



# IDTA 02035-2: Digital Battery Passport – Part 2 Handover Documentation

February 2026

## SPECIFICATION

Submodel Template of the  
Asset Administration Shell



Submodel Template

**IDTA** approved

- 100% AAS compliant
- Consistent & interoperable
- Released by the AAS experts

# IDTA 02035-1 V1.0

## Imprint

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# Chapter 1. General

## 1.1. About this document

This document is a part of an overall specification series [19]. Each part specifies the contents of a Submodel Template (SMT). The specifications of the Asset Administration Shell (AAS) are the basis for the Submodel Template specifications, see [6].

The target audience of the specification are developers and editors of technical documentation and manufacturer information, which are describing assets by means of the Asset Administration Shell (AAS) and therefore need to create a Submodel instance with a hierarchy of SubmodelElements. This document especially details on the question, which SubmodelElements with which semantic identification shall be used for this purpose.

This specification was created following the "model based workflow" as defined in [18]. Additionally, Aspect Models were created [15,16].

## 1.2. Scope of the Submodel

This Submodel template aims to define the data points of a Battery Passport conformant to DIN DKE SPEC 99100 [14] and the corresponding EU regulations.

The battery passport consists of the following 7 parts:

Digital Battery Passport - Part 1: Digital Nameplate (IDTA-02035-1)  
Digital Battery Passport - Part 2: Handover Documentation (IDTA-02035-2)  
Digital Battery Passport - Part 3: Product Carbon Footprint (IDTA-02035-3)  
Digital Battery Passport - Part 4: Technical Data (IDTA-02035-4)  
Digital Battery Passport - Part 5: Product Condition (IDTA-02035-5)  
Digital Battery Passport - Part 6: Material Composition (IDTA-02035-6)  
Digital Battery Passport - Part 7: Circularity (IDTA-02035-7)

This specification is Part 2: Handover Documentation 1.0 (IDTA-02035-2).

## 1.3. Relevant standards for the Submodel template

This submodel template fulfills the requirements for dynamic data attributes as defined in DIN DKE SPEC 99100 [14]. DIN DKE 99100 "is based on the European Union and key Member States current regulatory requirements for battery passport information. Mandatory information for the battery passport as stated in the EU Battery Regulation (EU)2023/1542, Article77 and AnnexXIII, as well as the Ecodesign for Sustainable Products Regulation (ESPR), is supplemented by recommendations to increase sustainability and circularity. [1]"

This document is valid for all battery categories. Please be aware that for battery categories that have stronger requirements like industrial batteries with battery management systems etc. some of the data points are specified as optional although mandatory per regulation.

## 1.4. Explanations on used UML diagrams

For clarity and an improved legibility readers suggested to go through this section at first before reading the

following chapters.

UML diagrams feature box-like elements, called "classes". These classes, typically Submodels, SubmodelElementCollections or SubmodelElementLists, typically feature a set of Properties or further SubmodelElements. These elements can have specific cardinalities.

The single classes are hierarchally organized by aggregation relations, these can be seen as "contains" relation.

For a further overview on UML diagrams please refer to [6] and [10].

Further details about used table formats please refer to Annex A.

# Chapter 2. Information set for Submodel “Handover Documentation”

## 2.1. General

The "Handover Documentation 1.0" Submodel Template is part of the specification series for the Battery Passport.

The Submodel template is derived from the Submodel template "Handover Documentation 2.0 (IDTA-02004)" where some mandatory elements are not contained or declared as optional.

The submodel instance **Handover Documentation** comprises a set of elementary data elements to make (external) references to documents (e.g., to PDFs) that are relevant for the digital battery passport. Those documents correspond to the attributes of the DIN SPEC 99100:

- Information of due diligence report
- Third party assurances of recognised schemes (optional)
- Dismantling information: Manuals for the removal and the disassembly of the battery pack
- Safety measures
- Information on the role of end-users in contributing to waste prevention
- Information on the role of end-users in contributing to the separate collection of waste batteries
- Information on battery collection, preparation for second life and on treatment at end of life
- Information on accidents
- EU declaration of conformity
- Results of test reports proving compliance
- Web link to public carbon footprint study

There will be various submodels, such as Digital Battery Passport - Part 1: Digital Nameplate (IDTA-02035-1), Digital Battery Passport - Part 3: Product Carbon Footprint (IDTA-02035-3), Digital Battery Passport - Part 5: Product Condition 1.0 (IDTA-02035-5), or Digital Battery Passport - Part 7: Circularity (IDTA-02035-7), which implicitly refer to this submodel via the DocumentIdentifier element, whereby the corresponding document shall be available with this DocumentIdentifier.

### Property specification

See [clause 3 "Information structures and attributes"](#).

[Figure 1](#) shows the UML-diagram defining the relevant properties which need to be set.

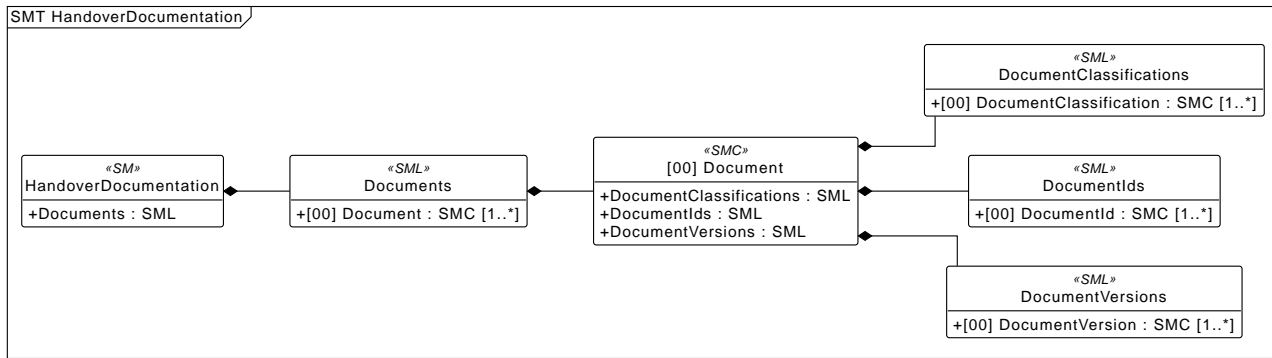


Figure 1. UML-Diagram for Submodel "Handover Documentation" for batteries

## 2.2. Enumeration: document classification based on VDI 2770

DIN DKE SPEC 99100 defines a basic set of different classes for documents, which allows the operator of the battery equipment to manage and retrieve information efficiently. Depending of the document context, the corresponding class ids and class names should be used based on VDI 2770.

See Handover Documentation 2.0 (IDTA-02004) for the full list of the VDI 2770 classifications and its semanticids.

Following DIN DKE SPEC 99100 attributes are mapped to VDI 2770 classes:

Table 1. DocumentClassification according to VDI 2770 and its mapping to DIN DKE SPEC 99100

DIN DKE SPEC 99100 Data Attribute	VDI 2770 ClassID	ClassName
EU declaration of conformity (6.2.7)	02-04	Certificates, declarations
Results of test reports proving compliance (6.2.8)	02-04	Certificates, declarations
Web link to public carbon footprint study (6.3.8)	02-04	Certificates, declarations
Information of due diligence report in the Battery Passport (6.4.2)	02-04	Certificates, declarations
Dismantling information: Manuals for the removal and the disassembly of the battery pack (6.6.1.2)	03-01	Commissioning, decommissioning
Safety measures (6.6.1.5)	03-03	General safety

Information on the role of end-users in contributing to waste prevention (6.6.3.2)	03-02	Operation
Information on the role of end-users in contributing to the separate collection of waste batteries (6.6.3.3)	03-02	Operation
Information on battery collection, preparation for second life and on treatment at end of life (6.6.3.4)	03-02	Operation
Information on accidents (6.7.8.4)	03-04	Inspection, maintenance, testing

## 2.3. Attributes of the Submodel instance

The following attributes need to be set for the Submodel instance. The table convention is explained in Annex A.2.

The ECLASS IRDIs referenced in this Submodel are based on ECLASS Release 15. This version of the Submodel with these ECLASS IRDIs is also available in the download area of the ECLASS website: [www.eclass.eu](http://www.eclass.eu) in form of the Asset.xml. The Asset.xml (Release 15) is the ECLASS file that contains Submodels. The use of these Submodels is free of charge.

Table 2. Attributes of the Submodel instance

<b>idShort:</b>	<b>HandoverDocumentation</b>		
<b>Class:</b>	Submodel		
<b>semanticId:</b>	0173-1#01-AHF578#003		
<b>Parent:</b>	-		
<b>Explanation:</b>	The Submodel defines a set meta data for the handover of documentation from the manufacturer to the operator for industrial equipment		
<b>Element details:</b>	-		
[SME type]	semanticId	[valueType]	card.
idShort	Description@en	example	
[SML]	0173-1#02-ABI500#003	[]	1
Documents	supplementalSemanticId: <a href="https://api.eclass-cdp.com/0173-1-02-ABI500-003">https://api.eclass-cdp.com/0173-1-02-ABI500-003</a> , urn:samm:io.admin-shell.idta.battery.pass.handover_documentation:1.0.0#documents  Information for a document identity	1 elements	



## 2.4. SubmodelElements of Documents

Table 3. SubmodelElements of DocumentClassification

<b>idShort:</b>	<b>Documents</b>		
<b>Class:</b>	SubmodelElementList		
<b>semanticId:</b>	0173-1#02-ABI500#003		
<b>Parent:</b>	HandoverDocumentation		
<b>Explanation:</b>			
<b>Element details:</b>	orderRelevant=No, semanticIdListElement=[GlobalReference, 0173-1#02-ABI500#003/0173-1#01-AHF579#003], typeValueListElement=SubmodelElementCollection		
[SME type]	semanticId	[valueType]	card.
idShort	Description@en	example	
[SMC]	0173-1#02-ABI500#003/0173-1#01-AHF579#003	[]	1..*
Document	<p>supplementalSemanticId: 0173-1#02-ABI500#003~0/0173-1#01-AHF579#003,https://api.eclass-cdp.com/0173-1-02-ABI500-003/0173-1-01-AHF579-003,urn:samm:io.admin-shell.idta.batterypass.handover_documentation:1.0.0#Document</p> <p>Each SubmodelElementCollection describes a document by standard, which is associated to the particular Asset Administration Shell</p> <p>This SubmodelElementCollection holds the information for a VDI 2770 Document entity</p>	3 elements	

## 2.5. SubmodelElements of Document

[UML\_Submodel] shows the UML-diagram defining the relevant properties which need to be set.

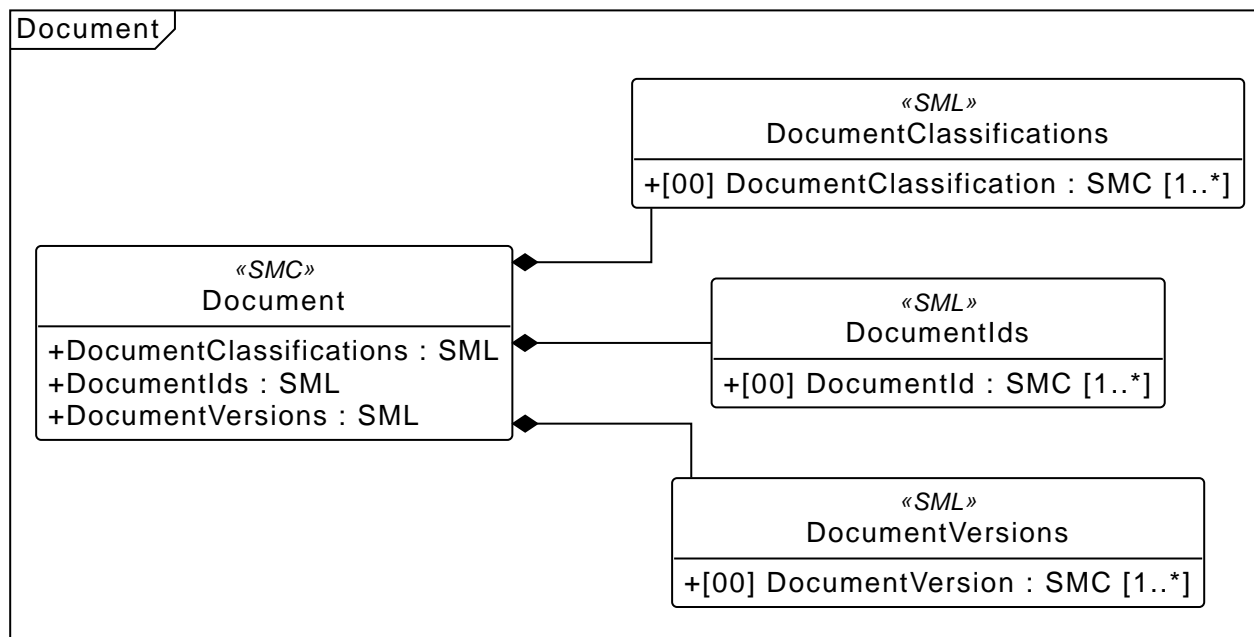


Figure 2. UML-Diagram for Submodel "Handover Documentation" for batteries

The SubmodelElementCollection (SMC) Document contains the information based on VDI 2770 "Document". Such a "Document" can refer to multiple "DocumentVersions", which are individual SubmodelElementCollections contained within the superordinate "Document" SMC. The table convention is explained in Annex A.2.

Table 4. SubmodelElements of DocumentClassification

<b>idShort:</b>	<b>Document</b>		
<b>Class:</b>	SubmodelElementCollection		
<b>semanticId:</b>	0173-1#02-ABI500#003/0173-1#01-AHF579#003		
<b>Parent:</b>	Documents		
<b>Explanation:</b>	This SubmodelElementCollection holds the information for a VDI 2770 Document entity		
<b>Element details:</b>	-		
[SME type]	semanticId	[valueType]	card.
idShort	Description@en	example	
[SML]	0173-1#02-ABI502#003	[]	1
DocumentClassifications	supplementalSemanticId: <a href="https://api.eclass-cdp.com/0173-1-02-ABI502-003">https://api.eclass-cdp.com/0173-1-02-ABI502-003</a> , urn:samm:io.admin-shell.idta.handover_documentation:2.0.0#documentClassifications  Set of information for describing the classification of the Document according to ClassificationSystems	1 elements	

[SML]	0173-1#02-ABI501#003	[]	1
DocumentIds	supplementalSemanticId: <a href="https://api.eclass-cdp.com/0173-1-02-ABI501-003">https://api.eclass-cdp.com/0173-1-02-ABI501-003</a> , urn:samm:io.admin-shell.idta.handover_documentation:2.0.0#documentIds  Set of document identifiers for the document. One ID in this collection should be used as a preferred ID	1 elements	
[SML]	0173-1#02-ABI503#003	[]	1
DocumentVersions	supplementalSemanticId: <a href="https://api.eclass-cdp.com/0173-1-02-ABI503-003">https://api.eclass-cdp.com/0173-1-02-ABI503-003</a> , urn:samm:io.admin-shell.idta.batterypass.handover_documentation:1.0.0#documentVersions  Information elements of individual Document Version entities	1 elements	

## 2.6. SubmodelElements of DocumentClassification

[UML\_Submodel] shows the UML-diagram defining the relevant properties which need to be set.

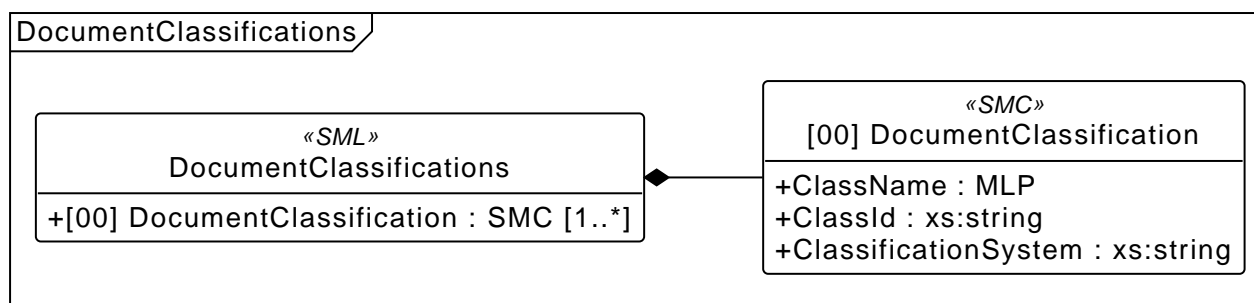


Figure 3. UML-Diagram for Submodel "Handover Documentation" for batteries

The SubmodelElementCollection (SMC) "DocumentClassification" contains the information for a classification of a document according to a classification system. The table convention in the context of the Digital Battery Passport and DIN DKE SPEC 99100 is explained in Section 2.2.

Table 5. SubmodelElements of DocumentClassification

<b>idShort:</b>	<b>DocumentClassification</b>		
<b>Class:</b>	SubmodelElementCollection		
<b>semanticId:</b>	0173-1#02-ABI502#003/0173-1#01-AHF581#003		
<b>Parent:</b>	DocumentClassifications		
<b>Explanation:</b>	Set of information for describing the classification of the Document according to a ClassificationSystem		
<b>Element details:</b>	-		
[SME type]	semanticId	[valueType]	card.
idShort	Description@en	example	

[MLP]	0173-1#02-ABJ219#002	[]	1
ClassName	supplementalSemanticId: <a href="https://api.eiclass-cdp.com/0173-1-02-ABJ219-002">https://api.eiclass-cdp.com/0173-1-02-ABJ219-002</a> , urn:samm:io.admin-shell.idta.handover_documentation:2.0.0#className  Name of the class in the classification system		
[Prop]	0173-1#02-ABH996#003	[String]	1
ClassId	supplementalSemanticId: <a href="https://api.eiclass-cdp.com/0173-1-02-ABH996-003">https://api.eiclass-cdp.com/0173-1-02-ABH996-003</a> , urn:samm:io.admin-shell.idta.handover_documentation:2.0.0#classId  Unique ID of the document class within a classification system		
[Prop]	0173-1#02-ABH997#003	[String]	1
ClassificationSystem	supplementalSemanticId: <a href="https://api.eiclass-cdp.com/0173-1-02-ABH997-003">https://api.eiclass-cdp.com/0173-1-02-ABH997-003</a> , urn:samm:io.admin-shell.idta.handover_documentation:2.0.0#classificationSystem  Identification of the classification system		

The list of the ClassName and ClassID values are listed in Section 2.2 for the ClassificationSystem value "VDI2770:2020".

## 2.7. SubmodelElements of DocumentID

The SubmodelElementCollection (SMC) DocumentId identifies the Document in a given Domain. The table convention is explained in Annex A.2.

Table 6. SubmodelElements of DocumentID

<b>idShort:</b>	<b>DocumentIds</b>		
<b>Class:</b>	SubmodelElementList		
<b>semanticId:</b>	0173-1#02-ABI501#003		
<b>Parent:</b>	Document		
<b>Explanation:</b>			
<b>Element details:</b>	orderRelevant=No, semanticIdListElement=[GlobalReference, 0173-1#02-ABI501#003/0173-1#01-AHF580#003], typeValueListElement=SubmodelElementCollection		
[SME type]	semanticId	[valueType]	card.
idShort	Description@en	example	

[SMC]	0173-1#02-ABI501#003/0173-1#01-AHF580#003	[]	1..*
DocumentId	supplementalSemanticId: 0173-1#02-ABI501#003~0/0173-1#01-AHF580#003,https://api.eclass-cdp.com/0173-1-02-ABI501-003/0173-1-01-AHF580-003,urn:samm:io.admin-shell.idta.handover_documentation:2.0.0#DocumentId  Information about a document identification entity This SubmodelElementCollection holds the information for a VDI 2770 Document entity	3 elements	

## 2.8. SubmodelElements of DocumentVersion

[UML\_Submodel] shows the UML-diagram defining the relevant properties which need to be set.

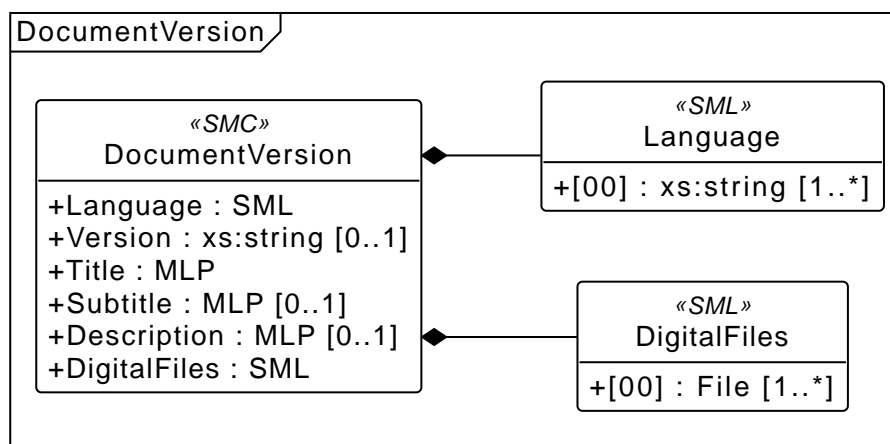


Figure 4. UML-Diagram for SubmodelCollection "DocumentVersion"

The SubmodelElementCollection (SMC) DocumentVersion contains the information for a DocumentVersion. The table convention is explained in Annex A.2.

Table 7. SubmodelElements of DocumentVersion

<b>idShort:</b>	<b>DocumentVersion</b>		
<b>Class:</b>	SubmodelElementCollection		
<b>semanticId:</b>	0173-1#02-ABI503#003/0173-1#01-AHF582#003		
<b>Parent:</b>	DocumentVersions		
<b>Explanation:</b>			
<b>Element details:</b>	-		
[SME type]	semanticId	[valueType]	card.
idShort	Description@en	example	

[SML]	0173-1#02-AAN468#008	[]	1
Language	supplementalSemanticId: <a href="https://api.eclass-cdp.com/0173-1-02-AAN468-008">https://api.eclass-cdp.com/0173-1-02-AAN468-008</a> , urn:samm:io.admin-shell.idta.shared:3.1.0#languages  Language style of the document	1 elements	
[Prop]	0173-1#02-AAP003#005	[String]	0..1
Version	supplementalSemanticId: <a href="https://api.eclass-cdp.com/0173-1-02-AAP003-005">https://api.eclass-cdp.com/0173-1-02-AAP003-005</a> , urn:samm:io.admin-shell.idta.handover_documentation:2.0.0#version  Design that partly deviates from the previous		
[MLP]	0173-1#02-ABG940#003	[]	1
Title	supplementalSemanticId: <a href="https://api.eclass-cdp.com/0173-1-02-ABG940-003">https://api.eclass-cdp.com/0173-1-02-ABG940-003</a> , urn:samm:io.admin-shell.idta.handover_documentation:2.0.0#title  Name of the document		
[MLP]	0173-1#02-ABH998#003	[]	0..1
Subtitle	supplementalSemanticId: <a href="https://api.eclass-cdp.com/0173-1-02-ABH998-003">https://api.eclass-cdp.com/0173-1-02-ABH998-003</a> , urn:samm:io.admin-shell.idta.handover_documentation:2.0.0#subtitle  List of language-dependent subtitles of the document		
[MLP]	0173-1#02-AAN466#004	[]	0..1
Description	supplementalSemanticId: <a href="https://api.eclass-cdp.com/0173-1-02-AAN466-004">https://api.eclass-cdp.com/0173-1-02-AAN466-004</a> , urn:samm:io.admin-shell.idta.handover_documentation:2.0.0#description  Plain text characterizing the content of the document		
[SML]	0173-1#02-ABK126#002	[]	1
DigitalFiles	supplementalSemanticId: <a href="https://api.eclass-cdp.com/0173-1-02-ABK126-002">https://api.eclass-cdp.com/0173-1-02-ABK126-002</a> , urn:samm:io.admin-shell.idta.handover_documentation:2.0.0#digitalFiles  MIME-Type, file name and file contents given by the file SubmodelElement	1 elements	

Table 8. SubmodelElements of DocumentVersion

<b>idShort:</b>	Language
<b>Class:</b>	SubmodelElementList
<b>semanticId:</b>	0173-1#02-AAN468#008
<b>Parent:</b>	DocumentVersion
<b>Explanation:</b>	

<b>Element details:</b>	orderRelevant=No, typeValueListElement=Property, valueTypeListElement=xs:string		
[SME type]	semanticId	[valueType]	card.
idShort	Description@en	example	
[Prop]	0173-1#02-AAN468#008  supplementalSemanticId: urn:samm:org.eclipse.esmf.samm:characteristic:2.1.0#Locale  Language style of the document	[String]  en	1..*

Table 9. SubmodelElements of DocumentVersion

<b>idShort:</b>	<b>DigitalFiles</b>		
<b>Class:</b>	SubmodelElementList		
<b>semanticId:</b>	0173-1#02-ABK126#002		
<b>Parent:</b>	DocumentVersion		
<b>Explanation:</b>			
<b>Element details:</b>	orderRelevant=No, typeValueListElement=File		
[SME type]	semanticId	[valueType]	card.
idShort	Description@en	example	
[File]	0173-1#02-ABK126#002  supplementalSemanticId: urn:samm:io.admin-shell.idta.shared:3.1.0#ResourceWithContentType  MIME-Type, file name and file contents given by the file SubmodelElement	[]	1..*

# Annex A. Explanations on used table formats

## 1. General

The used tables in this document try to outline information as concise as possible. They do not convey all information on Submodels and SubmodelElements. For this purpose, the definitive definitions are given by a separate file in form of an AASX file of the Submodel template and its elements.

## 2. Tables on Submodels and SubmodelElements

For clarity and brevity, a set of rules is used for the tables for describing Submodels and SubmodelElements.

- The tables follow in principle the same conventions as in [5].
- The table heads abbreviate 'cardinality' with 'card'.
- The tables often place two informations in different rows of the same table cell. In this case, the first information is marked out by sharp brackets [] from the second information. A special case are the semanticIds, which are marked out by the format: (type)(local)[idType]value.
- The types of SubmodelElements are abbreviated (see Table 10):

Table 10. Abbreviations for SubmodelElements

SME type	SubmodelElement type
Blob	Blob
Cap	Capability
Ent	Entity
Evt	Event
File	File
MLP	MultiLanguageProperty
Opr	Operation
Prop	Property
Range	Range
Ref	ReferenceElement
Rel	RelationshipElement
RelA	AnnotatedRelationshipElement
SMC	SubmodelElementCollection
SME	SubmodelElement type
SML	SubmodelElementList

- If an idShort ends with '\_\_\_00\_\_', this indicates a suffix of the respective length (here: 2) of decimal digits, in order to make the idShort unique. A different idShort might be chosen, as long as it is unique in the parent's context.
- The Keys of semanticId in the main section feature only idType and value, such as: <https://admin-shell.io/vdi/2770/1/0/DocumentId/Id>. The attribute "type" (typically "ConceptDescription" and "(local)" or



"GlobalReference") need to be set accordingly; see [6].

- If a table does not contain a column with "parent" heading, all represented attributes share the same parent. This parent is denoted in the head of the table.
- Multi-language strings are represented by the text value, followed by '@'-character and the ISO 639 language code: example@EN.
- The [valueType] is only given for Properties.

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