

# Undefined shading unit

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A shading device is a purpose built device to protect from sunlight, natural light, or to screen them from view. Shading devices can form part of the facade or can be mounted inside the building, they can be fixed or operable.

An undefined shading unit is a placeholder shading device for when the type of shading device has not yet been determined.

## IFC 2x3 note

For IFC2x3 use the IfcObjectType of IfcBuildingElementProxy and the PredefinedType enumerator of USERDEFINED.

|                              |                  |                |
|------------------------------|------------------|----------------|
| IfcElementType               | IfcShadingDevice | =IfcExportAs   |
| IfcPredefinedType            | NOTDEFINED       | =IfcExportType |
| Suggested Filename:          | Shading          |                |
| Suggested LOD (Design Model) | 100              |                |
| Suggested Primary Discipline | Architectural    |                |

## Source

## Property Categories

## Classification

|              |                             |                                 |  |
|--------------|-----------------------------|---------------------------------|--|
| COBie        | Admin data                  | Masterformat                    | 10 73 00 : Protective Covers                         |
| IFC 2x3      | Code compliance data        |                                 | 12 20 00 : Window Treatments                         |
| IFC4 Add2    | Construction logistics data |                                 | 10 71 13 : Exterior Sun Control Devices              |
| NATSPEC BIM  | Cost data                   | NatspecWorksection              | 0457 External screens                                |
| NATSPEC Spec | Facilities management data  |                                 | 0574 Window coverings                                |
|              | Geometric data              | Omniclass Table 21 Elements     | 21-02 20 80 30 : Exterior Opening Protection Devices |
|              | Manufacturer data           |                                 |  |
|              | Performance data            | Omniclass Table 22 Work Results | 22-10 71 13 : Exterior Sun Control Devices           |
|              | Scheduling data             |                                 | 22-10 73 00 : Protective Covers                      |
|              | Spatial and location data   |                                 | 22-12 20 00 : Window Treatments                      |
|              | Specification data          | Omniclass Table 23 Products     | 23-17 21 11 : Exterior Protection of Openings        |
|              |                             |                                 | 23-17 21 13 : Interior Window Treatment              |
|              |                             | Uniclass Elements               | EF_40_20 : Fittings                                  |

Uniclass Products

Pr\_30\_59\_07 : Blinds and shading devices

Pr\_30\_59\_09 : Brise-soleils and components

Uniclass Systems

Ss\_25\_50 : Wall mounted canopy and screen systems

Unifomat

B2080.30 : Exterior Opening Protection Devices

| 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. |
| ObjectType                  | IfcBuildingElementProxy (IFC2x3) | Required for PredefinedType of USERDEFINED<br><b>Complete value with:</b> UNDEFINED_SHADING   |
| Reference                   | Pset_ShadingDeviceCommon (IFC4)  | 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                      | Fire rating of object. Also known as the FRL (Fire Resistance Level) e.g. 60/60/60.   |
| Construction logistics data |                                  |   |
| ConstructionMethod          | NATSPEC BIM                      |   |
| Status                      | Pset_ShadingDeviceCommon (IFC4)  | Status of the object, predominately used in renovation or retrofitting projects.<br><b>Complete value with:</b> NEW, EXISTING, DEMOLISH, TEMPORARY, OTHER, NOTKNOWN or UNSET  |
| Cost data                   |                                  |   |
| AdditionalTax               | NATSPEC BIM                      |   |

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|----------------------------|--|--|
| AssemblyCost               | NATSPEC BIM  |  |
| AssetAccountingType        | Pset_Asset (IFC4)<br>Pset_Asset (IFC2x3)                                   | Asset type for accounting purposes.<br><b>Complete value with:</b> FIXED, NONFIXED, OTHER, NOTKNOWN or UNSET (PEnum_AssetAccountingType) |
| AssetInsuranceType         | Pset_Asset (IFC4)<br>Pset_Asset (IFC2x3)                                   | Type of insurance rating.<br><b>Complete value with:</b> PERSONAL, REAL, OTHER, NOTKNOWN or UNSET (PEnum_AssetInsuranceType)             |
| AssetTaxType               | Pset_Asset (IFC4)<br>Pset_Asset (IFC2x3)                                   | Type of taxation group.<br><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  |  |
| TotalOwnershipCost         | NATSPEC BIM  |  |
| Facilities management data |  |  |
| AccessibilityPerformance   | COBie_ElementType<br>COBie_Specification                                   | Accessibility issue(s) that product satisfies.   |
| AcquisitionDate            | Pset_ManufacturerOccurrence (IFC4)<br>Pset_ManufacturerOccurrence (IFC2x3) | Date the item was purchased (Format: YYYY-MM-DD).  |
| AssessmentCondition        | NATSPEC BIM<br>Pset_Condition (IFC4)                                       | Overall condition rating based on assessment. Rating scale to be agreed prior (e.g. Good, OK , Poor).                                    |

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|-----------------------|--|--|
| AssessmentDate        | Pset_Condition (IFC4)                      | Date of overall condition assessment (Format: YYYY-MM-DD).   |
| AssessmentDescription | Pset_Condition (IFC4)                      | Qualitative description of the condition.  |
| AssetIdentifier       | COBie_Component                            | Alternative identifier for specific component, used as defined by contract.  |
| AssetType             | COBie_AssetCOBie_ElementType               | <b>Complete value with:</b> 'Fixed' or 'Movable'   |
| Category              | COBie                                      | Classification code.   |
| CodePerformance       | COBie_ElementTypeCOBie_Specification       | Code compliance requirement(s) that product satisfies.   |
| ComponentID           | NATSPEC BIM                                |  |
| Constituents          | COBie_ElementTypeCOBie_Specification       | Details of various parts of the object.  |
| Description           | COBie                                      | Concise description of the object.   |
| DurationUnit          | COBie                                      | Units used to record expected life duration. Typically 'year'.   |
| 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 BIMCOBie                           | Expected serviceable life of object.   |
| Features              | COBie_ElementTypeCOBie_Specification       | Primary features or important characteristics of the product.  |
| Grade                 | COBie_ElementTypeCOBie_Specification       | Standard grading(s) to which the product corresponds.  |
| InstallationDate      | COBie_Component                            | Format: YYYY-MM-DD.  |
| IsExtendedWarranty    | Pset_Warranty (IFC4)Pset_Warranty (IFC2x3) | <b>Complete value with:</b> TRUE or FALSE (IfcBoolean)   |
| ModelNumber           | COBie                                      | Model number or designator of the product model (or product line) as assigned by the manufacturer.                 |
|                       |  |  |

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|---------------------------|--|--|
| Name                      | COBie  | Unique human readable name for object type.  |
| ReplacementCost           | COBie_EconomicImpactValues<br>COBie_ElementType                          | Cost to replace product.   |
| Shape                     | COBie_ElementTypeCOBie_Specification                                     | Characteristic shape of the object. e.g. Square.   |
| SustainabilityPerformance | COBie_ElementTypeCOBie_Specification                                     | Sustainability issue(s) that product satisfies.  |
| TagNumber                 | COBie_Component  | Tag number for product or equipment at installation.   |
| WarrantyContent           | NATSPEC BIMPset_Warranty (IFC4)<br>Pset_Warranty (IFC2x3)                | Description of what is included in warranty.   |
| WarrantyDescription       | COBie_Warranty   | Concise description of warranty content and any items, conditions or actions that are excluded from warranty or that will cause the warranty to become void. |
| WarrantyDurationLabor     | COBie_Warranty   | Duration of labour warranty.   |
| WarrantyDurationParts     | COBie_Warranty   | Duration of parts warranty.  |
| WarrantyDurationUnit      | COBie  | Units used to record warranty durations. Typically 'year'.   |
| WarrantyEndDate           | NATSPEC BIMPset_Warranty (IFC4)<br>Pset_Warranty (IFC2x3)                | Format: YYYY-MM-DD.  |
| WarrantyGuarantorLabor    | COBie_Warranty   | email address for organisation responsible for labour warranty.  |
| WarrantyGuarantorParts    | COBie_Warranty   | email address for organisation responsible for parts warranty.   |
| WarrantyIdentifier        | Pset_Warranty (IFC4)Pset_Warranty (IFC2x3)                               | Identifier assigned to warranty.   |
| WarrantyPeriod            | Pset_Warranty (IFC4)Pset_Warranty (IFC2x3)                               |  |
| WarrantyStartDate         | NATSPEC BIMCOBie_Component<br>Pset_Warranty (IFC4)Pset_Warranty (IFC2x3) | Format: YYYY-MM-DD.  |

| Geometric data    |  |   |
|-------------------|--|---|
| Area              | NATSPEC BIM  |   |
| Height            | NATSPEC BIM  |   |
| Length            | NATSPEC BIM  |   |
| NominalHeight     | COBie_ElementTypeCOBie_Specification   | Typically the vertical characteristic dimension of the object.  |
| NominalLength     | COBie_ElementTypeCOBie_Specification   | Typically the primary or larger of the two perpendicular horizontal dimensions of the object.   |
| NominalWidth      | COBie_ElementTypeCOBie_Specification   | Typically the secondary or smaller of the two perpendicular horizontal dimensions of the object.  |
| Size              | COBie_ElementTypeCOBie_Specification   |   |
| Width             | NATSPEC BIM  |   |
| Manufacturer data |  |   |
| Accessories       | NATSPEC BIM  | Details of available accessories.   |
| ArticleNumber     | Pset_ManufacturerTypeInformation (IFC4)<br>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<br>Pset_ManufacturerTypeInformation (IFC4)                               | Defines where assembly is to take place.<br><b>Complete value with:</b> SITE, FACTORY or NOTDEFINED (IfcAssemblyPlaceEnum)                |
| BarCode           | COBiePset_ManufacturerOccurrence (IFC4)<br>Pset_ManufacturerOccurrence (IFC2x3)      | Bar code given to occurrence of the product.  |
| BatchReference    | Pset_ManufacturerOccurrence (IFC4)<br>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          | COBieNATSPEC BIM<br>Pset_ManufacturerTypeInformation (IFC4)<br>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.  |
| PointOfContact        | Pset_Warranty (IFC4)Pset_Warranty (IFC2x3)   | Organization that should be contacted for action under the terms of the warranty.   |
| ProductionYear        | Pset_ManufacturerTypeInformation (IFC4)<br>Pset_ManufacturerTypeInformation (IFC2x3)                     |   |
| SerialNumber          | COBiePset_ManufacturerOccurrence (IFC4)Pset_ManufacturerOccurrence (IFC2x3)                              | Serial number assigned to an occurrence of a product.   |
| Performance data      |  |   |
| SolarReflectance      | Pset_ShadingDeviceCommon (IFC4)  | (Rsol): The ratio of incident solar radiation that is reflected by shading system (also named e).                               |
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|                           |                                      |   |
|---------------------------|--------------------------------------|---|
| SolarTransmittance        | Pset_ShadingDeviceCommon (IFC4)      | (Tsol): The ratio of incident solar radiation that directly passes through shading system (also named e). |
| ThermalTransmittance      | Pset_ShadingDeviceCommon (IFC4)      | Thermal transmittance coefficient (U-Value).  |
| VisibleLightReflectance   | Pset_ShadingDeviceCommon (IFC4)      | Fraction of visible light reflected by glazing at normal incidence.                                       |
| VisibleLightTransmittance | Pset_ShadingDeviceCommon (IFC4)      | Fraction of visible light that passes through shading system at normal incidence.                         |
| Scheduling data           |                                      |   |
| 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        |                                      |   |
| Color                     | COBie_ElementTypeCOBie_Specification |   |
| ExteriorFinish            | NATSPEC BIM                          |   |
| Finish                    | COBie_ElementTypeCOBie_Specification | Specification of surface finish.  |
| InteriorFinish            | NATSPEC BIM                          |   |
| IsExternal                | Pset_ShadingDeviceCommon (IFC4)      | <b>Complete value with:</b> TRUE or FALSE (IfcBoolean)  |

|                     |  |  |
|---------------------|--|--|
| Material            | NATSPEC SpecCOBie_ElementType<br>COBie_Specification |  |
| MechanicalOperated  | Pset_ShadingDeviceCommon (IFC4)                      | <b>Complete value with:</b> TRUE or FALSE (IfcBoolean)   |
| Roughness           | Pset_ShadingDeviceCommon (IFC4)                      | Measure of vertical deviations of surface.   |
| ShadingDeviceType   | Pset_ShadingDeviceCommon (IFC4)                      | <b>Complete value with:</b> FIXED, MOVABLE, OVERHANG, SIDEFIN, OTHER, NOTKNOWN or UNSET (PEnum_ElementShading) |
| SpecificationCode   | NATSPEC BIM  |  |
| SpecificationSystem | NATSPEC BIM  |  |
| SpecificationTitle  | NATSPEC BIM  |  |
| SurfaceColor        | Pset_ShadingDeviceCommon (IFC4)                      |  |