

O B O S

Open BIM Object standard

*Appendix A - IfcElementType and
PredefinedType enumerator listing*



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Appendix A - IfcElementType and PredefinedType enumerator listing

This appendix to the OBOS provides a list of the *IfcElementType*'s, and their associated *PredefinedType* list of enumerators, from the IFC4 (ADD 2) schema. The list below can be used to designate the BIM object in IFC, in accordance with clause 3.1.1 and clause 4.3.2 of the OBOS. The *IfcElementType*'s are listed in **bold** formatted text below, immediately followed by the available *PredefinedType* enumerators for that *IfcElementType* in CAPITAL letters. The *IfcElementType* shall be used as the value for the '*IfcExportAs*' property and the *PredefinedType* shall be used for the '*IfcExportType*' property. For the example of a Steam Boiler, the value for the '*IfcExportAs*' property would be 'IfcBoiler' and the value for the '*IfcExportType*' property would be 'STEAM'.

IfcActuator

ELECTRICACTIONATOR
HANDOPERATEDACTUATOR
HYDRAULICACTIONATOR
PNEUMATICACTIONATOR
THERMOSTATICACTIONATOR
NOTDEFINED
USERDEFINED

IfcAirTerminalBox

CONSTANTFLOW
VARIABLEFLOWPRESSUREDEPENDANT
VARIABLEFLOWPRESSUREINDEPENDANT
NOTDEFINED
USERDEFINED

IfcAirTerminal

DIFFUSER
GRILLE
LOUVRE
REGISTER
NOTDEFINED
USERDEFINED

IfcAirToAirHeatRecovery

FIXEDPLATECOUNTERFLOWEXCHANGER
FIXEDPLATECROSSFLOWEXCHANGER
FIXEDPLATEPARALLELFLOWEXCHANGER
HEATPIPE
ROTARYWHEEL
RUNAROUNDLOOP
THERMOSIPHONCOILTYPEHEATEXCHANGERS
THERMOSIPHONSEALEDTUBEHEATEXCHANGERS
TWINOWERENTHALPYRECOVERYLOOPS
NOTDEFINED
USERDEFINED

IfcAlarm

BELL
BREAKGLASSBUTTON
LIGHT
MANUALPULLBOX
SIREN
WHISTLE
NOTDEFINED
USERDEFINED

IfcAudioVisualAppliance

AMPLIFIER
CAMERA
DISPLAY
MICROPHONE
PLAYER
PROJECTOR
RECEIVER

SPEAKER
SWITCHER
TELEPHONE
TUNER
USERDEFINED,
NOTDEFINED

IfcBeam

BEAM
HOLLOWCORE
JOIST
LINTEL
SPANDREL
T_BEAM
NOTDEFINED
USERDEFINED

IfcBoiler

STEAM
WATER
NOTDEFINED
USERDEFINED

IfcBuildingElementPart

INSULATION
PRECASTPANEL
NOTDEFINED
USERDEFINED

IfcBuildingElementProxy

PROVISIONFORSPACE
PROVISIONFORVOID
NOTDEFINED
USERDEFINED

IfcBuildingSystem

FENESTRATION
FOUNDATION
LOADBEARING
OUTERSHELL
SHADING
TRANSPORT
NOTDEFINED
USERDEFINED

IfcBurner

NOTDEFINED
USERDEFINED

IfcCableCarrierFitting

BEND
CROSS
REDUCER
TEE
NOTDEFINED
USERDEFINED

IfcCableCarrierSegment

CABLELADDERSEGMENT
CABLETRAYSEGMENT
CABLETRUNKINGSEGMENT
CONDUITSEGMENT
NOTDEFINED
USERDEFINED

IfcCableFitting

CONNECTOR
ENTRY
EXIT
JUNCTION
TRANSITION
NOTDEFINED
USERDEFINED

IfcCableSegment

BUSBARSEGMENT
CABLESEGMENT
CONDUCTORSEGMENT
CORESEGMENT
NOTDEFINED
USERDEFINED

IfcChiller

AIRCOOLED
HEATRECOVERY
WATERCOOLED
NOTDEFINED
USERDEFINED

IfcChimney

NOTDEFINED
USERDEFINED

IfcCoil

DXCOOLINGCOIL
ELECTRICHEATINGCOIL
GASHEATINGCOIL
HYDRONICCOIL
STEAMHEATINGCOIL
WATERCOOLINGCOIL
WATERHEATINGCOIL
NOTDEFINED
USERDEFINED

IfcColumn

COLUMN
PILASTER
NOTDEFINED
USERDEFINED

IfcCommunicationsAppliance

ANTENNA
COMPUTER
FAX
GATEWAY
MODEM
NETWORKAPPLIANCE
NETWORKBRIDGE
NETWORKHUB
PRINTER
REPEATER
ROUTER
SCANNER
NOTDEFINED
USERDEFINED

IfcCompressor

BOOSTER
DYNAMIC
HERMETIC
OPENTYPE
RECIPROCATING
ROLLINGPISTON
ROTARY
ROTARYVANE
SCROLL
SEMIHERMETIC
SINGLESCREW
SINGLESTAGE
TROCHOIDAL
TWINSCREW
WELDEDSHELLHERMETIC
NOTDEFINED
USERDEFINED

IfcCondenser

AIRCOOLED
EVAPORATIVECOOLED
WATERCOOLED
WATERCOOLEDBRAZEDPLATE
WATERCOOLEDSHELLCOIL
WATERCOOLEDSHELLTUBE
WATERCOOLEDTUBEINTUBE
NOTDEFINED
USERDEFINED

IfcController

FLOATING
MULTIPOSITION
PROGRAMMABLE
PROPORTIONAL
TWOPOSITION
NOTDEFINED
USERDEFINED

IfcCooledBeam

ACTIVE
PASSIVE
NOTDEFINED
USERDEFINED

IfcCoolingTower

MECHANICALFORCEDDRAFT
MECHANICALINDUCEDDRAFT
NATURALDRAFT
NOTDEFINED
USERDEFINED

IfcCovering

CEILING
CLADDING
FLOORING
INSULATION
MEMBRANE
MOLDING
NOT DEFINED
ROOFING
SKIRTINGBOARD
SLEEVEING
WRAPPING
USERDEFINED

IfcCurtainWall

NOTDEFINED
USERDEFINED

IfcDamper

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

IfcDiscreteAccessory

ANCHORPLATE
BRACKET
SHOE
NOTDEFINED
USERDEFINED

IfcDistributionChamberElement

FORMEDDUCT
INSPECTIONCHAMBER
INSPECTIONPIT
MANHOLE
METERCHAMBER
SUMP
TRENCH
VALVECHAMBER
NOTDEFINED
USERDEFINED

IfcDistributionPort

CABLE
CABLECARRIER
DUCT
PIPE
NOTDEFINED
USERDEFINED

IfcDistributionSystem

AIRCONDITIONING
AUDIOVISUAL
CHEMICAL
CHILLEDWATER
COMMUNICATION
COMPRESSED AIR
CONDENSERWATER

CONTROL
CONVEYING
DATA
DISPOSAL
DOMESTIC COLD WATER
DOMESTIC HOT WATER
DRAINAGE
EARTHING
ELECTRICAL
ELECTROACOUSTIC
EXHAUST
FIRE PROTECTION
FUEL
GAS
HAZARDOUS
HEATING
LIGHTING
LIGHTNING PROTECTION
MUNICIPAL SOLID WASTE
OIL
OPERATIONAL
POWER GENERATION
RAIN WATER
REFRIGERATION
SECURITY
SEWAGE
SIGNAL
STORM WATER
TELEPHONE
TV
VACUUM
VENT
VENTILATION
WASTEWATER
WATER SUPPLY
NOTDEFINED
USERDEFINED

IfcDoor

DOOR
GATE
TRAPDOOR
NOTDEFINED

IfcDuctFitting

BEND
CONNECTOR
ENTRY
EXIT
JUNCTION
OBSTRUCTION
TRANSITION
NOTDEFINED
USERDEFINED

IfcDuctSegment

FLEXIBLE SEGMENT
RIGID SEGMENT
NOTDEFINED
USERDEFINED

IfcDuctSilencer

FLAT OVAL
RECTANGULAR
ROUND
NOTDEFINED
USERDEFINED

IfcElectricAppliance

DISHWASHER
ELECTRICCOOKER
FREESTANDINGELECTRICHEATER
FREESTANDINGFAN
FREESTANDINGWATERCOOLER
FREESTANDINGWATERHEATER
FREEZER
FRIDGE_FREEZER
HANDDRYER
KITCHENMACHINE
MICROWAVE
PHOTOCOPIER
REFRIGERATOR
TUMBLEDRYER
VENDINGMACHINE
WASHINGMACHINE
NOTDEFINED
USERDEFINED

IfcElectricDistributionBoard

CONSUMERUNIT
DISTRIBUTIONBOARD
MOTORCONTROLCENTRE
SWITCHBOARD
NOTDEFINED
USERDEFINED

IfcElectricFlowStorageDevice

BATTERY
CAPACITORBANK
HARMONICFILTER
INDUCTORBANK
UPS
NOTDEFINED
USERDEFINED

IfcElectricGenerator

CHP
ENGINEGENERATOR
STANDALONE
NOTDEFINED
USERDEFINED

IfcElectricMotor

DC
INDUCTION
POLYPHASE
RELUCTANCESYNCHRONOUS
SYNCHRONOUS
NOTDEFINED
USERDEFINED

IfcElectricTimeControl

RELAY
TIMECLOCK
TIMEDELAY
NOTDEFINED
USERDEFINED

IfcEngine

EXTERNALCOMBUSTION
INTERNALCOMBUSTION
NOTDEFINED
USERDEFINED

IfcEvaporativeCooler

DIRECTEVAPORATIVEAIRWASHER

DIRECTEVAPORATIVEPACKAGEDROTARYAIRCOOLER
DIRECTEVAPORATIVERANDOMMEDIAAIRCOOLER
DIRECTEVAPORATIVERIGIDMEDIAAIRCOOLER
DIRECTEVAPORATIVESLINGERSPACKAGEDAIRCOOLER
INDIRECTDIRECTCOMBINATION
INDIRECTEVAPORATIVECOOLINGTOWERORCOILCOOLER
INDIRECTEVAPORATIVEPACKAGEAIRCOOLER
INDIRECTEVAPORATIVEWETCOIL
NOTDEFINED
USERDEFINED

IfcEvaporator

DIRECTEXPANSION
DIRECTEXPANSIONBRAZEDPLATE
DIRECTEXPANSIONSHELLANDTUBE
DIRECTEXPANSIONTUBEINTUBE
FLOODEDSHELLANDTUBE
SHELLANDCOIL
NOTDEFINED
USERDEFINED

IfcFan

CENTRIFUGALAIRFOIL
CENTRIFUGALBACKWARDINCLINEDCURVED
CENTRIFUGALFORWARDCURVED
CENTRIFUGALRADIAL
PROPELLORAXIAL
TUBEAXIAL
VANEAXIAL
NOTDEFINED
USERDEFINED

IfcFastener

GLUE
MORTAR
WELD
NOTDEFINED
USERDEFINED

IfcFilter

AIRPARTICLEFILTER
COMPRESSED-AIRFILTER
ODORFILTER
OILFILTER
STRAINER
WATERFILTER
NOTDEFINED
USERDEFINED

IfcFireSuppressionTerminal

BREECHINGINLET
FIREHYDRANT
HOSEREEL
SPRINKLER
SPRINKLERDEFLECTOR
NOTDEFINED
USERDEFINED

IfcFlowInstrument

AMMETER
FREQUENCYMETER
PHASEANGLEMETER
POWERFACTORMETER
PRESSUREGAUGE
THERMOMETER
VOLTMETER_PEAK
VOLTMETER_RMS
NOTDEFINED

USERDEFINED

IfcFlowMeter

ENERGYMETER
GASMETER
OILMETER
WATERMETER
NOTDEFINED
USERDEFINED

IfcFooting

CAISSON_FOUNDATION
FOOTING_BEAM
PAD_FOOTING
PILE_CAP
STRIP_FOOTING
NOTDEFINED
USERDEFINED

IfcFurniture

BED
CHAIR
DESK
FILECABINET
SHELF
SOFA
TABLE
NOTDEFINED
USERDEFINED

IfcGeographicElement

TERRAIN
NOTDEFINED
USERDEFINED

IfcHeatExchanger

PLATE
SHELLANDTUBE
NOTDEFINED
USERDEFINED

IfcHumidifier

ADIABATIC-AIRWASHER
ADIABATICATOMIZING
ADIABATICCOMPRESSED-AIRNOZZLE
ADIABATICPAN
ADIABATICRIGIDMEDIA
ADIABATICULTRASONIC
ADIABATICWETTEDELEMENT
ASSISTEDBUTANE
ASSISTEDELECTRIC
ASSISTEDNATURALGAS
ASSISTEDPROPANE
ASSISTEDSTEAM
STEAMINJECTION
NOTDEFINED
USERDEFINED

IfcInterceptor

CYCLONIC
GREASE
OIL
PETROL
NOTDEFINED
USERDEFINED

IfcJunctionBox

DATA
POWER
NOTDEFINED
USERDEFINED

IfcLamp

COMPACTFLUORESCENT
FLUORESCENT
HALOGEN
HIGHPRESSUREMERCURY
HIGHPRESSURESODIUM
LED
METALHALIDE
METALHALIDE
OLED
TUNGSTENFILAMENT
NOTDEFINED
USERDEFINED

IfcLightFixture

DIRECTIONSOURCE
POINTSOURCE
SECURITYLIGHTING
NOTDEFINED
USERDEFINED

IfcMechanicalFastener

ANCHORBOLT
BOLT
DOWEL
NAIL
NAILPLATE
RIVET
SCREW
SHEARCONNECTOR
STAPLE
STUDSHEARCONNECTOR
NOTDEFINED
USERDEFINED

IfcMedicalDevice

AIRSTATION
FEEDAIRUNIT
OXYGENGENERATOR
OXYGENPLANT
VACUUMSTATION
NOTDEFINED
USERDEFINED

IfcMember

BRACE
CHORD
COLLAR
MEMBER
MULLION
PLATE
POST
PURLIN
RAFTER
STRINGER
STRUT
STUD
NOTDEFINED
USERDEFINED

IfcMotorConnection

BELTDRIVE
COUPLING
DIRECTDRIVE
NOTDEFINED
USERDEFINED

IfcOutlet

AUDIOVISUALOUTLET
COMMUNICATIONSOUTLET
DATAOUTLET
POWEROUTLET
TELEPHONEOUTLET
NOTDEFINED
USERDEFINED

IfcPile

BORED
COHESION
DRIVEN
FRICTION
JETGROUTING
SUPPORT
NOTDEFINED
USERDEFINED

IfcPipeFitting

BEND
CONNECTOR
ENTRY
EXIT
JUNCTION
OBSTRUCTION
TRANSITION
NOTDEFINED
USERDEFINED

IfcPipeSegment

CULVERT
FLEXIBLESEGMENT
GUTTER
RIGIDSEGMENT
SPOOL
NOTDEFINED
USERDEFINED

IfcPlate

CURTAIN_PANEL
SHEET
NOTDEFINED
USERDEFINED

IfcProtectiveDeviceTrippingUnit

ELECTROMAGNETIC
ELECTRONIC
RESIDUALCURRENT
THERMAL
NOTDEFINED
USERDEFINED

IfcProtectiveDevice

CIRCUITBREAKER
EARTHLEAKAGECIRCUITBREAKER
EARTHINGSWITCH
FUSEDISCONNECTOR
RESIDUALCURRENTCIRCUITBREAKER
RESIDUALCURRENTSWITCH
VARISTOR

NOTDEFINED
USERDEFINED

IfcPump

CIRCULATOR
ENDSUCTION
SPLITCASE
SUBMERSIBLEPUMP
SUMPPUMP
VERTICALINLINE
VERTICALTURBINE
NOTDEFINED
USERDEFINED

IfcRailing

BALUSTRADE
GUARDRAIL
HANDRAIL
NOTDEFINED
USERDEFINED

IfcRampFlight

SPIRAL
STRAIGHT
NOTDEFINED
USERDEFINED

IfcRamp

HALF_TURN_RAMP
QUARTER_TURN_RAMP
SPIRAL_RAMP
STRAIGHT_RUN_RAMP
TWO_QUARTER_TURN_RAMP
TWO_STRAIGHT_RUN_RAMP
NOTDEFINED
USERDEFINED

IfcReinforcingBar

ANCHORING
EDGE
LIGATURE
MAIN
PLAIN
PUNCHING
RING
SHEAR
STUD
TEXTURED
NOTDEFINED
USERDEFINED

IfcReinforcingElement

BAR
MESH
PUNSHINGSHEARREINFORCEMENT
TENDON
TENDONANCHOR
TENDONSHEATH
NOTDEFINED
USERDEFINED

IfcReinforcingMesh

NOTDEFINED
USERDEFINED

IfcRoof

BARREL_ROOF
 BUTTERFLY_ROOF
 DOME_ROOF
 FLAT_ROOF
 FREEFORM
 GABLE_ROOF
 GAMBREL_ROOF
 HIP_ROOF
 HIPPED_GABLE_ROOF
 MANSARD_ROOF
 PAVILION_ROOF
 RAINBOW_ROOF
 SHED_ROOF
 NOTDEFINED
 USERDEFINED

IfcSanitaryTerminal

BATH
 BIDET
 CISTERN
 SANITARYFOUNTAIN
 SHOWER
 SINK
 TOILETPAN
 URINAL
 WASHHANDBASIN
 NOTDEFINED
 USERDEFINED

IfcSensor

CO2SENSOR
 CONDUCTANCESENSOR
 CONTACTSENSOR
 COSENSOR
 FIRESSENSOR
 FLOWSSENSOR
 FROSTSENSOR
 GASSENSOR
 HEATSENSOR
 HUMIDITYSENSOR
 IDENTIFIERSENSOR
 IONCONCENTRATIONSENSOR
 LEVELSENSOR
 LIGHTSENSOR
 MOISTURESENSOR
 MOVEMENTSENSOR
 PHSENSOR
 PRESSURESENSOR
 RADIATIONSENSOR
 RADIOACTIVITYSENSOR
 SMOKESENSOR
 SOUNDSSENSOR
 TEMPERATURESENSOR
 WINDSENSOR
 NOTDEFINED
 USERDEFINED

IfcShadingDevice

AWNING
 JALOUSIE
 SHUTTER
 NOTDEFINED
 USERDEFINED

IfcSlab

BASESLAB

FLOOR
 LANDING
 ROOF
 NOTDEFINED
 USERDEFINED

IfcSolarDevice

SOLARCOLLECTOR
 SOLARPANEL
 NOTDEFINED
 USERDEFINED

IfcSpaceHeater

CONVECTOR
 RADIATOR
 NOTDEFINED
 USERDEFINED

IfcSpace

EXTERNAL
 GFA
 INTERNAL
 PARKING
 SPACE
 NOTDEFINED
 USERDEFINED

IfcSpatialZone

CONSTRUCTION
 FIRESAFETY
 LIGHTING
 OCCUPANCY
 SECURITY
 THERMAL
 TRANSPORT
 VENTILATION
 NOTDEFINED
 USERDEFINED

IfcStackTerminal

BIRDCAGE
 COWL
 RAINWATERHOPPER
 NOTDEFINED
 USERDEFINED

IfcStairFlight

CURVED
 FREEFORM
 SPIRAL
 STRAIGHT
 WINDER
 NOTDEFINED
 USERDEFINED

IfcStair

CURVED_RUN_STAIR
 DOUBLE_RETURN_STAIR
 HALF_TURN_STAIR
 HALF_WINDING_STAIR
 QUARTER_TURN_STAIR
 QUARTER_WINDING_STAIR
 SPIRAL_STAIR
 STRAIGHT_RUN_STAIR
 THREE_QUARTER_TURN_STAIR
 THREE_QUARTER_WINDING_STAIR
 TWO_CURVED_RUN_STAIR
 TWO_QUARTER_TURN_STAIR
 TWO_QUARTER_WINDING_STAIR

TWO_STRAIGHT_RUN_STAIR
 NOTDEFINED
 USERDEFINED

IfcSwitchingDevice

CONTACTOR
 DIMMERSWITCH
 EMERGENCYSTOP
 KEYPAD
 MOMENTARYSWITCH
 SELECTORSWITCH
 STARTER
 SWITCHDISCONNECTOR
 TOGGLESWITCH
 NOTDEFINED
 USERDEFINED

IfcSystemFurnitureElement

PANEL
 WORKSURFACE
 NOTDEFINED
 USERDEFINED

IfcTank

BASIN
 BREAKPRESSURE
 EXPANSION
 FEEDANDEXPANSION
 PRESSUREVESSEL
 STORAGE
 VESSEL
 NOTDEFINED
 USERDEFINED

IfcTendonAnchor

COUPLER
 FIXED_END
 TENSIONING_END
 NOTDEFINED
 USERDEFINED

IfcTendon

BAR
 COATED
 STRAND
 WIRE
 NOTDEFINED
 USERDEFINED

IfcTransformer

CURRENT
 FREQUENCY
 INVERTER
 RECTIFIER
 VOLTAGE
 NOTDEFINED
 USERDEFINED

IfcTransportElement

CRANEWAY
 ELEVATOR
 ESCALATOR
 LIFTINGGEAR
 MOVINGWALKWAY
 NOTDEFINED
 USERDEFINED

IfcTubeBundle

FINNED
NOTDEFINED
USERDEFINED

IfcUnitaryControlElement

ALARMPANEL
CONTROLPANEL
GASDETECTIONPANEL
HUMIDISTAT
INDICATORPANEL
MIMICPANEL
THERMOSTAT
WEATHERSTATION
NOTDEFINED
USERDEFINED

IfcUnitaryEquipment

AIRCONDITIONINGUNIT
AIRHANDLER
DEHUMIDIFIER
ROOFTOPUNIT
SPLITSYSTEM
NOTDEFINED
USERDEFINED

IfcValve

AIRRELEASE
ANTIVACUUM
CHANGEOVER
CHECK
COMMISSIONING
DIVERTING
DOUBLECHECK
DOUBLEREGULATING
DRAWOFFCOCK
FAUCET
FLUSHING
GASCOCK
GASTAP
ISOLATING
MIXING
PRESSUREREDUCING
PRESSURERELIEF
REGULATING
SAFETYCUTOFF
STEAMTRAP
STOPCOCK
NOTDEFINED
USERDEFINED

IfcVibrationIsolator

COMPRESSION
SPRING
NOTDEFINED
USERDEFINED

IfcWall

MOVABLE
PARAPET
PARTITIONING
PLUMBINGWALL
POLYGONAL
SHEAR
SOLIDWALL
NOTDEFINED
USERDEFINED

IfcWasteTerminal

FLOORTRAP
FLOORWASTE
GULLYSUMP
GULLYTRAP
ROOFDRAIN
WASTEDISPOSALUNIT
WASTETRAP
NOTDEFINED
USERDEFINED

IfcWindow

LIGHTDOME
SKYLIGHT
WINDOW
NOTDEFINED
USERDEFINED

O B O S

Open BIM Object standard

Appendix A

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We welcome comments or suggestions for improvements to the Open BIM Object standard and encourage readers to notify us immediately of any apparent inaccuracies or ambiguities. Contact us via email at bim@natspec.com.au or bim@masterspec.co.nz.

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