



The National BIM Library

BIM Object Guide: Liquid Applied Inverted Roof Covering Systems



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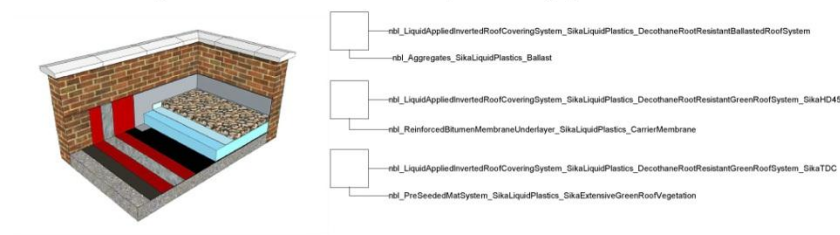
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1.0 Introduction

This guide covers the use of Sika Liquid Plastic Liquid Applied Inverted Roof Covering Systems included within the National BIM Library.

Liquid Applied Inverted Roof Covering System

Sika Liquid Plastics Liquid applied inverted roof covering system



All systems listed below are included in the following file:

nbl_LqdApInvtRfCovSym_SikaLiquidPlastics

Decothane Root Resistant Ballasted Roof System

- Ballast
- Min FX Separation Layer
- Eco Inverted Roof Board
- Decothane Root Resistant
- Carrier Membrane

Decothane Root Resistant Green Roof System – Sika HD45

- Sika Extensive Green Roof Vegetation
- SikaGrow^{Plus} Extensive
- S-Felt VS 140
- Sika HD45
- S-Felt T 300
- Eco Inverted Roof Board
- Decothane Root Resistant
- Carrier Membrane

Decothane Root Resistant Green Roof System – Sika TDC

- Sika Extensive Green Roof Vegetation
- SikaGrow^{Plus} Extensive

- S-Felt VS 140
- Sika TDC
- S-Felt T 300
- Eco Inverted Roof Board
- Decothane Root Resistant
- Carrier Membrane

1.1 Naming

National BIM Library objects are named to identify their type and configuration. Fields are segregated using an under bar (_) and information within each field is segregated using hyphens (-). Fields are abbreviated to reduce characters and capitals used at the start of each abbreviation to aid readability.

File name and objects are named as below:

File name

Field1 *Author_***Field2** *Category_***Field3** *Manufacturer_***Field4** *Product Range*

Object

Field1 *Author_***Field2** *Category***Field3** *Manufacturer_***Field4** *Product_***Field5** *Differentiator*

2.0 System Parameters

Parameters included in the **Liquid Applied Inverted Roof Covering System BIM object** are as follows:

2.1 National BIM Library Parameters

Author	The name of the BIM objects Author.
BIMObjectName	Name of the BIM object as it will appear in software. Using NBL naming procedure.
Description	The full description of a product or system.
Help	URL of a website where additional help notes are available.
IssueDate	The issue date of this BIM object.
ManufacturerURL	URL of the product or system manufacturer.
NBSDescription	NBS Uniclass title.
NBSNote	Where a second system which is related to the BIMobject can be described.
NBSReference	NBS Uniclass section/clause number.
NBSTypeID	A reference to the object for the user if one or more is used within the project.
Uniclass2	Uniclass2 code.
Version	The version number of the BIM object.

2.2 NBS Parameters

Ballast	Ballast material used to secure and protect insulation.
CarrierMembrane	Carrier membrane to provide a stable, level surface.
Certification	Product approval and certification by an accredited

organisation.

FilterLayer	Filter layer to prevent any angular stone or particles from the ballast layer reaching the waterproof covering.
Insulation	Thermal insulation to suit required performance characteristics.
LiquidAppliedWaterproof Coating	Waterproof coating product.
PerimeterUpstandInfill	Granular material used at perimeter upstand locations.
SystemAccessories	Required accessories for the roofing system.

2.3 Manufacturers Parameters

BallastThickness	Ballast thickness measured in [mm].
CarrierMembraneThickness	Carrier membrane thickness measured in [mm].
FilterLayerThickness	Filter layer thickness measured in [mm].
InsulationThickness	Insulation thickness measured in [mm].
LiquidAppliedWaterproofCoatingThickness	Waterproof coating thickness measured in [mm].

2.4 IFC Parameters

Note: IFC definitions have been obtained from BuildingSmart IFC2x3 website (<http://buildingsmart-tech.org>).

AcousticRating	Acoustic rating for this object. It is giving according to the national building code. It indicates the sound transmission resistance of this object by an index ration (instead of providing full sound absorption values).
Combustible	Indication whether the object is made from combustible material (TRUE) or not (FALSE).
Compartmentation	Indication whether the object is designed to serve as a fire compartmentation (TRUE) or not (FALSE).
FireRating	Fire rating for this object. It is given according to the national fire safety classification.
IsExternal	Indication whether the element is designed for use in the exterior (TRUE) or not (FALSE). If (TRUE) it is an external element and faces the outside of the building.
LoadBearing	Indicates whether the object is intended to carry loads (TRUE) or not (FALSE).
Material	Main material of the covering, it should only be given, if no IfcMaterial class is assigned to the IfcCovering instance.
PitchAngle	Angle of the slab to the horizontal when used as a component for the roof (specified as 0 degrees or not asserted for cases where the slab is not used as a roof component). The shape information is provided in addition to the shape representation and the geometric parameters used within. In cases of inconsistency between the geometric parameters and the shape properties, provided in the attached property, the geometric parameters take precedence. For geometry editing applications, like CAD: this value should be write-only.
Reference	Reference ID for this specified type in this project (e.g. type A-1).
SurfaceSpreadOfFlame	Indication on how the flames spread around the surface, It is given according to the national building code that governs the fire behaviour for materials.

ThermalTransmittance

Thermal transmittance coefficient (U-Value) of a material.
Here the total thermal transmittance coefficient through the
roof surface (including all materials).

2.5 COBie Parameters

The following COBie parameters have been included within the Liquid Applied Inverted Roof Covering System BIM object and can be used to prepare COBie data schedules:

AccessibilityPerformance	Accessibility issue(s) which the product satisfies.
AssetIdentifier	The asset identifier assigned to an occurrence of a product (prior to handover).
BarCode	The identity of the bar code (or rfid) given to an occurrence of the product.
CodePerformance	Code Compliance requirement(s) which the product satisfies.
Colour	Characteristic or primary colour of product.
Constituents	Optional constituent features, parts or finishes.
Cost	Cost impact of replacement process.
Documentation	Location (Uniform Resource Information) for further product information.
DocumentReference	Location (Uniform Resource Information) for the source or updates to this product information.
Features	Features or other important characteristics relevant to product specification.
Grade	Standard grading(s) to which the product corresponds.
InstallationDate	The date that the manufactured item was installed.
LifeCyclePhase	Life Cycle Phase as defined in ISO 15978.
Manufacturer	The organization that manufactured or assembled the item.
MethodOfMeasurement	Method of measurement.
ModelLabel	The model number assigned by manufacturer.
ModelReference	The name used by the manufacturer.
NominalHeight	Nominal height of product, typically the vertical or secondary characteristic dimension.

NominalLength	Nominal length of product, typically the larger or primary horizontal dimension.
NominalWidth	Nominal width of product, typically the characteristic or secondary horizontal or characteristic dimension.
Process	Specification of process.
ProductionYear	The year of production for the manufactured item.
ReferenceStandard	Reference standard(s) to which the product is compliant.
ReplacementCost	An indicative cost for unit replacement.
SerialNumber	The serial number assigned to an occurrence of a product by the manufacturer.
ServiceLifeDuration	The length or duration of a service life.
ServiceLifeType	The typical service life that is quoted for an artefact under reference operating conditions.
Shape	Characteristic shape of product.
Size	Characteristic size of product.
SustainabilityPerformance	Sustainability issue(s) which the product satisfies.
TagNumber	The tag number assigned to an occurrence of a product.
WarrantyDescription	Description of the warranty.
WarrantyDurationLabour	Duration of labour warranty (years).
WarrantyDurationParts	Duration of parts warranty (years).
WarrantyGuarantorLabour	Organization acting as guarantor of labour warranty.
WarrantyGuarantorParts	Organization acting as guarantor of parts warranty.
WarrantyStartDate	The date on which the warranty commences.

3.0 Product Parameters

Parameters included in the Sika Liquid Plastics Liquid Applied Inverted Roof Covering System products are listed below.

3.1 Ballast

The Ballast product can be found in the following file:

nbl_Agg_SikaLiquidPlastics_Ballast

Parameters included in the Ballast product are as follows:

3.1.1 NBL Parameters

Author	The name of the BIM objects Author.
BIMObjectName	Name of the BIM object as it will appear in software. Using NBL naming procedure.
Description	The full description of a product or system.
Help	URL of a website where additional help notes are available.
IssueDate	The issue date of this BIM object.
ManufacturerURL	URL of the product or system manufacturer.
NBSDescription	NBS Uniclass title.
NBSNote	Where a second system which is related to the BIMObject can be described.
NBSReference	NBS Uniclass section/clause number.
NBSTypeID	A reference to the object for the user if one or more is used within the project.
Uniclass2	Uniclass2 code.
Version	The version number of the BIM object.

3.1.2 NBS Parameters

3.1.3 Manufacturers Parameters

BallastMaximumWeight The maximum ballast weight measured in [kgs/m²].

BallastMinimumWeight The minimum ballast weight measured in [kgs/m²].

PavingSlabs Paving slab description.

StoneBallast Stone ballast description.

3.1.4 IFC Parameters

Note: IFC definitions have been obtained from BuildingSmart IFC2x3 website (<http://buildingsmart-tech.org>).

AcousticRating	Acoustic rating for this object. It is giving according to the national building code. It indicates the sound transmission resistance of this object by an index ration (instead of providing full sound absorption values).
Combustible	Indication whether the object is made from combustible material (TRUE) or not (FALSE).
FireRating	Fire rating for this object. It is given according to the national fire safety classification.
Finish	Finish selection for this object. Here specification of the surface finish for informational purposes.
FlammabilityRating	Flammability Rating for this object. It is given according to the national building code that governs the rating of flammability for materials.
FragilityRating	Indication on the fragility of the covering (e.g., under fire conditions). It is given according to the national building code that might provide a classification for fragility.
IsExternal	Indication whether the element is designed for use in the exterior (TRUE) or not (FALSE). If (TRUE) it is an external element and faces the outside of the building.
Material	Main material of the covering, it should only be given, if no IfcMaterial class is assigned to the IfcCovering instance.
Reference	Reference ID for this specified type in this project (e.g. type A-1).
SurfaceSpreadOfFlame	Indication on how the flames spread around the surface, It is given according to the national building code that governs the fire behaviour for materials.

3.1.5 COBie Parameters

The following COBie parameters have been included within the Ballast product and can be used to prepare COBie data schedules:

AccessibilityPerformance	Accessibility issue(s) which the product satisfies.
AssetIdentifier	The asset identifier assigned to an occurrence of a product (prior to handover).
BarCode	The identity of the bar code (or rfid) given to an occurrence of the product.
CodePerformance	Code Compliance requirement(s) which the product satisfies.
Colour	Characteristic or primary colour of product.
Constituents	Optional constituent features, parts or finishes.
Cost	Cost impact of replacement process.
Documentation	Location (Uniform Resource Information) for further product information.
DocumentReference	Location (Uniform Resource Information) for the source or updates to this product information.
Features	Features or other important characteristics relevant to product specification.
Grade	Standard grading(s) to which the product corresponds.
InstallationDate	The date that the manufactured item was installed.
LifeCyclePhase	Life Cycle Phase as defined in ISO 15978.
Manufacturer	The organization that manufactured or assembled the item.
MethodOfMeasurement	Method of measurement.
ModelLabel	The model number assigned by manufacturer.
ModelReference	The name used by the manufacturer.
NominalHeight	Nominal height of product, typically the vertical or secondary characteristic dimension.

NominalLength	Nominal length of product, typically the larger or primary horizontal dimension.
NominalWidth	Nominal width of product, typically the characteristic or secondary horizontal or characteristic dimension.
Process	Specification of process.
ProductionYear	The year of production for the manufactured item.
ReferenceStandard	Reference standard(s) to which the product is compliant.
ReplacementCost	An indicative cost for unit replacement.
SerialNumber	The serial number assigned to an occurrence of a product by the manufacturer.
ServiceLifeDuration	The length or duration of a service life.
ServiceLifeType	The typical service life that is quoted for an artefact under reference operating conditions.
Shape	Characteristic shape of product.
Size	Characteristic size of product.
SustainabilityPerformance	Sustainability issue(s) which the product satisfies.
TagNumber	The tag number assigned to an occurrence of a product.
WarrantyDescription	Description of the warranty.
WarrantyDurationLabour	Duration of labour warranty (years).
WarrantyDurationParts	Duration of parts warranty (years).
WarrantyGuarantorLabour	Organization acting as guarantor of labour warranty.
WarrantyGuarantorParts	Organization acting as guarantor of parts warranty.
WarrantyStartDate	The date on which the warranty commences.

3.2 Carrier Membrane

The Carrier Membrane product can be found in the following file:
nbl_RBitmnMbrnUndl_SikaLiquidPlastics_CarrierMembrane

Parameters included in the Carrier Membrane product are as follows:

3.2.1 NBL Parameters

Author	The name of the BIM objects Author.
BIMObjectName	Name of the BIM object as it will appear in software. Using NBL naming procedure.
Description	The full description of a product or system.
Help	URL of a website where additional help notes are available.
IssueDate	The issue date of this BIM object.
ManufacturerURL	URL of the product or system manufacturer.
NBSDescription	NBS Uniclass title.
NBSNote	Where a second system which is related to the BIMObject can be described.
NBSReference	NBS Uniclass section/clause number.
NBSTypeID	A reference to the object for the user if one or more is used within the project.
Uniclass2	Uniclass2 code.
Version	The version number of the BIM object.

3.2.2 NBS Parameters

BitumenModification	Bitumen modification type.
Certification	Product approval and certification by an accredited

organisation.

Class	SNPN Classification according to BS EN 13707.
MembraneCarrierMaterial	Type of material used for the membrane carrier.
StandardThickness	Standard thickness of product measured in [mm].
TopSurfaceFinish	Finish to top surface.
UndersideSurfaceFinish	Finish to underside surface.

3.2.3 Manufacturers Parameters

ElongationAtBreak	Elongation at break in accordance with BS EN 29073-3/ISO 9073-3.
Impermeability	Watertightness in accordance with BS EN 1928.
JointPeelResistance	Peel resistance of joints in accordance to BS EN 12316-1.
LoadRupture	Load at Rupture measured in [N/50mm].
MassPerUnitArea	Mass per unit area in accordance with BS EN 1849-2.
RollLength	Roll length measured in [mm].
RollWeight	Roll weight measured in [kg].
RollWidth	Roll width measured in [mm].
StaticLoadResistance	Resistance to static loading in accordance with BS EN 12730.
TearResistance	Resistance to tearing (nail shank) BS EN 12310-2.
TensileStrength	Tensile properties in accordance with EN 12311-1.
WaterVapourPermeability	Water vapour transmission properties in accordance with BS EN 1931.

3.2.4 IFC Parameters

Note: IFC definitions have been obtained from BuildingSmart IFC2x3 website (<http://buildingsmart-tech.org>).

AcousticRating	Acoustic rating for this object. It is giving according to the national building code. It indicates the sound transmission resistance of this object by an index ration (instead of providing full sound absorption values).
Combustible	Indication whether the object is made from combustible material (TRUE) or not (FALSE).
FireRating	Fire rating for this object. It is given according to the national fire safety classification.
Finish	Finish selection for this object. Here specification of the surface finish for informational purposes.
FlammabilityRating	Flammability Rating for this object. It is given according to the national building code that governs the rating of flammability for materials.
FragilityRating	Indication on the fragility of the covering (e.g., under fire conditions). It is given according to the national building code that might provide a classification for fragility.
Material	Main material of the covering, it should only be given, if no IfcMaterial class is assigned to the IfcCovering instance.
Reference	Reference ID for this specified type in this project (e.g. type A-1).
SurfaceSpreadOfFlame	Indication on how the flames spread around the surface, It is given according to the national building code that governs the fire behaviour for materials.

3.2.5 COBie Parameters

The following COBie parameters have been included within the Carrier Membrane product and can be used to prepare COBie data schedules:

AccessibilityPerformance	Accessibility issue(s) which the product satisfies.
AssetIdentifier	The asset identifier assigned to an occurrence of a product (prior to handover).
BarCode	The identity of the bar code (or rfid) given to an occurrence of the product.
CodePerformance	Code Compliance requirement(s) which the product satisfies.
Colour	Characteristic or primary colour of product.
Constituents	Optional constituent features, parts or finishes.
Cost	Cost impact of replacement process.
Documentation	Location (Uniform Resource Information) for further product information.
DocumentReference	Location (Uniform Resource Information) for the source or updates to this product information.
Features	Features or other important characteristics relevant to product specification.
Grade	Standard grading(s) to which the product corresponds.
InstallationDate	The date that the manufactured item was installed.
LifeCyclePhase	Life Cycle Phase as defined in ISO 15978.
Manufacturer	The organization that manufactured or assembled the item.
MethodOfMeasurement	Method of measurement.
ModelLabel	The model number assigned by manufacturer.
ModelReference	The name used by the manufacturer.
NominalHeight	Nominal height of product, typically the vertical or secondary characteristic dimension.

NominalLength	Nominal length of product, typically the larger or primary horizontal dimension.
NominalWidth	Nominal width of product, typically the characteristic or secondary horizontal or characteristic dimension.
Process	Specification of process.
ProductionYear	The year of production for the manufactured item.
ReferenceStandard	Reference standard(s) to which the product is compliant.
ReplacementCost	An indicative cost for unit replacement.
SerialNumber	The serial number assigned to an occurrence of a product by the manufacturer.
ServiceLifeDuration	The length or duration of a service life.
ServiceLifeType	The typical service life that is quoted for an artefact under reference operating conditions.
Shape	Characteristic shape of product.
Size	Characteristic size of product.
SustainabilityPerformance	Sustainability issue(s) which the product satisfies.
TagNumber	The tag number assigned to an occurrence of a product.
WarrantyDescription	Description of the warranty.
WarrantyDurationLabour	Duration of labour warranty (years).
WarrantyDurationParts	Duration of parts warranty (years).
WarrantyGuarantorLabour	Organization acting as guarantor of labour warranty.
WarrantyGuarantorParts	Organization acting as guarantor of parts warranty.
WarrantyStartDate	The date on which the warranty commences.

3.3 Decothane Root Resistant

The Decothane Root Resistant product can be found in the following file:
nbl_PURWtrprfCoat_SikaLiquidPlastics_DecothaneRootResistant

Parameters included in the Decothane Root Resistant product are as follows:

3.3.1 NBL Parameters

Author	The name of the BIM objects Author.
BIMObjectName	Name of the BIM object as it will appear in software. Using NBL naming procedure.
Description	The full description of a product or system.
Help	URL of a website where additional help notes are available.
IssueDate	The issue date of this BIM object.
ManufacturerURL	URL of the product or system manufacturer.
NBSDescription	NBS Uniclass title.
NBSNote	Where a second system which is related to the BIMObject can be described.
NBSReference	NBS Uniclass section/clause number.
NBSTypeID	A reference to the object for the user if one or more is used within the project.
Uniclass2	Uniclass2 code.
Version	The version number of the BIM object.

3.3.2 NBS Parameters

Admixture	Requirement for a fibre reinforcement admixture.
Certification	Product approval and certification by an accredited organisation.

3.3.3 Manufacturers Parameters

SystemDryFilmThickness	Dry film thickness measured in [mm].
SystemEmbedmentLayer	Embedment layer product.
SystemOptions	Alternative system variations.
SystemPreparatoryLayer	Preparatory layer requirements.
SystemTearForce	Tear force measured in [N].
SystemTearStrength	Tear strength measured in [N/mm].
SystemTensileElongation	Tensile elongation measured in [%].
SystemTensileLoad	Tensile load measured in [N].
SystemTensileStrength	Tensile strength measured in [N/mm ²].
SystemTopCoat	Top coat finish.
SystemVapourPermeability	Vapour permeability measured in [g/m ² /day].

3.3.4 IFC Parameters

Note: IFC definitions have been obtained from BuildingSmart IFC2x3 website (<http://buildingsmart-tech.org>).

AcousticRating	Acoustic rating for this object. It is giving according to the national building code. It indicates the sound transmission resistance of this object by an index ration (instead of providing full sound absorption values).
Combustible	Indication whether the object is made from combustible material (TRUE) or not (FALSE).
FireRating	Fire rating for this object. It is given according to the national fire safety classification.
Finish	Finish selection for this object. Here specification of the surface finish for informational purposes.
FlammabilityRating	Flammability Rating for this object. It is given according to the national building code that governs the rating of flammability for materials.
FragilityRating	Indication on the fragility of the covering (e.g., under fire conditions). It is given according to the national building code that might provide a classification for fragility.
IsExternal	Indication whether the element is designed for use in the exterior (TRUE) or not (FALSE). If (TRUE) it is an external element and faces the outside of the building.
Material	Main material of the covering, it should only be given, if no IfcMaterial class is assigned to the IfcCovering instance.
Reference	Reference ID for this specified type in this project (e.g. type A-1).
SurfaceSpreadOfFlame	Indication on how the flames spread around the surface, It is given according to the national building code that governs the fire behaviour for materials.

3.3.5 COBie Parameters

The following COBie parameters have been included within the Decothane Root Resistant product and can be used to prepare COBie data schedules:

AccessibilityPerformance	Accessibility issue(s) which the product satisfies.
AssetIdentifier	The asset identifier assigned to an occurrence of a product (prior to handover).
BarCode	The identity of the bar code (or rfid) given to an occurrence of the product.
CodePerformance	Code Compliance requirement(s) which the product satisfies.
Colour	Characteristic or primary colour of product.
Constituents	Optional constituent features, parts or finishes.
Cost	Cost impact of replacement process.
Documentation	Location (Uniform Resource Information) for further product information.
DocumentReference	Location (Uniform Resource Information) for the source or updates to this product information.
Features	Features or other important characteristics relevant to product specification.
Grade	Standard grading(s) to which the product corresponds.
InstallationDate	The date that the manufactured item was installed.
LifeCyclePhase	Life Cycle Phase as defined in ISO 15978.
Manufacturer	The organization that manufactured or assembled the item.
MethodOfMeasurement	Method of measurement.
ModelLabel	The model number assigned by manufacturer.
ModelReference	The name used by the manufacturer.
NominalHeight	Nominal height of product, typically the vertical or secondary characteristic dimension.

NominalLength	Nominal length of product, typically the larger or primary horizontal dimension.
NominalWidth	Nominal width of product, typically the characteristic or secondary horizontal or characteristic dimension.
Process	Specification of process.
ProductionYear	The year of production for the manufactured item.
ReferenceStandard	Reference standard(s) to which the product is compliant.
ReplacementCost	An indicative cost for unit replacement.
SerialNumber	The serial number assigned to an occurrence of a product by the manufacturer.
ServiceLifeDuration	The length or duration of a service life.
ServiceLifeType	The typical service life that is quoted for an artefact under reference operating conditions.
Shape	Characteristic shape of product.
Size	Characteristic size of product.
SustainabilityPerformance	Sustainability issue(s) which the product satisfies.
TagNumber	The tag number assigned to an occurrence of a product.
WarrantyDescription	Description of the warranty.
WarrantyDurationLabour	Duration of labour warranty (years).
WarrantyDurationParts	Duration of parts warranty (years).
WarrantyGuarantorLabour	Organization acting as guarantor of labour warranty.
WarrantyGuarantorParts	Organization acting as guarantor of parts warranty.
WarrantyStartDate	The date on which the warranty commences.

3.4 Eco Inverted Roof Board

The Eco Inverted Roof Board product can be found in the following file:
nbl_XPSBrd_SikaLiquidPlastics_EcoInvertedRoofBoard

Parameters included in the Eco Inverted Roof Board product are as follows:

3.4.1 NBL Parameters

Author	The name of the BIM objects Author.
BIMObjectName	Name of the BIM object as it will appear in software. Using NBL naming procedure.
Description	The full description of a product or system.
Help	URL of a website where additional help notes are available.
IssueDate	The issue date of this BIM object.
ManufacturerURL	URL of the product or system manufacturer.
NBSDescription	NBS Uniclass title.
NBSNote	Where a second system which is related to the BIMObject can be described.
NBSReference	NBS Uniclass section/clause number.
NBSTypeID	A reference to the object for the user if one or more is used within the project.
Uniclass2	Uniclass2 code.
Version	The version number of the BIM object.

3.4.2 NBS Parameters

Certification	Product approval and certification by an accredited organisation.
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CompressiveStrength	The resistance of a material to breaking under compression. Measured in [kPa].
CrossSection	Thermal insulation cross sectional characteristics.
Edges	Indication whether board edges are rebated or square.
Facing	Indication whether board facings are bonded or have composite overlay.
StandardThickness	Thermal insulation thickness range measured in [mm].

3.4.3 Manufacturers Parameters

BoardSizes	Thermal insulation board sizes available.
GlobalWarmingPotential	Global warning potential is a simplified index that can be used to estimate the potential future impacts of emissions of different gases upon the climate.
OzoneDepletionPotential	A rating given by the BRE based upon the environmental impacts of building elements and specifications by ranking them on an A+ to E rating scale.
ThermalConductivityOptions	Thermal conductivity according to insulation thickness measured in [W/mK].
WaterVapourTransmission	Water vapour transmission is a measure of the passage of water vapour through a substance. Measured in units of [MN/g].
Uses	Roofing systems the thermal insulation underneath waterproofing layer can be used in.

3.4.4 IFC Parameters

Note: IFC definitions have been obtained from BuildingSmart IFC2x3 website (<http://buildingsmart-tech.org>).

Finish	Finish selection for this object. Here specification of the surface finish for informational purposes.
FireRating	Fire rating for this object. It is given according to the national fire safety classification.
MassDensity	Material mass density, usually measured in [kg/m ³].
Material	Characteristic or primary material of product.
SpecificHeatCapacity	Specific heat of the products of combustion: heat energy absorbed per temperature unit. Usually measured in [J/kg K].
SurfaceSpreadOfFlame	Indication on how the flames spread around the surface, It is given according to the national building code that governs the fire behaviour for materials.
ThermalConductivity	The rate at which thermal energy is transmitted through the material. Usually in [W/mK].
ThermalIrEmissivityBack	Thermal IR emissivity: back side. Defines the fraction of thermal energy emitted per unit area to "blackbody" at the same temperature, through the "back" side of the material.
ThermalIrEmissivityFront	Thermal IR emissivity: front side. Defines the fraction of thermal energy emitted per unit area to "blackbody" at the same temperature, through the "front" side of the material.

3.4.5 COBie Parameters

The following COBie parameters have been included within the Min FX Separation Layer product and can be used to prepare COBie data schedules:

AccessibilityPerformance	Accessibility issue(s) which the product satisfies.
AssetIdentifier	The asset identifier assigned to an occurrence of a product (prior to handover).
BarCode	The identity of the bar code (or rfid) given to an occurrence of the product.
CodePerformance	Code Compliance requirement(s) which the product satisfies.
Colour	Characteristic or primary colour of product.
Constituents	Optional constituent features, parts or finishes.
Cost	Cost impact of replacement process.
Documentation	Location (Uniform Resource Information) for further product information.
DocumentReference	Location (Uniform Resource Information) for the source or updates to this product information.
Features	Features or other important characteristics relevant to product specification.
Grade	Standard grading(s) to which the product corresponds.
InstallationDate	The date that the manufactured item was installed.
LifeCyclePhase	Life Cycle Phase as defined in ISO 15978.
Manufacturer	The organization that manufactured or assembled the item.
MethodOfMeasurement	Method of measurement.
ModelLabel	The model number assigned by manufacturer.
ModelReference	The name used by the manufacturer.
NominalHeight	Nominal height of product, typically the vertical or secondary characteristic dimension.

NominalLength	Nominal length of product, typically the larger or primary horizontal dimension.
NominalWidth	Nominal width of product, typically the characteristic or secondary horizontal or characteristic dimension.
Process	Specification of process.
ProductionYear	The year of production for the manufactured item.
ReferenceStandard	Reference standard(s) to which the product is compliant.
ReplacementCost	An indicative cost for unit replacement.
SerialNumber	The serial number assigned to an occurrence of a product by the manufacturer.
ServiceLifeDuration	The length or duration of a service life.
ServiceLifeType	The typical service life that is quoted for an artefact under reference operating conditions.
Shape	Characteristic shape of product.
Size	Characteristic size of product.
SustainabilityPerformance	Sustainability issue(s) which the product satisfies.
TagNumber	The tag number assigned to an occurrence of a product.
WarrantyDescription	Description of the warranty.
WarrantyDurationLabour	Duration of labour warranty (years).
WarrantyDurationParts	Duration of parts warranty (years).
WarrantyGuarantorLabour	Organization acting as guarantor of labour warranty.
WarrantyGuarantorParts	Organization acting as guarantor of parts warranty.
WarrantyStartDate	The date on which the warranty commences.

3.5 Min FX Separation Layer

The Min FX Separation Layer product can be found in the following file:
nbl_PolythFiltrGeotx_SikaLiquidPlastics_MinFXSeparationLayer

Parameters included in the Min FX Separation Layer product are as follows:

3.5.1 NBL Parameters

Author	The name of the BIM objects Author.
BIMObjectName	Name of the BIM object as it will appear in software. Using NBL naming procedure.
Description	The full description of a product or system.
Help	URL of a website where additional help notes are available.
IssueDate	The issue date of this BIM object.
ManufacturerURL	URL of the product or system manufacturer.
NBSDescription	NBS Uniclass title.
NBSNote	Where a second system which is related to the BIMObject can be described.
NBSReference	NBS Uniclass section/clause number.
NBSTypeID	A reference to the object for the user if one or more is used within the project.
Uniclass2	Uniclass2 code.
Version	The version number of the BIM object.

3.5.2 NBS Parameters

OpeningSize	Size of opening which allows particles of size d90 to pass through. Measured in [µm].
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PunctureResistance	Puncture resistance measured in [N].
StandardThickness	Product thickness measured in [mm].
TensileStrength	Tensile strength measured in [kN/m].
WaterFlowCapacity	Water flow capacity measured in [Lm ² /s].
Weight	Weight of membrane to avoid puncture. Measured in [g/m ²].

3.5.3 Manufacturers Parameters

RollLength	Product roll length measured in [m].
RollWidth	Product roll width measured in [m].

3.5.4 IFC Parameters

Note: IFC definitions have been obtained from BuildingSmart IFC2x3 website (<http://buildingsmart-tech.org>).

AcousticRating	Acoustic rating for this object. It is giving according to the national building code. It indicates the sound transmission resistance of this object by an index ration (instead of providing full sound absorption values).
Combustible	Indication whether the object is made from combustible material (TRUE) or not (FALSE).
FireRating	Fire rating for this object. It is given according to the national fire safety classification.
Finish	Finish selection for this object. Here specification of the surface finish for informational purposes.
FlammabilityRating	Flammability Rating for this object. It is given according to the national building code that governs the rating of flammability for materials.
FragilityRating	Indication on the fragility of the covering (e.g., under fire conditions). It is given according to the national building code that might provide a classification for fragility.
Material	Main material of the covering, it should only be given, if no IfcMaterial class is assigned to the IfcCovering instance.
Reference	Reference ID for this specified type in this project (e.g. type A-1).
SurfaceSpreadOfFlame	Indication on how the flames spread around the surface, It is given according to the national building code that governs the fire behaviour for materials.

3.5.5 COBie Parameters

The following COBie parameters have been included within the Min FX Separation Layer product and can be used to prepare COBie data schedules:

AccessibilityPerformance	Accessibility issue(s) which the product satisfies.
AssetIdentifier	The asset identifier assigned to an occurrence of a product (prior to handover).
BarCode	The identity of the bar code (or rfid) given to an occurrence of the product.
CodePerformance	Code Compliance requirement(s) which the product satisfies.
Colour	Characteristic or primary colour of product.
Constituents	Optional constituent features, parts or finishes.
Cost	Cost impact of replacement process.
Documentation	Location (Uniform Resource Information) for further product information.
DocumentReference	Location (Uniform Resource Information) for the source or updates to this product information.
Features	Features or other important characteristics relevant to product specification.
Grade	Standard grading(s) to which the product corresponds.
InstallationDate	The date that the manufactured item was installed.
LifeCyclePhase	Life Cycle Phase as defined in ISO 15978.
Manufacturer	The organization that manufactured or assembled the item.
MethodOfMeasurement	Method of measurement.
ModelLabel	The model number assigned by manufacturer.
ModelReference	The name used by the manufacturer.
NominalHeight	Nominal height of product, typically the vertical or secondary characteristic dimension.

NominalLength	Nominal length of product, typically the larger or primary horizontal dimension.
NominalWidth	Nominal width of product, typically the characteristic or secondary horizontal or characteristic dimension.
Process	Specification of process.
ProductionYear	The year of production for the manufactured item.
ReferenceStandard	Reference standard(s) to which the product is compliant.
ReplacementCost	An indicative cost for unit replacement.
SerialNumber	The serial number assigned to an occurrence of a product by the manufacturer.
ServiceLifeDuration	The length or duration of a service life.
ServiceLifeType	The typical service life that is quoted for an artefact under reference operating conditions.
Shape	Characteristic shape of product.
Size	Characteristic size of product.
SustainabilityPerformance	Sustainability issue(s) which the product satisfies.
TagNumber	The tag number assigned to an occurrence of a product.
WarrantyDescription	Description of the warranty.
WarrantyDurationLabour	Duration of labour warranty (years).
WarrantyDurationParts	Duration of parts warranty (years).
WarrantyGuarantorLabour	Organization acting as guarantor of labour warranty.
WarrantyGuarantorParts	Organization acting as guarantor of parts warranty.
WarrantyStartDate	The date on which the warranty commences.

3.6 S-Felt T 300

The S-Felt T 300 product can be found in the following file:

nbl_PolyFFIce_SikaLiquidPlastics_S-FeltT300

Parameters included in the S-Felt T 300 product are as follows:

3.6.1 NBL Parameters

Author	The name of the BIM objects Author.
BIMObjectName	Name of the BIM object as it will appear in software. Using NBL naming procedure.
Description	The full description of a product or system.
Help	URL of a website where additional help notes are available.
IssueDate	The issue date of this BIM object.
ManufacturerURL	URL of the product or system manufacturer.
NBSDescription	NBS Uniclass title.
NBSNote	Where a second system which is related to the BIMObject can be described.
NBSReference	NBS Uniclass section/clause number.
NBSTypeID	A reference to the object for the user if one or more is used within the project.
Uniclass2	Uniclass2 code.
Version	The version number of the BIM object.

3.6.2 NBS Parameters

Facing	Indication whether facings are bonded or have composite overlay.
StandardThickness	Standard thickness of product measured in [mm].
Weight	Membrane weight to avoid puncturing measured in [g/m ²].

3.6.3 Manufacturers Parameters

Elongation	Determination of tensile properties BS EN 12311-2.
RollLength	Standard roll length.
RollWeight	Standard roll weight.
RollWidth	Standard roll width.
Surface	Surface appearance.
TensileStrength	Determination of tensile properties BS EN 12311-2.

3.6.4 IFC Parameters

Note: IFC definitions have been obtained from BuildingSmart IFC2x3 website (<http://buildingsmart-tech.org>).

Finish	Finish selection for this object. Here specification of the surface finish for informational purposes.
FireRating	Fire rating for this object. It is given according to the national fire safety classification.
MassDensity	Material mass density, usually measured in [kg/m ³].
Material	Main material of the covering, it should only be given, if no IfcMaterial class is assigned to the IfcCovering instance.
Reference	Reference ID for this specified type in this project (e.g. type A-1).
SpecificHeatCapacity	Specific heat of the products of combustion: heat energy absorbed per temperature unit. Usually measured in [J/kg K].
SurfaceSpreadOfFlame	Indication on how the flames spread around the surface, It is given according to the national building code that governs the fire behaviour for materials.
ThermalConductivity	The rate at which thermal energy is transmitted through the material. Usually in [W/mK].

3.6.5 COBie Parameters

The following COBie parameters have been included within the S-Felt T 300 product and can be used to prepare COBie data schedules:

AccessibilityPerformance	Accessibility issue(s) which the product satisfies.
AssetIdentifier	The asset identifier assigned to an occurrence of a product (prior to handover).
BarCode	The identity of the bar code (or rfid) given to an occurrence of the product.
CodePerformance	Code Compliance requirement(s) which the product satisfies.
Colour	Characteristic or primary colour of product.
Constituents	Optional constituent features, parts or finishes.
Cost	Cost impact of replacement process.
Documentation	Location (Uniform Resource Information) for further product information.
DocumentReference	Location (Uniform Resource Information) for the source or updates to this product information.
Features	Features or other important characteristics relevant to product specification.
Grade	Standard grading(s) to which the product corresponds.
InstallationDate	The date that the manufactured item was installed.
LifeCyclePhase	Life Cycle Phase as defined in ISO 15978.
Manufacturer	The organization that manufactured or assembled the item.
MethodOfMeasurement	Method of measurement.
ModelLabel	The model number assigned by manufacturer.
ModelReference	The name used by the manufacturer.
NominalHeight	Nominal height of product, typically the vertical or secondary characteristic dimension.

NominalLength	Nominal length of product, typically the larger or primary horizontal dimension.
NominalWidth	Nominal width of product, typically the characteristic or secondary horizontal or characteristic dimension.
Process	Specification of process.
ProductionYear	The year of production for the manufactured item.
ReferenceStandard	Reference standard(s) to which the product is compliant.
ReplacementCost	An indicative cost for unit replacement.
SerialNumber	The serial number assigned to an occurrence of a product by the manufacturer.
ServiceLifeDuration	The length or duration of a service life.
ServiceLifeType	The typical service life that is quoted for an artefact under reference operating conditions.
Shape	Characteristic shape of product.
Size	Characteristic size of product.
SustainabilityPerformance	Sustainability issue(s) which the product satisfies.
TagNumber	The tag number assigned to an occurrence of a product.
WarrantyDescription	Description of the warranty.
WarrantyDurationLabour	Duration of labour warranty (years).
WarrantyDurationParts	Duration of parts warranty (years).
WarrantyGuarantorLabour	Organization acting as guarantor of labour warranty.
WarrantyGuarantorParts	Organization acting as guarantor of parts warranty.
WarrantyStartDate	The date on which the warranty commences.

3.7 S-Felt VS 140

The S-Felt VS 140 product can be found in the following file:
nbl_PolyplneFiltrGeotx_SikaLiquidPlastics_S-FeltVS140

Parameters included in the S-Felt VS 140 product are as follows:

3.7.1 NBL Parameters

Author	The name of the BIM objects Author.
BIMObjectName	Name of the BIM object as it will appear in software. Using NBL naming procedure.
Description	The full description of a product or system.
Help	URL of a website where additional help notes are available.
IssueDate	The issue date of this BIM object.
ManufacturerURL	URL of the product or system manufacturer.
NBSDescription	NBS Uniclass title.
NBSNote	Where a second system which is related to the BIMObject can be described.
NBSReference	NBS Uniclass section/clause number.
NBSTypeID	A reference to the object for the user if one or more is used within the project.
Uniclass2	Uniclass2 code.
Version	The version number of the BIM object.

3.7.2 NBS Parameters

OpeningSize	Size of opening which allows particles of size d90 to pass through. Measured in [μm].
PunctureResistance	Puncture resistance measured in [N].

RecycledContent	Indication whether an additional virgin film should be specified to prevent the degrading of a recycled material.
StandardThickness	Product thickness measured in [mm].
TensileStrength	Tensile strength measured in [kN/m].
WaterFlowCapacity	Water flow capacity measured in [Lm ² /s].
Weight	Weight of membrane to avoid puncture. Measured in [g/m ²].

3.7.3 Manufacturers Parameters

Elongation	Determination of tensile properties BS EN 12311-2.
RollLength	Roll length measured in [m].
RollWeight	Standard roll weight.
RollWidth	Roll width measured in [m].

3.7.4 IFC Parameters

Note: IFC definitions have been obtained from BuildingSmart IFC2x3 website (<http://buildingsmart-tech.org>).

AcousticRating	Acoustic rating for this object. It is giving according to the national building code. It indicates the sound transmission resistance of this object by an index ration (instead of providing full sound absorption values).
Combustible	Indication whether the object is made from combustible material (TRUE) or not (FALSE).
FireRating	Fire rating for this object. It is given according to the national fire safety classification.
Finish	Finish selection for this object. Here specification of the surface finish for informational purposes.
FlammabilityRating	Flammability Rating for this object. It is given according to the national building code that governs the rating of flammability for materials.
FragilityRating	Indication on the fragility of the covering (e.g., under fire conditions). It is given according to the national building code that might provide a classification for fragility.
IsExternal	Indication whether the element is designed for use in the exterior (TRUE) or not (FALSE). If (TRUE) it is an external element and faces the outside of the building.
Material	Main material of the covering, it should only be given, if no IfcMaterial class is assigned to the IfcCovering instance.
Reference	Reference ID for this specified type in this project (e.g. type A-1).
SurfaceSpreadOfFlame	Indication on how the flames spread around the surface, It is given according to the national building code that governs the fire behaviour for materials.

3.7.5 COBie Parameters

The following COBie parameters have been included within the S-Felt VS 140 product and can be used to prepare COBie data schedules:

AccessibilityPerformance	Accessibility issue(s) which the product satisfies.
AssetIdentifier	The asset identifier assigned to an occurrence of a product (prior to handover).
BarCode	The identity of the bar code (or rfid) given to an occurrence of the product.
CodePerformance	Code Compliance requirement(s) which the product satisfies.
Colour	Characteristic or primary colour of product.
Constituents	Optional constituent features, parts or finishes.
Cost	Cost impact of replacement process.
Documentation	Location (Uniform Resource Information) for further product information.
DocumentReference	Location (Uniform Resource Information) for the source or updates to this product information.
Features	Features or other important characteristics relevant to product specification.
Grade	Standard grading(s) to which the product corresponds.
InstallationDate	The date that the manufactured item was installed.
LifeCyclePhase	Life Cycle Phase as defined in ISO 15978.
Manufacturer	The organization that manufactured or assembled the item.
MethodOfMeasurement	Method of measurement.
ModelLabel	The model number assigned by manufacturer.
ModelReference	The name used by the manufacturer.
NominalHeight	Nominal height of product, typically the vertical or secondary characteristic dimension.

NominalLength	Nominal length of product, typically the larger or primary horizontal dimension.
NominalWidth	Nominal width of product, typically the characteristic or secondary horizontal or characteristic dimension.
Process	Specification of process.
ProductionYear	The year of production for the manufactured item.
ReferenceStandard	Reference standard(s) to which the product is compliant.
ReplacementCost	An indicative cost for unit replacement.
SerialNumber	The serial number assigned to an occurrence of a product by the manufacturer.
ServiceLifeDuration	The length or duration of a service life.
ServiceLifeType	The typical service life that is quoted for an artefact under reference operating conditions.
Shape	Characteristic shape of product.
Size	Characteristic size of product.
SustainabilityPerformance	Sustainability issue(s) which the product satisfies.
TagNumber	The tag number assigned to an occurrence of a product.
WarrantyDescription	Description of the warranty.
WarrantyDurationLabour	Duration of labour warranty (years).
WarrantyDurationParts	Duration of parts warranty (years).
WarrantyGuarantorLabour	Organization acting as guarantor of labour warranty.
WarrantyGuarantorParts	Organization acting as guarantor of parts warranty.
WarrantyStartDate	The date on which the warranty commences.

3.8 Sika Extensive Green Roof Vegetation

The Sika Extensive Green Roof Vegetation product can be found in the following file:
nbl_PreSdedMatSym_SikaLiquidPlastics_SikaExtensiveGreenRoofVegetation

Parameters included in the Sika Extensive Green Roof Vegetation product are as follows:

3.8.1 NBL Parameters

Author	The name of the BIM objects Author.
BIMObjectName	Name of the BIM object as it will appear in software. Using NBL naming procedure.
Description	The full description of a product or system.
Help	URL of a website where additional help notes are available.
IssueDate	The issue date of this BIM object.
ManufacturerURL	URL of the product or system manufacturer.
NBSDescription	NBS Uniclass title.
NBSNote	Where a second system which is related to the BIMobject can be described.
NBSReference	NBS Uniclass section/clause number.
NBSTypeID	A reference to the object for the user if one or more is used within the project.
Uniclass2	Uniclass2 code.
Version	The version number of the BIM object.

3.8.2 NBS Parameters

Fertilizer	Requirement for an admixture to promote growth.
Herbicide	Pesticides used to kill selective plants.
TopDressing	Required dressing where a grass seed cover is specified.
Turf	Turf type.
TurfNetting	Requirement for turf netting on steep slopes.
WeedSuppression	Suppression layer to control weed growth.

3.8.3 Manufacturers Parameters

VegetationCoverage	Installation coverage measured as a [%].
VegetationThickness	Vegetation thickness measured in [mm].
VegetationPlantingMix	Plant mix specification.
VegetationOptions	Available vegetation options for specification.

3.8.4 IFC Parameters

Note: IFC definitions have been obtained from BuildingSmart IFC2x3 website (<http://buildingsmart-tech.org>).

AcousticRating	Acoustic rating for this object. It is giving according to the national building code. It indicates the sound transmission resistance of this object by an index ration (instead of providing full sound absorption values).
Combustible	Indication whether the object is made from combustible material (TRUE) or not (FALSE).
FireRating	Fire rating for this object. It is given according to the national fire safety classification.
Finish	Finish selection for this object. Here specification of the surface finish for informational purposes.
FlammabilityRating	Flammability Rating for this object. It is given according to the national building code that governs the rating of flammability for materials.
FragilityRating	Indication on the fragility of the covering (e.g., under fire conditions). It is given according to the national building code that might provide a classification for fragility.
IsExternal	Indication whether the element is designed for use in the exterior (TRUE) or not (FALSE). If (TRUE) it is an external element and faces the outside of the building.
Material	Main material of the covering, it should only be given, if no IfcMaterial class is assigned to the IfcCovering instance.
Reference	Reference ID for this specified type in this project (e.g. type A-1).
SurfaceSpreadOfFlame	Indication on how the flames spread around the surface, It is given according to the national building code that governs the fire behaviour for materials.

3.8.5 COBie Parameters

The following COBie parameters have been included within the Sika Extensive Green Roof Vegetation product and can be used to prepare COBie data schedules:

AccessibilityPerformance	Accessibility issue(s) which the product satisfies.
AssetIdentifier	The asset identifier assigned to an occurrence of a product (prior to handover).
BarCode	The identity of the bar code (or rfid) given to an occurrence of the product.
CodePerformance	Code Compliance requirement(s) which the product satisfies.
Colour	Characteristic or primary colour of product.
Constituents	Optional constituent features, parts or finishes.
Cost	Cost impact of replacement process.
Documentation	Location (Uniform Resource Information) for further product information.
DocumentReference	Location (Uniform Resource Information) for the source or updates to this product information.
Features	Features or other important characteristics relevant to product specification.
Grade	Standard grading(s) to which the product corresponds.
InstallationDate	The date that the manufactured item was installed.
LifeCyclePhase	Life Cycle Phase as defined in ISO 15978.
Manufacturer	The organization that manufactured or assembled the item.
MethodOfMeasurement	Method of measurement.
ModelLabel	The model number assigned by manufacturer.
ModelReference	The name used by the manufacturer.
NominalHeight	Nominal height of product, typically the vertical or secondary characteristic dimension.

NominalLength	Nominal length of product, typically the larger or primary horizontal dimension.
NominalWidth	Nominal width of product, typically the characteristic or secondary horizontal or characteristic dimension.
Process	Specification of process.
ProductionYear	The year of production for the manufactured item.
ReferenceStandard	Reference standard(s) to which the product is compliant.
ReplacementCost	An indicative cost for unit replacement.
SerialNumber	The serial number assigned to an occurrence of a product by the manufacturer.
ServiceLifeDuration	The length or duration of a service life.
ServiceLifeType	The typical service life that is quoted for an artefact under reference operating conditions.
Shape	Characteristic shape of product.
Size	Characteristic size of product.
SustainabilityPerformance	Sustainability issue(s) which the product satisfies.
TagNumber	The tag number assigned to an occurrence of a product.
WarrantyDescription	Description of the warranty.
WarrantyDurationLabour	Duration of labour warranty (years).
WarrantyDurationParts	Duration of parts warranty (years).
WarrantyGuarantorLabour	Organization acting as guarantor of labour warranty.
WarrantyGuarantorParts	Organization acting as guarantor of parts warranty.
WarrantyStartDate	The date on which the warranty commences.

3.9 Sika HD45

The Sika HD45 product can be found in the following file:

nbl_PURFoamBrd_SikaLiquidPlastics_SikaHD45

Parameters included in the Sika HD45 product are as follows:

3.9.1 NBL Parameters

Author	The name of the BIM objects Author.
BIMObjectName	Name of the BIM object as it will appear in software. Using NBL naming procedure.
Description	The full description of a product or system.
Help	URL of a website where additional help notes are available.
IssueDate	The issue date of this BIM object.
ManufacturerURL	URL of the product or system manufacturer.
NBSDescription	NBS Uniclass title.
NBSNote	Where a second system which is related to the BIMObject can be described.
NBSReference	NBS Uniclass section/clause number.
NBSTypeID	A reference to the object for the user if one or more is used within the project.
Uniclass2	Uniclass2 code.
Version	The version number of the BIM object.

3.9.2 NBS Parameters

Certification	Product approval and certification by an accredited organisation.
CompressiveStrength	The resistance of a material to breaking under compression.

	Measured in [kPa].
CrossSection	Thermal insulation cross sectional characteristics.
Facing	Indication whether board facings are bonded or have composite overlay.
RecycledContent	Indication whether an additional virgin film should be specified to prevent the degrading of a recycled material.
StandardThickness	Standard thickness of product measured in [mm].

3.9.3 Manufacturers Parameters

DrainageCapacity	Drainage capacity measured in [l/m ²].
Weight	Weight measured in [kg/m ²].

3.9.4 IFC Parameters

Note: IFC definitions have been obtained from BuildingSmart IFC2x3 website (<http://buildingsmart-tech.org>).

Finish	Finish selection for this object. Here specification of the surface finish for informational purposes.
FireRating	Fire rating for this object. It is given according to the national fire safety classification.
MassDensity	Material mass density, usually measured in [kg/m ³].
Material	Main material of the covering, it should only be given, if no IfcMaterial class is assigned to the IfcCovering instance.
Reference	Reference ID for this specified type in this project (e.g. type A-1).
SpecificHeatCapacity	Specific heat of the products of combustion: heat energy absorbed per temperature unit. Usually measured in [J/kg K].
SurfaceSpreadOfFlame	Indication on how the flames spread around the surface, It is given according to the national building code that governs the fire behaviour for materials.
ThermalConductivity	The rate at which thermal energy is transmitted through the material. Usually in [W/mK].

3.9.5 COBie Parameters

The following COBie parameters have been included within the Sika HD45 product and can be used to prepare COBie data schedules:

AccessibilityPerformance	Accessibility issue(s) which the product satisfies.
AssetIdentifier	The asset identifier assigned to an occurrence of a product (prior to handover).
BarCode	The identity of the bar code (or rfid) given to an occurrence of the product.
CodePerformance	Code Compliance requirement(s) which the product satisfies.
Colour	Characteristic or primary colour of product.
Constituents	Optional constituent features, parts or finishes.
Cost	Cost impact of replacement process.
Documentation	Location (Uniform Resource Information) for further product information.
DocumentReference	Location (Uniform Resource Information) for the source or updates to this product information.
Features	Features or other important characteristics relevant to product specification.
Grade	Standard grading(s) to which the product corresponds.
InstallationDate	The date that the manufactured item was installed.
LifeCyclePhase	Life Cycle Phase as defined in ISO 15978.
Manufacturer	The organization that manufactured or assembled the item.
MethodOfMeasurement	Method of measurement.
ModelLabel	The model number assigned by manufacturer.
ModelReference	The name used by the manufacturer.
NominalHeight	Nominal height of product, typically the vertical or secondary characteristic dimension.

NominalLength	Nominal length of product, typically the larger or primary horizontal dimension.
NominalWidth	Nominal width of product, typically the characteristic or secondary horizontal or characteristic dimension.
Process	Specification of process.
ProductionYear	The year of production for the manufactured item.
ReferenceStandard	Reference standard(s) to which the product is compliant.
ReplacementCost	An indicative cost for unit replacement.
SerialNumber	The serial number assigned to an occurrence of a product by the manufacturer.
ServiceLifeDuration	The length or duration of a service life.
ServiceLifeType	The typical service life that is quoted for an artefact under reference operating conditions.
Shape	Characteristic shape of product.
Size	Characteristic size of product.
SustainabilityPerformance	Sustainability issue(s) which the product satisfies.
TagNumber	The tag number assigned to an occurrence of a product.
WarrantyDescription	Description of the warranty.
WarrantyDurationLabour	Duration of labour warranty (years).
WarrantyDurationParts	Duration of parts warranty (years).
WarrantyGuarantorLabour	Organization acting as guarantor of labour warranty.
WarrantyGuarantorParts	Organization acting as guarantor of parts warranty.
WarrantyStartDate	The date on which the warranty commences.

3.10 Sika SikaGrow^{Plus} Extensive

The Sika SikaGrow^{Plus} Extensive product can be found in the following file:
nbl_GreenRfSub_SikaLiquidPlastics_SikaGrowPlusExtensive

Parameters included in the Sika SikaGrow^{Plus} Extensive product are as follows:

3.10.1 NBL Parameters

Author	The name of the BIM objects Author.
BIMObjectName	Name of the BIM object as it will appear in software. Using NBL naming procedure.
Description	The full description of a product or system.
Help	URL of a website where additional help notes are available.
IssueDate	The issue date of this BIM object.
ManufacturerURL	URL of the product or system manufacturer.
NBSDescription	NBS Uniclass title.
NBSNote	Where a second system which is related to the BIMObject can be described.
NBSReference	NBS Uniclass section/clause number.
NBSTypeID	A reference to the object for the user if one or more is used within the project.
Uniclass2	Uniclass2 code.
Version	The version number of the BIM object.

3.10.2 NBS Parameters

AirContentAtMaximumWaterHoldingCapacity	Air content whilst at maximum water capacity measured as a [%].
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OrganicMatter	Organic matter measured in [g/l].
PHRange	Product pH range according to BS 3882.
PoreSizeDistribution	Pore size distribution by mass measured as a [%].
Source	Location product has been sourced from
WaterHoldingCapacity	Maximum water holding capacity by volume measured as [%].
WaterPermeability	Products water permeability measured in [mm/min].

3.10.3 Manufacturers Parameters

PlantingMediumThickness	Planting medium thickness measured in [mm].
PlantingMediumMaterial	Planting medium material description.

3.10.4 IFC Parameters

Note: IFC definitions have been obtained from BuildingSmart IFC2x3 website (<http://buildingsmart-tech.org>).

AcousticRating	Acoustic rating for this object. It is giving according to the national building code. It indicates the sound transmission resistance of this object by an index ration (instead of providing full sound absorption values).
Combustible	Indication whether the object is made from combustible material (TRUE) or not (FALSE).
FireRating	Fire rating for this object. It is given according to the national fire safety classification.
Finish	Finish selection for this object. Here specification of the surface finish for informational purposes.
FlammabilityRating	Flammability Rating for this object. It is given according to the national building code that governs the rating of flammability for materials.
FragilityRating	Indication on the fragility of the covering (e.g., under fire conditions). It is given according to the national building code that might provide a classification for fragility.
IsExternal	Indication whether the element is designed for use in the exterior (TRUE) or not (FALSE). If (TRUE) it is an external element and faces the outside of the building.
Material	Main material of the covering, it should only be given, if no IfcMaterial class is assigned to the IfcCovering instance.
Reference	Reference ID for this specified type in this project (e.g. type A-1).
SurfaceSpreadOfFlame	Indication on how the flames spread around the surface, It is given according to the national building code that governs the fire behaviour for materials.

3.10.5 COBie Parameters

The following COBie parameters have been included within the SikaGrow^{Plus} Extensive product and can be used to prepare COBie data schedules:

AccessibilityPerformance	Accessibility issue(s) which the product satisfies.
AssetIdentifier	The asset identifier assigned to an occurrence of a product (prior to handover).
BarCode	The identity of the bar code (or rfid) given to an occurrence of the product.
CodePerformance	Code Compliance requirement(s) which the product satisfies.
Colour	Characteristic or primary colour of product.
Constituents	Optional constituent features, parts or finishes.
Cost	Cost impact of replacement process.
Documentation	Location (Uniform Resource Information) for further product information.
DocumentReference	Location (Uniform Resource Information) for the source or updates to this product information.
Features	Features or other important characteristics relevant to product specification.
Grade	Standard grading(s) to which the product corresponds.
InstallationDate	The date that the manufactured item was installed.
LifeCyclePhase	Life Cycle Phase as defined in ISO 15978.
Manufacturer	The organization that manufactured or assembled the item.
MethodOfMeasurement	Method of measurement.
ModelLabel	The model number assigned by manufacturer.
ModelReference	The name used by the manufacturer.
NominalHeight	Nominal height of product, typically the vertical or secondary characteristic dimension.

NominalLength	Nominal length of product, typically the larger or primary horizontal dimension.
NominalWidth	Nominal width of product, typically the characteristic or secondary horizontal or characteristic dimension.
Process	Specification of process.
ProductionYear	The year of production for the manufactured item.
ReferenceStandard	Reference standard(s) to which the product is compliant.
ReplacementCost	An indicative cost for unit replacement.
SerialNumber	The serial number assigned to an occurrence of a product by the manufacturer.
ServiceLifeDuration	The length or duration of a service life.
ServiceLifeType	The typical service life that is quoted for an artefact under reference operating conditions.
Shape	Characteristic shape of product.
Size	Characteristic size of product.
SustainabilityPerformance	Sustainability issue(s) which the product satisfies.
TagNumber	The tag number assigned to an occurrence of a product.
WarrantyDescription	Description of the warranty.
WarrantyDurationLabour	Duration of labour warranty (years).
WarrantyDurationParts	Duration of parts warranty (years).
WarrantyGuarantorLabour	Organization acting as guarantor of labour warranty.
WarrantyGuarantorParts	Organization acting as guarantor of parts warranty.
WarrantyStartDate	The date on which the warranty commences.

3.11 Sika TDC

The Sika TDC product can be found in the following file:
nbl_PEHDGeombrn_SikaLiquidPlastics_SikaTDC

Parameters included in the Sika TDC product are as follows:

3.10.1 NBL Parameters

Author	The name of the BIM objects Author.
BIMObjectName	Name of the BIM object as it will appear in software. Using NBL naming procedure.
Description	The full description of a product or system.
Help	URL of a website where additional help notes are available.
IssueDate	The issue date of this BIM object.
ManufacturerURL	URL of the product or system manufacturer.
NBSDescription	NBS Uniclass title.
NBSNote	Where a second system which is related to the BIMObject can be described.
NBSReference	NBS Uniclass section/clause number.
NBSTypeID	A reference to the object for the user if one or more is used within the project.
Uniclass2	Uniclass2 code.
Version	The version number of the BIM object.

3.11.2 NBS Parameters

Certification	Product approval and certification by an accredited organisation.
IntegralAccessories	Accessories for the product.

RecycledContent	Indication whether an additional virgin film should be specified to prevent the degrading of a recycled material.
StandardThickness	Standard thickness of product measured in [mm].
Weight	Membrane weight to avoid puncturing measured in [g/m ²].

3.11.3 Manufacturers Parameters

DrainageCapacity	Drainage capacity measured in [l/m ²].
LoadBearingCapacity	Load bearing capacity measured in [kN/m ²].
ThicknessOptions	Available options measured in [mm].
WaterStorageCapacity	Water storage capacity measured in [l/m ²].

3.11.4 IFC Parameters

Note: IFC definitions have been obtained from BuildingSmart IFC2x3 website (<http://buildingsmart-tech.org>).

Finish	Finish selection for this object. Here specification of the surface finish for informational purposes.
FireRating	Fire rating for this object. It is given according to the national fire safety classification.
MassDensity	Material mass density, usually measured in [kg/m ³].
Material	Main material of the covering, it should only be given, if no IfcMaterial class is assigned to the IfcCovering instance.
Reference	Reference ID for this specified type in this project (e.g. type A-1).
SpecificHeatCapacity	Specific heat of the products of combustion: heat energy absorbed per temperature unit. Usually measured in [J/kg K].
SurfaceSpreadOfFlame	Indication on how the flames spread around the surface, It is given according to the national building code that governs the fire behaviour for materials.
ThermalConductivity	The rate at which thermal energy is transmitted through the material. Usually in [W/mK].

3.11.5 COBie Parameters

The following COBie parameters have been included within the Sika TDC product and can be used to prepare COBie data schedules:

AccessibilityPerformance	Accessibility issue(s) which the product satisfies.
AssetIdentifier	The asset identifier assigned to an occurrence of a product (prior to handover).
BarCode	The identity of the bar code (or rfid) given to an occurrence of the product.
CodePerformance	Code Compliance requirement(s) which the product satisfies.
Colour	Characteristic or primary colour of product.
Constituents	Optional constituent features, parts or finishes.
Cost	Cost impact of replacement process.
Documentation	Location (Uniform Resource Information) for further product information.
DocumentReference	Location (Uniform Resource Information) for the source or updates to this product information.
Features	Features or other important characteristics relevant to product specification.
Grade	Standard grading(s) to which the product corresponds.
InstallationDate	The date that the manufactured item was installed.
LifeCyclePhase	Life Cycle Phase as defined in ISO 15978.
Manufacturer	The organization that manufactured or assembled the item.
MethodOfMeasurement	Method of measurement.
ModelLabel	The model number assigned by manufacturer.
ModelReference	The name used by the manufacturer.
NominalHeight	Nominal height of product, typically the vertical or secondary characteristic dimension.

NominalLength	Nominal length of product, typically the larger or primary horizontal dimension.
NominalWidth	Nominal width of product, typically the characteristic or secondary horizontal or characteristic dimension.
Process	Specification of process.
ProductionYear	The year of production for the manufactured item.
ReferenceStandard	Reference standard(s) to which the product is compliant.
ReplacementCost	An indicative cost for unit replacement.
SerialNumber	The serial number assigned to an occurrence of a product by the manufacturer.
ServiceLifeDuration	The length or duration of a service life.
ServiceLifeType	The typical service life that is quoted for an artefact under reference operating conditions.
Shape	Characteristic shape of product.
Size	Characteristic size of product.
SustainabilityPerformance	Sustainability issue(s) which the product satisfies.
TagNumber	The tag number assigned to an occurrence of a product.
WarrantyDescription	Description of the warranty.
WarrantyDurationLabour	Duration of labour warranty (years).
WarrantyDurationParts	Duration of parts warranty (years).
WarrantyGuarantorLabour	Organization acting as guarantor of labour warranty.
WarrantyGuarantorParts	Organization acting as guarantor of parts warranty.
WarrantyStartDate	The date on which the warranty commences.

4.0 Abbreviations

Ap	Applied
Bitmn	Bitumen
Brd	Board
Cov	Covering
F	Fibre
Filtr	Filter
Flce	Fleece
Geombrn	Geomembrane
Geotx	Geotextile
Invt	Inverted
Lqd	Liquid
Mbrn	Membrane
nbl	national BIM library
PEHD	High Density Polyethylene
Poly	Polyester
Polyplne	Polypropylene
Polyth	Polyethylene
PUR	Polyurethane
R	Reinforced
Rf	Roof
Sded	Seeded
Sys	System
Undl	Underlayer
Wtrprf	Waterproof
XPS	Extruded Polystyrene