Circular Economy Ontology Network (CEON) - Construction Module

Metadata

IRI

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

Title

Circular Economy Ontology Network (CEON) - Construction Module

Creator

Robin Keskisärkkä

Contributor

Eva Blomqvist

Huanyu Li

Mikael Lindecrantz

Date Created

2023-09-14

License

https://creativecommons.org/licenses/by/4.0/

Version Iri

http://w3id.org/CEON/demo/construction/0.1/

Version Info

0.1

Preferred Namespace Prefix

construction

Preferred Namespace Uri

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

Description

The Product module of CEON (Circular Economy Ontology Network).

Classes

Condition ^c	
IRI	http://w3id.org/CEON/demo/construction/Condition
Description	Condition is used to describe the condition of a specific product object.
In Range Of	has condition ^{op}
Super Class Of	Floor Tile Condition ^C

Contaminant ^C

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

Description

A contaminant is any physical thing that is regarded as a contaminant when

present in a product or product object.

In Range Of has contaminant op

Dimensional Deviation ^C

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

In Range Of has dimensional deviation op

Fire resistance rating ^C

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

Description

Fire resistance rating is expressed as 'F' followed by the minimum number of

minutes in which the functionality of the product or product object can withstand fire. For example, F30 would therefore be a fire resistance duration of 30 min.

In Range Of has frire resistance rating op

Named Individuals

F30ⁿⁱ F60ⁿⁱ

Fire Resistance Relation^C

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

Sub Class Of actorODP:ResourceParticipation

Floor tile ^C

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

DescriptionA floor tile is a type of product that used to cover a floor.

Sub Class Of product:Product

Floor Tile Condition C

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

Description

Floor Tile Condition is used to describe the condition of a floor tile (good, medium,

bad).

Sub Class Of Condition^C

Named Individuals

bad conditionⁿⁱ good conditionⁿⁱ medium conditionⁿⁱ

Floor Tile Condition Relation ^C

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

Sub Class Of actorODP:ResourceParticipation

Galvanized Steel Material C

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

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

Policy On Treatment^C

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

Description
PolicyOnTreatment represents the policy for treatment (reuse, refurbish or

reprocessing)

In Range Of policy on treatment op

Named Individuals

refurbishⁿⁱ reprocessⁿⁱ reuseⁿⁱ Product quality^C

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

DescriptionProductQuality represents the quality of a product or product object.

In Range Of has product quality op

Named Individuals

Product quality high ni Product quality low ni Product quality medium ni

treatment policy^c

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

Description

TreatmentPolicy is used to describe the policy for treatment for a given product or

product object.

Named Individuals refurbish ni

reprocessⁿⁱ reuseⁿⁱ

Object Properties

has condition op

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

Description hasCondition is used to describe the condiction of a specific product object.

Sub Property Of topObjectProperty op

Domain product:Product^c or product:ProductObject^c

Range Condition^C

has contaminant op

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

DescriptionhasContaminant is used to express the presence of contaminants in a product or

product object.

Domain <u>product:Product</u>

Range Contaminant^c

has dimension op

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

Descriptionhas Dimension is used to describe a dimension of a product or product object.

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

Super Property Of

has height^{op}
 has thickness^{op}
 has width^{op}

Domain <u>product:ProductCobjectCorproduct:ProductObjectCorproductCorproductCo</u>

has dimensional deviation op

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

Description has Dimensional Deviation is used to describe the dimensional deviation class of a

product.

Sub Property Of topObjectProperty op

Domain product:Product

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

has distance to recycling plant op

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

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

has frire resistance rating op

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

Description hasFireResistanceRating is used to represent the fire resistance rating of a

product or product object.

Sub Property Of topObjectProperty op

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

Range Fire resistance rating ^c

has height op

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

Description hasHeight is used to describe the height of a product or product object.

Sub Property Of has dimension op

has market value for new product op

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

Description hasMarketValueForNewProduct is used to describe the market value of a new

product.

Sub Property Of quantity:hasMarketValue

Domain product:Product

has market value for reused product op

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

Description hasMarketValueForReusedProduct is used to describe the market value of a used

product.

Sub Property Of <u>quantity:hasMarketValue</u>

Domain product:Product

has product quality op

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

Description has Product Quality is used to represent the quality of a product or product object.

Sub Property Of topObjectProperty op

Domain product:ProductObject or product:ProductC

Range Product quality^C

has recycling potential op

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

Description hasRecyclingPotential describes the amount of the product or product object that

can potenitally be recycled.

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

Domain <u>product:ProductControlleror product:ProductObjectControlleror product:ProductObjectControlleror product:ProductObjectControlleror product:ProductObjectControlleror product:ProductControlleror product:ProductObjectControlleror product:</u>

has recycling separability op

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

Descriptionhas recycling separability

• hasRecyclingSeparability is used to describe the amount of the product or product object that can be separated for recycling.

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

Domain product:Product^c or product:ProductObject^c

has resistance to earth op

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

Description hasResistanceToEarth describes the resistance to earth of a product.

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

Domain product:Product

has reuse deconstructability op

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

Description has Reuse Deconstruct ability is used to describe the amount of the product hat can

be deconstructed for reuse.

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

Domain <u>product:Product</u>

has system weight op

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

Description hasSystemWeight is used to express the system weight of a product or product

object.

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

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

has thickness op

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

Description hasThickness is used to describe the thickness of a product or product object.

Sub Property Of has dimension op

has use span op

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

Description hasUseSpan describes the use span of a product or product object.

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

Super Property Of• has use span remaining op

has use span total^{op}

Domain product:Product^c or product:ProductObject^c

has use span remaining op

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

Description hasUseSpanRemaining describes the remaining use span of a product or product

object.

Sub Property Of has use span op

has use span total op

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

Description hasUseSpanTotal describes the total use span of a product or product object.

Sub Property Of has use span op

has width op

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

Description hasHeight is used to describe the height of a product or product object.

Sub Property Of has dimension op

policy on treatment op

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

Description policyOnTreatment describes the policy for treatment of used product.

Sub Property Of topObjectProperty op

Domain <u>product:Product</u>

Range PolicyOnTreatment^C

Datatype Properties

has accessories dp

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

Description has Accessories is used to provide a tout representation of the access

to a product or product object.

Domain <u>product:ProductObject^c or product:ProductC</u>

Range xsd:string

has certificate dp

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

Description hasCertificate is used to link a product or product object to a certificate. The

certificate is represented as a string, which could refer to the URL, name, or

hasAccessories is used to provide a text representation of the accessories related

identifier of a known certificate.

Domain product:ProductObject or product:ProductC

Range <u>xsd:string</u>

has dismantling method dp

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

Description has Dismantling Method is used to represent a textual description of the dismantling

method for a product or product object.

Sub Property Of topDataProperty dp

Domain <u>product:ProductControlleror product:ProductObjectControlleror product:ProductObjectControlleror product:ProductObjectControlleror product:ProductControlleror pr</u>

Range xsd:string

has installation date dp

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

Description

hasInstallationDate is used to represent the installation date of a specific product

object.

Sub Property Of topDataProperty dp

Domain product:ProductObject

Range <u>xsd:date</u>

has packaging recommendations after dismantling dp

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

mantling

Description hasPackagingRecommendationsAfterDismantling is used to represent a textual

description of the packaging recommendations after a product or product object

has been dismantled.

Sub Property Of topDataProperty dp

Domain <u>product:ProductCor product:ProductObjectCor product:ProductObje</u>

Range <u>xsd:string</u>

has product description dp

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

Description

• has product description

• hasProductDescription is used to represent a textual description of a product

or product object.

Sub Property Of topDataProperty dp

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

Range xsd:string

has product id dp

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

Description

· has product ID

• hasProductID is used to represent the product ID of a product or product

object.

Sub Property Of topDataProperty dp

Domain product:ProductObject or product:ProductC

Range <u>xsd:int</u>

has production date dp

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

Description has Production Date is used to represent the production date of a specific product

object.

Sub Property Of topDataProperty dp

Domain <u>product:ProductObject</u>

Range <u>xsd:date</u>

has production site ^{dp}

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

Description has Production Site is used to represent the site at which a given product or product

object has been produced as a string. (This property could potentially be

represented as an object property. The site could then potentially be treated as a

location.)

Sub Property Of topDataProperty dp

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

Range xsd:string

has refurbishment method dp

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

Description hasRefurbishmentMethod is used to provide a textual description of the

refurbishment process for a product or product object.

Sub Property Of topDataProperty dp

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

Range <u>xsd:string</u>

has takeback program from original manufacturer dp

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

acturer

Description hasTakeBackProgramFromOriginalManufacturer is used to express whether the

original manufacturer of a product has a take back program it (true/false).

Sub Property Of topDataProperty dp

Domain <u>product:Product</u>

Range xsd:boolean

has takeback program from other manufacturer dp

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

Description hasTakeBackProgramFromOtherManufacturer is used to express whether another

manufacturer has a take back program (true/false) for a product.

Sub Property Of topDataProperty dp

Domain product:Product

Range <u>xsd:boolean</u>

has technical requirements for take back and recycling dp

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

ForRecycling

Description hasTechnicalRequirmentsForTakeBackForRecycling is used to represent a textual

description of the technical requirements of a product or product object for take

back and recycling.

Sub Property Of topDataProperty dp

Domain product:ProductObject^C or product:Product^C

Range <u>xsd:string</u>

has technical requirements for take back and reuse dp

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

ForReuse

DescriptionhasTechnicalRequirmentsForTakeBackForReuse is used to represent a textual

description of the technical requirements of a product or product object for take

back and reuse.

Sub Property Of topDataProperty dp

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

Range <u>xsd:string</u>

is contaminated dp

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

Description is Contaminated is used to express whether a specific product object contains any

contaminants (true/false).

Sub Property Of topDataProperty dp

Domain product:Product^c or product:ProductObject^c

Range xsd:boolean

Annotation Properties

contributor ^{ap}		
IRI	http://purl.org/dc/terms/contributor	
created ^{ap}		
IRI	http://purl.org/dc/terms/created	
creatorap		
IRI	http://purl.org/dc/terms/creator	
<u>description</u> 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		
IRI	http://www.ontologydesignpatterns.org/schemas/cpannotationschema.owl#covers Requirements	

Namespaces http://w3id.org/CEON/demo/construction/ actor http://w3id.org/CEON/ontology/actor/ actorODP http://w3id.org/CEON/ontology/actorODP/ datasheet http://w3id.org/CEON/ontology/datasheet/ 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# quantity http://w3id.org/CEON/ontology/quantity# 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 http://www.w3.org/2001/XMLSchema#

Legend

C	Classes
ор	Object Properties
dp	Datatype Properties
ар	Annotation Properties