

# Purlin

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A structural member designed to carry loads between or beyond points of support. The orientation of the member (being horizontal, vertical or sloped) is not relevant to its definition (contrary to a beam or column). A member represents a linear structural element from an architectural or structural modeling point of view and shall be used if it cannot be expressed more specifically as either a beam or a column. It can also simply be an architectural element which is non-load bearing.

A purlin is a linear structural member (usually used horizontally) within a roof structure to support rafters or roof sheeting.

IfcElementType	IfcMember =IfcExportAs
IfcPredefinedType	PURLIN =IfcExportType
Suggested Filename:	Purlin
Suggested LOD (Design Model)	300
Suggested Primary Discipline	Structural

## Source

## Property Categories

## Classification

IFC 2x3	Admin data	Masterformat	05 40 00 : Cold-Formed Metal Framing
IFC4 Add2	Code compliance data		06 11 00 : Wood Framing
NATSPEC BIM	Construction logistics data	NatspecWorksection	0341 Structural steelwork
NATSPEC Spec	Cost data		0342 Light steel framing
	Facilities management data		0381 Structural timber
	Geometric data		0382 Light timber framing
	Manufacturer data	Omniclass Table 21 Elements	21-02 10 20 10 : Roof Structural Frame
	Performance data		
	Scheduling data	Omniclass Table 22 Work Results	22-05 40 00 : Cold-Formed Metal Framing 22-06 11 00 : Wood Framing
	Spatial and location data		
	Specification data	Omniclass Table 23 Products	23-13 37 23 11 : Supports for Coverings and Claddings
	Sustainability data		23-13 39 27 13 : Roof Battens Cladding

Uniclass Elements	EF_20_20 : Beams
Uniclass Products	Pr_20_76_51_21 : Cold-formed galvanized steel sections
	Pr_20_76_88_43 : Hardwood roofing and cladding battens
	Pr_20_76_88_82 : Softwood roofing and cladding battens
Uniclass Systems	Ss_20_10_75_45 : Light steel framing systems
	Ss_20_10_75_85 : Timber framing systems
Unifomat	B1020.10 : Roof 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_MemberCommon (IFC4) Pset_MemberCommon (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	NATSPEC BIM Pset_MemberCommon (IFC4) Pset_MemberCommon (IFC2x3)	Fire rating of object. Also known as the FRL (Fire Resistance Level) e.g. 60/60/60.
Construction logistics data		
ConstructionMethod	NATSPEC BIM	
GrossWeight	Qto_MemberBaseQuantities (IFC4) NATSPEC BIM IfcMember (IFC2x3)	
NetWeight	Qto_MemberBaseQuantities (IFC4) IfcMember (IFC2x3)	Takes all openings or recesses into account.
ShippingWeight	NATSPEC BIM	
Status	Pset_MemberCommon (IFC4)	Status of the object, predominately used in renovation or retrofitting projects. <b>Complete value with:</b> 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. <b>Complete value with:</b> FIXED, NONFIXED, OTHER, NOTKNOWN or UNSET (PEnum_AssetAccountingType)
AssetInsuranceType	Pset_Asset (IFC4)Pset_Asset (IFC2x3)	Type of insurance rating. <b>Complete value with:</b> PERSONAL, REAL, OTHER, NOTKNOWN or UNSET (PEnum_AssetInsuranceType)
AssetTaxType	Pset_Asset (IFC4)Pset_Asset (IFC2x3)	Type of taxation group. <b>Complete value with:</b> 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)	<b>Complete value with:</b> 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 Qto_MemberBaseQuantities (IFC4) IfcMember (IFC2x3)	
GrossSurfaceArea	Qto_MemberBaseQuantities (IFC4)	
GrossVolume	Qto_MemberBaseQuantities (IFC4) IfcMember (IFC2x3)	
Length	NATSPEC BIM Qto_MemberBaseQuantities (IFC4)	
NetSurfaceArea	Qto_MemberBaseQuantities (IFC4)	Takes all openings or recesses into account.
NetVolume	Qto_MemberBaseQuantities (IFC4) IfcMember (IFC2x3)	Takes all openings or recesses into account.
NominalLength	IfcMember (IFC2x3)	Typically the primary or larger of the two perpendicular horizontal dimensions of the object.
OuterSurfaceArea	Qto_MemberBaseQuantities (IFC4) IfcMember (IFC2x3)	
Size	NATSPEC BIM NATSPEC Spec	
Slope	NATSPEC BIM Pset_MemberCommon (IFC4) Pset_MemberCommon (IFC2x3)	Slope relative to the horizontal.
Span	Pset_MemberCommon (IFC4) Pset_MemberCommon (IFC2x3)	
TotalSurfaceArea	IfcMember (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. <b>Complete value with:</b> 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).
Manufacturer	NATSPEC BIM Pset_ManufacturerTypeInformation (IFC4) NATSPEC Spec Pset_ManufacturerTypeInformation (IFC2x3)	Name of the manufacturer (or assembler).
ManufacturerURL	NATSPEC BIM	URL hyperlink to the manufacturer's website.
ModelLabel	Pset_ManufacturerTypeInformation (IFC4) NATSPEC BIM	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) NATSPEC BIM NATSPEC Spec	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.
ProductInformation	NATSPEC BIM	A valid URL hyperlink to further product information, such as technical documentation, installation guides, etc.
ProductType	NATSPEC BIM	
ProductionYear	Pset_ManufacturerTypeInformation (IFC4) NATSPEC BIM Pset_ManufacturerTypeInformation (IFC2x3)	
SerialNumber	Pset_ManufacturerOccurrence (IFC4) NATSPEC BIM Pset_ManufacturerOccurrence (IFC2x3)	Serial number assigned to an occurrence of a product.
Performance data		
CapacityBendingMomentX	NATSPEC Spec	
CapacityBendingMomentY	NATSPEC Spec	
CapacityHorizontalLoad	NATSPEC Spec	
CapacityVerticalLoad	NATSPEC Spec	
DesignBendingMomentX	NATSPEC Spec	
DesignBendingMomentY	NATSPEC Spec	
DesignServiceabilityHorizontalLoad	NATSPEC Spec	
DesignServiceabilityVerticalLoad	NATSPEC Spec	

DesignUltimateHorizontalLoad	NATSPEC Spec	
DesignUltimateVerticalLoad	NATSPEC Spec	
ThermalTransmittance	Pset_MemberCommon (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		
Finish	NATSPEC BIM	Specification of surface finish.
IsExternal	Pset_MemberCommon (IFC4) Pset_MemberCommon (IFC2x3)	<b>Complete value with:</b> TRUE or FALSE (IfcBoolean)
LoadBearing	Pset_MemberCommon (IFC4) Pset_MemberCommon (IFC2x3)	Indicates if object is intended to carry loads. <b>Complete value with:</b> TRUE or FALSE (IfcBoolean)
Material	NATSPEC BIM	

Roll	Pset_MemberCommon (IFC4)	Rotation against the longitudinal axis.
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	
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	