

Load bearing solid wall

A wall bounds or subdivides spaces. Walls are usually vertical, or near vertical, planar elements, often designed to bear structural loads. It can also simply be an architectural element which is non-load bearing.

A load bearing solid wall is a massive wall construction with a single core layer or having multiple layers attached. Such walls are often masonry or concrete walls (both cast in-situ or precast) that are load bearing and fire protecting.

IFC 2x3 note

For IFC2x3 use the PredefinedType enumerator of STANDARD.

IfcElementType	IfcWall	=IfcExportAs
IfcPredefinedType	SOLIDWALL	=IfcExportType
Suggested Filename:	Wall_LoadBearing	
Suggested LOD (Design Model)	300	
Suggested Primary Discipline	Structural	

Source	Property Categories	Classification	
BIM Forum	Admin data	Masterformat	03 40 00 : Precast Concrete
IFC 2x3	Code compliance data		04 20 00 : Unit Masonry
IFC4 Add2	Construction logistics data		13 35 13 : Rammed Earth Walls
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		0322 Tilt-up concrete
	Performance data		0331 Brick and block construction
	Scheduling data		0361 Monolithic stabilised earth walls
	Spatial and location data		0362 Mud brick walls
	Specification data		0363 Straw bale walls
	Sustainability data	Omniclass Table 21 Elements	21-02 10 10 10 : Floor Structural Frame

	21-02 10 20 10 : Roof Structural Frame
Omniclass Table 22 Work Results	22-03 30 00 : Cast-in-Place Concrete
	22-03 40 00 : Precast Concrete
	22-04 20 00 : Unit Masonry
	22-13 35 13 : Rammed Earth Walls
Omniclass Table 23 Products	23-13 35 21 : Structural Walls
Uniclass Elements	EF_25_10 : Walls
Uniclass Products	Pr_20_93_51 : Masonry flooring units
	Pr_20_93_85 : Structural walling units
Uniclass Systems	Ss_25_11 : Monolithic wall structure systems
	Ss_25_12 : Panel wall structure systems
	Ss_25_13 : Unit wall structure systems
Uniformat	B1020.10 : Roof Structural Frame
	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_WallCommon (IFC4) PSet_WallCommon (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		
FireRating	BIM Forum NATSPEC BIM PSet_WallCommon (IFC4) NATSPEC Spec PSet_WallCommon (IFC2x3)	Fire rating of object. Also known as the FRL (Fire Resistance Level) e.g. 60/60/60.
SurfaceSpreadOfFlame	PSet_WallCommon (IFC4) PSet_WallCommon (IFC2x3)	Indication of how flames spread around surface, according to the applicable building code.
Construction logistics data		
Construction	BIM Forum	
ConstructionMethod	NATSPEC BIM	
GrossWeight	Qto_WallBaseQuantities (IFC4) NATSPEC BIM	
NetWeight	Qto_WallBaseQuantities (IFC4)	Takes all openings or recesses into account.

ShippingWeight	NATSPEC BIM	
Status	PSet_WallCommon (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	NATSPEC BIM Pset_Warranty (IFC4) Pset_Warranty (IFC2x3)	Description of what is included in warranty.
WarrantyEndDate	NATSPEC BIM Pset_Warranty (IFC4) Pset_Warranty (IFC2x3)	Format: YYYY-MM-DD.
WarrantyIdentifier	Pset_Warranty (IFC4) Pset_Warranty (IFC2x3)	Identifier assigned to warranty.

WarrantyPeriod	Pset_Warranty (IFC4) Pset_Warranty (IFC2x3)	
WarrantyStartDate	NATSPEC BIM Pset_Warranty (IFC4) Pset_Warranty (IFC2x3)	Format: YYYY-MM-DD.
Geometric data		
CrossSectionArea	NATSPEC BIM	
GrossFootprintArea	Qto_WallBaseQuantities (IFC4) IfcWall (IFC2x3)	
GrossSideArea	Qto_WallBaseQuantities (IFC4) IfcWall (IFC2x3)	
GrossSideAreaLeft	IfcWall (IFC2x3)	
GrossSideAreaRight	IfcWall (IFC2x3)	
GrossVolume	NATSPEC BIM IfcWall (IFC2x3)	
Height	NATSPEC BIM Qto_WallBaseQuantities (IFC4)	
Length	NATSPEC BIM Qto_WallBaseQuantities (IFC4)	
MasonryUnitSize	NATSPEC Spec	
NetFootprintArea	Qto_WallBaseQuantities (IFC4) IfcWall (IFC2x3)	Takes all openings or recesses into account.
NetSideArea	Qto_WallBaseQuantities (IFC4) IfcWall (IFC2x3)	Takes all openings or recesses into account.
NetSideAreaLeft	IfcWall (IFC2x3)	
NetSideAreaRight	IfcWall (IFC2x3)	

NetVolume	Qto_WallBaseQuantities (IFC4) IfcWall (IFC2x3)	Takes all openings or recesses into account.
NominalHeight	IfcWall (IFC2x3)	Typically the vertical characteristic dimension of the object.
NominalLength	IfcWall (IFC2x3)	Typically the primary or larger of the two perpendicular horizontal dimensions of the object.
NominalWidth	IfcWall (IFC2x3)	Typically the secondary or smaller of the two perpendicular horizontal dimensions of the object.
Width	NATSPEC BIMQto_WallBaseQuantities (IFC4)	
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.
GlobalTradeItemNumber	Pset_ManufacturerTypeInformation (IFC4)	GTIN is an identifier for trade items developed by GS1 (www.gs1.org).
	NATSPEC BIM	

Manufacturer	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.
ProductType	NATSPEC BIM	
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		
AcousticRating	NATSPEC BIM PSet_WallCommon (IFC4) NATSPEC Spec PSet_WallCommon (IFC2x3)	Acoustic rating for the object. Indicates the sound transmission resistance of the object by an index ratio.
CapacityHorizontalLoad	NATSPEC Spec	

CapacityVerticalLoad	NATSPEC Spec	
ConcreteCompressiveStrength28Day	BIM ForumNATSPEC Spec	
CondensationResistance	BIM Forum	
Deflection	NATSPEC BIM	
DesignServiceabilityHorizontalLoad	NATSPEC Spec	
DesignServiceabilityVerticalLoad	NATSPEC Spec	
DesignUltimateHorizontalLoad	NATSPEC Spec	
DesignUltimateVerticalLoad	NATSPEC Spec	
ImpactResistanceHail	BIM Forum	
Infiltration	BIM ForumNATSPEC BIM	Infiltration flowrate.
MasonryUnitCompressiveStrength	NATSPEC Spec	
MasonryUnitExpansionCoefficient	NATSPEC Spec	
MortarClass	NATSPEC Spec	
RValue	BIM ForumNATSPEC BIM	
RadiationResistance	NATSPEC BIM	
ThermalTransmittance	NATSPEC BIMPSet_WallCommon (IFC4)PSet_WallCommon (IFC2x3)	Thermal transmittance coefficient (U-Value).
UVResistance	BIM Forum	
WaterPenetrationResistance	BIM Forum	
WindLoadCapacity	NATSPEC BIM	
WindLoadCapacityDrag	BIM Forum	

WindLoadCapacityPressure	BIM Forum	
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		
Combustible	PSet_WallCommon (IFC4) PSet_WallCommon (IFC2x3)	Is object made from combustible material. Complete value with: TRUE or FALSE (IfcBoolean)
Compartmentation	PSet_WallCommon (IFC4) PSet_WallCommon (IFC2x3)	Is object designed to serve as fire compartmentation. Complete value with: TRUE or FALSE (IfcBoolean)
ConcreteSurfaceFinishClass	NATSPEC Spec	
ExtendToStructure	PSet_WallCommon (IFC4) PSet_WallCommon (IFC2x3)	Indicates whether the object extends to structure above. Complete value with: TRUE or FALSE (IfcBoolean)
ExteriorFinish	NATSPEC BIM	

InteriorFinish	NATSPEC BIM	
IsExternal	PSet_WallCommon (IFC4) PSet_WallCommon (IFC2x3)	Complete value with: TRUE or FALSE (IfcBoolean)
LoadBearing	PSet_WallCommon (IFC4) PSet_WallCommon (IFC2x3)	Indicates if object is intended to carry loads. Complete value with: TRUE or FALSE (IfcBoolean)
Material	NATSPEC BIM	
MaterialInsulation	BIM Forum	
MaterialSkin	BIM Forum	
MaterialSubstrate	BIM Forum	
MoldingCoving	NATSPEC BIM	
MoldingRail	NATSPEC BIM	
MoldingSkirting	NATSPEC BIM	
MortarBond	NATSPEC Spec	
MortarJointProfile	NATSPEC Spec	
Reinforcement	NATSPEC Spec	
ShearReinforcement	BIM Forum	
SpecificationCode	NATSPEC BIM	
SpecificationSystem	NATSPEC BIM	
SpecificationTitle	NATSPEC BIM	
VapourTransmission	NATSPEC BIM	
WallType	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	