Circular Economy Ontology Network (CEON) - Construction Module

Metadata

IRI

http://w3id.org/CEON/demo/construction/

Title

Circular Economy Ontology Network (CEON) - Construction Module

Creator

Huanyu Li

Contributor

Eva Blomqvist

Huanyu Li

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Version Iri

http://w3id.org/CEON/demo/construction/0.2/

Version Info

0.2

Preferred Namespace Prefix

construction

Preferred Namespace Uri

http://w3id.org/CEON/demo/construction/

Description

The construction use case ontology in Onto-DESIDE, as a module of CEON.

Classes

Quantity ^C

IRI http://qudt.org/schema/qudt/Quantity

Super Class Of

Conductivity.^C
FloorPanelHeight.^C
FloorPanelLength.^C
FloorPanelWidth.^C

<u>LifeCycleAssessmentImpact</u>^C
<u>MaximalDismantlingCostPerSqm</u>^C
<u>MinimalDismantlingCostPerSqm</u>^C

PedestalHeight^c
PedestalLength^c
PedestalWidth^c
RecycledContent^c
RecyclingSeparability^c
ResistanceToEarth^c
ReuseDeconstructability^c
SystemMaximalWeight^c
SystemMinimalWeight^c

SystemWeight^C
Thickness^C

Quantity Value ^C

Super Class Of

ConductivityValue^C
DismantlingCostValue^C
FloorPanelHeightValue^C
FloorPanelLengthValue^C
FloorPanelWidthValue^C
GlobalWarmingPotential^C
LocalRecyclingPlantDistance^C
MarketValueForProduct^C

MaximalDismantlingCostPerSqmValue^C

MaximalDismantlingCostValue^C

MinimalDismantlingCostPerSqmValue^C

MinimalDismantlingCostValue^C

PedestalHeightValue^C
PedestalLengthValue^C
PedestalWidthValue^C
RecycledContentValue^C

RecyclingDeconstructabilityValue^C

RecyclingPotentialValue^C
RecyclingSeparabilityValue^C
RefurbishmentCostValue^C
ResistanceToEarthValue^C
SystemMaximalWeightValue^C
SystemMinimalWeightValue^C
SystemWeightValue^C
TestingCostValue^C

ThicknessValue^C
TransportCostValue^C
UseSpanTime^C

Unit ^C

IRI http://qudt.org/schema/qudt/Unit

Super Class Of CO2Eq^C

A1Raw M Aterial Extraction Impact C

tionImpact

Sub Class Of ProductStageImpact^C

A2Transportation Of Raw Materials Impact^c

IRI http://w3id.org/CEON/demo/construction/A2TransportationOfR

awMaterialsImpact

Sub Class Of ProductStageImpact^C

A3Manufacturing Impact ^c

IRI http://w3id.org/CEON/demo/construction/A3ManufacturingImpa

ct

Sub Class Of ProductStageImpact^C

A4Transportation Of Manufactured Products Impact C

IRI http://w3id.org/CEON/demo/construction/A4TransportationOfM

 $anufactured \verb|ProductsImpact|$

Sub Class Of ProductStageImpact^C

A5The Construction Phase Impact C

IRI http://w3id.org/CEON/demo/construction/A5TheConstructionPh

aseImpact

Sub Class Of ProductStageImpact^C

B1Installed Product Impact ^c

IRI http://w3id.org/CEON/demo/construction/BlInstalledProductI

mpact

Sub Class Of UseStageImpact^C

B2Maintenance Impact ^C

IRI http://w3id.org/CEON/demo/construction/B2MaintenanceImpact

Sub Class Of UseStageImpact^C

B3Repair Impact ^C

Sub Class Of UseStageImpact^C

B4Replacement Impact ^C

Sub Class Of UseStageImpact^C

B5Refurbishment Impact ^c

IRI http://w3id.org/CEON/demo/construction/B5RefurbishmentImpa

ct

Sub Class Of UseStageImpact^C

B6Operational Energy Consumption ^c

Consumption

Sub Class Of UseStageImpact^C

B7Operational Water Use ^C

IRI http://w3id.org/CEON/demo/construction/B7OperationalWaterU

se

Sub Class Of UseStageImpact^C

Beyond End Of Life C

Sub Class Of LifeCycleAssessmentImpact C

C1Demolition ^C

Sub Class Of EndOfLifeStage^C

C2Cmh Silver Compliance C

ce

Sub Class Of product:Compliance

Equivalentclass product:complianceWith value C2CMHSilver^C

C2Transportation Of Demolition Waste c

IRI http://w3id.org/CEON/demo/construction/C2TransportationOfD

 ${\it emolitionWaste}$

Sub Class Of EndOfLifeStage C

C3Recycling Or Disposal C

IRI http://w3id.org/CEON/demo/construction/C3RecyclingOrDispos

Sub Class Of EndOfLifeStage^C

C4Final Disposal^C

IRI http://w3id.org/CEON/demo/construction/C4FinalDisposal

Sub Class Of EndOfLifeStage C

Co2Eq^c

IRI http://w3id.org/CEON/demo/construction/CO2Eq

Sub Class Of http://qudt.org/schema/qudt/Unit^c

Conductivity ^C

IRI http://w3id.org/CEON/demo/construction/Conductivity

Sub Class Of

http://qudt.org/schema/qudt/Quantity http://w3id.org/CEON/ontology/resourceODP/ResourceProperty

In Domain Of hasConductivityValue op

In Range Of hasConductivityProperty^{op}

Restriction hasConductivityValue op only ConductivityC

Conductivity Value ^C

IRI http://w3id.org/CEON/demo/construction/ConductivityValue

Sub Class Of

http://qudt.org/schema/qudt/QuantityValue^C

http://qudt.org/schema/qudt/hasUnitop some http://qudt.org/schema/qudt/Unitop and http://qudt.org/schema/qudt/hasUnit op only http://qudt.org/schema/qudt/Unit

In Range Of hasConductivityValue op

Restriction http://qudt.org/schema/qudt/numericValue^{dp} only ConductivityValue^c Construction Product Quality^C

IRI http://w3id.org/CEON/demo/construction/ConstructionProduct

Quality

Sub Class Of http://w3id.org/CEON/ontology/resourceODP/ResourceQuality

In Range Of hasProductQuality^{op}

Named Individuals

construction product quality high ni construction product quality low ni construction product quality medium ni

Contaminant ^C

IRI http://w3id.org/CEON/demo/construction/Contaminant

Sub Class Of http://w3id.org/CEON/ontology/resourceODP/Matter

In Range Of hasContaminant op

Dimensional Deviation ^c

IRI http://w3id.org/CEON/demo/construction/DimensionalDeviatio

n

In Range Of hasDimensionalDeviation op

Dismantling Cost Value ^c

http://w3id.org/CEON/demo/construction/DismantlingCostValu

е

Sub Class Of

http://qudt.org/schema/qudt/QuantityValue^c

http://qudt.org/schema/qudt/hasUnit op only http://qudt.org/schema/qudt/Unit c

and http://qudt.org/schema/qudt/hasUnit one

http://qudt.org/schema/qudt/Unit^C

Restriction http://qudt.org/schema/qudt/numericValue only DismantlingCostValue only

End Of Life Stage C

Sub Class Of LifeCycleAssessmentImpact^C

Super Class Of

C1Demolition^C

C2TransportationOfDemolitionWaste^C

<u>C3RecyclingOrDisposal</u>^c <u>C4FinalDisposal</u>^c Environmental Impact ^c

IRI http://w3id.org/CEON/demo/construction/EnvironmentalImpact

Sub Class Of http://w3id.org/CEON/ontology/resourceODP/ResourceProperty

Super Class Of LifeCycleAssessmentImpact^C

Fire Resistance Rating ^c

http://w3id.org/CEON/demo/construction/FireResistanceRatin

g

Sub Class Of http://w3id.org/CEON/ontology/resourceODP/ResourceProperty

In Range Of hasFireResistanceRating op

Named Individuals

F30ⁿⁱ F60ⁿⁱ

Fire Resistance Relation ^C

ion

Sub Class Of actorODP:ResourceParticipation

Floor Panel Height^C

IRI http://w3id.org/CEON/demo/construction/FloorPanelHeight

Sub Class Of

http://qudt.org/schema/qudt/Quantity^c

http://w3id.org/CEON/ontology/resourceODP/ResourceProperty

Floor Panel Height Value ^C

IRI http://w3id.org/CEON/demo/construction/FloorPanelHeightVal

ue

Sub Class Of http://qudt.org/schema/qudt/QuantityValue

http://qudt.org/schema/qudt/hasUnit^{op} some http://qudt.org/schema/qudt/Unit^c and http://qudt.org/schema/qudt/hasUnit^{op} only http://qudt.org/schema/qudt/Unit

С

Restriction http://qudt.org/schema/qudt/numericValue only FloorPanelHeightValue

Floor Panel Length ^C

Sub Class Of http://qudt.org/schema/qudt/Quantity

http://w3id.org/CEON/ontology/resourceODP/ResourceProperty

Floor Panel Length Value ^C

IRI http://w3id.org/CEON/demo/construction/FloorPanelLengthVal

ue

Sub Class Of

http://qudt.org/schema/qudt/QuantityValue^c

http://qudt.org/schema/qudt/hasUnit^{op} some http://qudt.org/schema/qudt/Unit^c and http://qudt.org/schema/qudt/Unit only http://qudt.org/schema/qudt/Unit

С

Restriction http://qudt.org/schema/gudt/numericValue^{dp} only FloorPanelLengthValue^c

Floor Panel Width C

IRI http://w3id.org/CEON/demo/construction/FloorPanelWidth

Sub Class Of

http://qudt.org/schema/qudt/Quantity^c

http://w3id.org/CEON/ontology/resourceODP/ResourceProperty

Floor Panel Width Value ^C

IRI http://w3id.org/CEON/demo/construction/FloorPanelWidthValu

е

Sub Class Of http://qudt.org/schema/qudt/QuantityValue

http://qudt.org/schema/qudt/hasUnit^{op} only http://qudt.org/schema/qudt/Unit^c

and http://qudt.org/schema/qudt/hasUnit op some

http://qudt.org/schema/qudt/Unit^c

Restriction http://qudt.org/schema/qudt/numericValued only FloorPanelWidthValue^C

Floor Tile^C

IRI http://w3id.org/CEON/demo/construction/FloorTile

Sub Class Of product:Product

Floor Tile Condition C

Sub Class Of http://w3id.org/CEON/ontology/resourceODP/ResourceCondition

Named Individuals

bad_conditionⁿⁱ
good_conditionⁿⁱ
medium_conditionⁿⁱ

Floor Tile Condition Relation ^C

IRI http://w3id.org/CEON/demo/construction/FloorTileConditionR

elation

Sub Class Of actorODP:ResourceParticipation

Galvanized Steel Material C

IRI http://w3id.org/CEON/demo/construction/GalvanizedSteelMate

rial

Sub Class Of <u>material:Material</u>

Global Warming Potential c

ial

Sub Class Of http://qudt.org/schema/qudt/QuantityValue

http://qudt.org/schema/qudt/hasUnit^{op} some CO2Eq^c and http://qudt.org/schema/qudt/hasUnit^{op} only CO2Eq^c

In Range Of hasGlobalWarmingPotential op

Restriction http://qudt.org/schema/qudt/numericValue only GlobalWarmingPotential^C

Installation Location ^C

IRI http://w3id.org/CEON/demo/construction/InstallationLocatio

n

Sub Class Of http://w3id.org/CEON/ontology/location/Location

In Range Of installationLocation op

Life Cycle Assessment Impact^c

Impact

Sub Class Of

http://qudt.org/schema/qudt/Quantityc

<u>EnvironmentalImpact</u>^C

In Domain Of hasGlobalWarmingPotential op

Restriction <u>hasGlobalWarmingPotential</u>^{op} only <u>LifeCycleAssessmentImpact</u>^c

Super Class Of BeyondEndOfLife^C

EndOfLifeStage ^c
ProductStageImpact ^c
UseStageImpact ^c

Local Recycling Plant Distance c

IRI http://w3id.org/CEON/demo/construction/LocalRecyclingPlant

Distance

Sub Class Of

http://qudt.org/schema/qudt/QuantityValue^c

http://qudt.org/schema/qudt/hasUnit op only http://qudt.org/schema/qudt/Unit c

and http://qudt.org/schema/qudt/hasUnit op some

http://qudt.org/schema/qudt/Unit^C

In Range Of

hasDistanceToRecyclingPlant op

<u>hasRecyclingPlant</u>^{op}

Restriction http://qudt.org/schema/qudt/numericValue only LocalRecyclingPlantDistance on <a href="http://qudt.or

Market Value For Product C

IRI http://w3id.org/CEON/demo/construction/MarketValueForProdu

ct

Sub Class Of

http://qudt.org/schema/qudt/QuantityValue^c

http://qudt.org/schema/qudt/hasUnit^{op} only http://qudt.org/schema/qudt/Unit^c

and http://qudt.org/schema/qudt/hasUnit op some

http://qudt.org/schema/qudt/Unit^C

In Range Of

<u>hasMarketValueForNewProduct</u>^{op} <u>hasMarketValueForReusedProduct</u>^{op}

Restriction http://gudt.org/schema/gudt/numericValue^{dp} only MarketValueForProduct^C

Maximal Dismantling Cost Per Sqm^C

 ${\tt ostPerSqm}$

Sub Class Of http://qudt.org/schema/qudt/Quantity

Maximal Dismantling Cost Per Sqm Value C

ostPerSqmValue

Sub Class Of http://qudt.org/schema/gudt/QuantityValue^C

http://qudt.org/schema/qudt/hasUnit^{op} some http://qudt.org/schema/qudt/Unit^c

 $\textit{and} \ \underline{\text{http://qudt.org/schema/qudt/hasUnit}}^{op} \ \textbf{only} \ \underline{\text{http://qudt.org/schema/qudt/Unit}}$

Restriction http://qudt.org/schema/qudt/numericValue only

<u>MaximalDismantlingCostPerSqmValue</u>^c

Maximal Dismantling Cost Value ^C

IRI http://w3id.org/CEON/demo/construction/MaximalDismantlingC

ostValue

Sub Class Of

http://qudt.org/schema/qudt/QuantityValue^c

http://qudt.org/schema/qudt/hasUnit op only http://qudt.org/schema/qudt/Unit c

and http://qudt.org/schema/qudt/hasUnit op some

http://qudt.org/schema/qudt/Unit^c

Restriction http://qudt.org/schema/qudt/numericValue only MaximalDismantlingCostValue

С

Minimal Dismantling Cost Per Sqm^C

IRI http://w3id.org/CEON/demo/construction/MinimalDismantlingC

ostPerSqm

Sub Class Of http://qudt.org/schema/qudt/Quantity

Minimal Dismantling Cost Per Sqm Value^C

IRI http://w3id.org/CEON/demo/construction/MinimalDismantlingC

ostPerSqmValue

Sub Class Of

http://gudt.org/schema/gudt/QuantityValue^c

http://qudt.org/schema/qudt/hasUnit op only http://qudt.org/schema/qudt/Unit c

 $\textit{and } \underline{\text{http://qudt.org/schema/qudt/hasUnit}}^{op} \, \text{some}$

http://qudt.org/schema/qudt/Unit^c

Restriction http://qudt.org/schema/qudt/numericValue only

MinimalDismantlingCostPerSqmValue^C

Minimal Dismantling Cost Value ^C

IRI http://w3id.org/CEON/demo/construction/MinimalDismantlingC

ostValue

Sub Class Of

http://qudt.org/schema/qudt/QuantityValue^c

http://qudt.org/schema/qudt/hasUnit^{op} only http://qudt.org/schema/qudt/Unit^c

and http://gudt.org/schema/gudt/hasUnit op some

http://qudt.org/schema/qudt/Unit^c

Restriction http://qudt.org/schema/qudt/numericValue only MinimalDismantlingCostValue

С

Pedestal^C

Sub Class Of product:Item

Pedestal Height^C

IRI http://w3id.org/CEON/demo/construction/PedestalHeight

Sub Class Of

http://qudt.org/schema/qudt/Quantity^C

http://w3id.org/CEON/ontology/resourceODP/ResourceProperty

Pedestal Height Value ^C

IRI http://w3id.org/CEON/demo/construction/PedestalHeightValue

Sub Class Of

http://qudt.org/schema/qudt/QuantityValue^c

http://qudt.org/schema/qudt/hasUnit^{op} some http://qudt.org/schema/qudt/Unit^c and http://qudt.org/schema/qudt/hasUnit op only http://qudt.org/schema/qudt/Unit

Restriction http://qudt.org/schema/qudt/numericValue^{dp} only PedestalHeightValue^c

Pedestal Length ^c

IRI http://w3id.org/CEON/demo/construction/PedestalLength

Sub Class Of

http://qudt.org/schema/qudt/Quantity_chttp://w3id.org/CEON/ontology/resourceODP/ResourceProperty.

Pedestal Length Value ^C

IRI http://w3id.org/CEON/demo/construction/PedestalLengthValue

Sub Class Of

http://qudt.org/schema/qudt/QuantityValue^c

http://qudt.org/schema/qudt/hasUnit^{op} only http://qudt.org/schema/qudt/Unit^c

and http://qudt.org/schema/qudt/hasUnit one

http://gudt.org/schema/gudt/Unit^c

Restriction http://qudt.org/schema/qudt/numericValue^{dp} only PedestalLengthValue^c

Pedestal Width C

IRI http://w3id.org/CEON/demo/construction/PedestalWidth

Sub Class Of

http://qudt.org/schema/qudt/Quantity^c

http://w3id.org/CEON/ontology/resourceODP/ResourceProperty

Pedestal Width Value ^C

IRI http://w3id.org/CEON/demo/construction/PedestalWidthValue

Sub Class Of

http://qudt.org/schema/qudt/QuantityValue^C

 $\frac{http://qudt.org/schema/qudt/hasUnit^{op}}{and} \frac{http://qudt.org/schema/qudt/Unit^{o}}{http://qudt.org/schema/qudt/hasUnit^{op}} \frac{http://qudt.org/schema/qudt/Unit}{http://qudt.org/schema/qudt/Unit}$

С

Restriction http://qudt.org/schema/qudt/numericValue only PedestalWidthValue only PedestalWidthValue

Product Stage Impact^C

Sub Class Of LifeCycleAssessmentImpact^C

Super Class Of

A1RawMAterialExtractionImpact^C

<u>A2TransportationOfRawMaterialsImpact</u>^C

<u>A3ManufacturingImpact</u>^c

A4TransportationOfManufacturedProductsImpact^C

A5TheConstructionPhaseImpact^C

Recycled Content^C

Sub Class Of http://qudt.org/schema/qudt/Quantity

Recycled Content Value C

е

Sub Class Of http://qudt.org/schema/qudt/QuantityValue

In Range Of hasRecycledContentValue op

Restriction http://qudt.org/schema/qudt/hasUnit only RecycledContentValue^C

http://qudt.org/schema/qudt/numericValue^{dp} only RecycledContentValue^c

Recycling Deconstructability Value ^c

IRI http://w3id.org/CEON/demo/construction/RecyclingDeconstruc

tabilityValue

Sub Class Of

http://qudt.org/schema/qudt/QuantityValue^c

http://qudt.org/schema/qudt/hasUnit^{op} some http://qudt.org/schema/qudt/Unit^c and http://qudt.org/schema/qudt/hasUnit^{op} only http://qudt.org/schema/qudt/Unit

С

In Range Of hasReuseDeconstructability op

Restriction http://qudt.org/schema/qudt/numericValue only

RecyclingDeconstructabilityValue^C

Recycling Potential Value^C

IRI http://w3id.org/CEON/demo/construction/RecyclingPotentialV

alue

Sub Class Of

http://qudt.org/schema/qudt/QuantityValue^C

http://qudt.org/schema/qudt/hasUnit^{op} some http://qudt.org/schema/qudt/Unit^c and http://qudt.org/schema/qudt/hasUnit^{op} only http://qudt.org/schema/qudt/Unit

С

In Range Of hasRecyclingPotential op

Restriction http://qudt.org/schema/qudt/numericValue only RecyclingPotentialValue^C

Recycling Separability C

IRI http://w3id.org/CEON/demo/construction/RecyclingSeparabili

ty

Sub Class Of http://qudt.org/schema/qudt/Quantity

http://w3id.org/CEON/ontology/resourceODP/ResourceProperty

In Domain Of hasRecyclingSeparability op

Restriction <u>hasRecyclingSeparability</u>^{op} only <u>RecyclingSeparability</u>^c

Recycling Separability Value ^C

tyValue

Sub Class Of

http://qudt.org/schema/qudt/QuantityValue^C

http://qudt.org/schema/qudt/hasUnit^{op} some http://qudt.org/schema/qudt/Unit^c and http://qudt.org/schema/qudt/hasUnit^{op} only http://qudt.org/schema/qudt/Unit

С

In Range Of hasRecyclingSeparability op

Restriction http://gudt.org/schema/qudt/numericValue only RecyclingSeparabilityValue^C

Refurbishment Cost Value C

IRI http://w3id.org/CEON/demo/construction/RefurbishmentCostVa

lue

Sub Class Of

http://qudt.org/schema/qudt/QuantityValue^c

http://qudt.org/schema/qudt/hasUnit^{op} some http://qudt.org/schema/qudt/Unit^c and http://qudt.org/schema/qudt/Unit only http://qudt.org/schema/qudt/Unit

С

Restriction http://gudt.org/schema/qudt/numericValue only RefurbishmentCostValue^C

Resistance To Earth ^c

Sub Class Of

http://qudt.org/schema/qudt/Quantity^c

http://w3id.org/CEON/ontology/resourceODP/ResourceProperty

In Domain Of hasResistanceToEarth op

Restriction hasResistanceToEarth^{op} only ResistanceToEarth^c

Resistance To Earth Value C

IRI http://w3id.org/CEON/demo/construction/ResistanceToEarthVa

lue

Sub Class Of

http://qudt.org/schema/qudt/QuantityValue^c

http://qudt.org/schema/qudt/hasUnit^{op} only http://qudt.org/schema/qudt/Unit^c

and http://qudt.org/schema/qudt/hasUnitop some

http://qudt.org/schema/qudt/Unit^C

In Range Of hasResistanceToEarth^{op}

Restriction http://qudt.org/schema/qudt/numericValue only ResistanceToEarthValue^C

Reuse Deconstructability ^C

lity

Sub Class Of http://gudt.org/schema/gudt/Quantity

http://qudt.org/schema/qudt/Quantity_chttp://w3id.org/CEON/ontology/resourceODP/ResourceProperty

In Domain Of hasReuseDeconstructability op

Restriction <u>hasReuseDeconstructability</u> op only <u>ReuseDeconstructability</u> of only <u>ReuseDeconstructability</u> on the last of th

Reuse Potential^C

Sub Class Of http://w3id.org/CEON/ontology/resourceODP/ResourceProperty

In Domain Of hasRecyclingPotential op

In Range Of hasReusePotential op

Named Individuals

high_reuse_potentialⁿⁱ

needs refurbishment before reuse ni

Screw^c

IRI http://w3id.org/CEON/demo/construction/Screw

Sub Class Of product:Item

System Maximal Weight^c

Sub Class Of

http://qudt.org/schema/qudt/Quantity^c

http://w3id.org/CEON/ontology/resourceODP/ResourceProperty

Restriction hasSystemWeight^{op} only SystemMaximalWeight^c

System Maximal Weight Value ^C

Value

Sub Class Of

http://qudt.org/schema/qudt/QuantityValue^c

http://qudt.org/schema/qudt/hasUnit^{op} some http://qudt.org/schema/qudt/Unit^c and http://qudt.org/schema/qudt/hasUnit^{op} only http://qudt.org/schema/qudt/Unit

C

Restriction http://qudt.org/schema/qudt/numericValue only SystemMaximalWeightValue on the system of the system of

System Minimal Weight C

Sub Class Of

http://qudt.org/schema/qudt/Quantity^c

http://w3id.org/CEON/ontology/resourceODP/ResourceProperty

Restriction hasSystemWeight^{op} only SystemMinimalWeight^c

System Minimal Weight Value ^c

IRI http://w3id.org/CEON/demo/construction/SystemMinimalWeight

Value

Sub Class Of

http://qudt.org/schema/qudt/QuantityValue^c

http://qudt.org/schema/qudt/hasUnit^{op} only http://qudt.org/schema/qudt/Unit^c

and http://qudt.org/schema/qudt/hasUnit op some

http://qudt.org/schema/qudt/Unit^c

Restriction http://qudt.org/schema/qudt/numericValue only SystemMinimalWeightValue

System Weight^C

Sub Class Of

http://qudt.org/schema/qudt/Quantity^c

http://w3id.org/CEON/ontology/resourceODP/ResourceProperty

Restriction hasSystemWeight^{op} only SystemWeight^c

System Weight Value ^C

IRI http://w3id.org/CEON/demo/construction/SystemWeightValue

Sub Class Of

http://qudt.org/schema/qudt/QuantityValue^c

http://qudt.org/schema/qudt/hasUnit op only http://qudt.org/schema/qudt/Unit c

and http://qudt.org/schema/qudt/hasUnit one

http://qudt.org/schema/qudt/Unit^c

In Range Of hasSystemWeight^{op}

Restriction http://qudt.org/schema/qudt/numericValue only SystemWeightValue

Take Back Program From Original Manufacturer ^C

IRI http://w3id.org/CEON/demo/construction/TakeBackProgramFrom

OriginalManufacturer

Sub Class Of actorODP:Infrastructure

Testing Cost Value ^C

Sub Class Of

http://qudt.org/schema/qudt/QuantityValue^C

http://qudt.org/schema/qudt/hasUnit^{op} some http://qudt.org/schema/qudt/Unit^c and http://qudt.org/schema/qudt/hasUnit^{op} only http://qudt.org/schema/qudt/Unit

С

Restriction http://qudt.org/schema/qudt/numericValue only TestingCostValue^C

Thickness ^C

IRI http://w3id.org/CEON/demo/construction/Thickness

Sub Class Of

http://qudt.org/schema/qudt/Quantity^C

http://w3id.org/CEON/ontology/resourceODP/ResourceProperty

Thickness Value ^C

IRI http://w3id.org/CEON/demo/construction/ThicknessValue

Sub Class Of

http://qudt.org/schema/qudt/QuantityValue^c

http://qudt.org/schema/qudt/hasUnit^{op} some http://qudt.org/schema/qudt/Unit^c and http://qudt.org/schema/qudt/hasUnit^{op} only http://qudt.org/schema/qudt/Unit

С

Restriction http://qudt.org/schema/qudt/numericValue dp only ThicknessValue c

Transport Cost Value C

IRI http://w3id.org/CEON/demo/construction/TransportCostValue

Sub Class Of

http://qudt.org/schema/qudt/QuantityValue^c

http://qudt.org/schema/qudt/hasUnit op only http://qudt.org/schema/qudt/Unit c

and http://qudt.org/schema/qudt/hasUnit one

http://qudt.org/schema/qudt/Unit^c

Restriction http://qudt.org/schema/qudt/numericValue only TransportCostValue on TransportCo

Treatment Policy^C

Sub Class Of http://w3id.org/CEON/ontology/resourceODP/Information

In Range Of policyOnTreatment op

Named Individuals

refurbishⁿⁱ reprocessⁿⁱ reuseⁿⁱ Use Span Time ^C

Sub Class Of

http://qudt.org/schema/qudt/QuantityValue^c

http://qudt.org/schema/qudt/hasUnit^{op} only http://qudt.org/schema/qudt/Unit^c

and http://qudt.org/schema/qudt/hasUnitop some

http://qudt.org/schema/qudt/Unit^c

In Range Of

hasUseSpan op

<u>hasUseSpanRemaining</u>^{op} <u>hasUseSpanTotal</u>^{op}

Restriction http://qudt.org/schema/qudt/numericValue only UseSpanTime

Use Stage Impact ^C

Sub Class Of LifeCycleAssessmentImpact^C

Super Class Of

B1InstalledProductImpact^C
B2MaintenanceImpact^C
B3RepairImpact^C
B4ReplacementImpact^C
B5RefurbishmentImpact^C

B6OperationalEnergyConsumption^C

B7OperationalWaterUse^C

Object Properties

has unit op

http://qudt.org/schema/qudt/hasUnit

quantity value op

Super Property Of

- <u>hasConductivityValue</u>^{op}
- <u>hasDistanceToRecyclingPlant</u>op
- hasGlobalWarmingPotential^{op}
- <u>hasRecycledContentValue</u>^{op}
- hasRecyclingPlant^{op}
- hasRecyclingPotential op
- hasRecyclingSeparability op
- <u>hasResistanceToEarth</u>^{op}
- hasReuseDeconstructability^{op}
- hasSystemWeight^{op}
- hasUseSpan op

has accessory op

has conductivity property op

erty

Sub Property Of http://w3id.org/CEON/ontology/resourceODP/hasResourceProperty

Domain product:Item^c or product:Product^c

Range Conductivity^C

has conductivity value op

http://w3id.org/CEON/demo/construction/hasConductivityValu

e

Sub Property Of http://qudt.org/schema/qudt/quantity-Value op

Domain

Conductivity^C

product:Item^c or product:Product^c

Range Conductivity Value C

has contaminant op

<u>Domain</u> <u>product:Product^c or product:Item^c</u>

Range Contaminant^C

has dimensional deviation op

IRI http://w3id.org/CEON/demo/construction/hasDimensionalDevia

tion

Sub Property Of topObjectProperty op

Domain <u>product:Product^c or product:Item^c</u>

Range <u>Dimensional Deviation</u>^C

has distance to recycling plant op

IRI http://w3id.org/CEON/demo/construction/hasDistanceToRecycl

ingPlant

Sub Property Of http://qudt.org/schema/qudt/quantityValue op

Domain product:Product^c or product:Item^c

Range <u>LocalRecyclingPlantDistance</u>^C

has fire resistance rating op

IRI http://w3id.org/CEON/demo/construction/hasFireResistanceRa

ting

Sub Property Of http://w3id.org/CEON/ontology/resourceODP/hasResourceProperty

Domain product:Item^c or product:Product^c

Range <u>FireResistanceRating</u>^C

has global warming potential op

ential

Sub Property Of http://qudt.org/schema/qudt/quantity/value op

Domain

<u>LifeCycleAssessmentImpact^C</u>

• product:Item^c or product:Product^c

Range GlobalWarmingPotential^C

has installation location op

IRI http://w3id.org/CEON/demo/construction/hasInstallationLoca

tion

Sub Property Of http://w3id.org/CEON/ontology/location/hasLocation

<u>Domain</u> <u>product:Item</u> or <u>product:Product</u>

has market value for new product op

wProduct

Sub Property Of http://w3id.org/CEON/ontology/quantity/hasMarketValue

Domain <u>product:Product</u> or <u>product:Item</u> c

Range MarketValueForProduct^C

has market value for reused product op

IRI http://w3id.org/CEON/demo/construction/hasMarketValueForRe

 ${\tt usedProduct}$

Sub Property Of http://w3id.org/CEON/ontology/quantity/hasMarketValue

<u>Domain</u> <u>product:Product^c or product:Item^c</u>

Range <u>MarketValueForProduct</u>^C

has product quality op

Sub Property Of topObjectProperty op

Domain product:Item^c or product:Product^c

Range ConstructionProductQuality^C

has recycled content value op

alue

Sub Property Of http://qudt.org/schema/qudt/quantityValue op

Range RecycledContentValue^C

has recycling plant op

Sub Property Of http://qudt.org/schema/qudt/quantityValue op

Range <u>LocalRecyclingPlantDistance</u>^C

has recycling potential op

al

Sub Property Of http://qudt.org/schema/qudt/quantity/value op

Domain

• ReusePotential^C

• product:Item^c or product:Product^c

Range RecyclingPotentialValue^C

has recycling separability op

ility

Sub Property Of http://qudt.org/schema/qudt/quantity/value op

Domain

RecyclingSeparability^c

• product:Product^c or product:Item^c

Range RecyclingSeparabilityValue^c

has resistance to earth op

h

Sub Property Of http://qudt.org/schema/qudt/quantityValue op

Domain

ResistanceToEarth^c

product:Item^c or product:Product^c

Range ResistanceToEarthValue^C

has reuse deconstructability op

IRI http://w3id.org/CEON/demo/construction/hasReuseDeconstruct

ability

Sub Property Of http://qudt.org/schema/qudt/quantityValue op

Domain

• ReuseDeconstructability^C

product:Product^c or product:Item^c

Range RecyclingDeconstructabilityValue^C

has reuse potential op

Sub Property Of http://w3id.org/CEON/ontology/resourceODP/hasResourceProperty

Domain product:Item^c or product:Product^c

Range ReusePotential^C

has system weight op

IRI http://w3id.org/CEON/demo/construction/hasSystemWeight

Sub Property Of http://qudt.org/schema/qudt/quantityValue op

Domain

• <u>SystemMinimalWeight^c or SystemWeight^c or SystemMaximalWeight^c</u>

product:Item^c or product:Product^c

Range SystemWeightValue^C

has take back program op

has use span op

IRI http://w3id.org/CEON/demo/construction/hasUseSpan

Sub Property Of http://qudt.org/schema/qudt/quantityValue op

Super Property Of

<u>hasUseSpanRemaining</u> op
 <u>hasUseSpanTotal</u> op

Domain product:Product^c or product:Item^c

Range <u>UseSpanTime</u>^C

has use span remaining op

IRI http://w3id.org/CEON/demo/construction/hasUseSpanRemaining

Sub Property Of hasUseSpan op

Range <u>UseSpanTime</u>^C

has use span total op

Sub Property Of hasUseSpan op

Range <u>UseSpanTime</u>^C

installation location op

n

Range <u>InstallationLocation</u>^C

policy on treatment op

Sub Property Of topObjectProperty op

<u>Domain</u> <u>product:Item^c or product:Product^c</u>

Range <u>TreatmentPolicy</u>^C

Datatype Properties

numeric value ^{dp}

IRI http://qudt.org/schema/qudt/numericValue

construction year dp

Sub Property Of topDataProperty dp

Range <u>xsd:gYear</u>

has accessories dp

<u>Domain</u> <u>product:Product^c or product:Item^c</u>

Range <u>xsd:string</u>

has dismantling instruction dp

uction

Sub Property Of topDataProperty dp

Domain product:Product^c or product:Item^c

Range xsd:anyURI

has dismantling method dp

d

Sub Property Of topDataProperty dp

Domain product:Product^c or product:Item^c

Range xsd:string

has image dp

IRI http://w3id.org/CEON/demo/construction/hasImage

has installation date dp

Sub Property Of topDataProperty dp

Domain product:Item

Range xsd:date

has packaging recommendations after dismantling dp

http://w3id.org/CEON/demo/construction/hasPackagingRecomme

ndationsAfterDismantling

Sub Property Of topDataProperty dp

Domain product:Product^c or product:Item^c

Range <u>xsd:string</u>

has product description dp

IRI http://w3id.org/CEON/demo/construction/hasProductDescripti

on

Sub Property Of topDataProperty dp

<u>Domain</u> <u>product:Product^c or product:Item^c</u>

Range xsd:string

has product id dp

Sub Property Of topDataProperty dp

<u>Domain</u> <u>product:Product^c or product:Item^c</u>

Range <u>xsd:int</u>

has production date dp

Sub Property Of topDataProperty dp

Domain product:Item

Range xsd:date

has production site dp

Sub Property Of topDataProperty dp

Domain product:Item^c or product:Product^c

Range xsd:string

has refurbishment method dp

IRI http://w3id.org/CEON/demo/construction/hasRefurbishmentMet

hod

Sub Property Of topDataProperty dp

Domain product:Item^c or product:Product^c

Range xsd:string

has technical requirements for take back for recycling dp

mentsForTakeBackForRecycling

Sub Property Of topDataProperty dp

Domain <u>product:Item</u>^c or <u>product:Product</u>^c

Range <u>xsd:string</u>

has technical requirements for take back for reuse dp

IRI http://w3id.org/CEON/demo/construction/hasTechnicalRequire

mentsForTakeBackForReuse

Sub Property Of topDataProperty dp

<u>Domain</u> <u>product:Item^c or product:Product^c</u>

Range xsd:string

is contaminated dp

Sub Property Of topDataProperty dp

<u>Domain</u> <u>product:Product^c or product:Item^c</u>

Range xsd:boolean

is take back program from original manufacturer available ^{dp}

IRI http://w3id.org/CEON/demo/construction/isTakeBackProgramFr

omOriginalManufacturerAvailable

Sub Property Of topDataProperty dp

Domain <u>product:Product</u>

Range xsd:boolean

is take back program from other manufacturer available ^{dp}

omOtherManufacturerAvailable

Sub Property Of topDataProperty dp

Domain product:Product

Range xsd:boolean

Annotation Properties

contributor ap

http://purl.org/dc/terms/contributor

created ap

IRI http://purl.org/dc/terms/created

creator ap

IRI http://purl.org/dc/terms/creator

description ap

IRI http://purl.org/dc/terms/description

license ap

IRI http://purl.org/dc/terms/license

title ^{ap}

IRI http://purl.org/dc/terms/title

```
preferred namespace prefix ap
IRI
                 http://purl.org/vocab/vann/preferredNamespacePrefix
preferred namespace uri ap
IRI
                 http://purl.org/vocab/vann/preferredNamespaceUri
covers requirements ap
                 http://www.ontologydesignpatterns.org/schemas/cpannotation
IRI
                 schema.owl#coversRequirements
max qualified cardinality ap
IRI
                 http://www.w3.org/2002/07/owl#maxQualifiedCardinality
Namespaces
    http://w3id.org/CEON/demo/construction/
actor
    http://w3id.org/CEON/ontology/actor/
actorODP
    http://w3id.org/CEON/ontology/actorODP/
dcterms
    http://purl.org/dc/terms/
material
    http://w3id.org/CEON/ontology/material/
odp
    http://www.ontologydesignpatterns.org/schemas/cpannotationschema.owl#
owl
    http://www.w3.org/2002/07/owl#
product
    http://w3id.org/CEON/ontology/product/
prov
    http://www.w3.org/ns/prov#
rdf
    http://www.w3.org/1999/02/22-rdf-syntax-ns#
rdfs
    http://www.w3.org/2000/01/rdf-schema#
vann
    http://purl.org/vocab/vann/
xsd
```

Legend

http://www.w3.org/2001/XMLSchema#

op Object Properties dp Datatype Properties ap Annotation Properties	С	Classes
Properties Annotation	ор	Object Properties
ap	dp	
	ар	,