

Beam

A beam is a horizontal, or nearly horizontal, structural member that is capable of withstanding load primarily by resisting bending. It can also simply be an architectural element which is non-load bearing.

A beam in this instance means a standard beam usually used horizontally.

IfcElementType	IfcBeam	=IfcExportAs
IfcPredefinedType	BEAM	=IfcExportType
Suggested Filename:	Beam	
Suggested LOD (Design Model)	300	
Suggested Primary Discipline	Structural	

Source

Property Categories

Classification

BIM Forum

Admin data

Masterformat

03 41 00 : Precast Structural Concrete

IFC 2x3

Code compliance data

05 12 00 : Structural Steel Framing

IFC4 Add2

Construction logistics data

06 11 00 : Wood Framing

NATSPEC BIM

Cost data

03 30 00 : Cast-in-Place Concrete

NATSPEC Spec

Facilities management data

NatspecWorksection

0310 Concrete – combined

Geometric data

0321 Precast concrete

Manufacturer data

0341 Structural steelwork

Performance data

0381 Structural timber

Scheduling data

Omniclass Table 21 Elements

21-02 10 10 10 : Floor Structural Frame

Spatial and location data

Omniclass Table 22 Work Results

22-03 30 00 : Cast-in-Place Concrete

Specification data

22-03 41 00 : Precast Structural Concrete

Sustainability data

22-05 12 00 : Structural Steel Framing

22-06 11 00 : Wood Framing

Omniclass Table 23 Products

23-13 35 19 : Rafters, Beams, and Joists

Uniclass Elements	EF_20_20 : Beams
Uniclass Products	Pr_20_85_08 : Beams and joists
Uniclass Systems	Ss_20_20_75 : Structural beam systems
Unifomat	B1010.10 : Floor Structural Frame

Property	Source	Description
Admin data		
CreatedBy	NATSPEC BIM	The name of the person, organisation or library provider that created the object.
CreatedByURL	NATSPEC BIM	URL hyperlink to the object creator's website.
ModifiedIssue	NATSPEC BIM	To record the last date of issue (version or revision) of the object within an object library. Add the date in the following format <yyyymmdd.no> where the 'no' suffix is equal to the number of times the object has been issued on that date. For example 20180316.01.
Reference	PSet_BeamCommon (IFC4) PSet_BeamCommon (IFC2x3)	Reference ID for a specified type in a project (e.g. type 'A-1'). Also known as Construction type. Provide as an alternative to the name of the object type, if software does not support object types.
Code compliance data		
FireMitigation	NATSPEC BIM	
FireRating	NATSPEC BIM PSet_BeamCommon (IFC4) PSet_BeamCommon (IFC2x3)	Fire rating of object. Also known as the FRL (Fire Resistance Level) e.g. 60/60/60.
Fireproofed	BIM Forum	
Construction logistics data		
ConstructionMethod	NATSPEC BIM	
GrossWeight	Qto_BeamBaseQuantities (IFC4) NATSPEC BIM IfcBeam (IFC2x3)	
NetWeight	Qto_BeamBaseQuantities (IFC4) IfcBeam (IFC2x3)	Takes all openings or recesses into account.
ShippingWeight	NATSPEC BIM	

Status	PSet_BeamCommon (IFC4)	Status of the object, predominately used in renovation or retrofitting projects. Complete value with: NEW, EXISTING, DEMOLISH, TEMPORARY, OTHER, NOTKNOWN or UNSET
StoragePlacementOnSite	NATSPEC BIM	
Cost data		
AdditionalTax	NATSPEC BIM	
AssemblyCost	NATSPEC BIM	
AssetAccountingType	Pset_Asset (IFC4)Pset_Asset (IFC2x3)	Asset type for accounting purposes. Complete value with: FIXED, NONFIXED, OTHER, NOTKNOWN or UNSET (PEnum_AssetAccountingType)
AssetInsuranceType	Pset_Asset (IFC4)Pset_Asset (IFC2x3)	Type of insurance rating. Complete value with: PERSONAL, REAL, OTHER, NOTKNOWN or UNSET (PEnum_AssetInsuranceType)
AssetTaxType	Pset_Asset (IFC4)Pset_Asset (IFC2x3)	Type of taxation group. Complete value with: CAPITALISED, EXPENDED, OTHER, NOTKNOWN or UNSET (PEnum_AssetTaxType)
ConceptualCost	NATSPEC BIM	
CostOverRun	NATSPEC BIM	
FutureCostAssumptions	NATSPEC BIM	
InstallationCost	NATSPEC BIM	
InstalledCost	NATSPEC BIM	
PurchaseInformation	NATSPEC BIM	
RecordedActualCost	NATSPEC BIM	

ShippingCost	NATSPEC BIM	
TotalOwnershipCost	NATSPEC BIM	
Facilities management data		
AcquisitionDate	Pset_ManufacturerOccurrence (IFC4) Pset_ManufacturerOccurrence (IFC2x3)	Date the item was purchased (Format: YYYY-MM-DD).
AssessmentCondition	NATSPEC BIM Pset_Condition (IFC4)	Overall condition rating based on assessment. Rating scale to be agreed prior (e.g. Good, OK , Poor).
AssessmentDate	Pset_Condition (IFC4)	Date of overall condition assessment (Format: YYYY-MM-DD).
AssessmentDescription	Pset_Condition (IFC4)	Qualitative description of the condition.
ComponentID	NATSPEC BIM	
Exclusions	Pset_Warranty (IFC4) Pset_Warranty (IFC2x3)	Items, conditions or actions that may be excluded from the warranty or that may cause the warranty to become void.
ExpectedLife	NATSPEC BIM	Expected serviceable life of object.
InstallationDate	NATSPEC BIM	Format: YYYY-MM-DD.
IsExtendedWarranty	Pset_Warranty (IFC4) Pset_Warranty (IFC2x3)	Complete value with: TRUE or FALSE (IfcBoolean)
ReplacementCost	NATSPEC BIM	Cost to replace product.
WarrantyContent	Pset_Warranty (IFC4) NATSPEC BIM Pset_Warranty (IFC2x3)	Description of what is included in warranty.
WarrantyEndDate	Pset_Warranty (IFC4) NATSPEC BIM Pset_Warranty (IFC2x3)	Format: YYYY-MM-DD.
WarrantyIdentifier	Pset_Warranty (IFC4) Pset_Warranty (IFC2x3)	Identifier assigned to warranty.
	Pset_Warranty (IFC4) Pset_Warranty	

WarrantyPeriod	(IFC2x3)	
WarrantyStartDate	Pset_Warranty (IFC4) NATSPEC BIM Pset_Warranty (IFC2x3)	Format: YYYY-MM-DD.
Geometric data		
AISCShapeTypeSize	BIM Forum	
Camber	BIM Forum	
ConcreteCover	NATSPEC Spec	Min cover to reinforcement.
CrossSectionArea	NATSPEC BIM Qto_BeamBaseQuantities (IFC4) IfcBeam (IFC2x3)	
Depth	NATSPEC BIM	
GrossSurfaceArea	Qto_BeamBaseQuantities (IFC4)	
GrossVolume	NATSPEC BIM Qto_BeamBaseQuantities (IFC4) IfcBeam (IFC2x3)	
Length	NATSPEC BIM Qto_BeamBaseQuantities (IFC4)	
NetSurfaceArea	Qto_BeamBaseQuantities (IFC4)	Takes all openings or recesses into account.
NetVolume	Qto_BeamBaseQuantities (IFC4) IfcBeam (IFC2x3)	Takes all openings or recesses into account.
NominalLength	IfcBeam (IFC2x3)	Typically the primary or larger of the two perpendicular horizontal dimensions of the object.
OuterSurfaceArea	Qto_BeamBaseQuantities (IFC4) IfcBeam (IFC2x3)	
Size	NATSPEC BIM NATSPEC Spec	
	NATSPEC BIM Pset_BeamCommon	

Slope	(IFC4)PSet_BeamCommon (IFC2x3)	Slope relative to the horizontal.
Span	PSet_BeamCommon (IFC4) PSet_BeamCommon (IFC2x3)	
TotalSurfaceArea	IfcBeam (IFC2x3)	
Width	NATSPEC BIM	
Manufacturer data		
Accessories	NATSPEC BIM	Details of available accessories.
ArticleNumber	Pset_ManufacturerTypeInformation (IFC4) Pset_ManufacturerTypeInformation (IFC2x3)	Reference applied to product, according to scheme for article number definition defined by manufacturer. Often used as purchasing number.
AssemblyPlace	NATSPEC BIM Pset_ManufacturerTypeInformation (IFC4)	Defines where assembly is to take place. Complete value with: SITE, FACTORY or NOTDEFINED (IfcAssemblyPlaceEnum)
Availability	NATSPEC BIM	
BarCode	Pset_ManufacturerOccurrence (IFC4) Pset_ManufacturerOccurrence (IFC2x3)	Bar code given to occurrence of the product.
BatchReference	Pset_ManufacturerOccurrence (IFC4) Pset_ManufacturerOccurrence (IFC2x3)	Identity of the batch from which the occurrence of the product is taken.
Defects	NATSPEC BIM	To record any defects found.
FabricationSequenceNumber	BIM Forum	
GlobalTradeItemNumber	Pset_ManufacturerTypeInformation (IFC4)	GTIN is an identifier for trade items developed by GS1 (www.gs1.org).
Manufacturer	NATSPEC BIM Pset_ManufacturerTypeInformation (IFC4) Pset_ManufacturerTypeInformation (IFC2x3)	Name of the manufacturer (or assembler).

ManufacturerURL	NATSPEC BIM	URL hyperlink to the manufacturer's website.
ModelLabel	Pset_ManufacturerTypeInformation (IFC4)	The descriptive model name of the product model (or product line) as assigned by the manufacturer of the manufactured item.
ModelLabel	Pset_ManufacturerTypeInformation (IFC2x3)	The model number and/or unit designator assigned by the manufacturer of the manufactured item.
ModelReference	Pset_ManufacturerTypeInformation (IFC4)	The model number or designator of the product model (or product line) as assigned by the manufacturer of the manufactured item.
ModelReference	Pset_ManufacturerTypeInformation (IFC2x3)	The name of the manufactured item as used by the manufacturer.
OrderNumber	NATSPEC BIM	
PointOfContact	Pset_Warranty (IFC4) Pset_Warranty (IFC2x3)	Organization that should be contacted for action under the terms of the warranty.
ProductionYear	Pset_ManufacturerTypeInformation (IFC4) Pset_ManufacturerTypeInformation (IFC2x3)	
SerialNumber	Pset_ManufacturerOccurrence (IFC4) Pset_ManufacturerOccurrence (IFC2x3)	Serial number assigned to an occurrence of a product.
Performance data		
ConcreteCompressiveStrength28Day	BIM Forum NATSPEC Spec	
DeadLoad	NATSPEC BIM	
Deflection	NATSPEC BIM	
LiveLoad	NATSPEC BIM	
PointLoadCapacity	NATSPEC BIM	
ThermalTransmittance	PSet_BeamCommon (IFC4)	Thermal transmittance coefficient (U-Value).

Scheduling data		
DeliverBy	NATSPEC BIM	
FabricationTime	NATSPEC BIM	
InstallationSequence	NATSPEC BIM	
InstallationTime	NATSPEC BIM	
LeadTime	NATSPEC BIM	
Spatial and location data		
FloorID	NATSPEC BIM	
GISTag	NATSPEC BIM	
GPSTag	NATSPEC BIM	
SpaceID	NATSPEC BIM	
Specification data		
AESSCategory	BIM Forum	
ASTMMaterialGrade	BIM Forum	
BottomReinforcement	BIM ForumNATSPEC Spec	
Coating	BIM Forum	
ConcreteSurfaceFinishClass	NATSPEC Spec	
ExposureClassification	NATSPEC Spec	
Finish	NATSPEC BIM	Specification of surface finish.
IsExternal	PSet_BeamCommon (IFC4) PSet_BeamCommon (IFC2x3)	Complete value with: TRUE or FALSE (IfcBoolean)

LoadBearing	PSet_BeamCommon (IFC4) PSet_BeamCommon (IFC2x3)	Indicates if object is intended to carry loads. Complete value with: TRUE or FALSE (IfcBoolean)
Material	NATSPEC BIM	
Roll	PSet_BeamCommon (IFC4)	Rotation against the longitudinal axis.
ShearReinforcement	BIM Forum NATSPEC Spec NATSPEC Spec	
ShearStuds	BIM Forum	
SpecificationCode	NATSPEC BIM	
SpecificationSystem	NATSPEC BIM	
SpecificationTitle	NATSPEC BIM	
SteelCoating	NATSPEC Spec	
SteelGrade	NATSPEC Spec	
TimberDurabilityClass	NATSPEC Spec	
TimberSpecies	NATSPEC Spec	
TimberStressGrade	NATSPEC Spec	
TimberType	NATSPEC Spec	
TopReinforcement	NATSPEC Spec	
TypicalWeldSpecifications	BIM Forum	
Sustainability data		
CarbonFootprint	NATSPEC BIM	
ItemIsNew	NATSPEC BIM	

ItemIsPartiallyRecycled	NATSPEC BIM	
ItemIsRecycled	NATSPEC BIM	
PostConsumerRecycledContent	NATSPEC BIM	
PostIndustrialRecycledContent	NATSPEC BIM	
PreConsumerRecycledContent	NATSPEC BIM	
RecycledContent	NATSPEC BIM	