X	X	X
Element Type	**IFC4 :** Object Predefined Type Predefined Type='USERDEFINED', Object Type=Exists (selected from a predefined list)	**MAN**	X	X	X	X	X
Geometry							
- Alignment curve/line	**IFC4 :** SeeBridge_Geometry.AlignmentCurveLine	**MAN**	X	X	X	X	X
- BREP shape	**IFC4 :** SeeBridge_Geometry.BREPShape	**MAN**	?	?	?	X	X
- End Cross section ID	**IFC4 :** SeeBridge_Geometry.EndCrossSectionID	**MAN**	X	X	X	X	X
- End Cross section parameters	**IFC4 :** SeeBridge_Geometry.EndCrossSectionParameters	**MAN**	X	X	X	X	X
- End Cross section shape	**IFC4 :** SeeBridge_Geometry.EndCrossSectionShape	**MAN**	X	X	X	X	X
- Start Cross section ID	**IFC4 :** SeeBridge_Geometry.StartCrossSectionID	**MAN**	X	X	X	X	X
- Start Cross section parameters	**IFC4 :** SeeBridge_Geometry.StartCrossSectionParameters	**MAN**	X	X	X	X	X

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
- Start Cross section shape	**IFC4 :** SeeBridge_Geometry.StartCrossSectionShape	**MAN**	X	X	X	X	X
Location							
- Global Coordinates	What is the difference to Coordinates N,E,Z (Northing, Easting, Z-Elevation)?	**MAN**	X	X	X	X	X
- Orientation data	Within the local coordinate system of the Element to which it belongs	**MAN**	X	X	X	X	X
Material(s) data							
- Description	**IFC4 :** SeeBridge_MaterialData.Description	**MAN**	?	?	?	?	X
- Material ID	**IFC4 :** SeeBridge_MaterialData.MaterialID	**MAN**	X	X	X	X	X
Nominal shape data							
- Length	**IFC4 :** SeeBridge_NominalShapeData.Length	**MAN**	X	X	X	X	X
- Volume	**IFC4 :** SeeBridge_NominalShapeData.Volume	**OPT**	?	?	?	?	?

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

06-26 Rod

mandatory in Inspection & Data Collection

Object Description	'Rod'=An axial stiff member used as hanging/Connecting member. Main properties are: Geometry, Material.
IFC4	IfcMember.USERDEFINED

Properties

Property Group / Name	Mapping / Description	requirements for the exchange models					
		P2	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Aggregation							
- Assembly ID	**IFC4 :** SeeBridge_Aggregation.AssemblyID	**MAN**	?	N	X	X	X
- Bridge System ID	**IFC4 :** SeeBridge_Aggregation.BridgeSystemID Single value – each object can only belong to one system	**MAN**	?	N	X	X	X
- Span ID	**IFC4 :** SeeBridge_Aggregation.SpanID 1:n	**MAN**	?	N	X	X	X
Element ID	**IFC4 :** Object User Identity	**MAN**	X	X	X	X	X
Element Type	**IFC4 :** Object Predefined Type Object Predefined Type='USERDEFINED'; Object Type='ROD'	**MAN**	X	X	X	X	X
Geometry							
- Alignment curve/line	**IFC4 :** SeeBridge_Geometry.AlignmentCurveLine	**MAN**	X	X	X	X	X
- BREP shape	**IFC4 :** SeeBridge_Geometry.BREPShape	**MAN**	?	?	?	X	X
- End Cross section ID	**IFC4 :** SeeBridge_Geometry.EndCrossSectionID	**MAN**	X	X	X	X	X
- End Cross section parameters	**IFC4 :** SeeBridge_Geometry.EndCrossSectionParameters	**MAN**	X	X	X	X	X
- End Cross section shape	**IFC4 :** SeeBridge_Geometry.EndCrossSectionShape	**MAN**	X	X	X	X	X
- Start Cross section ID	**IFC4 :** SeeBridge_Geometry.StartCrossSectionID	**MAN**	X	X	X	X	X
- Start Cross section parameters	**IFC4 :** SeeBridge_Geometry.StartCrossSectionParameters	**MAN**	X	X	X	X	X

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
- Start Cross section shape	**IFC4 :** SeeBridge_Geometry.StartCrossSectionShape	**MAN**	X	X	X	X	X
Location							
- Global Coordinates	What is the difference to Coordinates N,E,Z (Northing, Easting, Z-Elevation)?	**MAN**	X	X	X	X	X
- Orientation data	Within the local coordinate system of the Element to which it belongs	**MAN**	X	X	X	X	X
Material(s) data							
- Description	**IFC4 :** SeeBridge_MaterialData.Description	**MAN**	?	?	?	?	X
- Material ID	**IFC4 :** SeeBridge_MaterialData.MaterialID	**MAN**	X	X	X	X	X
Nominal shape data							
- Length	**IFC4 :** SeeBridge_NominalShapeData.Length	**MAN**	X	X	X	X	X
- Volume	**IFC4 :** SeeBridge_NominalShapeData.Volume	**OPT**	?	?	?	?	?

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

06-27 Safety Barrier

mandatory in Inspection & Data Collection

Object Description	'Safety Barrier'=Safety longitudinal element used for preventing cars from deviating outside of their lanes and/or protect pedestria users.
IFC4	IfcRailing.GUARDRAIL

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Aggregation							
- Assembly ID	**IFC4 :** SeeBridge_Aggregation.AssemblyID	**MAN**	?	N	X	X	X
- Bridge System ID	**IFC4 :** SeeBridge_Aggregation.BridgeSystemID Single value – each object can only belong to one system	**MAN**	?	N	X	X	X
- Span ID	**IFC4 :** SeeBridge_Aggregation.SpanID 1:n	**MAN**	?	N	X	X	X
Element ID	**IFC4 :** Object User Identity	**MAN**	X	X	X	X	X
Element Type	**IFC4 :** Object Predefined Type Predefined Type='GUARDRAIL'	**MAN**	X	X	X	X	X
Geometry							
- Alignment curve/line	**IFC4 :** SeeBridge_Geometry.AlignmentCurveLine	**MAN**	X	X	X	X	X
- BREP shape	**IFC4 :** SeeBridge_Geometry.BREPShape	**MAN**	?	?	?	X	X
- End Cross section ID	**IFC4 :** SeeBridge_Geometry.EndCrossSectionID	**MAN**	X	X	X	X	X
- End Cross section parameters	**IFC4 :** SeeBridge_Geometry.EndCrossSectionParameters	**MAN**	X	X	X	X	X
- End Cross section shape	**IFC4 :** SeeBridge_Geometry.EndCrossSectionShape	**MAN**	X	X	X	X	X
- Start Cross section ID	**IFC4 :** SeeBridge_Geometry.StartCrossSectionID	**MAN**	X	X	X	X	X
- Start Cross section parameters	**IFC4 :** SeeBridge_Geometry.StartCrossSectionParameters	**MAN**	X	X	X	X	X
- Start Cross section shape	**IFC4 :** SeeBridge_Geometry.StartCrossSectionShape	**MAN**	X	X	X	X	X

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Location							
- Global Coordinates	What is the difference to Coordinates N,E,Z (Northing, Easting, Z-Elevation)?	**MAN**	X	X	X	X	X
- Orientation data	Within the local coordinate system of the Element to which it belongs	**MAN**	X	X	X	X	X
Material(s) data							
- Description	**IFC4 :** SeeBridge_MaterialData.Description	**MAN**	?	?	?	?	X
- Material ID	**IFC4 :** SeeBridge_MaterialData.MaterialID	**MAN**	X	X	X	X	X
Nominal shape data							
- Length	**IFC4 :** SeeBridge_NominalShapeData.Length	**MAN**	X	X	X	X	X
- Volume	**IFC4 :** SeeBridge_NominalShapeData.Volume	**OPT**	?	?	?	?	?

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

06-28 Shallow Foundation

mandatory in Inspection & Data Collection

Object Description	'Shallow Foundation'=A footing of bridge pier or abutment. Main properties are: Geometry defined by polygon, Area, perimeter geometry, Thickness, Material.
IFC4	IfcFooting.PAD_FOOTING

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Aggregation							
- Assembly ID	**IFC4 :** SeeBridge_Aggregation.AssemblyID	**MAN**	?	N	X	X	X
- Bridge System ID	**IFC4 :** SeeBridge_Aggregation.BridgeSystemID Single value – each object can only belong to one system	**MAN**	?	N	X	X	X
- Span ID	**IFC4 :** SeeBridge_Aggregation.SpanID 1:n	**MAN**	?	N	X	X	X
Element ID	**IFC4 :** Object User Identity	**MAN**	X	X	X	X	X
Element Type	**IFC4 :** Object Predefined Type Object Predefined Type='PAD_FOOTING'	**MAN**	X	X	X	X	X
Geometry							
- Alignment curve/line	**IFC4 :** SeeBridge_Geometry.AlignmentCurveLine	**MAN**	X	X	X	X	X
- BREP shape	**IFC4 :** SeeBridge_Geometry.BREPShape	**MAN**	?	?	?	X	X
- End Cross section ID	**IFC4 :** SeeBridge_Geometry.EndCrossSectionID	**MAN**	X	X	X	X	X
- End Cross section parameters	**IFC4 :** SeeBridge_Geometry.EndCrossSectionParameters	**MAN**	X	X	X	X	X
- End Cross section shape	**IFC4 :** SeeBridge_Geometry.EndCrossSectionShape	**MAN**	X	X	X	X	X
- Start Cross section ID	**IFC4 :** SeeBridge_Geometry.StartCrossSectionID	**MAN**	X	X	X	X	X
- Start Cross section parameters	**IFC4 :** SeeBridge_Geometry.StartCrossSectionParameters	**MAN**	X	X	X	X	X
- Start Cross section shape	**IFC4 :** SeeBridge_Geometry.StartCrossSectionShape	**MAN**	X	X	X	X	X

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Location							
- Global Coordinates	What is the difference to Coordinates N,E,Z (Northing, Easting, Z-Elevation)?	**MAN**	X	X	X	X	X
- Orientation data	Within the local coordinate system of the Element to which it belongs	**MAN**	X	X	X	X	X
Material(s) data							
- Description	**IFC4 :** SeeBridge_MaterialData.Description	**MAN**	?	?	?	?	X
- Material ID	**IFC4 :** SeeBridge_MaterialData.MaterialID	**MAN**	X	X	X	X	X
Nominal shape data							
- Length	**IFC4 :** SeeBridge_NominalShapeData.Length	**MAN**	X	X	X	X	X
- Volume	**IFC4 :** SeeBridge_NominalShapeData.Volume	**OPT**	?	?	?	?	?

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

06-29 Tie Beam

mandatory in Inspection & Data Collection

Object Description	'Tie Beam'=A secondary beam connecting two main bridge elements.
IFC4	IfcBeam.-

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Aggregation							
- Assembly ID	**IFC4 :** SeeBridge_Aggregation.AssemblyID	**MAN**	?	N	X	X	X
- Bridge System ID	**IFC4 :** SeeBridge_Aggregation.BridgeSystemID Single value – each object can only belong to one system	**MAN**	?	N	X	X	X
- Span ID	**IFC4 :** SeeBridge_Aggregation.SpanID 1:n	**MAN**	?	N	X	X	X
Element ID	**IFC4 :** Object User Identity	**MAN**	X	X	X	X	X
Geometry							
- Alignment curve/line	**IFC4 :** SeeBridge_Geometry.AlignmentCurveLine	**MAN**	X	X	X	X	X
- BREP shape	**IFC4 :** SeeBridge_Geometry.BREPShape	**MAN**	?	?	?	X	X
- End Cross section ID	**IFC4 :** SeeBridge_Geometry.EndCrossSectionID	**MAN**	X	X	X	X	X
- End Cross section parameters	**IFC4 :** SeeBridge_Geometry.EndCrossSectionParameters	**MAN**	X	X	X	X	X
- End Cross section shape	**IFC4 :** SeeBridge_Geometry.EndCrossSectionShape	**MAN**	X	X	X	X	X
- Start Cross section ID	**IFC4 :** SeeBridge_Geometry.StartCrossSectionID	**MAN**	X	X	X	X	X
- Start Cross section parameters	**IFC4 :** SeeBridge_Geometry.StartCrossSectionParameters	**MAN**	X	X	X	X	X
- Start Cross section shape	**IFC4 :** SeeBridge_Geometry.StartCrossSectionShape	**MAN**	X	X	X	X	X
Location							

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
- Global Coordinates	What is the difference to Coordinates N,E,Z (Northing, Easting, Z-Elevation)?	**MAN**	X	X	X	X	X
- Orientation data	Within the local coordinate system of the Element to which it belongs	**MAN**	X	X	X	X	X
Material(s) data							
- Description	**IFC4 :** SeeBridge_MaterialData.Description	**MAN**	?	?	?	?	X
- Material ID	**IFC4 :** SeeBridge_MaterialData.MaterialID	**MAN**	X	X	X	X	X
Nominal shape data							
- Length	**IFC4 :** SeeBridge_NominalShapeData.Length	**MAN**	X	X	X	X	X
- Volume	**IFC4 :** SeeBridge_NominalShapeData.Volume	**OPT**	?	?	?	?	?

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

06-30 Transverse Beam

mandatory in Inspection & Data Collection

Object Description	'Transverse beam'=A beam connecting the bridge main girders in transverse direction.
IFC4	IfcBeam.-

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Aggregation							
- Assembly ID	**IFC4 :** SeeBridge_Aggregation.AssemblyID	**MAN**	?	N	X	X	X
- Bridge System ID	**IFC4 :** SeeBridge_Aggregation.BridgeSystemID Single value – each object can only belong to one system	**MAN**	?	N	X	X	X
- Span ID	**IFC4 :** SeeBridge_Aggregation.SpanID 1:n	**MAN**	?	N	X	X	X
Element ID	**IFC4 :** Object User Identity	**MAN**	X	X	X	X	X
Geometry							
- Alignment curve/line	**IFC4 :** SeeBridge_Geometry.AlignmentCurveLine	**MAN**	X	X	X	X	X
- BREP shape	**IFC4 :** SeeBridge_Geometry.BREPShape	**MAN**	?	?	?	X	X
- End Cross section ID	**IFC4 :** SeeBridge_Geometry.EndCrossSectionID	**MAN**	X	X	X	X	X
- End Cross section parameters	**IFC4 :** SeeBridge_Geometry.EndCrossSectionParameters	**MAN**	X	X	X	X	X
- End Cross section shape	**IFC4 :** SeeBridge_Geometry.EndCrossSectionShape	**MAN**	X	X	X	X	X
- Start Cross section ID	**IFC4 :** SeeBridge_Geometry.StartCrossSectionID	**MAN**	X	X	X	X	X
- Start Cross section parameters	**IFC4 :** SeeBridge_Geometry.StartCrossSectionParameters	**MAN**	X	X	X	X	X
- Start Cross section shape	**IFC4 :** SeeBridge_Geometry.StartCrossSectionShape	**MAN**	X	X	X	X	X
Location							

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
- Global Coordinates	What is the difference to Coordinates N,E,Z (Northing, Easting, Z-Elevation)?	**MAN**	X	X	X	X	X
- Orientation data	Within the local coordinate system of the Element to which it belongs	**MAN**	X	X	X	X	X
Material(s) data							
- Description	**IFC4 :** SeeBridge_MaterialData.Description	**MAN**	?	?	?	?	X
- Material ID	**IFC4 :** SeeBridge_MaterialData.MaterialID	**MAN**	X	X	X	X	X
Nominal shape data							
- Length	**IFC4 :** SeeBridge_NominalShapeData.Length	**MAN**	X	X	X	X	X
- Volume	**IFC4 :** SeeBridge_NominalShapeData.Volume	**OPT**	?	?	?	?	?

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

06-31 Truss

mandatory in Inspection & Data Collection

Object Description	'Truss'=A truss is a main superstructure element assembly in truss bridges measured in meter length. The truss is composed of different truss members (components). The main truss properties are: Truss type (Deck, Half Through, Through), Truss configuration (Pratt, Parker, K-Truss, Howe, Camelback, Warren, Fink, Bowstring, Baltimore, Waddell, Pennsylvania, Lattice, Other*), Material, Geometry properties (Length, Height (depth), Width), Connection types (Bolted, Welded, Riveted, Combined, Other*).
IFC4	IfcElementAssembly.TRUSS

Properties

Property Group / Name	Mapping / Description	P2	requirements for the exchange models P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Aggregation							
- Assembly ID	**IFC4 :** SeeBridge_Aggregation.AssemblyID	**MAN**	?	N	X	X	X
- Bridge System ID	**IFC4 :** SeeBridge_Aggregation.BridgeSystemID Single value – each object can only belong to one system	**MAN**	?	N	X	X	X
- Span ID	**IFC4 :** SeeBridge_Aggregation.SpanID 1:n	**MAN**	?	N	X	X	X
Element ID	**IFC4 :** Object User Identity	**MAN**	X	X	X	X	X
Geometry							
- Alignment curve/line	**IFC4 :** SeeBridge_Geometry.AlignmentCurveLine	**MAN**	X	X	X	X	X
- BREP shape	**IFC4 :** SeeBridge_Geometry.BREPShape	**MAN**	?	?	?	X	X
- End Cross section ID	**IFC4 :** SeeBridge_Geometry.EndCrossSectionID	**MAN**	X	X	X	X	X
- End Cross section parameters	**IFC4 :** SeeBridge_Geometry.EndCrossSectionParameters	**MAN**	X	X	X	X	X
- End Cross section shape	**IFC4 :** SeeBridge_Geometry.EndCrossSectionShape	**MAN**	X	X	X	X	X
- Start Cross section ID	**IFC4 :** SeeBridge_Geometry.StartCrossSectionID	**MAN**	X	X	X	X	X
- Start Cross section parameters	**IFC4 :** SeeBridge_Geometry.StartCrossSectionParameters	**MAN**	X	X	X	X	X
- Start Cross section shape	**IFC4 :** SeeBridge_Geometry.StartCrossSectionShape	**MAN**	X	X	X	X	X

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Location							
- Global Coordinates	What is the difference to Coordinates N,E,Z (Northing, Easting, Z-Elevation)?	**MAN**	X	X	X	X	X
- Orientation data	Within the local coordinate system of the Element to which it belongs	**MAN**	X	X	X	X	X
Material(s) data							
- Description	**IFC4 :** SeeBridge_MaterialData.Description	**MAN**	?	?	?	?	X
- Material ID	**IFC4 :** SeeBridge_MaterialData.MaterialID	**MAN**	X	X	X	X	X
Nominal shape data							
- Length	**IFC4 :** SeeBridge_NominalShapeData.Length	**MAN**	X	X	X	X	X
- Volume	**IFC4 :** SeeBridge_NominalShapeData.Volume	**OPT**	?	?	?	?	?

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

07-01 Bottom Chord(Truss)

mandatory in Inspection & Data Collection

Object Description	'Bottom Chord'=The lower main member in a truss element.
IFC4	IfcMember.CHORD

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Association							
- Element ID	**IFC4 :** SeeBridge_Association.ElementID	**MAN**	X	?	X	X	X
Component ID	**IFC4 :** Object User Identity	**MAN**	X	X	X	X	X
Component Type	**IFC4 :** Object Predefined Type Object Predefined Type=CHORD	**MAN**	X	X	X	X	X
Geometry							
- Alignment curve/line	**IFC4 :** SeeBridge_Geometry.AlignmentCurveLine	**MAN**	X	X	X	X	X
- BREP shape	**IFC4 :** SeeBridge_Geometry.BREPShape	**MAN**	?	?	?	X	X
- Cross section ID	**IFC4 :** SeeBridge_Geometry.CrossSectionID	**MAN**	X	X	X	X	X
- Cross section parameters	**IFC4 :** SeeBridge_Geometry.CrossSectionParameters	**MAN**	X	X	X	X	X
- Cross section shape	**IFC4 :** SeeBridge_Geometry.CrossSectionShape	**MAN**	X	X	X	X	X
Location							
- Local Coordinates		**MAN**	X	X	X	X	X
- Orientation data	Within the local coordinate system of the Element to which it belongs	**MAN**	X	X	X	X	X
Material(s) data							
- Description	**IFC4 :** SeeBridge_MaterialData.Description	**MAN**	?	?	?	?	X
- Material ID	**IFC4 :** SeeBridge_MaterialData.MaterialID	**MAN**	X	?	X	X	X

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

07-02 Stiffener

mandatory in Inspection & Data Collection

Object Description	'Stiffener'=A member intended to connect the Truss element to another rigid element and prevent its chord buckling or sway.
IFC4	IfcMember.STRUT

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Association							
- Element ID	**IFC4 :** SeeBridge_Association.ElementID	**MAN**	X	?	X	X	X
Component ID	**IFC4 :** Object User Identity	**MAN**	X	X	X	X	X
Component Type	**IFC4 :** Object Predefined Type Object Predefined Type='STRUT'	**MAN**	X	X	X	X	X
Geometry							
- Alignment curve/line	**IFC4 :** SeeBridge_Geometry.AlignmentCurveLine	**MAN**	X	X	X	X	X
- BREP shape	**IFC4 :** SeeBridge_Geometry.BREPShape	**MAN**	?	?	?	X	X
- Cross section ID	**IFC4 :** SeeBridge_Geometry.CrossSectionID	**MAN**	X	X	X	X	X
- Cross section parameters	**IFC4 :** SeeBridge_Geometry.CrossSectionParameters	**MAN**	X	X	X	X	X
- Cross section shape	**IFC4 :** SeeBridge_Geometry.CrossSectionShape	**MAN**	X	X	X	X	X
Location							
- Local Coordinates		**MAN**	X	X	X	X	X
- Orientation data	Within the local coordinate system of the Element to which it belongs	**MAN**	X	X	X	X	X
Material(s) data							
- Description	**IFC4 :** SeeBridge_MaterialData.Description	**MAN**	?	?	?	?	X
- Material ID	**IFC4 :** SeeBridge_MaterialData.MaterialID	**MAN**	X	?	X	X	X

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

07-03 Top Chord(Truss)

mandatory in Inspection & Data Collection

Object Description	'Upper Chord'=The upper main member in a truss element.
IFC4	IfcMember.CHORD

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Association							
- Element ID	**IFC4 :** SeeBridge_Association.ElementID	**MAN**	X	?	X	X	X
Component ID	**IFC4 :** Object User Identity	**MAN**	X	X	X	X	X
Component Type	**IFC4 :** Object Predefined Type Object Predefined Type='CHORD'	**MAN**	X	X	X	X	X
Geometry							
- Alignment curve/line	**IFC4 :** SeeBridge_Geometry.AlignmentCurveLine	**MAN**	X	X	X	X	X
- BREP shape	**IFC4 :** SeeBridge_Geometry.BREPShape	**MAN**	?	?	?	X	X
- Cross section ID	**IFC4 :** SeeBridge_Geometry.CrossSectionID	**MAN**	X	X	X	X	X
- Cross section parameters	**IFC4 :** SeeBridge_Geometry.CrossSectionParameters	**MAN**	X	X	X	X	X
- Cross section shape	**IFC4 :** SeeBridge_Geometry.CrossSectionShape	**MAN**	X	X	X	X	X
Location							
- Local Coordinates		**MAN**	X	X	X	X	X
- Orientation data	Within the local coordinate system of the Element to which it belongs	**MAN**	X	X	X	X	X
Material(s) data							
- Description	**IFC4 :** SeeBridge_MaterialData.Description	**MAN**	?	?	?	?	X
- Material ID	**IFC4 :** SeeBridge_MaterialData.MaterialID	**MAN**	X	?	X	X	X

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

07-05 Truss Connection

mandatory in Inspection & Data Collection

Object Description	'Truss Connection'=A fastener connecting two members of a truss . Connection types are (Bolted, Welded, Riveted, Combined, Other*).
IFC4	IfcMechanicalFastener.USERDEFINED

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Association							
- Element ID	**IFC4 :** SeeBridge_Association.ElementID	**MAN**	X	?	X	X	X
Component ID	**IFC4 :** Object User Identity	**MAN**	X	X	X	X	X
Component Type	**IFC4 :** Object Predefined Type Object Predefined Type='USERDEFINED'; Object Type='TRUSSCONNECTION'	**MAN**	X	X	X	X	X
Geometry							
- Alignment curve/line	**IFC4 :** SeeBridge_Geometry.AlignmentCurveLine	**MAN**	X	X	X	X	X
- BREP shape	**IFC4 :** SeeBridge_Geometry.BREPShape	**MAN**	?	?	?	X	X
- Cross section ID	**IFC4 :** SeeBridge_Geometry.CrossSectionID	**MAN**	X	X	X	X	X
- Cross section parameters	**IFC4 :** SeeBridge_Geometry.CrossSectionParameters	**MAN**	X	X	X	X	X
- Cross section shape	**IFC4 :** SeeBridge_Geometry.CrossSectionShape	**MAN**	X	X	X	X	X
Location							
- Local Coordinates		**MAN**	X	X	X	X	X
- Orientation data	Within the local coordinate system of the Element to which it belongs	**MAN**	X	X	X	X	X
Material(s) data							
- Description	**IFC4 :** SeeBridge_MaterialData.Description	**MAN**	?	?	?	?	X

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
- Material ID	**IFC4 :** SeeBridge_MaterialData.MaterialID	**MAN**	X	?	X	X	X

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

07-06 Truss Member

mandatory in Inspection & Data Collection

Object Description	'Truss Member'=A member connected to the Upper and Lower truss chords or other truss members by truss connection.
IFC4	IfcMember.MEMBER

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Association							
- Element ID	**IFC4 :** SeeBridge_Association.ElementID	**MAN**	X	?	X	X	X
Component ID	**IFC4 :** Object User Identity	**MAN**	X	X	X	X	X
Component Type	**IFC4 :** Object Predefined Type Object Predefined Type='MEMBER'	**MAN**	X	X	X	X	X
Geometry							
- Alignment curve/line	**IFC4 :** SeeBridge_Geometry.AlignmentCurveLine	**MAN**	X	X	X	X	X
- BREP shape	**IFC4 :** SeeBridge_Geometry.BREPShape	**MAN**	?	?	?	X	X
- Cross section ID	**IFC4 :** SeeBridge_Geometry.CrossSectionID	**MAN**	X	X	X	X	X
- Cross section parameters	**IFC4 :** SeeBridge_Geometry.CrossSectionParameters	**MAN**	X	X	X	X	X
- Cross section shape	**IFC4 :** SeeBridge_Geometry.CrossSectionShape	**MAN**	X	X	X	X	X
Location							
- Local Coordinates		**MAN**	X	X	X	X	X
- Orientation data	Within the local coordinate system of the Element to which it belongs	**MAN**	X	X	X	X	X
Material(s) data							
- Description	**IFC4 :** SeeBridge_MaterialData.Description	**MAN**	?	?	?	?	X
- Material ID	**IFC4 :** SeeBridge_MaterialData.MaterialID	**MAN**	X	?	X	X	X

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

08-01 Bearing Connection

mandatory in Inspection & Data Collection

Object Description	'Bearing Connection'=
IFC4	IfcElementAssembly.USERDEFINED

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Connection Assembly ID	**IFC4 :** Object User Identity Applies across the bridge section, not only one girder/beam	**MAN**	X	?	X	X	X
Connection Assembly Type	**IFC4 :** Object Predefined Type Object Predefined Type='USERDEFINED'; Object Type='BEARINGCONNECTION'	**MAN**	X	?	X	X	X
Connection relationship							
- Joins Element IDs	**IFC4 :** SeeBridge_ConnectionRelationship.JointElementID 1:n	**MAN**	X	?	X	X	X
Geometry							
- Half-joint width	**IFC4 :** SeeBridge_Geometry.HalfJointWidth	**MAN**	X	?	X	X	X
- Nominal gap width	**IFC4 :** SeeBridge_Geometry.NominalGapWidth	**MAN**	X	?	X	X	X
Type							
- Connection Type	**IFC4 :** SeeBridge_Type.ConnectionType	**MAN**	X	?	X	X	X

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

08-02 Expansion Joint

mandatory in Inspection & Data Collection

Object Description	'Expansion Joint'=
IFC4	IfcElementAssembly.USERDEFINED

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Connection Assembly ID	**IFC4 :** Object User Identity Applies across the bridge section, not only one girder/beam	**MAN**	X	?	X	X	X
Connection Assembly Type	**IFC4 :** Object Predefined Type Object Predefined Type='USERDEFINED'; Object Type='EXPANSIONJOINT'	**MAN**	X	?	X	X	X
Connection relationship							
- Joins Element IDs	**IFC4 :** SeeBridge_ConnectionRelationship.JointElementID 1:n	**MAN**	X	?	X	X	X
Geometry							
- Half-joint width	**IFC4 :** SeeBridge_Geometry.HalfJointWidth	**MAN**	X	?	X	X	X
- Nominal gap width	**IFC4 :** SeeBridge_Geometry.NominalGapWidth	**MAN**	X	?	X	X	X
Type							
- Connection Type	**IFC4 :** SeeBridge_Type.ConnectionType	**MAN**	X	?	X	X	X

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

08-03 Half-joint

mandatory in Inspection & Data Collection

Object Description	'Half-joint'=
IFC4	IfcElementAssembly.USERDEFINED

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Connection Assembly ID	**IFC4 :** Object User Identity Applies across the bridge section, not only one girder/beam	**MAN**	X	?	X	X	X
Connection Assembly Type	**IFC4 :** Object Predefined Type Object Predefined Type='USERDEFINED', Object Type='HALFJOINT'	**MAN**	X	?	X	X	X
Connection relationship							
- Joins Element IDs	**IFC4 :** SeeBridge_ConnectionRelationship.JointElementID 1:n	**MAN**	X	?	X	X	X
Geometry							
- Half-joint width	**IFC4 :** SeeBridge_Geometry.HalfJointWidth	**MAN**	X	?	X	X	X
- Nominal gap width	**IFC4 :** SeeBridge_Geometry.NominalGapWidth	**MAN**	X	?	X	X	X
Type							
- Connection Type	**IFC4 :** SeeBridge_Type.ConnectionType	**MAN**	X	?	X	X	X

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

09-01 Bearing

mandatory in Inspection & Data Collection

Object Description	'Bearing'=
IFC4	IfcPlate.USERDEFINED

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Association							
- Connection Assembly ID	**IFC4 :** SeeBridge_Association.ConnectionAssemblyID Mostly 1:1, but may be 1:n in special cases of plinths/pedestals	**MAN**	?	N	X	X	X
Connection Element ID	**IFC4 :** Object User Identity	**MAN**	?	X	X	X	X
Connection Element Type	**IFC4 :** Object Predefined Type Predefined Type='USERDEFINED'; Object Type='BEARING'	**MAN**	?	?	X	X	X
Geometry							
- BREP	**IFC4 :** SeeBridge_Geometry.BREP WYSIWYG – no editing	**MAN**	X	X	X	X	X
Type							
- Connection Type	**IFC4 :** SeeBridge_Type.ConnectionType	**MAN**	?	N	X	X	X
- Supplier	**IFC4 :** SeeBridge_Type.Supplier	**MAN**	?	N	?	?	X

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

09-02 Bearing Plinth/Pedestal/Shelf

mandatory in Inspection & Data Collection

Object Description	'Bearing Plinth'=
IFC4	IfcColumn.USERDEFINED

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Association							
- Connection Assembly ID	**IFC4 :** SeeBridge_Association.ConnectionAssemblyID Mostly 1:1, but may be 1:n in special cases of plinths/pedestals	**MAN**	?	N	X	X	X
Connection Element ID	**IFC4 :** Object User Identity	**MAN**	?	X	X	X	X
Connection Element Type	**IFC4 :** Object Predefined Type Predefined Type='USERDEFINED'; Object Type='BEARINGPLINTH'	**MAN**	?	X	X	X	X
Geometry							
- BREP	**IFC4 :** SeeBridge_Geometry.BREP WYSIWYG – no editing	**MAN**	X	X	X	X	X
Type							
- Connection Type	**IFC4 :** SeeBridge_Type.ConnectionType	**MAN**	?	N	X	X	X
- Supplier	**IFC4 :** SeeBridge_Type.Supplier	**MAN**	?	N	?	?	X

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

09-03 Expansion Joint

mandatory in Inspection & Data Collection

Object Description	'Expansion Joint'=
IFC4	IfcFastener.USERDEFINED

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Association							
- Connection Assembly ID	**IFC4 :** SeeBridge_Association.ConnectionAssemblyID Mostly 1:1, but may be 1:n in special cases of plinths/pedestals	**MAN**	?	N	X	X	X
Connection Element ID	**IFC4 :** Object User Identity	**MAN**	?	X	X	X	X
Connection Element Type	**IFC4 :** Object Predefined Type Predefined Type='USERDEFINED'; Object Type='EXPANSIONJOINT'	**MAN**	?	X	X	X	X
Geometry							
- BREP	**IFC4 :** SeeBridge_Geometry.BREP WYSIWYG – no editing	**MAN**	X	X	X	X	X
Type							
- Connection Type	**IFC4 :** SeeBridge_Type.ConnectionType	**MAN**	?	N	X	X	X
- Supplier	**IFC4 :** SeeBridge_Type.Supplier	**MAN**	?	N	?	?	X

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

09-04 Half-joint Beam End

mandatory in Inspection & Data Collection

Object Description	'Half-joint Beam End'=
IFC4	IfcProjectionElement.USERDEFINED

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Association							
- Connection Assembly ID	**IFC4 :** SeeBridge_Association.ConnectionAssemblyID Mostly 1:1, but may be 1:n in special cases of plinths/pedestals	**MAN**	?	N	X	X	X
Connection Element ID	**IFC4 :** Object User Identity	**MAN**	?	X	X	X	X
Connection Element Type	**IFC4 :** Object Predefined Type Predefined Type='USERDEFINED'; Object Type='HALFJOINTBEAMEND'	**MAN**	?	X	X	X	X
Geometry							
- BREP	**IFC4 :** SeeBridge_Geometry.BREP WYSIWYG – no editing	**MAN**	X	X	X	X	X
Type							
- Connection Type	**IFC4 :** SeeBridge_Type.ConnectionType	**MAN**	?	N	X	X	X
- Supplier	**IFC4 :** SeeBridge_Type.Supplier	**MAN**	?	N	?	?	X

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

10-01 Approach Slab

mandatory in Inspection & Data Collection

Object Description	'Approach Slab'=
IFC4	IfcSlab.BASESLAB

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Aggregation							
- Assembly ID	**IFC4 :** SeeBridge_Aggregation.AssemblyID	**MAN**	?	N	X	X	X
- Bridge System ID	**IFC4 :** SeeBridge_Aggregation.BridgeSystemID Single value – each object can only belong to one system	**MAN**	?	N	X	X	X
Components							
- Internal component IDs	**IFC4 :** SeeBridge_Components.InternalComponentID Component ID	**MAN**	X	N	?	?	?
Element ID	**IFC4 :** Object User Identity	**MAN**	X	X	X	X	X
Element Type	**IFC4 :** Object Predefined Type Object Predefined Type='BASESLAB'	**MAN**	X	X	X	X	X
Geometry							
- Exterior Shape (BREP)	**IFC4 :** SeeBridge_Geometry.ExteriorShape May be complex geometry modeled using CSG; interior components may be voids	**MAN**	X	X	X	X	X
- Internal component geometry (through components)	**IFC4 :** SeeBridge_Geometry.InternalComponentGeometry May be complex geometry modeled using CSG; interior components may be voids	**MAN**	X	N	?	?	?
- Nominal depth	**IFC4 :** SeeBridge_Geometry.NominalDepth	**MAN**	X	?	X	X	X
Location							
- Global Coordinates	What is the difference to Coordinates N,E,Z (Northing, Easting, Z-Elevation)?	**MAN**	X	X	X	X	X
- Orientation data	Within the local coordinate system of the Element to which it belongs	**MAN**	X	X	X	X	X

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

10-02 Deck Slab(Top Slab)

mandatory in Inspection & Data Collection

Object Description	'Deck Slab(Top slab)'=The upper slab casted above or in between the main bridge girders. Normally, the traffic vehicles are moving over the deck slab. Deck slab can be bare or coated with different waterproofing membrane and asphaltic overlays.
IFC4	IfcSlab.-

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Aggregation							
- Assembly ID	**IFC4 :** SeeBridge_Aggregation.AssemblyID	**MAN**	?	N	X	X	X
- Bridge System ID	**IFC4 :** SeeBridge_Aggregation.BridgeSystemID Single value – each object can only belong to one system	**MAN**	?	N	X	X	X
Components							
- Internal component IDs	**IFC4 :** SeeBridge_Components.InternalComponentID Component ID	**MAN**	X	N	?	?	?
Element ID	**IFC4 :** Object User Identity	**MAN**	X	X	X	X	X
Geometry							
- Exterior Shape (BREP)	**IFC4 :** SeeBridge_Geometry.ExteriorShape May be complex geometry modeled using CSG; interior components may be voids	**MAN**	X	X	X	X	X
- Internal component geometry (through components)	**IFC4 :** SeeBridge_Geometry.InternalComponentGeometry May be complex geometry modeled using CSG; interior components may be voids	**MAN**	X	N	?	?	?
- Nominal depth	**IFC4 :** SeeBridge_Geometry.NominalDepth	**MAN**	X	?	X	X	X
Location							
- Global Coordinates	What is the difference to Coordinates N,E,Z (Northing, Easting, Z-Elevation)?	**MAN**	X	X	X	X	X
- Orientation data	Within the local coordinate system of the Element to which it belongs	**MAN**	X	X	X	X	X

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

10-03 Slab

mandatory in Inspection & Data Collection

Object Description	'Slab'=This particular element is for the slab part of a slab bridge, i.e., the bridge deck is composed only of a slab without girders. This slab is solid.
IFC4	IfcSlab.USERDEFINED

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Aggregation							
- Assembly ID	**IFC4 :** SeeBridge_Aggregation.AssemblyID	**MAN**	?	N	X	X	X
- Bridge System ID	**IFC4 :** SeeBridge_Aggregation.BridgeSystemID Single value – each object can only belong to one system	**MAN**	?	N	X	X	X
Components							
- Internal component IDs	**IFC4 :** SeeBridge_Components.InternalComponentID Component ID	**MAN**	X	N	?	?	?
Element ID	**IFC4 :** Object User Identity	**MAN**	X	X	X	X	X
Element Type	**IFC4 :** Object Predefined Type Predefined Type='USERDEFINED'; Object Type='SLABBRIDGE'	**MAN**	X	X	X	X	X
Geometry							
- Exterior Shape (BREP)	**IFC4 :** SeeBridge_Geometry.ExteriorShape May be complex geometry modeled using CSG; interior components may be voids	**MAN**	X	X	X	X	X
- Internal component geometry (through components)	**IFC4 :** SeeBridge_Geometry.InternalComponentGeometry May be complex geometry modeled using CSG; interior components may be voids	**MAN**	X	N	?	?	?
- Nominal depth	**IFC4 :** SeeBridge_Geometry.NominalDepth	**MAN**	X	?	X	X	X
Location							
- Global Coordinates	What is the difference to Coordinates N,E,Z (Northing, Easting, Z-Elevation)?	**MAN**	X	X	X	X	X
- Orientation data	Within the local coordinate system of the Element to which it belongs	**MAN**	X	X	X	X	X

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

10-04 Voided Slab

mandatory in Inspection & Data Collection

Object Description	'Voided Slab'=This particular element is for the slab part of a slab bridge, i.e., the bridge deck is composed only of a slab without girders. This slab has voids.
IFC4	IfcSlab.USERDEFINED

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Aggregation							
- Assembly ID	**IFC4 :** SeeBridge_Aggregation.AssemblyID	**MAN**	?	N	X	X	X
- Bridge System ID	**IFC4 :** SeeBridge_Aggregation.BridgeSystemID Single value – each object can only belong to one system	**MAN**	?	N	X	X	X
Components							
- Internal component IDs	**IFC4 :** SeeBridge_Components.InternalComponentID Component ID	**MAN**	X	N	?	?	?
Element ID	**IFC4 :** Object User Identity	**MAN**	X	X	X	X	X
Element Type	**IFC4 :** Object Predefined Type Object Predefined Type='USERDEFINED'; Object Type='VOIDEDSLAB'	**MAN**	X	X	X	X	X
Geometry							
- Exterior Shape (BREP)	**IFC4 :** SeeBridge_Geometry.ExteriorShape May be complex geometry modeled using CSG; interior components may be voids	**MAN**	X	X	X	X	X
- Internal component geometry (through components)	**IFC4 :** SeeBridge_Geometry.InternalComponentGeometry May be complex geometry modeled using CSG; interior components may be voids	**MAN**	X	N	?	?	?
- Nominal depth	**IFC4 :** SeeBridge_Geometry.NominalDepth	**MAN**	X	?	X	X	X
Location							
- Global Coordinates	What is the difference to Coordinates N,E,Z (Northing, Easting, Z-Elevation)?	**MAN**	X	X	X	X	X
- Orientation data	Within the local coordinate system of the Element to which it belongs	**MAN**	X	X	X	X	X

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

11-01 Access Walkway/Stairs

mandatory in Inspection & Data Collection

Object Description	'Access Walkway/Stairs'=
IFC4	IfcStair.-

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Aggregation							
- Assembly ID	**IFC4 :** SeeBridge_Aggregation.AssemblyID	**MAN**	?	N	X	X	X
- Bridge System ID	**IFC4 :** SeeBridge_Aggregation.BridgeSystemID Single value – each object can only belong to one system	**MAN**	?	N	X	X	X
Element ID	**IFC4 :** Object User Identity	**MAN**	X	X	X	X	X
Geometry							
- BREP shape	**IFC4 :** SeeBridge_Geometry.BREPShape	**MAN**	X	X	X	X	X
Location							
- Global Coordinates	What is the difference to Coordinates N,E,Z (Northing, Easting, Z-Elevation)?	**MAN**	X	X	X	X	X
- Orientation data	Within the local coordinate system of the Element to which it belongs	**MAN**	X	X	X	X	X
Material(s) data							
- Description	**IFC4 :** SeeBridge_MaterialData.Description	**MAN**	?	?	?	?	X
- Material ID	**IFC4 :** SeeBridge_MaterialData.MaterialID	**MAN**	?	?	X	X	X
Nominal shape data							
- Length	**IFC4 :** SeeBridge_NominalShapeData.Length	**MAN**	X	X	X	X	X
- Volume	**IFC4 :** SeeBridge_NominalShapeData.Volume	**OPT**	?	?	?	?	?

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

11-02 Blisters

mandatory in Inspection & Data Collection

Object Description	'Blisters'=
IFC4	IfcProjectionElement.USERDEFINED

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Aggregation							
- Assembly ID	**IFC4 :** SeeBridge_Aggregation.AssemblyID	**MAN**	?	N	X	X	X
- Bridge System ID	**IFC4 :** SeeBridge_Aggregation.BridgeSystemID Single value – each object can only belong to one system	**MAN**	?	N	X	X	X
Element ID	**IFC4 :** Object User Identity	**MAN**	X	X	X	X	X
Element Type	**IFC4 :** Object Predefined Type Predefined Type='USERDEFINED'; Object Type='BLISTER'	**MAN**	X	X	X	X	X
Geometry							
- BREP shape	**IFC4 :** SeeBridge_Geometry.BREPShape	**MAN**	X	X	X	X	X
Location							
- Global Coordinates	What is the difference to Coordinates N,E,Z (Northing, Easting, Z-Elevation)?	**MAN**	X	X	X	X	X
- Orientation data	Within the local coordinate system of the Element to which it belongs	**MAN**	X	X	X	X	X
Material(s) data							
- Description	**IFC4 :** SeeBridge_MaterialData.Description	**MAN**	?	?	?	?	X
- Material ID	**IFC4 :** SeeBridge_MaterialData.MaterialID	**MAN**	?	?	X	X	X
Nominal shape data							
- Length	**IFC4 :** SeeBridge_NominalShapeData.Length	**MAN**	X	X	X	X	X

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
- Volume	**IFC4 :** SeeBridge_NominalShapeData.Volume	**OPT**	?	?	?	?	?

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

11-03 Cable Anchors

mandatory in Inspection & Data Collection

Object Description	'Cable Anchors'=
IFC4	IfcTendonAnchor.-

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Aggregation							
- Assembly ID	**IFC4 :** SeeBridge_Aggregation.AssemblyID	**MAN**	?	N	X	X	X
- Bridge System ID	**IFC4 :** SeeBridge_Aggregation.BridgeSystemID Single value – each object can only belong to one system	**MAN**	?	N	X	X	X
Element ID	**IFC4 :** Object User Identity	**MAN**	X	X	X	X	X
Geometry							
- BREP shape	**IFC4 :** SeeBridge_Geometry.BREPShape	**MAN**	X	X	X	X	X
Location							
- Global Coordinates	What is the difference to Coordinates N,E,Z (Northing, Easting, Z-Elevation)?	**MAN**	X	X	X	X	X
- Orientation data	Within the local coordinate system of the Element to which it belongs	**MAN**	X	X	X	X	X
Material(s) data							
- Description	**IFC4 :** SeeBridge_MaterialData.Description	**MAN**	?	?	?	?	X
- Material ID	**IFC4 :** SeeBridge_MaterialData.MaterialID	**MAN**	?	?	X	X	X
Nominal shape data							
- Length	**IFC4 :** SeeBridge_NominalShapeData.Length	**MAN**	X	X	X	X	X
- Volume	**IFC4 :** SeeBridge_NominalShapeData.Volume	**OPT**	?	?	?	?	?

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

11-04 Cable Spreader

mandatory in Inspection & Data Collection

Object Description	'Cable Spreader'=
IFC4	IfcBuildingElementPart.USERDEFINED

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Aggregation							
- Assembly ID	**IFC4 :** SeeBridge_Aggregation.AssemblyID	**MAN**	?	N	X	X	X
- Bridge System ID	**IFC4 :** SeeBridge_Aggregation.BridgeSystemID Single value – each object can only belong to one system	**MAN**	?	N	X	X	X
Element ID	**IFC4 :** Object User Identity	**MAN**	X	X	X	X	X
Element Type	**IFC4 :** Object Predefined Type Predefined Type='USERDEFINED'; Object Type='CABLESPREADER'	**MAN**	X	X	X	X	X
Geometry							
- BREP shape	**IFC4 :** SeeBridge_Geometry.BREPShape	**MAN**	X	X	X	X	X
Location							
- Global Coordinates	What is the difference to Coordinates N,E,Z (Northing, Easting, Z-Elevation)?	**MAN**	X	X	X	X	X
- Orientation data	Within the local coordinate system of the Element to which it belongs	**MAN**	X	X	X	X	X
Material(s) data							
- Description	**IFC4 :** SeeBridge_MaterialData.Description	**MAN**	?	?	?	?	X
- Material ID	**IFC4 :** SeeBridge_MaterialData.MaterialID	**MAN**	?	?	X	X	X
Nominal shape data							
- Length	**IFC4 :** SeeBridge_NominalShapeData.Length	**MAN**	X	X	X	X	X

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
- Volume	**IFC4 :** SeeBridge_NominalShapeData.Volume	**OPT**	?	?	?	?	?

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

11-05 Curbs

mandatory in Inspection & Data Collection

Object Description	'Curbs'=
IFC4	IfcBuildingElementProxy.USERDEFINED

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Aggregation							
- Assembly ID	**IFC4 :** SeeBridge_Aggregation.AssemblyID	**MAN**	?	N	X	X	X
- Bridge System ID	**IFC4 :** SeeBridge_Aggregation.BridgeSystemID Single value – each object can only belong to one system	**MAN**	?	N	X	X	X
Element ID	**IFC4 :** Object User Identity	**MAN**	X	X	X	X	X
Element Type	**IFC4 :** Object Predefined Type Object Predefined Type='USERDEFINED'; Object Type='CURB'	**MAN**	X	X	X	X	X
Geometry							
- BREP shape	**IFC4 :** SeeBridge_Geometry.BREPShape	**MAN**	X	X	X	X	X
Location							
- Global Coordinates	What is the difference to Coordinates N,E,Z (Northing, Easting, Z-Elevation)?	**MAN**	X	X	X	X	X
- Orientation data	Within the local coordinate system of the Element to which it belongs	**MAN**	X	X	X	X	X
Material(s) data							
- Description	**IFC4 :** SeeBridge_MaterialData.Description	**MAN**	?	?	?	?	X
- Material ID	**IFC4 :** SeeBridge_MaterialData.MaterialID	**MAN**	?	?	X	X	X
Nominal shape data							
- Length	**IFC4 :** SeeBridge_NominalShapeData.Length	**MAN**	X	X	X	X	X

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
- Volume	**IFC4 :** SeeBridge_NominalShapeData.Volume	**OPT**	?	?	?	?	?

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

11-06 Drain

mandatory in Inspection & Data Collection

Object Description	'Drain'=
IFC4	IfcPipeSegment.-

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Aggregation							
- Assembly ID	**IFC4 :** SeeBridge_Aggregation.AssemblyID	**MAN**	?	N	X	X	X
- Bridge System ID	**IFC4 :** SeeBridge_Aggregation.BridgeSystemID Single value – each object can only belong to one system	**MAN**	?	N	X	X	X
Element ID	**IFC4 :** Object User Identity	**MAN**	X	X	X	X	X
Geometry							
- BREP shape	**IFC4 :** SeeBridge_Geometry.BREPShape	**MAN**	X	X	X	X	X
Location							
- Global Coordinates	What is the difference to Coordinates N,E,Z (Northing, Easting, Z-Elevation)?	**MAN**	X	X	X	X	X
- Orientation data	Within the local coordinate system of the Element to which it belongs	**MAN**	X	X	X	X	X
Material(s) data							
- Description	**IFC4 :** SeeBridge_MaterialData.Description	**MAN**	?	?	?	?	X
- Material ID	**IFC4 :** SeeBridge_MaterialData.MaterialID	**MAN**	?	?	X	X	X
Nominal shape data							
- Length	**IFC4 :** SeeBridge_NominalShapeData.Length	**MAN**	X	X	X	X	X
- Volume	**IFC4 :** SeeBridge_NominalShapeData.Volume	**OPT**	?	?	?	?	?

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

11-07 Fenders, Cut waters, Collision Protection

mandatory in Inspection & Data Collection

Object Description	'Fenders'=
IFC4	IfcDiscreteAccessory.USERDEFINED

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Aggregation							
- Assembly ID	**IFC4 :** SeeBridge_Aggregation.AssemblyID	**MAN**	?	N	X	X	X
- Bridge System ID	**IFC4 :** SeeBridge_Aggregation.BridgeSystemID Single value – each object can only belong to one system	**MAN**	?	N	X	X	X
Element ID	**IFC4 :** Object User Identity	**MAN**	X	X	X	X	X
Element Type	**IFC4 :** Object Predefined Type Predefined Type='USERDEFINED'; Object Type='FENDER'	**MAN**	X	X	X	X	X
Geometry							
- BREP shape	**IFC4 :** SeeBridge_Geometry.BREPShape	**MAN**	X	X	X	X	X
Location							
- Global Coordinates	What is the difference to Coordinates N,E,Z (Northing, Easting, Z-Elevation)?	**MAN**	X	X	X	X	X
- Orientation data	Within the local coordinate system of the Element to which it belongs	**MAN**	X	X	X	X	X
Material(s) data							
- Description	**IFC4 :** SeeBridge_MaterialData.Description	**MAN**	?	?	?	?	X
- Material ID	**IFC4 :** SeeBridge_MaterialData.MaterialID	**MAN**	?	?	X	X	X
Nominal shape data							
- Length	**IFC4 :** SeeBridge_NominalShapeData.Length	**MAN**	X	X	X	X	X

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
- Volume	**IFC4 :** SeeBridge_NominalShapeData.Volume	**OPT**	?	?	?	?	?

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

11-08 Lighting Element

mandatory in Inspection & Data Collection

Object Description	'Lighting Element'=
IFC4	IfcLightFixture.-

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Aggregation							
- Assembly ID	**IFC4 :** SeeBridge_Aggregation.AssemblyID	**MAN**	?	N	X	X	X
- Bridge System ID	**IFC4 :** SeeBridge_Aggregation.BridgeSystemID Single value – each object can only belong to one system	**MAN**	?	N	X	X	X
Element ID	**IFC4 :** Object User Identity	**MAN**	X	X	X	X	X
Geometry							
- BREP shape	**IFC4 :** SeeBridge_Geometry.BREPShape	**MAN**	X	X	X	X	X
Location							
- Global Coordinates	What is the difference to Coordinates N,E,Z (Northing, Easting, Z-Elevation)?	**MAN**	X	X	X	X	X
- Orientation data	Within the local coordinate system of the Element to which it belongs	**MAN**	X	X	X	X	X
Material(s) data							
- Description	**IFC4 :** SeeBridge_MaterialData.Description	**MAN**	?	?	?	?	X
- Material ID	**IFC4 :** SeeBridge_MaterialData.MaterialID	**MAN**	?	?	X	X	X
Nominal shape data							
- Length	**IFC4 :** SeeBridge_NominalShapeData.Length	**MAN**	X	X	X	X	X
- Volume	**IFC4 :** SeeBridge_NominalShapeData.Volume	**OPT**	?	?	?	?	?

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

11-09 Machinery

mandatory in Inspection & Data Collection

Object Description	'Machinery'=
IFC4	IfcDiscreteAccessory.USERDEFINED

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Aggregation							
- Assembly ID	**IFC4 :** SeeBridge_Aggregation.AssemblyID	**MAN**	?	N	X	X	X
- Bridge System ID	**IFC4 :** SeeBridge_Aggregation.BridgeSystemID Single value – each object can only belong to one system	**MAN**	?	N	X	X	X
Element ID	**IFC4 :** Object User Identity	**MAN**	X	X	X	X	X
Element Type	**IFC4 :** Object Predefined Type Object Predefined Type='USERDEFINED'; Object Type='MACHINERY'	**MAN**	X	X	X	X	X
Geometry							
- BREP shape	**IFC4 :** SeeBridge_Geometry.BREPShape	**MAN**	X	X	X	X	X
Location							
- Global Coordinates	What is the difference to Coordinates N,E,Z (Northing, Easting, Z-Elevation)?	**MAN**	X	X	X	X	X
- Orientation data	Within the local coordinate system of the Element to which it belongs	**MAN**	X	X	X	X	X
Material(s) data							
- Description	**IFC4 :** SeeBridge_MaterialData.Description	**MAN**	?	?	?	?	X
- Material ID	**IFC4 :** SeeBridge_MaterialData.MaterialID	**MAN**	?	?	X	X	X
Nominal shape data							
- Length	**IFC4 :** SeeBridge_NominalShapeData.Length	**MAN**	X	X	X	X	X

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
- Volume	**IFC4 :** SeeBridge_NominalShapeData.Volume	**OPT**	?	?	?	?	?

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

11-10 Saddles

mandatory in Inspection & Data Collection

Object Description	'Saddles'=
IFC4	IfcBuildingElementProxy.USERDEFINED

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Aggregation							
- Assembly ID	**IFC4 :** SeeBridge_Aggregation.AssemblyID	**MAN**	?	N	X	X	X
- Bridge System ID	**IFC4 :** SeeBridge_Aggregation.BridgeSystemID Single value – each object can only belong to one system	**MAN**	?	N	X	X	X
Element ID	**IFC4 :** Object User Identity	**MAN**	X	X	X	X	X
Element Type	**IFC4 :** Object Predefined Type Object Predefined Type='USERDEFINED'; Object Type='SADDLE'	**MAN**	X	X	X	X	X
Geometry							
- BREP shape	**IFC4 :** SeeBridge_Geometry.BREPShape	**MAN**	X	X	X	X	X
Location							
- Global Coordinates	What is the difference to Coordinates N,E,Z (Northing, Easting, Z-Elevation)?	**MAN**	X	X	X	X	X
- Orientation data	Within the local coordinate system of the Element to which it belongs	**MAN**	X	X	X	X	X
Material(s) data							
- Description	**IFC4 :** SeeBridge_MaterialData.Description	**MAN**	?	?	?	?	X
- Material ID	**IFC4 :** SeeBridge_MaterialData.MaterialID	**MAN**	?	?	X	X	X
Nominal shape data							
- Length	**IFC4 :** SeeBridge_NominalShapeData.Length	**MAN**	X	X	X	X	X

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
- Volume	**IFC4 :** SeeBridge_NominalShapeData.Volume	**OPT**	?	?	?	?	?

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

11-11 Shear Keys

mandatory in Inspection & Data Collection

Object Description	'Shear Keys'=
IFC4	IfcProjectionElement.USERDEFINED

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Aggregation							
- Assembly ID	**IFC4 :** SeeBridge_Aggregation.AssemblyID	**MAN**	?	N	X	X	X
- Bridge System ID	**IFC4 :** SeeBridge_Aggregation.BridgeSystemID Single value – each object can only belong to one system	**MAN**	?	N	X	X	X
Element ID	**IFC4 :** Object User Identity	**MAN**	X	X	X	X	X
Element Type	**IFC4 :** Object Predefined Type Object Predefined Type='USERDEFINED'; Object Type='SHEARKEY'	**MAN**	X	X	X	X	X
Geometry							
- BREP shape	**IFC4 :** SeeBridge_Geometry.BREPShape	**MAN**	X	X	X	X	X
Location							
- Global Coordinates	What is the difference to Coordinates N,E,Z (Northing, Easting, Z-Elevation)?	**MAN**	X	X	X	X	X
- Orientation data	Within the local coordinate system of the Element to which it belongs	**MAN**	X	X	X	X	X
Material(s) data							
- Description	**IFC4 :** SeeBridge_MaterialData.Description	**MAN**	?	?	?	?	X
- Material ID	**IFC4 :** SeeBridge_MaterialData.MaterialID	**MAN**	?	?	X	X	X
Nominal shape data							
- Length	**IFC4 :** SeeBridge_NominalShapeData.Length	**MAN**	X	X	X	X	X

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
- Volume	**IFC4 :** SeeBridge_NominalShapeData.Volume	**OPT**	?	?	?	?	?

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

11-12 Sign

mandatory in Inspection & Data Collection

Object Description	'Sign'=
IFC4	IfcDiscreteAccessory.USERDEFINED

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Aggregation							
- Assembly ID	**IFC4 :** SeeBridge_Aggregation.AssemblyID	**MAN**	?	N	X	X	X
- Bridge System ID	**IFC4 :** SeeBridge_Aggregation.BridgeSystemID Single value – each object can only belong to one system	**MAN**	?	N	X	X	X
Element ID	**IFC4 :** Object User Identity	**MAN**	X	X	X	X	X
Element Type	**IFC4 :** Object Predefined Type Object Predefined Type='USERDEFINED'; Object Type='SIGN'	**MAN**	X	X	X	X	X
Geometry							
- BREP shape	**IFC4 :** SeeBridge_Geometry.BREPShape	**MAN**	X	X	X	X	X
Location							
- Global Coordinates	What is the difference to Coordinates N,E,Z (Northing, Easting, Z-Elevation)?	**MAN**	X	X	X	X	X
- Orientation data	Within the local coordinate system of the Element to which it belongs	**MAN**	X	X	X	X	X
Material(s) data							
- Description	**IFC4 :** SeeBridge_MaterialData.Description	**MAN**	?	?	?	?	X
- Material ID	**IFC4 :** SeeBridge_MaterialData.MaterialID	**MAN**	?	?	X	X	X
Nominal shape data							
- Length	**IFC4 :** SeeBridge_NominalShapeData.Length	**MAN**	X	X	X	X	X

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
- Volume	**IFC4 :** SeeBridge_NominalShapeData.Volume	**OPT**	?	?	?	?	?

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

11-13 Traffic Marking

mandatory in Inspection & Data Collection

Object Description	'Traffic Marking'=
IFC4	IfcSurfaceFeature.MARK

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Aggregation							
- Assembly ID	**IFC4 :** SeeBridge_Aggregation.AssemblyID	**MAN**	?	N	X	X	X
- Bridge System ID	**IFC4 :** SeeBridge_Aggregation.BridgeSystemID Single value – each object can only belong to one system	**MAN**	?	N	X	X	X
Element ID	**IFC4 :** Object User Identity	**MAN**	X	X	X	X	X
Element Type	**IFC4 :** Object Predefined Type Predefined Type='MARK'	**MAN**	X	X	X	X	X
Geometry							
- BREP shape	**IFC4 :** SeeBridge_Geometry.BREPShape	**MAN**	X	X	X	X	X
Location							
- Global Coordinates	What is the difference to Coordinates N,E,Z (Northing, Easting, Z-Elevation)?	**MAN**	X	X	X	X	X
- Orientation data	Within the local coordinate system of the Element to which it belongs	**MAN**	X	X	X	X	X
Material(s) data							
- Description	**IFC4 :** SeeBridge_MaterialData.Description	**MAN**	?	?	?	?	X
- Material ID	**IFC4 :** SeeBridge_MaterialData.MaterialID	**MAN**	?	?	X	X	X
Nominal shape data							
- Length	**IFC4 :** SeeBridge_NominalShapeData.Length	**MAN**	X	X	X	X	X

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
- Volume	**IFC4 :** SeeBridge_NominalShapeData.Volume	**OPT**	?	?	?	?	?

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

12-01 Asphalt/Carriageway Surfacing

mandatory in Inspection & Data Collection

Object Description	'Asphalt/Carriageway Surfacing'=
IFC4	IfcCovering.-

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Description							
- Description	**IFC4 :** SeeBridge_Description.Description	**OPT**	?	?	?	?	?
- Type	**IFC4 :** SeeBridge_Description.Type	**MAN**	?	?	X	X	X
Geometry							
- Nominal thickness	**IFC4 :** SeeBridge_Geometry.NominalThickness	**OPT**	?	?	?	?	?
- Surface area	**IFC4 :** SeeBridge_Geometry.SurfaceArea	**MAN**	?	?	X	X	X
Material(s) data							
- Material ID	**IFC4 :** SeeBridge_MaterialData.MaterialID	**MAN**	X	X	X	X	X
Surface Element ID	**IFC4 :** Object User Identity	**MAN**	X	X	X	X	X

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

12-02 Footway Surfacing

mandatory in Inspection & Data Collection

Object Description	'Footway Surfacing'=
IFC4	IfcCovering.-

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Description							
- Description	**IFC4 :** SeeBridge_Description.Description	**OPT**	?	?	?	?	?
- Type	**IFC4 :** SeeBridge_Description.Type	**MAN**	?	?	X	X	X
Geometry							
- Nominal thickness	**IFC4 :** SeeBridge_Geometry.NominalThickness	**OPT**	?	?	?	?	?
- Surface area	**IFC4 :** SeeBridge_Geometry.SurfaceArea	**MAN**	?	?	X	X	X
Material(s) data							
- Material ID	**IFC4 :** SeeBridge_MaterialData.MaterialID	**MAN**	X	X	X	X	X
Surface Element ID	**IFC4 :** Object User Identity	**MAN**	X	X	X	X	X

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

12-03 Protective Coatings

mandatory in Inspection & Data Collection

Object Description	'Protective Coatings'=
IFC4	IfcSurfaceFeature.TREATMENT

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Description							
- Description	**IFC4 :** SeeBridge_Description.Description	**OPT**	?	?	?	?	?
- Type	**IFC4 :** SeeBridge_Description.Type	**MAN**	?	?	X	X	X
Geometry							
- Nominal thickness	**IFC4 :** SeeBridge_Geometry.NominalThickness	**OPT**	?	?	?	?	?
- Surface area	**IFC4 :** SeeBridge_Geometry.SurfaceArea	**MAN**	?	?	X	X	X
Material(s) data							
- Material ID	**IFC4 :** SeeBridge_MaterialData.MaterialID	**MAN**	X	X	X	X	X
Surface Element ID	**IFC4 :** Object User Identity	**MAN**	X	X	X	X	X
Surface Treatment Type	**IFC4 :** Object Predefined Type Object Predefined Type='TREATMENT'	**MAN**	X	X	X	X	X

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

12-04 Waterproofing

mandatory in Inspection & Data Collection

Object Description	'Waterproofing'=
IFC4	IfcSurfaceFeature.TREATMENT

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Description							
- Description	**IFC4 :** SeeBridge_Description.Description	**OPT**	?	?	?	?	?
- Type	**IFC4 :** SeeBridge_Description.Type	**MAN**	?	?	X	X	X
Geometry							
- Nominal thickness	**IFC4 :** SeeBridge_Geometry.NominalThickness	**OPT**	?	?	?	?	?
- Surface area	**IFC4 :** SeeBridge_Geometry.SurfaceArea	**MAN**	?	?	X	X	X
Material(s) data							
- Material ID	**IFC4 :** SeeBridge_MaterialData.MaterialID	**MAN**	X	X	X	X	X
Surface Element ID	**IFC4 :** Object User Identity	**MAN**	X	X	X	X	X
Surface Treatment Type	**IFC4 :** Object Predefined Type Object Predefined Type='TREATMENT'	**MAN**	X	X	X	X	X

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

13-01 Apron

mandatory in Inspection & Data Collection

Object Description	'Apron'=This is an edge beam element cast below ground level to prevent water flow under culverts and underpasses.
IFC4	IfcBeam.-

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Element ID	**IFC4 :** Object User Identity	**MAN**	X	X	X	X	X
Identification							
- Data Source		**MAN**	X	X	X	X	X
Material(s) data							
- Material ID	**IFC4 :** SeeBridge_MaterialData.MaterialID	**MAN**	X	X	X	X	X
Type							
- Description	**IFC4 :** SeeBridge_Type.Description	**MAN**	X	X	X	X	X

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

13-02 Batter Paving/ Revetments

mandatory in Inspection & Data Collection

Object Description	'Batter Paving/ Revetments'=
IFC4	IfcCovering.-

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Identification							
- Data Source		**MAN**	X	X	X	X	X
Material(s) data							
- Material ID	**IFC4 :** SeeBridge_MaterialData.MaterialID	**MAN**	X	X	X	X	X
Type							
- Description	**IFC4 :** SeeBridge_Type.Description	**MAN**	X	X	X	X	X

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

13-03 Embankments

mandatory in Inspection & Data Collection

Object Description	'Embankments'=
IFC4	IfcBuildingElementProxy.-

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Element ID	**IFC4 :** Object User Identity	**MAN**	X	X	X	X	X
Identification							
- Data Source		**MAN**	X	X	X	X	X
Material(s) data							
- Material ID	**IFC4 :** SeeBridge_MaterialData.MaterialID	**MAN**	X	X	X	X	X
Type							
- Description	**IFC4 :** SeeBridge_Type.Description	**MAN**	X	X	X	X	X

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

13-04 Invert

mandatory in Inspection & Data Collection

Object Description	'Invert'=
IFC4	IfcBuildingElementProxy.-

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Element ID	**IFC4 :** Object User Identity	**MAN**	X	X	X	X	X
Identification							
- Data Source		**MAN**	X	X	X	X	X
Material(s) data							
- Material ID	**IFC4 :** SeeBridge_MaterialData.MaterialID	**MAN**	X	X	X	X	X
Type							
- Description	**IFC4 :** SeeBridge_Type.Description	**MAN**	X	X	X	X	X

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

13-05 River Bed

mandatory in Inspection & Data Collection

Object Description	'River Bed'=
IFC4	IfcBuildingElementProxy.-

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Element ID	**IFC4 :** Object User Identity	**MAN**	X	X	X	X	X
Identification							
- Data Source		**MAN**	X	X	X	X	X
Material(s) data							
- Material ID	**IFC4 :** SeeBridge_MaterialData.MaterialID	**MAN**	X	X	X	X	X
Type							
- Description	**IFC4 :** SeeBridge_Type.Description	**MAN**	X	X	X	X	X

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

13-06 River Channel/ Training Works

mandatory in Inspection & Data Collection

Object Description	'River Channel/ Training Works'=
IFC4	IfcBuildingElementProxy.-

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Element ID	**IFC4 :** Object User Identity	**MAN**	X	X	X	X	X
Identification							
- Data Source		**MAN**	X	X	X	X	X
Material(s) data							
- Material ID	**IFC4 :** SeeBridge_MaterialData.MaterialID	**MAN**	X	X	X	X	X
Type							
- Description	**IFC4 :** SeeBridge_Type.Description	**MAN**	X	X	X	X	X

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

14-01 Defect

mandatory in Inspection & Data Collection

Object Description	A 'defect' is a group of element defects and collects them using IfcRelAssignedTo.
IFC4	IfcElementAssembly.USERDEFINED

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Condition	Determines the state or condition of an element at a particular point in time.						
- Assessment Condition	**IFC4 :** Pset_Condition.AssessmentCondition The overall condition of a product based on an assessment of the contributions to the overall condition made by the various criteria considered. The meanings given to the values of assessed condition should be agreed and documented by local agreements. For instance, is overall condition measured on a scale of 1 - 10 or by assigning names such as Good, OK, Poor.	**MAN**	N	N	N	N	X
- Assessment Date	**IFC4 :** Pset_Condition.AssessmentDate Date on which the overall condition is assessed	**MAN**	N	N	N	N	X
- Assessment Description	**IFC4 :** Pset_Condition.AssessmentDescription Qualitative description of the condition.	**MAN**	N	N	N	N	X
Defect ID	**IFC4 :** Object User Identity Aggregation of element defects	**MAN**	N	N	N	N	X
Defect Identification							
- Defect code	**IFC4 :** SeeBridge_Identification.Code	**MAN**	N	N	N	N	X
- Defect description	**IFC4 :** SeeBridge_Identification.Description	**MAN**	N	N	N	N	X

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

16-01 Abrasion / Wear

mandatory in Inspection & Data Collection

Object Description	'Abrasion / Wear'=
IFC4	IfcSurfaceFeature.USERDEFINED

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Abrasion / Wear							
- Coarse aggregate exposed	**IFC4 :** SeeBridge_Abrasion.CoarseAggregateExposed	**MAN**	N	N	N	N	X
Element Composition	**IFC4 :** Element Composition Decomposes Defect='IfcElementAssembly'	**MAN**	N	N	N	N	X
Element Defect ID	**IFC4 :** Object User Identity Unique ID of element or sub-element	**MAN**	N	N	N	N	X
Element Defect Type	**IFC4 :** Object Predefined Type Object Predefined Type='USERDEFINED'; Object Type='ABRASION'	**MAN**	N	N	N	N	X
Identification							
- Element Defect Code	**IFC4 :** SeeBridge_Identification.Code	**MAN**	N	N	N	N	X
- Element Defect Description	**IFC4 :** SeeBridge_Identification.Description	**MAN**	N	N	N	N	X
Location							
- Area of high flexural behaviour	**IFC4 :** SeeBridge_ElementDefectLocation.AreaOfHighFlexuralBehaviour	**MAN**	N	N	N	N	X
- Area of high shear behaviour in area	**IFC4 :** SeeBridge_ElementDefectLocation.AreaOfHighShearBehaviour	**MAN**	N	N	N	N	X
- Close to support	**IFC4 :** SeeBridge_ElementDefectLocation.CloseToSupport	**MAN**	N	N	N	N	X
- Dropping down	**IFC4 :** SeeBridge_ElementDefectLocation.DroppingDown	**MAN**	N	N	N	N	X
- Going up	**IFC4 :** SeeBridge_ElementDefectLocation.GoingUp	**MAN**	N	N	N	N	X

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
- Orientation in relation to the support	**IFC4 :** SeeBridge_ElementDefectLocation.OrientationInRelationToSupport	**MAN**	N	N	N	N	X

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

16-02 Crack

mandatory in Inspection & Data Collection

Object Description	'Crack'=
IFC4	IfcSurfaceFeature.USERDEFINED

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Crack							
- Width	**IFC4 :** SeeBridge_Crack.Width	**MAN**	N	N	N	N	X
Element Composition	**IFC4 :** Element Composition Decomposes Defect='IfcElementAssembly'	**MAN**	N	N	N	N	X
Element Defect ID	**IFC4 :** Object User Identity Unique ID of element or sub-element	**MAN**	N	N	N	N	X
Element Defect Type	**IFC4 :** Object Predefined Type Object Predefined Type='USERDEFINED'; Object Type='CRACK'	**MAN**	N	N	N	N	X
Identification							
- Element Defect Code	**IFC4 :** SeeBridge_Identification.Code	**MAN**	N	N	N	N	X
- Element Defect Description	**IFC4 :** SeeBridge_Identification.Description	**MAN**	N	N	N	N	X
Location							
- Area of high flexural behaviour	**IFC4 :** SeeBridge_ElementDefectLocation.AreaOfHighFlexuralBehaviour	**MAN**	N	N	N	N	X
- Area of high shear behaviour in area	**IFC4 :** SeeBridge_ElementDefectLocation.AreaOfHighShearBehaviour	**MAN**	N	N	N	N	X
- Close to support	**IFC4 :** SeeBridge_ElementDefectLocation.CloseToSupport	**MAN**	N	N	N	N	X
- Dropping down	**IFC4 :** SeeBridge_ElementDefectLocation.DroppingDown	**MAN**	N	N	N	N	X
- Going up	**IFC4 :** SeeBridge_ElementDefectLocation.GoingUp	**MAN**	N	N	N	N	X

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
- Orientation in relation to the support	**IFC4 :** SeeBridge_ElementDefectLocation.OrientationInRelationToSupport	**MAN**	N	N	N	N	X

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

16-03 Efflorescence

mandatory in Inspection & Data Collection

Object Description	'Efflorescence'=
IFC4	IfcSurfaceFeature.USERDEFINED

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Efflorescence							
- Peeling surface	**IFC4 :** SeeBridge_Efflorescence.PeelingSurface	**MAN**	N	N	N	N	X
- Severity	**IFC4 :** SeeBridge_Efflorescence.Severity	**MAN**	N	N	N	N	X
Element Composition	**IFC4 :** Element Composition Decomposes Defect='IfcElementAssembly'	**MAN**	N	N	N	N	X
Element Defect ID	**IFC4 :** Object User Identity Unique ID of element or sub-element	**MAN**	N	N	N	N	X
Element Defect Type	**IFC4 :** Object Predefined Type Object Predefined Type='USERDEFINED'; Object Type='EFFLORESCENCE'	**MAN**	N	N	N	N	X
Identification							
- Element Defect Code	**IFC4 :** SeeBridge_Identification.Code	**MAN**	N	N	N	N	X
- Element Defect Description	**IFC4 :** SeeBridge_Identification.Description	**MAN**	N	N	N	N	X
Location							
- Area of high flexural behaviour	**IFC4 :** SeeBridge_ElementDefectLocation.AreaOfHighFlexuralBehaviour	**MAN**	N	N	N	N	X
- Area of high shear behaviour in area	**IFC4 :** SeeBridge_ElementDefectLocation.AreaOfHighShearBehaviour	**MAN**	N	N	N	N	X
- Close to support	**IFC4 :** SeeBridge_ElementDefectLocation.CloseToSupport	**MAN**	N	N	N	N	X
- Dropping down	**IFC4 :** SeeBridge_ElementDefectLocation.DroppingDown	**MAN**	N	N	N	N	X

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
- Going up	**IFC4 :** SeeBridge_ElementDefectLocation.GoingUp	**MAN**	N	N	N	N	X
- Orientation in relation to the support	**IFC4 :** SeeBridge_ElementDefectLocation.OrientationInRelationToSupport	**MAN**	N	N	N	N	X

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

16-04 Exposed reinforcement

mandatory in Inspection & Data Collection

Object Description	'Exposed reinforcement'=
IFC4	IfcSurfaceFeature.USERDEFINED

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Element Composition	**IFC4 :** Element Composition Decomposes Defect='IfcElementAssembly'	**MAN**	N	N	N	N	X
Element Defect ID	**IFC4 :** Object User Identity Unique ID of element or sub-element	**MAN**	N	N	N	N	X
Element Defect Type	**IFC4 :** Object Predefined Type Object Predefined Type='USERDEFINED'; Object Type='EXPOSEDREINFORCEMENT'	**MAN**	N	N	N	N	X
Exposed reinforcement							
- General corrosion on rebar	**IFC4 :** SeeBridge_ExposedReinforcement.GeneralCorrosionOnRebar	**MAN**	N	N	N	N	X
- Main rebar visible	**IFC4 :** SeeBridge_ExposedReinforcement.MainRebarVisible	**MAN**	N	N	N	N	X
- Pitting corrosion on rebar	**IFC4 :** SeeBridge_ExposedReinforcement.PittingCorrosionOnRebar	**MAN**	N	N	N	N	X
- Shear link rebar visible	**IFC4 :** SeeBridge_ExposedReinforcement.ShearLinkRebarVisible	**MAN**	N	N	N	N	X
Identification							
- Element Defect Code	**IFC4 :** SeeBridge_Identification.Code	**MAN**	N	N	N	N	X
- Element Defect Description	**IFC4 :** SeeBridge_Identification.Description	**MAN**	N	N	N	N	X
Location							
- Area of high flexural behaviour	**IFC4 :** SeeBridge_ElementDefectLocation.AreaOfHighFlexuralBehaviour	**MAN**	N	N	N	N	X

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
- Area of high shear behaviour in area	**IFC4 :** SeeBridge_ElementDefectLocation.AreaOfHighShearBehaviour	**MAN**	N	N	N	N	X
- Close to support	**IFC4 :** SeeBridge_ElementDefectLocation.CloseToSupport	**MAN**	N	N	N	N	X
- Dropping down	**IFC4 :** SeeBridge_ElementDefectLocation.DroppingDown	**MAN**	N	N	N	N	X
- Going up	**IFC4 :** SeeBridge_ElementDefectLocation.GoingUp	**MAN**	N	N	N	N	X
- Orientation in relation to the support	**IFC4 :** SeeBridge_ElementDefectLocation.OrientationInRelationToSupport	**MAN**	N	N	N	N	X

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

16-05 Rust staining

mandatory in Inspection & Data Collection

Object Description	'Rust staining'=
IFC4	IfcSurfaceFeature.USERDEFINED

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Element Composition	**IFC4 :** Element Composition Decomposes Defect='IfcElementAssembly'	**MAN**	N	N	N	N	X
Element Defect ID	**IFC4 :** Object User Identity Unique ID of element or sub-element	**MAN**	N	N	N	N	X
Element Defect Type	**IFC4 :** Object Predefined Type Object Predefined Type='USERDEFINED'; Object Type='RUSTSTAINING'	**MAN**	N	N	N	N	X
Identification							
- Element Defect Code	**IFC4 :** SeeBridge_Identification.Code	**MAN**	N	N	N	N	X
- Element Defect Description	**IFC4 :** SeeBridge_Identification.Description	**MAN**	N	N	N	N	X
Location							
- Area of high flexural behaviour	**IFC4 :** SeeBridge_ElementDefectLocation.AreaOfHighFlexuralBehaviour	**MAN**	N	N	N	N	X
- Area of high shear behaviour in area	**IFC4 :** SeeBridge_ElementDefectLocation.AreaOfHighShearBehaviour	**MAN**	N	N	N	N	X
- Close to support	**IFC4 :** SeeBridge_ElementDefectLocation.CloseToSupport	**MAN**	N	N	N	N	X
- Dropping down	**IFC4 :** SeeBridge_ElementDefectLocation.DroppingDown	**MAN**	N	N	N	N	X
- Going up	**IFC4 :** SeeBridge_ElementDefectLocation.GoingUp	**MAN**	N	N	N	N	X
- Orientation in relation to the support	**IFC4 :** SeeBridge_ElementDefectLocation.OrientationInRelationToSupport	**MAN**	N	N	N	N	X
Rust staining							

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
- Rust staining	**IFC4 :** SeeBridge_RustStaining.RustStaining	**MAN**	N	N	N	N	X

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

16-06 Scaling

mandatory in Inspection & Data Collection

Object Description	'Scaling'=
IFC4	IfcSurfaceFeature.USERDEFINED

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Element Defect ID	**IFC4 :** Object User Identity Unique ID of element or sub-element	**MAN**	N	N	N	N	X
Element Defect Type	**IFC4 :** Object Predefined Type Object Predefined Type='USERDEFINED'; Object Type='SCALLING'	**MAN**	N	N	N	N	X
Identification							
- Element Defect Code	**IFC4 :** SeeBridge_Identification.Code	**MAN**	N	N	N	N	X
- Element Defect Description	**IFC4 :** SeeBridge_Identification.Description	**MAN**	N	N	N	N	X
Location							
- Area of high flexural behaviour	**IFC4 :** SeeBridge_ElementDefectLocation.AreaOfHighFlexuralBehaviour	**MAN**	N	N	N	N	X
- Area of high shear behaviour in area	**IFC4 :** SeeBridge_ElementDefectLocation.AreaOfHighShearBehaviour	**MAN**	N	N	N	N	X
- Close to support	**IFC4 :** SeeBridge_ElementDefectLocation.CloseToSupport	**MAN**	N	N	N	N	X
- Dropping down	**IFC4 :** SeeBridge_ElementDefectLocation.DroppingDown	**MAN**	N	N	N	N	X
- Going up	**IFC4 :** SeeBridge_ElementDefectLocation.GoingUp	**MAN**	N	N	N	N	X
- Orientation in relation to the support	**IFC4 :** SeeBridge_ElementDefectLocation.OrientationInRelationToSupport	**MAN**	N	N	N	N	X
Scaling							

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
- Coarse aggregate exposed	**IFC4 :** SeeBridge_Scaling.CoarseAggregateExposed	**MAN**	N	N	N	N	X
- Depth	**IFC4 :** SeeBridge_Scaling.Depth	**MAN**	N	N	N	N	X

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

16-07 Spalling

mandatory in Inspection & Data Collection

Object Description	'Spalling'=
IFC4	IfcSurfaceFeature.USERDEFINED

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Element Composition	**IFC4 :** Element Composition Decomposes Defect='IfcElementAssembly'	**MAN**	N	N	N	N	X
Element Defect ID	**IFC4 :** Object User Identity Unique ID of element or sub-element	**MAN**	N	N	N	N	X
Element Defect Type	**IFC4 :** Object Predefined Type Object Predefined Type='USERDEFINED'; Object Type='SPALLING'	**MAN**	N	N	N	N	X
Identification							
- Element Defect Code	**IFC4 :** SeeBridge_Identification.Code	**MAN**	N	N	N	N	X
- Element Defect Description	**IFC4 :** SeeBridge_Identification.Description	**MAN**	N	N	N	N	X
Location							
- Area of high flexural behaviour	**IFC4 :** SeeBridge_ElementDefectLocation.AreaOfHighFlexuralBehaviour	**MAN**	N	N	N	N	X
- Area of high shear behaviour in area	**IFC4 :** SeeBridge_ElementDefectLocation.AreaOfHighShearBehaviour	**MAN**	N	N	N	N	X
- Close to support	**IFC4 :** SeeBridge_ElementDefectLocation.CloseToSupport	**MAN**	N	N	N	N	X
- Dropping down	**IFC4 :** SeeBridge_ElementDefectLocation.DroppingDown	**MAN**	N	N	N	N	X
- Going up	**IFC4 :** SeeBridge_ElementDefectLocation.GoingUp	**MAN**	N	N	N	N	X
- Orientation in relation to the support	**IFC4 :** SeeBridge_ElementDefectLocation.OrientationInRelationToSupport	**MAN**	N	N	N	N	X
Spalling							

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
- Depth	**IFC4 :** SeeBridge_Spalling.Depth	**MAN**	N	N	N	N	X
- Diameter	**IFC4 :** SeeBridge_Spalling.Diameter	**MAN**	N	N	N	N	X

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

18-01 Inspection

mandatory in Inspection & Data Collection

Object Description	-Inspection type should be from a predefined list: -Initial/Principal Inspection -Routine Inspection -In-Depth Inspection -Special Inspection -Damage control Inspection -Underwater Inspection
IFC4	IfcTask.USERDEFINED

Properties

Property Group / Name	Mapping / Description	requirements for the exchange models					
		P2	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Inspection ID	**IFC4 :** Object User Identity	**MAN**	N	N	N	N	X
Inspection Properties							
- Inspection Description	A free text that contains the name of the bridge, the type of inspection, and any other text the inspector wants to add.	**MAN**	N	N	N	N	X
- Inspection Status	**IFC4 :** IfcTask.Status Current status of the inspection. Examples of possible status values include 'Not Yet Started', 'Started', 'Completed'.	**MAN**	N	N	N	N	X
- Inspector	Name of the inspector and organization.	**MAN**	N	N	N	N	X
- Is Milestone	**IFC4 :** IfcTask.IsMilestone Identifies whether the inspection is a milestone task (=TRUE) or not (= FALSE).	**MAN**	N	N	N	N	X
- Work Method	**IFC4 :** IfcTask.WorkMethod The method of work used in carrying out the inspection.	**MAN**	N	N	N	N	X

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

18-02 Inspection Date

mandatory in Inspection & Data Collection

Object Description	-Inspection Date should be documented for: -Last Inspection date -Next Inspection date
IFC4	IfcTaskTime.USERDEFINED

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Inspection Date ID	**IFC4 :** Object User Identity	**MAN**	N	N	N	N	X
Inspection Date Properties							
- ActualFinish	**IFC4 :** IfcTaskTime.ActualFinish The date on which an inspection is actually finished.	**MAN**	N	N	N	N	X

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

18-03 Last Inspection Date

mandatory in Inspection & Data Collection

Object Description	
IFC4	IfcTaskTime.USERDEFINED

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Inspection Date ID	**IFC4 :** Object User Identity	**MAN**	N	N	N	N	X
Inspection Date Properties							
- ActualFinish	**IFC4 :** IfcTaskTime.ActualFinish The date on which an inspection is actually finished.	**MAN**	N	N	N	N	X

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;

18-04 Next Inspection Date

mandatory in Inspection & Data Collection

Object Description	
IFC4	IfcTaskTime.USERDEFINED

Properties		requirements for the exchange models					
Property Group / Name	**Mapping / Description**	**P2**	P2-EM1	P2-EM2	P2-EM3A	P2-EM3B	P2-EM4
Inspection Date ID	**IFC4 :** Object User Identity	**MAN**	N	N	N	N	X
Inspection Date Properties							
- ActualFinish	**IFC4 :** IfcTaskTime.ActualFinish The date on which an inspection is actually finished.	**MAN**	N	N	N	N	X

Legand: P2-EM1 = Exchange Model 1; P2-EM2 = Exchange Model 2; P2-EM3A = Exchange Model 3A; P2-EM3B = Exchange Model 3B; P2-EM4 = Exchange Model 4;