Artwork Content Validation Rules

Standard Specification

Issue 1, 7-Nov-2012

Document Summary

Document Item	Current Value
Document Title	Artwork Content Validation Rules - Standard Specification
Date Last Modified	7-Nov-2012
Document Issue	Issue 1
Document Status	Approved
Document Description	Validation rules for the BMS Artwork Content and Response.

Contributors

Function	Name	Organization
WG co-chair	McLeod, Ed	Procter & Gamble Co.
WG co-chair	Russell, Gary	Phototype
WG member	Brown, Scott	GS1 US
WG member	Carter, Steve	Phototype
WG member	Cauley, Michael	Phototype
WG member	Edison, Carol	General Mills, Inc.
WG member	Fleck, Matt	Procter & Gamble Co.
WG member	Fransen, Wim	EskoArtwork
WG member	Miller, Bruce	Schawk, Inc.
WG member	Olsson, Staffan	GS1 Sweden
WG member	Ottens, Traci	Dassault Systemes
WG member	Poehlman, Tom	Kimberly-Clark Corporation
Process manager	Champion, Jean-Luc	GS1 Global Office
Editor	Janssen, Coen	GS1 Global Office

Log of Changes

Issue No.	Date of Change	Changed By	Summary of Change
Issue 1	7-Nov-2012	Coen Janssen	Officially approved version

Disclaimer

Table of Contents

1. Introduction 4

2. Scope 4

3. References 4

4. Terms and definitions 5

4.1. Conventions 5

4.2. Definitions 5

5. General Rules 6

5.1. Artwork Content message 6

5.2. Artwork Content Response message 6

6. Specific Rules 7

6.1. Artwork Content - Piece Of Art 7

6.2. Artwork Content – Technical Drawing 9

6.3. Artwork Content - Copy Element 10

6.4. Artwork Content – Graphic Element 12

6.5. Artwork Content – Data Carrier Element 14

6.6. Artwork Content – Structured Copy Element 15

7. Validation of code values 16

7.1. Validation of internal GS1 Codes 16

7.2. Validation of external closed GS1 Codes 16

7.3. Validation of external semi-closed GS1 Codes 16

1. Introduction

This document is a GS1 normative specification that defines version 1.0 of the Artwork Content Validation Rules.

The specification was developed within the GS1 Global Standards Management Process by the Mission Specific Working Group[1] for Intelligent Packaging.

2. Scope

The rules as defined in this document relate to the two messages that are defined in Business Message Standard (BMS) 'Artwork Content and Response'. The rules need to be enforced on top of the XML schema structures as defined in the BMS.

3. References

Normative references:

- [ISODir2] ISO/IEC Directives part 2; Rules for the structure and drafting of International Standards – 6th edition, 2011
- [BMS ACR] Business Message Standard (BMS) - Artwork Content and Response – BMS Release 3.0.1, Document Issue 1, GS1 2012

Non-normative references:

- [BRAD IP] Business Requirements Analysis Document (BRAD) - Intelligent Packaging, GS1 2011

[1] GS1 uses this term for project groups, in order to distinguish them from standing committees.

4. Terms and definitions

4.1. Conventions

In this document the following typographical conventions are applied:

Grey text = background information

element = name of an XML element

@attribute = name of an XML attribute

[scope] = name of a particular scope (element path + all contained elements) within an XML document. Technically the scope is defined with an xpath expression.

`XML expression` = courier font signifying text that contains XML source code

4.2. Definitions

For the purposes of this document, the following terms and definitions apply.

Content Element

Generic term used to refer to copy elements, structured copy elements, graphic elements and data carrier elements.

Content Element Option / Option

In the context of this standard a content element option is one of multiple alternatives for a particular content element to be included in the artwork. Options are defined by the artwork content source. The artwork content recipient must select at least one option, and may select multiple options.

5. General Rules

5.1. Artwork Content message

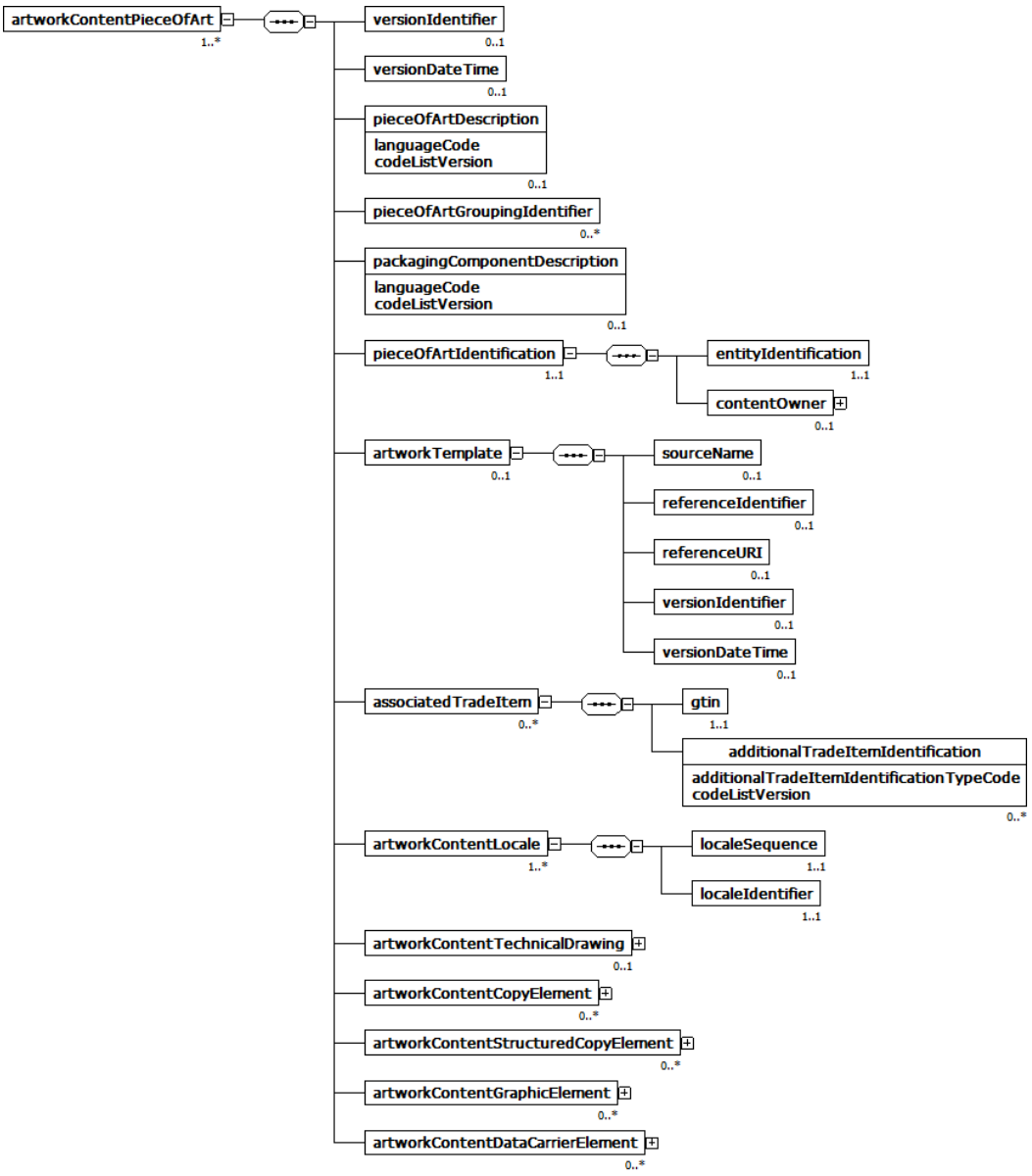
- Agreement for usage of comments via the *note* element in content elements must be part of the trading partner agreement. Use of comments is only for informational purposes (to be applied in bilateral agreement), comments shall not be used to communicate content that is intended to appear on the packaging.
- When *isContentApproved* is set to “false” in any of the content elements, the artwork is not considered final. Artwork should not proceed to final use (in production) if any content has not been approved.
- When options are used in content elements, the *optionSequence* must be a unique number within a set of content elements with the same type, instance, and locale.

5.2. Artwork Content Response message

- In the Artwork Content Response message the artworkContentResponseStatus is mandatory for all content elements.
- The Artwork Content Response MUST return values in all data fields that were populated in the corresponding Packaging Content message, with the exception of content element options that were not selected.
- When *expectedNumberOfOccurrences* is populated with a value in the Artwork Content message, the *expectedNumberOfOccurrences* as well as *actualNumberOfOccurrences* MUST be populated in the Artwork Content Response.

6. Specific Rules

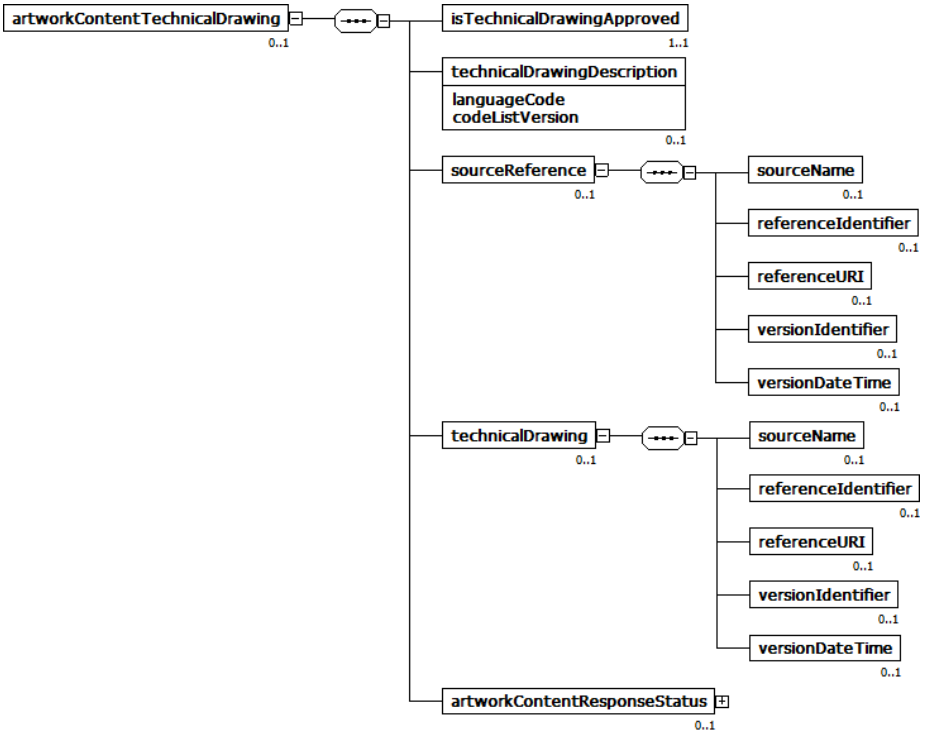
6.1. Artwork Content - Piece Of Art



SCOPE #	
[document]	artwork_content:artworkContentMessage/artworkContent
[piece of art]	artwork_content:artworkContentMessage/artworkContent/artworkContentPieceOfArt
[locale]	artwork_content:artworkContentMessage/artworkContent/artworkContentPieceOfArt/ artworkContentLocale

RULE #	
poa001	For each [piece of art] included in the [document] either the *versionDateTime* or a *versionIdentifier* must be populated.
poa002	In case more than one [locale] is specified for a [piece of art] the *localeSequence* is significant to identify in which sequence languages must appear on a piece-of-art. This is especially important for “Inline Translations” where the Artwork Studio needs to concatenate multiple copy elements containing different languages into a single location on a single piece-of-art. The *localeSequence* number must be assigned in the order that the languages need to appear on the piece-of-art, with the lowest number being the first language. For example: “manufactured for / confeccionado por” needs to be printed on the packaging. Locale Sequence 1 = en-US Locale Sequence 2 = es-US Locale Sequence 1 is indicating that English for the United States is the primary language used on the Piece-of-Art, followed by Spanish in the United States.

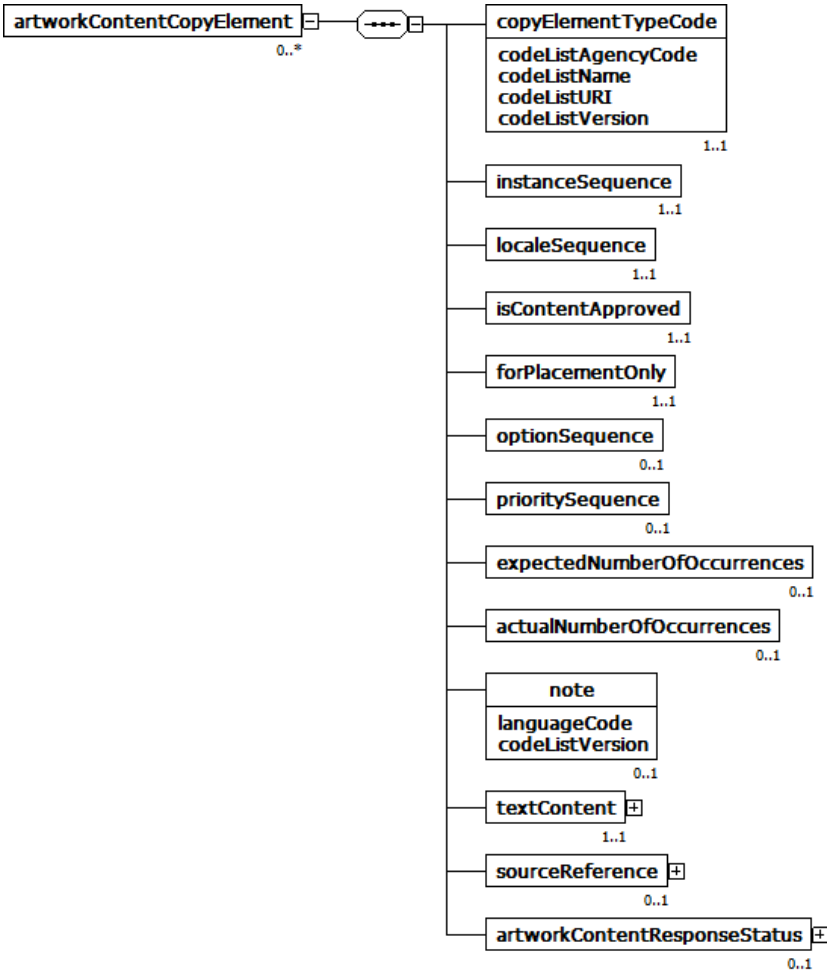
6.2. Artwork Content – Technical Drawing



SCOPE #	
[document]	artwork_content:artworkContentMessage/artworkContent
[technical drawing]	artwork_content:artworkContentMessage/artworkContent/artworkContentPieceOfArt/ artworkContentTechnicalDrawing
[technical drawing reference]	artwork_content:artworkContentMessage/artworkContent/artworkContentPieceOfArt/ artworkContentTechnicalDrawing/technicalDrawing

RULE #	
td001	Within [technical drawing reference] at least the *referenceIdentifier* or the *referenceURI* element shall be included.
td002	Within [technical drawing reference], when the *referenceURI* is populated, and the *referenceIdentifier* is not populated, the *referenceURI* shall contain a URI/URL that uniquely identifies the drawing.
td003	Within [technical drawing reference], may include both the *referenceIdentifier* and the *referenceURI.* Example use case: where the URI is a repository name and the user needs the identification to uniquely identify the specific symbol.

6.3. Artwork Content - Copy Element



SCOPE #	
[document]	artwork_content:artworkContentMessage/artworkContent
[copy element]	artwork_content:artworkContentMessage/artworkContent/artworkContentPieceOfArt/ artworkContentCopyElement
[text content]	artwork_content:artworkContentMessage/artworkContent/artworkContentPieceOfArt/ artworkContentCopyElement/textContent

RULE #	
ce001	For each [copy element] the combination of *copyElementTypeCode* and *instanceSequence* and *localeSequence* shall be unique in the [document], except for [copy elements] that are options, see ce002.
ce002	For [copy elements] that are options the combination of *copyElementTypeCode* and *instanceSequence* and *localeSequence* and *optionSequence* shall be unique in the [document].
ce003	The XHTML based [text content] shall have exactly one <body> element, and this shall be the outer most element. Within the <body> element one or more <p> elements shall be present.

RULE #	
	Within a <p> element text shall be present. The <p> text may contain one or more elements. A element shall contain only text. The text shall not contain elements, also no nested elements.

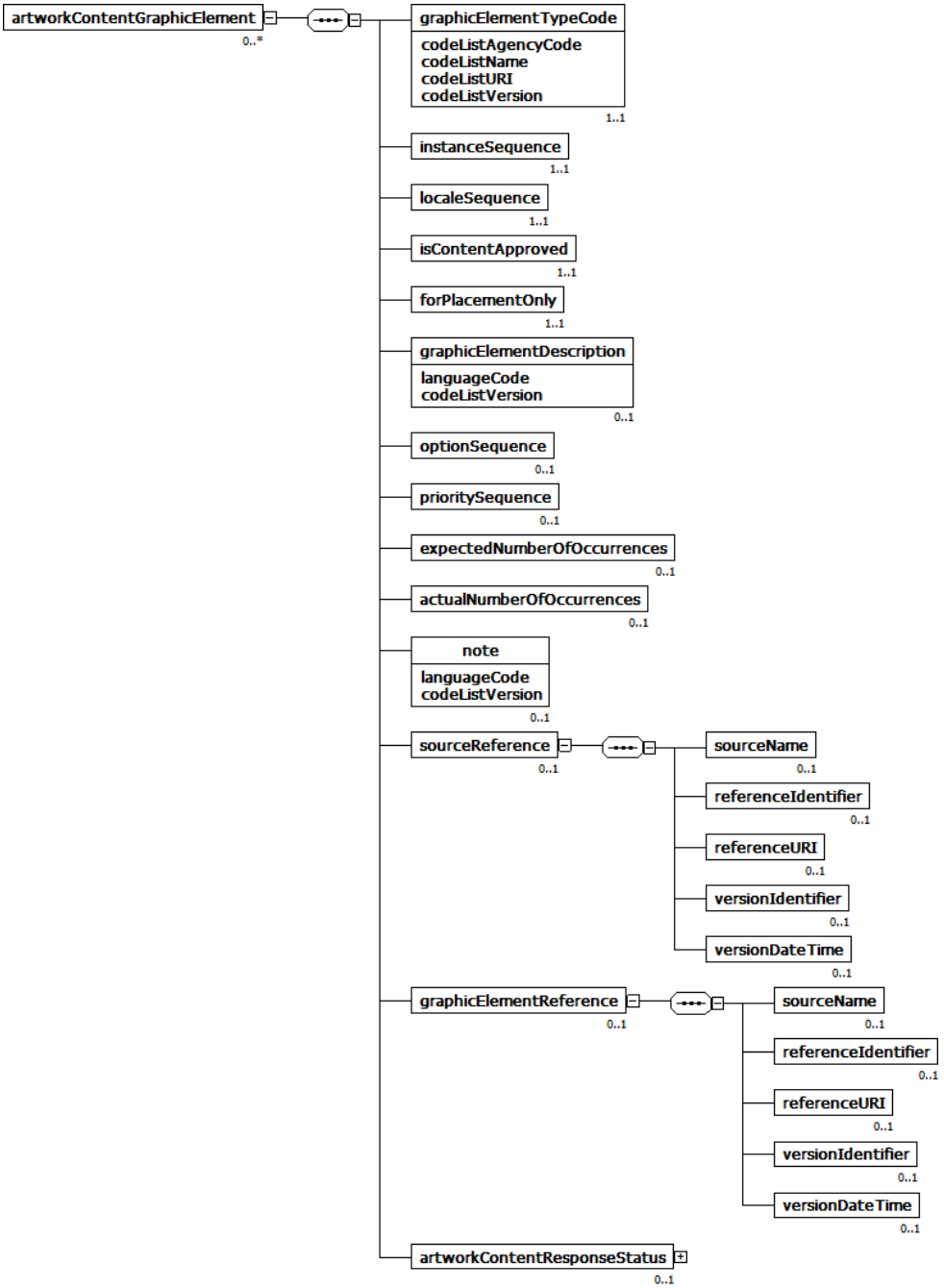
ce004	The <p> and elements within [text content] should have a 'class' attribute.
	The class attribute specifies one or more class names for an element. To specify multiple classes, separate the class names with a space, e.g. . This allows to combine several CSS classes for one HTML element.
	
	The following standard class names have been defined:
	▪ normal
	▪ bold
	▪ italic
	▪ underline
	
	User-defined values are also allowed. Naming rules:
	▪ Must begin with a letter A-Z or a-z
	▪ Can be followed by: letters (A-Z or a-z), digits (0-9), hyphens ("-"), and underscores ("_")
	
	Example:
	`<body>`
	`<p class="bold">text</p>`
	`<p class="normal">text <span class="bold">brand name</span> text</p>`
	`</body>`
	
	Result:
	text
	text **brand name** text

ce005	The styling / formatting of each applied class within [text content] should be defined in the artwork template. Class names must be unique within the scope of the template.

ce006	To have predictable results when multiple classes are specified for a <p> or element, or when classes are inherited from <p> level to level, each class should drive a partial set of styling / formatting properties.
	Note: The final appearance will be determined by the artwork template, which holds the complete set of styling / formatting properties.
	
	Example:
	Class 'normal': font-size:medium; font-weight:normal; font-style:normal
	Class 'bold': font-weight:bold
	Class 'italic':font-style:italic
	Class 'company_blue': color: #0033CC
	
	`<body>`
	`<p class="normal">text <span class="bold italic">brand name</span> text</p>`
	`<p class="bold">text <span class="italic">brand name</span> text</p>`
	`<p class="normal">text <span class="bold company_blue">brand name</span> text</p>`
	`</body>`

RULE #	
	Result: text ***brand name*** text (two classes applied on) **text *brand name* text** (brand name inherits bold from <p> level) text **brand name** text

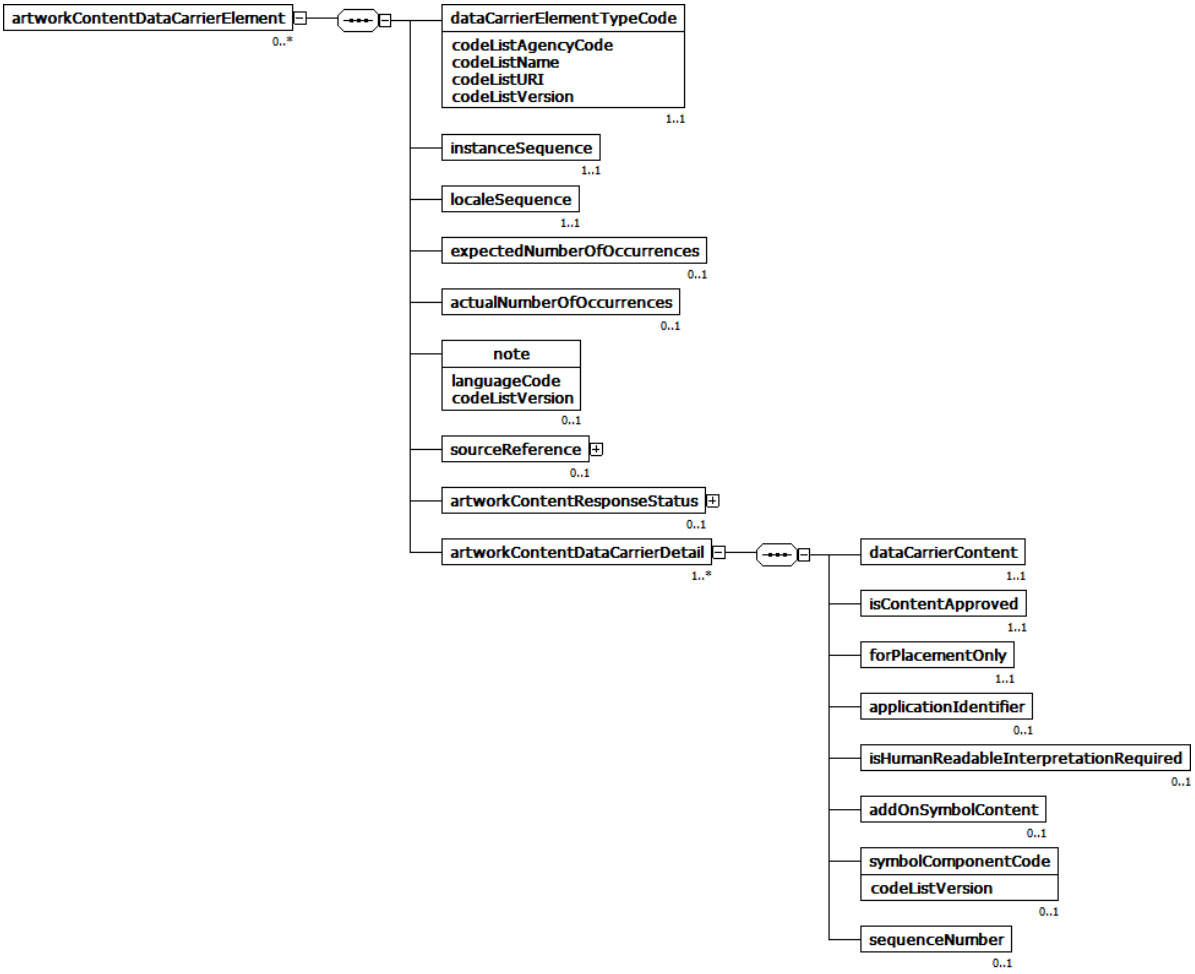
6.4. Artwork Content – Graphic Element



SCOPE #	
[document]	artwork_content:artworkContentMessage/artworkContent
[graphic element]	artwork_content:artworkContentMessage/artworkContent/artworkContentPieceOfArt/artworkContentGraphicElement
[graphic element reference]	artwork_content:artworkContentMessage/artworkContent/artworkContentPieceOfArt/artworkContentGraphicElement/graphicElementReference

RULE #	
ge001	For each [graphic element] the combination of *graphicElementTypeCode* and *instanceSequence* and *localeSequence* shall be unique within the [document], except for [graphic elements] that are options, see VR002.
ge002	For [graphic elements] that are options the combination of *graphicElementTypeCode* and *instanceSequence* and *localeSequence* and *optionSequence* shall be unique within the [document].
ge003	Within [graphic element reference] at least the *referenceIdentifier* or the *referenceURI* element shall be included.
ge004	When the *referenceURI* is populated in [graphic element reference], and the *referenceIdentifier* is not populated, the *referenceURI* shall contain a URI/URL that uniquely identifies the drawing.
ge005	[graphic element reference] may include both the *referenceIdentifier* and the *referenceURI.* For example when the URI is a repository name and the user needs the identification to uniquely identify the specific symbol.

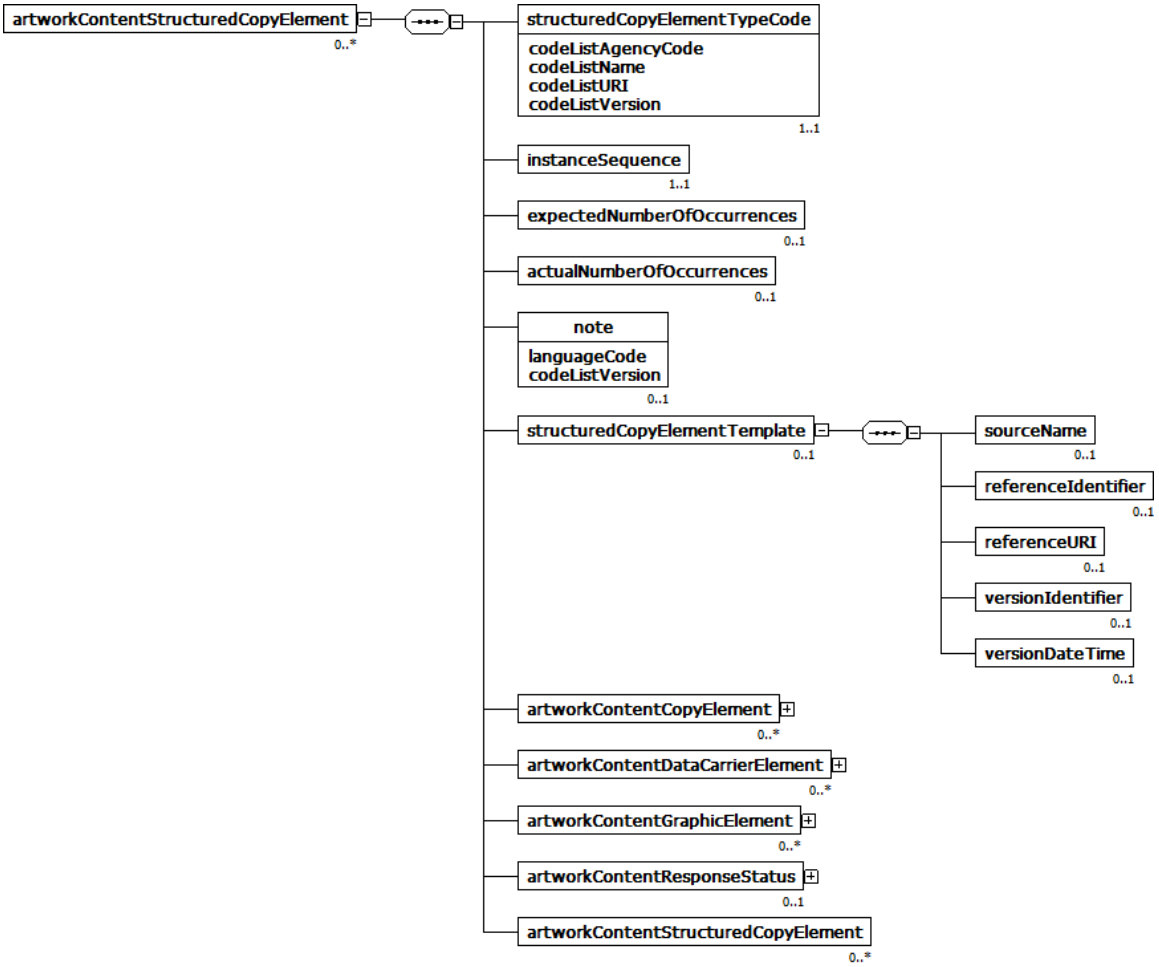
6.5. Artwork Content – Data Carrier Element



SCOPE #	
[document]	artwork_content:artworkContentMessage/artworkContent
[data carrier element]	artwork_content:artworkContentMessage/artworkContent/artworkContentPieceOfArt/artworkContentDataCarrierElement

RULE #	
ge001	For each [data carrier element] the combination of *dataCarrierElementTypeCode* and *instanceSequence* and *localeSequence* must be unique in the [document].

6.6. Artwork Content – Structured Copy Element



SCOPE #	
[document]	artwork_content:artworkContentMessage/artworkContent
[structured copy element]	artwork_content:artworkContentMessage/artworkContent/artworkContentPieceOfArt/artworkContentStructuredCopyElement

RULE #	
ge001	For each [structured copy element] the combination of *structuredCopyElementTypeCode* and *instanceSequence* must be unique within the [document].

7. Validation of code values

Code elements are applied in various places of the artwork content messages. Three main types of code elements can be distinguished

1. Code elements for which the allowed values are defined in the XML schema (internal GS1 Codes)
2. Code elements for which the allowed values are defined external to the schema
   a. Allowing only GS1 defined code lists (external closed GS1 codes)
   b. Allowing GS1 defined code lists as well as non-GS1 code lists (external semi-closed GS1 codes).

Note: The 4th variant, allowing only non-GS1 code lists (external open codes) is not applied in BMS Artwork Content and Response.

7.1. Validation of internal GS1 Codes

For these types of code elements no specific validation issues arise since they are enforced by the XML schema.

RULE #	
icc001	In the XML instance no further attributes can be defined for this element.

Example:

```
<documentStatusCode>ORIGINAL</documentStatusCode>
```

Values enforced by the XML schema: ORIGINAL, COPY, ADDITIONAL_TRANSMISSION.

7.2. Validation of external closed GS1 Codes

For these types of code elements the validation needs to be enforced outside of the schema.

RULE #	
ecc001	The code list values are specified in the GS1 Global Data Dictionary (GDD).
ecc002	In the XML instance the *@codeListVersion* specifying the version of the GS1 code list that was applied may be included.

Example:

```
<pieceOfArtDescription languageCode="en">
    Front label for 14oz bottle
</pieceOfArtDescription>
```

- Allowed values for *@languageCode* are defined in the GDD.
- *@codeListVersion* is not specified.

7.3. Validation of external semi-closed GS1 Codes

For these types of code elements the validation also needs to be enforced outside of the schema.

RULE #	
esc001	In the XML instance the *@codeListURI* specifying the version the code list that was applied must be included.
esc002	For GS1 codelists the URI must be of the format “urn:gs1:gdd:cl:<code list name>. The code list values are specified in the GS1 Global Data Dictionary (GDD).
esc003	For custom codelists the URI shall not start with “urn:gs1:” and shall clearly point to the author of the code value.
esc004	In the XML instance the *@codeListVersion* specifying the version of the code list that was applied may be included.

Example 1:

```
<copyElementTypeCode
  codeListURI="urn:gs1:gdd:cl:CopyElementTypeCode"
  codeListVersion="1">
MARKETING_COPY
</copyElementTypeCode>
```

- Code value is MARKETING_COPY
- Allowed values for the GS1 code list for c*opyElementTypeCode* are located in the GDD.
- *@codeListVersion* is R1.

Example 2:

```
<copyElementTypeCode
  codeListURI="http://mycompany/mycodelist">
MY_COPY
</copyElementTypeCode>
```

- Allowed values for *copyElementTypeCode* are exchanged bilaterally.
- *@codeListVersion* is not specified.