

Propiedades mínimas para elementos IFC MEP

Propiedades generales en todos los elementos

Name (entiendo que en Revit sale automáticamente del nombre de la familia/tipo)

Type (entiendo que en Revit sale automáticamente del nombre de la familia/tipo)

Type Name (entiendo que en Revit sale automáticamente del nombre de la familia/tipo)

Description (opcional, necesario cuando Name y Type no son suficientemente aclaratorias)

Materiales

Los materiales físicos de los elementos constructivos y de instalaciones se pasan como

IfcMaterialLayerSet

<http://www.buildingsmart-tech.org/ifc/IFC4/Add2/html/link/ifcmateriallayerset.htm>

Propiedades de producto en todos los elementos para FM

Pset_ManufacturerTypeInformation

Manufacturer (fabricante, p.ej "Roca")

ModelLabel (nombre del modelo, p.ej. "Victoria")

ModelReference (código de referencia del fabricante para el modelo, p.ej "A34630300S")

ProductionYear (año de fabricación, en Isla Chamartin ponemos "2017" en todo)

IfcClassificationReference

ReferencedSource (sistema de clasificación. Para FM: "Omniclass, Table 23 - Products")

ItemReference (código de clasificación, p.ej "23-31 19 00")

Name (título de la clasificación, p.ej "Toilets")

Propiedades Revit que NO se deben incluir en el IFC

Datos de identidad

- Editado por
- Subproyecto

Instalaciones de fontanería y saneamiento

Arquetas y pozos de registro (CC01-xxx)

Ifc Entity

Type: IfcDistributionChamberElementType

Occurrence: IfcDistributionChamberElement

Predefined Type

INSPECTIONCHAMBER, INSPECTIONPIT, METERCHAMBER, SUMP, TRENCH entre otros

https://standards.buildingsmart.org/IFC/RELEASE/IFC4/ADD2_TC1/HTML/link/ifcdistributionchamberelementypeenum.htm

Pset DistributionChamberElementCommon

Reference (equivalente al tipo, p.ej. "Cuadro general de distribucion")

Status (NEW, EXISTING, DEMOLISH, TEMPORARY, OTHER, NOTKNOWN o UNSET)

Mediciones

IFC 4	IFC 2x3
Qto_DistributionChamberElementBaseQuantities	No procede
- GrossSurfaceArea	
- NetSurfaceArea	
- GrossVolume	
- NetVolume	

Termos y calderas (CC01-xxx)

Ifc Entity

IfcBoiler (IFC4) / IfcEnergyConversionDevice (IFC2x3)

Predefined Type*

“WATER”

https://standards.buildingsmart.org/IFC/RELEASE/IFC4/ADD2_TC1/HTML/link/ifcboilertypeenum.htm

Pset BoilerTypeCommon

Reference (equivalente al tipo, p.ej. “Termo eléctrico 100 L”)

Status (NEW, EXISTING, DEMOLISH, TEMPORARY, OTHER, NOTKNOWN o UNSET)

IsWaterStorageHeater (Booleano: ¿También es acumulador?)

WaterStorageCapacity (capacidad en m3)

EnergySource (ELECTRICITY, GAS, OIL, PROPANE, WOOD, WOOD_CHIP, WOOD_PELLET, OTHER)

Pset BoilerTypeWater

NominalEfficiency (Ratio de 0 a 1)

HeatOutput (en Joules)

Pset ElectricalDeviceCommon (solo si es eléctrico)

RatedCurrent

RatedVoltage

NominalFrequencyRange

HasProtectiveEarth (Booleano: ¿tiene toma de tierra?)

IP_Code (Grado de protección IP según IEC 60529)

IK_Code (Grado de protección IK según IEC 62262)

Mediciones

IFC 4	IFC 2x3
Qto_BoilerBaseQuantities	No procede
- GrossWeight	
- NetWeight	
- TotalSurfaceArea	

Colectores termosolares (CC01-xxx)

Ifc Entity

IfcSolarDevice (IFC4) / IfcEnergyConversionDevice (IFC2x3)

Predefined Type*

“SOLARCOLLECTOR”

https://standards.buildingsmart.org/IFC/RELEASE/IFC4/ADD2_TC1/HTML/link/ifcsolardevicetypeenum.htm

Pset SolarDeviceTypeCommon (IFC4) /

Pset DistributionFlowElementCommon (2x3)

Reference (equivalente al tipo, p.ej. “Captador termosolar 2,4 m2”)

Status (NEW, EXISTING, DEMOLISH, TEMPORARY, OTHER, NOTKNOWN o UNSET)

Mediciones

IFC 4	IFC 2x3
Qto_SolarDeviceBaseQuantities	No procede
- GrossWeight	
- GrossArea	

Instalaciones de aire acondicionado y ventilación

Terminales de aire (difusores etc.) (CC01-xxx)

Ifc Entity

IfcAirTerminal (IFC4) / IfcFlowTerminal (IFC2x3)

Predefined Type

DIFFUSER, GRILLE, LOUVRE, REGISTER, USERDEFINED o NOTDEFINED

<http://www.buildingsmart-tech.org/ifc/IFC4/Add2/html/link/ifc.airterminal.type.enum.htm>

Pset AirTerminalTypeCommon

Reference (equivalente al tipo, p.ej. "IC_Difusor rotacional:Koolair DAFC-Q-250-PDA-RE (Tipo A)")

Status (NEW, EXISTING, DEMOLISH, TEMPORARY, OTHER, NOTKNOWN o UNSET)

Luego hay unos cuantos parámetros mas: tenemos que ver cuales están ya existentes en las familias usadas y organizar el mapeo a IFC:

<http://www.buildingsmart-tech.org/ifc/IFC4/Add2/html/link/pset.airterminal.type.common.htm>

Pset AirTerminalOccurrence (4) / Pset FlowTerminalAirTerminal (2x3)

AirflowType (SUPPLYAIR, RETURNAIR, EXHAUSTAIR, OTHER, NOTKNOWN, UNSET)

Location (SIDEWALLHIGH, SIDEWALLOW, CEILINGPERIMETER, CEILINGINTERIOR, FLOOR, SILL, OTHER, NOTKNOWN, UNSET)

Airflow (solo en IFC4, en m3/s)

<http://www.buildingsmart-tech.org/ifc/IFC4/Add2/html/link/pset.airterminal.occurrence.htm>

Mediciones

IFC 4	IFC 2x3
Qto_AirTerminalBaseQuantities	No procede
- GrossWeight	
- Perimeter	
- TotalSurfaceArea	

Extractores y ventiladores (CC01-xxx)

Ifc Entity

IfcFan (IFC4) / IfcFlowMovingDevice (IFC2x3)

Predefined Type*

Según tipología, en caso de duda poner NOTDEFINED

https://standards.buildingsmart.org/IFC/RELEASE/IFC4/ADD2_TC1/HTML/link/ifciantypeenum.htm

Pset FanTypeCommon

Reference (equivalente al tipo, p.ej. “Extractor centrifugo”)

Status (NEW, EXISTING, DEMOLISH, TEMPORARY, OTHER, NOTKNOWN o UNSET)

NominalAirFlowRate

NominalPowerRate

Pset ElectricalDeviceCommon

RatedCurrent

RatedVoltage

NominalFrequencyRange

HasProtectiveEarth (Booleano: ¿tiene toma de tierra?)

IP_Code (Grado de protección IP según IEC 60529)

IK_Code (Grado de protección IK según IEC 62262)

Mediciones

IFC 4	IFC 2x3
Qto_FanBaseQuantities	No procede
- GrossWeight	

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Conducto (segmentos rectos)

Ifc Entity

Type: IfcDuctSegmentType

Occurrence: IfcDuctSegment (IFC4) / IfcFlowSegment (IFC2x3)

Predefined Type

RIGIDSEGMENT, FLEXIBLESEGMENT, USERDEFINED o NOTDEFINED

Pset DuctSegmentTypeCommon

Reference (equivalente al tipo, p.ej. "Conducto rectangular de fibra de vidrio")

Status (NEW, EXISTING, DEMOLISH, TEMPORARY, OTHER, NOTKNOWN o UNSET)

Shape (FLATOVAL, RECTANGULAR, ROUND, OTHER, NOTKNOWN o UNSET)

NominalDiameterOrWidth

NominalHeight

http://www.buildingsmart-tech.org/ifc/IFC4/Add2/html/link/pset_ductsegmenttypecommon.htm

Mediciones

IFC 4	IFC 2x3
Qto_DuctSegmentBaseQuantities	Pset_FlowSegmentDuctSegment
- Length	- MaterialThickness
- GrossCrossSectionArea	- Length
- NetCrossSectionArea	
- OuterSurfaceArea	
- GrossWeight	

Conducto (piezas especiales, codos, transiciones, etc.)

Ifc Entity

Type: IfcDuctFittingType

Occurrence: IfcDuctFitting (IFC4) / IfcFlowFitting (IFC2x3)

Predefined Type

BEND, CONNECTOR, ENTRY, EXIT, JUNCTION, OBSTRUCTION, TRANSITION, USERDEFINED o NOTDEFINED

<http://www.buildingsmart-tech.org/ifc/IFC4/Add2/html/link/ifcductfittingtypeenum.htm>

Pset DuctFittingTypeCommon

Reference (equivalente al tipo, p.ej. "Conducto rectangular de fibra de vidrio")

Status (NEW, EXISTING, DEMOLISH, TEMPORARY, OTHER, NOTKNOWN o UNSET)

Mediciones

IFC 4	IFC 2x3
Qto_DuctFittingBaseQuantities	No procede
- Length	
- GrossCrossSectionArea	
- NetCrossSectionArea	
- OuterSurfaceArea	
- GrossWeight	

Compuertas / cajas de regulación de caudal

Ifc Entity

Type: IfcDamperType

Occurrence: IfcDamper (IFC4) / IfcFlowController (IFC2x3)

Predefined Type

BACKDRAFTDAMPER, BALANCINGDAMPER, BLASTDAMPER, CONTROLDAMPER, FIREDAMPER, FIRESMOKEDAMPER, FUMEHOODEXHAUST, GRAVITYDAMPER, GRAVITYRELIEFDAMPER, RELIEFDAMPER, SMOKEDAMPER, USERDEFINED o NOTDEFINED

<http://www.buildingsmart-tech.org/ifc/IFC4/Add2/html/link/ifcdampertypeenum.htm>

Pset DistributionFlowElementCommon (solo IFC2x3)

Reference (equivalente al tipo, p.ej. "Conducto rectangular de fibra de vidrio")

Pset DamperTypeCommon

Reference* (equivalente al tipo, p.ej. "Conducto rectangular de fibra de vidrio")

Status* (NEW, EXISTING, DEMOLISH, TEMPORARY, OTHER, NOTKNOWN o UNSET)

Operation (AUTOMATIC, MANUAL, OTHER, NOTKNOWN o UNSET)

Orientation (VERTICAL, HORIZONTAL, VERTICALHORIZONTAL, OTHER, NOTKNOWN o UNSET)

BladeAction (FOLDINGCURTAIN, PARALLEL, OPPOSED, SINGLE, OTHER, NOTKNOWN o UNSET)

NumberofBLades

http://www.buildingsmart-tech.org/ifc/IFC4/Add2/html/link/pset_dampertypecommon.htm

Pset ElectricalDeviceCommon

RatedCurrent (*The current that a device is designed to handle*)

RatedVoltage (*The voltage that a device is designed to handle*)

NominalFrequencyRange

PowerFactor

HasProtectiveEarth (Booleano: ¿tiene toma de tierra?)

InsulationStandardClass (CLASS0APPLIANCE, CLASS0IAPPLIANCE, CLASSIAPPLIANCE, CLASSIIAPPLIANCE, CLASSIIIAPPLIANCE, OTHER, NOTKNOWN o UNSET)

NumberOfPoles (*The number of live lines that is intended to be handled by the device*)

IP_Code (Grado de protección IP según IEC 60529)

IK_Code (Grado de protección IK según IEC 62262)

ConductorFunction (PHASE_L1, PHASE_L2, PHASE_L3, NEUTRAL, PROTECTIVEEARTH, PROTECTIVEEARTHNEUTRAL, OTHER, NOTKNOWN o UNSET)

http://www.buildingsmart-tech.org/ifc/IFC4/Add2/html/link/pset_electricaldevicecommon.htm

Qto DamperBaseQuantities*

GrossWeight

Tubería (segmentos rectos)

Ifc Entity

Type: IfcPipeSegmentType

Occurrence: IfcPipeSegment (IFC4) / IfcFlowSegment (IFC2x3)

Predefined Type

CULVERT, RIGIDSEGMENT, FLEXIBLESEGMENT, GUTTER, SPOOL, USERDEFINED o NOTDEFINED

<http://www.buildingsmart-tech.org/ifc/IFC4/Add2/html/link/ifcpipeseqmentypeenum.htm>

Pset PipeSegmentTypeCommon

Reference (equivalente al tipo, p.ej. "Tubería VRF aislada")

Status (NEW, EXISTING, DEMOLISH, TEMPORARY, OTHER, NOTKNOWN o UNSET)

NominalDiameter

OuterDiameter

InnerDiameter

Pset PipeSegmentTypeGutter (solo saneamiento)

Slope (ángulo de la pendiente)

FlowRating

http://www.buildingsmart-tech.org/ifc/IFC4/Add2/html/link/pset_pipeseqmentypegutter.htm

Mediciones

IFC 4	IFC 2x3
Qto_PipeSegmentBaseQuantities	Pset_FlowSegmentDuctSegment
- Length	- MaterialThickness
- GrossCrossSectionArea	- Length
- NetCrossSectionArea	- InteriorRoughnessCoefficient
- OuterSurfaceArea	
- GrossWeight	
- NetWeight	

Tubería (piezas especiales, codos, transiciones, cajas inversoras, etc.)

Ifc Entity

Type: IfcPipeFittingType

Occurrence: IfcPipeFitting (IFC4) / IfcFlowFitting (IFC2x3)

Predefined Type

BEND, CONNECTOR, ENTRY, EXIT, JUNCTION, OBSTRUCTION, TRANSITION, USERDEFINED o NOTDEFINED

<http://www.buildingsmart-tech.org/ifc/IFC4/Add2/html/link/ifcpipefittinatypeenum.htm>

Pset PipeFittingTypeCommon

Reference, Status, PressureRange, TemperatureRange (ver IfcPipeSegment)

PressureClass (*Pressure classification as defined by the authority having jurisdiction*)

FittingLossFactor (*A factor that determines the pressure loss due to friction through the fitting*)

http://www.buildingsmart-tech.org/ifc/IFC4/Add2/html/link/pset_pipefittinatypecommon.htm

Qto PipeFittingBaseQuantities*

(los mismos como IfcPipeSegment)

Unidades interiores/exteriores

Ifc Entity

Type: IfcUnitaryEquipmentType

Occurrence: IfcUnitaryEquipment (IFC4) / IfcEnergyConversionDevice (IFC2x3)

Predefined Type

AIRHANDLER, AIRCONDITIONINGUNIT, DEHUMIDIFIER*, SPLITSYSTEM, ROOFTOPUNIT, USERDEFINED o NOTDEFINED

<http://www.buildingsmart-tech.org/ifc/IFC4/Add2/html/link/ifcunitaryequipmenttypeenum.htm>

Pset UnitaryEquipmentTypeCommon

Reference (equivalente al tipo, p.ej. "Controlador 16 salidas")

Status (NEW, EXISTING, DEMOLISH, TEMPORARY, OTHER, NOTKNOWN o UNSET)

Pset ElectricalDeviceCommon

RatedCurrent

RatedVoltage

NominalFrequencyRange

PowerFactor

HasProtectiveEarth (Booleano: ¿tiene toma de tierra?)

InsulationStandardClass (CLASS0APPLIANCE, CLASS0IAPPLIANCE, CLASSIAPPLIANCE, CLASSIIAPPLIANCE, CLASSIIIAPPLIANCE, OTHER, NOTKNOWN o UNSET)

NumberOfPoles

IP_Code (Grado de protección IP según IEC 60529)

IK_Code (Grado de protección IK según IEC 62262)

ConductorFunction (PHASE_L1, PHASE_L2, PHASE_L3, NEUTRAL, PROTECTIVEEARTH, PROTECTIVEEARTHNEUTRAL, OTHER, NOTKNOWN o UNSET)

http://www.buildingsmart-tech.org/ifc/IFC4/Add2/html/link/pset_electricaldevicecommon.htm

Qto UnitaryEquipmentBaseQuantities*

GrossWeight

Vasos de expansion

Ifc Entity

Type: IfcTankType

Occurrence: IfcTank (IFC4) / IfcFlowStorageDevice (IFC2x3)

Predefined Type

BASIN, BREAKPRESSURE, **EXPANSION**, FEEDANDEXPANSION, PRESSUREVESSEL, STORAGE, VESSEL, USERDEFINED o NOTDEFINED

<http://www.buildingsmart-tech.org/ifc/IFC4/Add2/html/link/ifctanktypeenum.htm>

Pset DistributionFlowElementCommon (solo IFC2x3)

Reference (equivalente al tipo, p.ej. "Vaso expansión VEX-1")

Pset TankTypeCommon

Reference* (equivalente al tipo, p.ej. "Controlador 16 salidas")

Status (NEW, EXISTING, DEMOLISH, TEMPORARY, OTHER, NOTKNOWN o UNSET)

AccessType (NONE, LOOSECOVER, MANHOLE, SECUREDCOVER, SECUREDCOVERWITHMANHOLE, OTHER, NOTKNOWN o UNSET)

StorageType (ICE, WATER, RAINWATER, WASTEWATER, POTABLEWATER, FUEL, OIL, OTHER, NOTKNOWN o UNSET)

NominalLengthOrDiameter

NominalWidthOrDiameter

NominalDepth

NominalCapacity

EffectiveCapacity

OperatingWeight

PatternType (HORIZONTALCYLINDER, VERTICALCYLINDER, RECTANGULAR, OTHER, NOTKNOWN o UNSET)

http://www.buildingsmart-tech.org/ifc/IFC4/Add2/html/link/pset_tanktypecommon.htm

Qto TankBaseQuantities*

GrossWeight

NetWeight

TotalSurfaceArea

Aislamiento

Ifc Entity

Type: IfcCoveringType

Occurrence: IfcCovering

Predefined Type

INSULATION, SLEEVING, WRAPPING, USERDEFINED, NOTDEFINED

<http://www.buildingsmart-tech.org/ifc/IFC4/Add2/html/link/ifccoveringtypeenum.htm>

Pset CoveringCommon

Reference (equivalente al tipo, p.ej. "Aislamiento PUR")

Status (NEW, EXISTING, DEMOLISH, TEMPORARY, OTHER, NOTKNOWN o UNSET)

FlammabilityRating

Combustible (TRUE o FALSE)

IsExternal (TRUE o FALSE)

ThermalTransmittance

FireRating

http://www.buildingsmart-tech.org/ifc/IFC4/Add2/html/link/pset_coveringcommon.htm

Qto PipeSegmentBaseQuantities*

Width (espesor)

GrossArea

Instalaciones de electricidad y telecomunicaciones

Circuitos (CC01-xxx)

Los circuitos eléctricos en IFC son un subtipo de los sistemas. Tenemos que ver como crearlos en Revit.

Ifc Entity

IfcDistributionSystem (IFC4) / IfcElectricalCircuit (IFC2x3)

Predefined Type*

Entre otros: DATA, EARTHING, POWER, TELEPHONE, TV

https://standards.buildingsmart.org/IFC/RELEASE/IFC4/ADD2_TC1/HTML/link/ifcdistributionsystemenum.htm

Pset DistributionSystemCommon (IFC4)

Reference (nombre del circuito según esquema unifilar, p.ej. "F3")

Cuadros eléctricos (CC01-xxx)

Ifc Entity

Type: IfcElectricDistributionBoardType

Occurrence: IfcElectricDistributionBoard (IFC4) /

IfcElectricDistributionPoint (IFC2x3)

Predefined Type

DISTRIBUTIONBOARD

https://standards.buildingsmart.org/IFC/RELEASE/IFC4/ADD2_TC1/HTML/link/ifcelectricdistributionboardtypeenum.htm

Pset ElectricDistributionBoardTypeCommon (IFC4) /

Pset DistributionFlowElementCommon (2x3)

Reference (equivalente al tipo, p.ej. "Cuadro general de distribución")

Status (NEW, EXISTING, DEMOLISH, TEMPORARY, OTHER, NOTKNOWN o UNSET)

Pset ElectricalDeviceCommon

HasProtectiveEarth (Booleano: ¿tiene toma de tierra?)

IP_Code (Grado de protección IP según IEC 60529)

IK_Code (Grado de protección IK según IEC 62262)

https://standards.buildingsmart.org/IFC/RELEASE/IFC4/ADD2_TC1/HTML/schema/ifcelectricaldomain/pset/pset_electricaldevicecommon.htm

Mediciones

IFC 4	IFC 2x3
Qto_ElectricDistributionBoardBaseQuantities	No procede
- GrossWeight	
- NumberOfCircuits	

Tomas de corriente, RTV y datos (CC01-xxx)

Ifc Entity

Type: IfcOutletType
 Occurrence: IfcOutlet (IFC4) /
 IfcFlowTerminal (IFC2x3)

Predefined Type

AUDIOVISUALOUTLET, COMMUNICATIONSOUTLET, POWEROUTLET, DATAOUTLET, TELEPHONEOUTLET, USERDEFINED o NOTDEFINED

https://standards.buildingsmart.org/IFC/RELEASE/IFC4/ADD2_TC1/HTML/link/ifcoutletypeenum.htm

Pset OutletTypeCommon

Reference (equivalente al tipo, p.ej. "Base de enchufe 16A")

Status (NEW, EXISTING, DEMOLISH, TEMPORARY, OTHER, NOTKNOWN o UNSET)

IsPluggableOutlet (Booleano: ¿es enchufe manual o punto de alimentación fijo?)

NumberOfSockets (número de tomas)

Pset ElectricalDeviceCommon

RatedCurrent

RatedVoltage

NominalFrequencyRange

HasProtectiveEarth (Booleano: ¿tiene toma de tierra?)

IP_Code (Grado de protección IP según IEC 60529)

IK_Code (Grado de protección IK según IEC 62262)

https://standards.buildingsmart.org/IFC/RELEASE/IFC4/ADD2_TC1/HTML/schema/ifcelectricaldomain/pset/pset_electricaldevicecommon.htm

Mediciones

IFC 4	IFC 2x3
Qto_OutletBaseQuantities	No procede
- GrossWeight	

Interruptores (CC01-xxx)

Ifc Entity

Type: IfcSwitchingDeviceType
 Occurrence: IfcSwitchingDevice (IFC4) /
 IfcFlowController (IFC2x3)

Predefined Type*

Entre otros: TOGGLESWITCH, STARTER

https://standards.buildingsmart.org/IFC/RELEASE/IFC4/ADD2_TC1/HTML/link/ifcswitchingdevicetypeenum.htm

Pset_SwitchingDeviceTypeCommon

Reference (equivalente al tipo, p.ej. "Conmutador")

Status (NEW, EXISTING, DEMOLISH, TEMPORARY, OTHER, NOTKNOWN o UNSET)

NumberOfGangs (número de teclas)

SwitchFunction (ONOFFSWITCH, INTERMEDIATESWITCH, DOUBLETHROWSWITCH, OTHER)

HasLock (Boolean: ¿se opera con llave?)

IsIlluminated (Boolean: ¿es iluminado?)

Pset_ElectricalDeviceCommon

HasProtectiveEarth (Booleano: ¿tiene toma de tierra?)

IP_Code (Grado de protección IP según IEC 60529)

IK_Code (Grado de protección IK según IEC 62262)

https://standards.buildingsmart.org/IFC/RELEASE/IFC4/ADD2_TC1/HTML/schema/ifcelectricaldomain/pset/pset_electricaldeviccommon.htm

Mediciones

IFC 4	IFC 2x3
Qto_SwitchingDeviceBaseQuantities	No procede
- GrossWeight	

Porteros electrónicos (CC01-xxx)

Ifc Entity

Occurrence: IfcAudioVisualAppliance (IFC4) /
IfcFlowTerminal (IFC2x3)

Predefined Type*

USERDEFINED

https://standards.buildingsmart.org/IFC/RELEASE/IFC4/ADD2_TC1/HTML/link/ifcaudiovisualapplianceenum.htm

Pset AudioVisualApplianceTypeCommon (IFC4) /

Pset DistributionFlowElementCommon (2x3)

Reference (equivalente al tipo, p.ej. "Cuadro general de distribución")

Status (NEW, EXISTING, DEMOLISH, TEMPORARY, OTHER, NOTKNOWN o UNSET)

Pset ElectricalDeviceCommon

HasProtectiveEarth (Booleano: ¿tiene toma de tierra?)

IP_Code (Grado de protección IP según IEC 60529)

IK_Code (Grado de protección IK según IEC 62262)

https://standards.buildingsmart.org/IFC/RELEASE/IFC4/ADD2_TC1/HTML/schema/ifcelectricaldomain/pset/pset_electricaldevicecommon.htm

Mediciones

IFC 4	IFC 2x3
Qto_AudioVisualApplianceBaseQuantities	No procede
- GrossWeight	
- NumberOfCircuits	

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