



**ESKO SOFTWARE PLATFORM 18**  
**MARCH 2019**  
**GRAPHICS DOCUMENTS**  
**XMP Definition**

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*Jan 2019*

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# Introduction

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XMP stands for ‘eXtensible Metadata Platform’. XMP is a labeling technology that allows embedding data about a file, known as metadata, into the file itself. It is a standard defined by Adobe based on a W3C standard called RDF.

The XMP metadata are embedded in the file as an XML packet. The content of the packet is an XML document containing the metadata. The XML document is encapsulated in a binary packet that can be extracted from a file by simply scanning the file and without any knowledge about the underlying file format.

In this way metadata embedded in the file are accessible to applications throughout the workflow. E.g

- Quality control tools can read the metadata and compare specifications against actual values.
- Asset management applications can read the metadata and use this information to catalogue digital files for fast search and retrieval.

Adobe uses XMP in its own applications like the Creative Cloud applications (Acrobat, Illustrator, Indesign, Photoshop,...) and has defined a number of XML schema. The XMP framework was designed to be extensible so that other vendors like Esko can define additional schema and add their XMP metadata to the file as well.

XMP is an open source initiative. The packet format, the XML schema are all publicly available. Moreover, there is a royalty free SDK that can be downloaded from the Adobe web site. The SDK comes under the form of C++ sources.

A lot of background material and the SDK can be found at <http://www.adobe.com>.

Esko Platform 18 Graphics Documents contain XMP metadata. The XMP metadata are using the Adobe schema whenever possible. Additional and Esko specific information is stored in extension schema.

There is a free Acrobat plug-in for displaying Esko XMP metadata in PDF documents. The plug-in can be downloaded from <http://www.esko.com>.

# Esko Suite/Platform Version

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This document describes the XMP metadata embedded in Esko Platform 18, March 2019 release, documents.

Changes compared to Esko Platform 16, November 2017 release XMP data are highlighted using color.

# Esko Graphics Documents

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In the Esko Platform XMP metadata are embedded in the graphic documents.

A distinction is made between production files and PDF proxy files:

- Production files are the actual graphics documents being produced in the Esko system. They are PDF or PDFPLA documents. The XMP data embedded in a production file is metadata about the production file itself.
- PDF proxy files are PDF files generated from a production file e.g. for proofing or for remote exposure. The XMP data embedded in a PDF proxy is metadata about the production file from which the PDF proxy was derived.

The table below gives an overview of the difference between production files and PDF proxies..

<b>Production File</b>	<b>PDF Proxy</b>
Use external referencing to other production and images in a number of different formats.	Self-contained, no external referencing
DeviceN colorspace (final separations)	Objects can be converted to RGB or CMYK
Full resolution	Images can be down-sampled and compressed with lossy algorithms. Linework can be simplified and reduced in resolution.
Metadata in the production file only contains information valid for this document.	Metadata in the PDF Proxy contains a reference to the corresponding production file. Metadata in the PDF proxy is metadata about the corresponding production file and not about the proxy itself.
Lists (fonts, external references, barcodes, etc...) contain the elements of document itself only. Lists do not contain elements of external referenced documents.	Lists (fonts, external references, barcodes, etc...) contain the elements of the master document itself and all the documents externally referenced by that document. I.e. lists contain a summary.
Information that is expensive to calculate is not inserted in the metadata.	The metadata are complete.

# Terminology

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Terminology is used in this document from the XMP definition document and XML. The XMP definition document can be found in the Adobe XMP SDK.

Some clarifications necessary to understand this document:

*bag* Unordered collection (order of the items has no significance).

*seq* Ordered collection

*alt* A collection of alternative representations for the same thing.

## PDF version

---

In the egPDFNat element the version information about the PDF file is stored. This section is obligatory.

Schema namespace <http://ns.esko-graphics.com/pdfnatversion/1.0/>  
Schema namespace prefix egPDFNat

Property	ValueType	Description
egPDFNat:version	integer	The Esko PDF version The version number is a 3 digit number Mmm with “M” = major number. The major numbers indicates compatibility. “mm”= minor number. The minor number indicates smaller compatible variations. The current major number is “2”.
egPDFNat:type	string	The production file type. Possible values are: “PDFSC”: a PDF file (1-up) “PDFSTA”: a station file “PDFPLA”: a plate file “PDF”
egPDFNat:flexripversion	string	This is the minimal FlexRip version able to RIP this file without preprocessing. The current version is “700”.

Example:

```
<rdf:Description rdf:about='example'
  xmlns:egPDFNat='http://ns.esko-graphics.com/pdfnatversion/1.0/'>
  <egPDFNat:version>202</egPDFNat:version>
</rdf:Description>
```

## XMP Basic Schema

The `rdf:Description` element contains basic data about the document. The standard Adobe schema is used for this.

Schema namespace `http://ns.adobe.com/xap/1.0/`  
 Schema namespace prefix `xmp`

Property	ValueType	Description
<code>xmp:CreateDate</code>	date	Creation date and time of the document (production file or PDF proxy). For a proxy file this is the creation date of the proxy file.
<code>xmp:CreatorTool</code>	string	The full name of the program that created the document. (production file or PDF proxy). For a proxy file this is the creator tool of the proxy file.
<code>xmp:Description</code>	<i>alt</i> string	This field is aliased to <code>dc:description</code> . It is a descriptive text. (Document info from PackEdge) The structure is an alt to describe multiple language versions. Only the default language entry <code>xml:lang="x-default"</code> is being used.
<code>xmp:MetadataDate</code>	date	The date the metadata was last changed.
<code>xmp:ModifyDate</code>	date	The date the document was modified the last time.

The example below shows the `rdf:Description` element of an example file.

```
<rdf:Description rdf:about='example'
  xmlns:xap='http://ns.adobe.com/xap/1.0/'>
  <xap:CreateDate>2004-12-14T14:25:34+01:00</xap:CreateDate>
  <xap:CreatorTool>Scope (Esko)</xap:CreatorTool>
  <xap:MetadataDate>2004-09-13T16:59:52+02:00</xap:MetadataDate>
  <xap:ModifyDate>2004-12-14T14:25:34+01:00</xap:ModifyDate>
</rdf:Description>

<rdf:Description rdf:about='example'
```

```

xmlns:dc='http://purl.org/dc/elements/1.1/'>
<dc:description>
  <rdf:Alt>
    <rdf:li xml:lang='x-default'>Belgian beers</rdf:li>
  </rdf:Alt>
</dc:description>
</rdf:Description>

```

## Production File Reference

The difference between a production file and a PDF proxy file can be made by looking at the egPrF:DerivedFrom element.

This field is obligatory in PDF proxy files. It is absent or empty in production files.

Schema namespace            <http://ns.esko-graphics.com/prodfile/1.0/>  
 Schema namespace prefix    egPrF

Property	ValueType	Description
xmpMM:DerivedFrom	stRef:ResourceRef	A reference to the original document from which this one is derived. This field is empty for a production file. For a PDF proxy this field contains the URL of the production file. In the latter case all metadata are metadata of the production file and not of the PDF proxy.

### stRef:ResourceRef

Schema namespace            <http://ns.adobe.com/xap/1.0/sType/ResourceRef#>  
 Schema namespace prefix    stRef

Property	ValueType	Description
stRef:instanceID	URI	The referenced document's identification. We use an absolute file URL.
stRef:renditionClass	RenditionClass	The MIME type of file referenced by this link.

Note: The following Esko specific MIME types are used.

application/ard	ArtiosCad ARD file
application/mfg	ArtiosCAD MFG file
application/grs	LWBrix formats
application/sta	
application/imp	
application/pdfsc	
application/pdfsta	



```

application/pdfpla
image/BG_CT      Images
image/BG_LP

```

The example below shows the egPrF:DerivedFrom element in the XMP of a PDF proxy file derived from the production file “a.grs”.

```

<rdf:Description rdf:about='examp'
  xmlns:egPrF='http://ns.esko-graphics.com/prodfile/1.0/'
  xmlns:stRef='http://ns.adobe.com/xap/1.0/sType/ResourceRef# '>

  <egPrF:DerivedFrom rdf:parseType='Resource'>
    <stRef:instanceID>
      file:///tralpd151/BackstageContainer/a.grs
    </stRef:instanceID>
    <stRef:renditionClass>
      application/grs
    </stRef:renditionClass>
  </egPrF:DerivedFrom>

</rdf:Description>

```

## Job and Product

Data about the BackStage job is stored in the XMP of the document. The job data are stored in the standard Adobe xmpBJ:JobRef element for job tickets. Additionally an Esko specific element is written that contains Esko specific data. Job data are optional. They are added only for documents that belong to a BackStage job.

### XMP Basic Job Ticket Schema

```

Schema namespace      http://ns.adobe.com/xap/1.0/bj/
Schema namespace prefix xmpBJ

```

Property	ValueType	Description
xmpBJ:JobRef	bag Job	The description of the job that this document is part of. Note: For Esko documents the bag will contain only 1 element since a document can only belong to a single job.

### Job

```

Schema namespace      http://ns.adobe.com/xap/1.0/sType/DataLocation#
Schema namespace prefix stLoc

```

Property	ValueType	Description
stLoc:name	string	Name of the job in BackStage.
stLoc:id	string	Unique ID for the job: this is the BackStage job GUID.
stLoc:url	URI	URL of the jobfolder on the BackStage server.

### XMP Esko Job Schema

Schema namespace <http://ns.esko-graphics.com/jobinfo/1.0/>

Schema namespace prefix `egJob`

Property	ValueType	Description
egJob:description	string	Description of the job on the BackStage server.
egJob:orderid	string	BackStage order id of the job
egJob:suborderid	string	BackStage suborder id of the job

### XMP Esko Product Schema

Schema namespace <http://ns.esko-graphics.com/prodinfo/1.0/>

Schema namespace prefix `egProd`

Property	ValueType	Description
egProd:id	string	Global unique ID of the Product (internal BackStage ID)
egProd:prodname	string	Name of the Product
egProd:prodid	string	Product ID of the Product (MIS)
egProd:proddescription	string	Description of the Product
egProd:partid	string	Global unique ID of the Product Part (internal BackStage ID)
egProd:prodpartname	string	Name of the Product Part
egProd:prodpartid	string	Product Part ID of the Product (MIS)

The example below shows the job data for a job 'Beers\_00002\_0000000001' on a BackStage server.

```
<rdf:Description rdf:about='example'
  xmlns:stLoc='http://ns.adobe.com/xap/1.0/sType/DataLocation#'
  xmlns:xmpBJ='http://ns.adobe.com/xap/1.0/bj/'>
  <xmpBJ:JobRef>
    <rdf:Bag>
      <rdf:li rdf:parseType='Resource'>
        <stLoc:url>file://tralpd151/BSContainer/Joba/</stLoc:url>
        <stLoc:name>Beers_00002_0000000001</stLoc:name>
        <stLoc:id>1303e3c9-0687-4304-9abf-81b47143479e</stLoc:id>
```

```

</rdf:li>

</rdf:Bag>
</stLoc:JobRef>
</rdf:Description>

<rdf:Description rdf:about='example'
  xmlns:egJob='http://ns.esko-graphics.com/jobinfo/1.0/'>
  <egJob:description>Beers</egJob:description>
  <egJob:orderid>Beers</egJob:orderid>
  <egJob:suborderid>00002_0000000001</egJob:suborderid>
</rdf:Description>

```

## SmartId

---

In this element the Esko SmartID is stored. This element is absent or empty in production files. In PDF proxy files it contains the SmartId of the corresponding production file.

Schema namespace <http://ns.esko-graphics.com/smartid/1.0/>  
 Schema namespace prefix egSmartID

Property	ValueType	Description
egSmartID:id	string	The Esko SmartID of the file. The SmartID can be seen as an integer number encoded in 36-base numeric system (digits 0 to 9, characters A to Z).

Example:

```

<rdf:Description rdf:about='example'
  xmlns:egSmartID='http://ns.esko-graphics.com/smartid/1.0/'>
  <egSmartID:id>1kq3hd</egSmartID:id>
</rdf:Description>

```

# Graphics

In this element graphics information is stored.

For production files this section contains the characteristics of the document itself, for a PDF Proxy this section describes the characteristics of the production file from which the proxy has been derived.

## XMP Esko Graphics Info Schema

Schema namespace <http://ns.esko-graphics.com/grinfo/1.0/>

Schema namespace prefix egGr

Property	ValueType	Description
egGr:nrpages	integer	The number of physical pages of the document
egGr:units	string	“mm” or “pt” (1/72 inch)
egGr:vsize	double	The vertical size
egGr:hsize	double	The horizontal size
egGr:margtop	double	The top margin
egGr:margbot	double	The bottom margin
egGr:margleft	double	The left margin
egGr:margright	double	The right margin
egGr:vshrink	double	The vertical shrink factor
egGr:hshrink	double	The horizontal shrink factor
egGr:screenreg	boolean	If screenreg is true, the origin of the screening coordinate system will be reset for every external reference to a production file referred by this production file.
egGr:readerspread	boolean	If readerspread is true, the physical pages stored in the document consist of 2 logical pages.
egGr:startlogpage	integer	The number of the first logical page in this document.
egGr:inks	seq Ink	An ordered list of inks. Inks are ordered according to printing sequence on the press. The first ink in the list is printed first, the last ink in the list is printed last. The ink list of a document is the complete list of inks i.e. it is the list of inks used in objects of the document and all external referenced documents by this document (recursively).
egGr: colorprofloc	enumeration	The location of the document colorprofile. Possible values are: <ul style="list-style-type: none"> <li>• “Untagged”: the document is untagged.</li> <li>• “PDFOutputIntent”: the profile is</li> </ul>

		<p>stored in the PDF OutputIntent.</p> <ul style="list-style-type: none"> <li>“EGEmbedded”: the profile is embedded using an EG proprietary method.</li> <li>“EGDatabase”: the profile is stored in the Kaleidoscope database.</li> </ul> <p>Note: If this attribute is not present e.g. for Scope 2.0 documents, this is equivalent to “Untagged”.</p>
egGr:colorprofdesc	string	A GUI description of the colorprofile.
egGr:colorprofname	string	The name of the colorprofile. When egGR:colorprofloc=”EGDatabase”, this is the name of the Kaleidoscope profile. It is “” or the attribute is not present in other cases.
egGr:trapped	boolean	Indicates if the file has been trapped or not.
egGr:sides	string	<p>For an n-page document this is a string of length n with characters “R” and “V”. Each character indicating if the corresponding page in the document is recto or verso.</p> <p>“R” if this document is a 1 page document describing the recto side of a 1-up label or box... or the recto side of a step- and repeat.</p> <p>“V” for the verso side.</p> <p>“RV” for a 2 page document with page1 being rector and page 2 the verso (typically a Plato step-and repeat file).</p>

## Ink

Schema namespace <http://ns.esko-graphics.com/inkinfo/1.0/>

Schema namespace prefix `egInk`

Property	ValueType	Description
egInk:name	string	The name of the ink See remark below for PANTONE colors.
egInk:type	string	<p>This element is used for backward compatibility reasons with older versions of the suite.</p> <p>The type of the ink. Should be one of “process”, ”pantone”, ”designer”.</p> <p>The value should be “process” when the name of ink is “cyan”, “magenta”, “yellow” or “black”.</p> <p>The value should be “pantone” if the book is “pms1000c”, “pms1000u” or</p>

		“pms1000m”. In all other cases the value should be “designer”.
egInk:book	string	The internal name of the inkbook in the Color Engine. Should be one of the Color Engine inkbook names, or "none" for unregistered inks. <ul style="list-style-type: none"> <li>• See remark below for PANTONE colors.</li> <li>• For PantoneLIVE inkbooks this field will contain a GUID.</li> </ul>
egInk:bookname	string	<b>optional</b> GUI name of ink book. <ul style="list-style-type: none"> <li>• For PantoneLIVE inkbooks this field will contain a user readable name.</li> </ul>
egInk:frequency	double	The LPI (lines per inch) of the ink
egInk:angle	double	The angle of the ink (degrees clock wise)
egInk:dotshape	string	The dotshape of the ink
egInk:r	double	The red component of the sRGB equivalent of a 100% patch of the ink. Intensities are defined between 0.0 (no intensity) and 1.0 (full intensity)/
egInk:g	double	The green component of the sRGB equivalent of a 100% patch of the ink.
egInk:b	double	The blue component of the sRGB equivalent of a 100% patch of the ink
egInk:attribute	string	The attribute of the ink. Should be either “normal”, ”opaque”, ”varnish”, ”technical”
egInk:printingmethod	string	The attribute describes the printing method used for this ink. The attribute can take any string value. Pre-defined values: “offset”, “gravure”, ”flexo”, ”letterpress”, “screen”, “inkjet”, “toner”, “thermaltransfer”, “other”, ”unknown”

## Remarks

☞ egInk:name and egInk:book for PANTONE colors

For all ink books in the Color Engine the value of egInk:book and egInk:name are just the name of the ink book and the name of the ink as you see it in the user interface of the Color Engine Pilot or other applications like PackEdge.

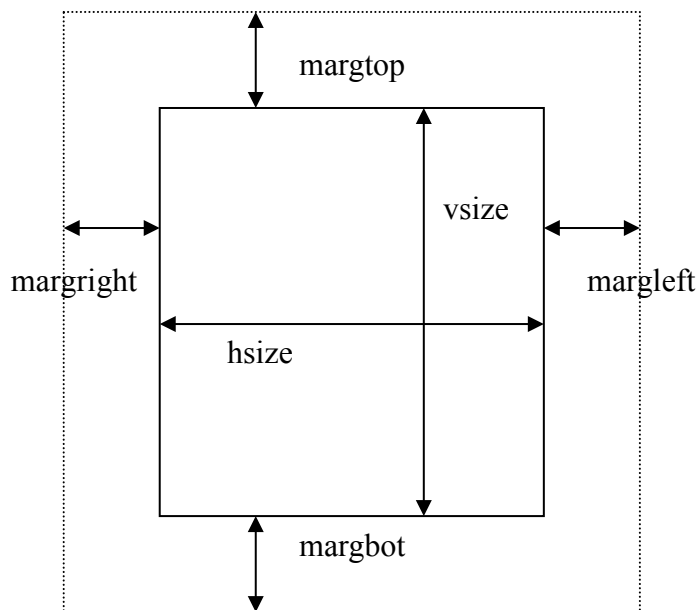
For historical reasons the situation is a bit more complex, See table below.

egInk:book	egInk:name	egInk:egname	GUI name of ink book	GUI name of ink name
<b>Solids</b>				
pms1000c	abbreviated name	abbreviated name	PANTONE Solid Coated	“PANTONE “ + name + ” C”

	e.g. 123	e.g. 123		e.g. PANTONE 123 C
pms1000u	abbreviated name e.g. 123	abbreviated name e.g. 123	PANTONE Solid Uncoated	“PANTONE “ + name + ” U” e.g. PANTONE 123 U
pms1000m	abbreviated name e.g. 123	abbreviated name e.g. 123	PANTONE Colors Matte	“PANTONE “ + name + ” M” e.g. PANTONE 123 M
<b>GoeGuide</b>				
goec	full name PANTONE 1-1-5 C	abbreviated name e.g. 1-1-5	PANTONE GoeGuide Coated	name PANTONE 1-1-5 C
goeu	full name e.g. PANTONE 1-1-5 U	abbreviated name e.g. 1-1-5	PANTONE GoeGuide Uncoated	name e.g. PANTONE 1-1-5 U
<b>Metallics</b>				
pmetc	full name e.g. PANTONE 10108 C	abbreviated name e.g. 10108	PANTONE Premium Metallics Coated	name e.g. PANTONE 10108 C
<b>Pastels &amp; Neons</b>				
ppasc	full name e.g. PANTONE 9464 C	abbreviated name e.g. 9464	PANTONE Pastels & Neons Coated	name e.g. PANTONE 9464 C
ppasu	full name e.g. PANTONE 9464 U	abbreviated name e.g. 9464	PANTONE Pastels & Neons Uncoated	name e.g. PANTONE 9464 U

<b>Extended Gamut</b>				
pegc	full name e.g. PANTONE XG Green C	abbreviated name e.g. XG Green	PANTONE+ Extended Gamut Coated	name e.g. PANTONE XG Green C
pegc	full name e.g. PANTONE 7597 XGC	abbreviated name e.g. 7597	PANTONE+ Extended Gamut Coated	name e.g. PANTONE 7597 XGC
<b>PantoneLIVE</b>				
PantoneLIVE Ink book GUID	full name e.g. PANTONE 2019 C	full name e.g. PANTONE 2019 C	PantoneLIVE inkbook name	name e.g. PANTONE 2019 C

☞ Definition of sizes and margins



The rectangle defined by vsize, hsize encloses the real job data. In PDF terms this corresponds to the TrimBox. The margins define extra space around this rectangle. All graphics objects that can be imaged are enclosed with the rectangle defined by the margins by definition. Objects found in the margins are typically marks. In PDF terms the rectangle enclosing the TrimBox and including the margins corresponds to the MediaBox.

☞ Definition of vshrink and hshrink

When the document contains shrink values these values should be used when exposed to film or plate. Size and margin values do not take the shrink factors into account.



## ☞ The ink list

The ink list stored in a document is assumed to be complete. It contains the inks used in objects of the document itself and objects contained in documents that contribute to the contents of this document though the mechanism of external referencing. In other words it is the ink list for the main document, all its children, grandchildren and further descendants.

☞ The ink list of a multi-page document contains all inks of the complete document i.e. the union of the ink lists of each individual page.

☞ Sizes are defined globally. This means that all pages in a multi-page document should have the same size.

☞ Physical versus logical pages.

egGr:nrpages indicates the nr of physical pages in the document. egGr:vsize and egGr:hsize indicate the size of a physical page in the document. If readerspread is true each of those physical pages consists of 2 logical pages for the reader.

☞ The couple (egInk:type, egInk:name) has to be unique in a document.

Example:

```
<rdf:Description rdf:about='example'  
  xmlns:egGr='http://ns.esko-graphics.com/grinfo/1.0/'  
  xmlns:egInk='http://ns.esko-graphics.com/inkinfo/1.0/'>  
  <egGr:nrpages>1</egGr:nrpages>  
  <egGr:units>mm</egGr:units>  
  <egGr:vsize>60</egGr:vsize>  
  <egGr:hsize>40</egGr:hsize>  
  <egGr:margtop>2.004499912</egGr:margtop>  
  <egGr:margbot>2.004499912</egGr:margbot>  
  <egGr:margleft>1.991999984</egGr:margleft>  
  <egGr:margright>1.991999984</egGr:margright>  
  <egGr:vshrink>1</egGr:vshrink>  
  <egGr:hshrink>1</egGr:hshrink>  
  <egGr:readerspread>False</egGr:readerspread>  
  <egGr:screenreg>False</egGr:screenreg>  
  <egGr:inks>  
    <rdf:Seq>  
      <rdf:li rdf:parseType='Resource'>  
        <egInk:name>BLEU</egInk:name>  
        <egInk:type>designer</egInk:type>  
        <egInk:frequency>150</egInk:frequency>  
        <egInk:angle>45</egInk:angle>  
        <egInk:dotshape></egInk:dotshape>  
        <egInk:r>0</egInk:r>  
        <egInk:g>0.4313725531</egInk:g>  
        <egInk:b>0.6980392337</egInk:b>  
        <egInk:attribute>normal</egInk:attribute>  
      </rdf:li>  
      <rdf:li rdf:parseType='Resource'>  
        <egInk:name>ARGENT</egInk:name>  
        <egInk:type>designer</egInk:type>
```

```

    <egInk:frequency>150</egInk:frequency>
    <egInk:angle>45</egInk:angle>
    <egInk:dotshape></egInk:dotshape>
    <egInk:r>0.5372549295</egInk:r>
    <egInk:g>0.521568656</egInk:g>
    <egInk:b>0.4980392158</egInk:b>
    <egInk:attribute>normal</egInk:attribute>
  </rdf:li>
  <rdf:li rdf:parseType='Resource'>
    <egInk:name>OR</egInk:name>
    <egInk:type>designer</egInk:type>
    <egInk:frequency>150</egInk:frequency>
    <egInk:angle>45</egInk:angle>
    <egInk:dotshape></egInk:dotshape>
    <egInk:r>0.7019607425</egInk:r>
    <egInk:g>0.5921568871</egInk:g>
    <egInk:b>0</egInk:b>
    <egInk:attribute>opaque</egInk:attribute>
  </rdf:li>
  <rdf:li rdf:parseType='Resource'>
    <egInk:name>NOIR</egInk:name>
    <egInk:type>designer</egInk:type>
    <egInk:frequency>150</egInk:frequency>
    <egInk:angle>45</egInk:angle>
    <egInk:dotshape></egInk:dotshape>
    <egInk:r>0.08627451211</egInk:r>
    <egInk:g>0.08627451211</egInk:g>
    <egInk:b>0.08627451211</egInk:b>
    <egInk:attribute>normal</egInk:attribute>
  </rdf:li>
</rdf:Seq>
</egGr:inks>
</rdf:Description>

```

## External References

---

In this element the list of external references is stored.

For a production file the documents referenced by this document are listed.. In a PDF Proxy file this section lists external files referenced by the production file, its children, grand-children and other descendants.

In a multi-page document the list of external references is the union of the list of external references of all pages.

Schema namespace            <http://ns.esko-graphics.com/extfileslist/2.0/>  
 Schema namespace prefix    `egExtFL2`

Property	ValueType	Description
<code>egExtFL2:files</code>	<i>bag</i> <code>egExtF:ExtFRef</code>	A bag of references to externally referenced documents.

### ExtFRef

Schema namespace            <http://ns.esko-graphics.com/extfile/1.0/>  
 Schema namespace prefix    egExtF

Property	ValueType	Description
egExtF:instanceID	URI	The referenced document's identification. We use a relative path from the location of the production file.
egExtF:renditionClass	RenditionClass	The MIME type of file referenced by this link.
egExtF:pagenr	integer	The physical page number of the external reference that is placed. Page numbers are "0"-based.
egExtF:type	enumeration	The type of the external reference. Possible values are: "graphic"    a general graphic linework element. "image"      an image "station"    a station in a step and repeat "mark"      a mark "cad"        a cad file
egExtF:count	integer	The number of instances of the external reference.

☞ If the document refers to many automatically generated external files (typically with name abc\_001.ct), then a short-hand notation is used in the stRef:instanceID. The format of this short-hand notation is files:basename\*<ext>#<from>-<to>.  
 example : files:./images/jobname\_001\_\*.ct#001-999

# Fonts

In this element the font information is stored.

For a production file fonts used by this document are listed . In a PDF Proxy file this section lists all fonts used by the corresponding production file, its children, grand-children and other descendants.

In a multi-page document the list of fonts is the union of the list of fonts of all pages.

Schema namespace <http://ns.esko-graphics.com/fontlist/1.0/>  
Schema namespace prefix egFontL

Property	ValueType	Description
egFontL:fonts	bag egFont:Font	

## Font

Schema namespace <http://ns.esko-graphics.com/fontinfo/1.0/>  
Schema namespace prefix egFont

Property	ValueType	Description
egFont:name	string	The name of the font
egFont:type	string	The type of font “BG”, “Type 1”, “OpenType”, “CID”, “CFF”, “TrueType”
egFont:protected	boolean	Indicates if this is a protected font..
egFont:location	string	Either “local”, “global”, “sibling” or “embedded”
egFont:fontfile	string	The internal fontspec of the font. For internal use only.

Example:

```
<rdf:Description rdf:about='example'  
  xmlns:egFont='http://ns.esko-graphics.com/fontinfo/1.0/'  
  xmlns:egFontL='http://ns.esko-graphics.com/fontlist/1.0/'>  
  <egFontL:fonts>  
    <rdf:Bag>  
      <rdf:li rdf:parseType='Resource'>  
        <egFont:name>OCR 861 OCR B Machine Read (BS)</egFont:name>  
        <egFont:type>BG</egFont:type>  
        <egFont:location>global</egFont:location>  
        <egFont:fontfile></egFont:fontfile>  
        <egFont:protection>False</egFont:protection>  
      </rdf:li>  
    </rdf:Bag>  
  </egFontL:fonts>  
</rdf:Description>
```

# CAD Files

In this section CAD file information is stored.

For a production file these are the CAD files referenced by the production file itself.

In a PDF Proxy file this section lists CAD files referenced by the corresponding production file and all its descendants.

In a multi-page document the list of cad files is the union of the list of cad files of all pages.

Schema namespace <http://ns.esko-graphics.com/cadlist/1.0/>

Schema namespace prefix egCadL

Property	ValueType	Description
egCadL:files	bag stRef:ResourceRef	

Example:

```
<rdf:Description rdf:about='example'
  xmlns:egCadL='http://ns.esko-graphics.com/cadlist/1.0/'
  xmlns:stRef='http://ns.adobe.com/xap/1.0/sType/ResourceRef#'>
  <egCadL:files>
    <rdf:Bag>
      <rdf:li rdf:parseType='Resource'>
        <stRef:instanceID>file:ASA673AD.MFG</stRef:instanceID>
        <stRef:renditionClass>application/ard</stRef:renditionClass>
      </rdf:li>
    </rdf:Bag>
  </egCadL:files>
</rdf:Description>
```

## Cad/Graphics Registration of the 1-up

1 of the CAD files is the master CAD file associated with the graphics file (e.g. ARD file for a PDF file describing a 1-up). For this CAD file the CAD/Graphics registration is given.

Schema namespace <http://ns.esko-graphics.com/cadreg/1.0/>

Schema namespace prefix egCadReg



Property	ValueType	Description
egCadReg:instanceID	URI URL#printable_part	The referenced Cad file identification. We use a relative path from the location of the production file. When a CAD file contains multiple printable parts, #printable_part is appended to the URL. The printable part is decorated in the Suite 14 way
egCadReg:instanceID2	URI	Same as above, but the printable











	URL#printable_part	part is decorated in the Platform 16 way
egCadReg:renditionClass	RenditionClass	The MIME type of file referenced by this link.
egCadReg:stationname	string	The station identification in a layout file (MFG,CFF2, DDES3).
egCadReg:orientation	integer	The orientation provides information about the orientation of the CAD file. Orientation has a value between 0 and 7. (see below for orientation)
egCadReg:orgX	double	X position of the CAD file origin in the graphics file. (see below for coordinate systems)
egCadReg:orgY	double	Y position of the CAD file origin in the graphics file. (see below for coordinate systems)

☞ Definition of the eight direction values

The CAD file can be rotated over multiples of 90 degrees. In combination with die side up, die side down this results in 8 possible end-results, independently of the number of transformations that were performed or the order in which they were performed.

In the table below, these eight different orientations are listed, together with a possible set of transformations to obtain that specific orientation (using left/right mirroring and clockwise rotations over 180° and 90°).

CAD File	Transformations in placing the CAD file	CAD file placed in Graphics file	Orientation
<b>F</b>	no transformations	<b>F</b>	0
<b>F</b>	1. clockwise rotation over 90°		1
<b>F</b>	1. clockwise rotation over 180°		2

	<ol style="list-style-type: none"> <li>1. clockwise rotation over 180°</li> <li>2. clockwise rotation over 90°</li> </ol>		3
	<ol style="list-style-type: none"> <li>1. mirror left/right</li> </ol>		4
	<ol style="list-style-type: none"> <li>1. mirror left/ right</li> <li>2. clockwise rotation over 90°</li> </ol>		5
	<ol style="list-style-type: none"> <li>1. mirror left/right</li> <li>2. clockwise rotation over 180°</li> </ol>		6
	<ol style="list-style-type: none"> <li>1. mirror left/right</li> <li>2. rot 180° CW</li> <li>3. rot 90° CW</li> </ol>		7

#### ☞ Definition of coordinate systems

The graphics file has a Cartesian coordinate system with origin top left of the TrimBox (borders) of the graphics.

The CAD file also has a Cartesian coordinate system. The origin of the CAD file is defined by the CAD file format. E.g. for ARD files, the CAD origin can be anywhere in the file. Please consult the documentation of the CAD file format for more details.

#### ☞ Decoration of printable parts

A Collada file (zae) can contain multiple printable parts. This Collada file can contain multiple dae files. A printable part id is unique within a dae file, but not necessarily within the zae file. So we need to 'decorate' it:

**Suite 14 decoration:** Printable Part name = <DAE basename>\_<printable part ID>

**Platform 16 naming scheme:** Printable part name = <folder name>\_...\_<folder name>\_<dae base name>\_<printable part id>

For backwards compatibility, both ways of decoration are stored in XMP. You can get those decorated names by using ThreeDIO 4.5.x or higher.

To get more understanding of the problem we wanted to solve with this better decoration: see

<https://wiki.esko.com/display/Studio/Data+Exchange+16+introduces+an+incompatibl+e+change+in+normalized+PDF+linked+to+Collada+Files+with+multiple+printable+parts>

# Barcodes

In this element barcode information is stored.

For a production file PDF Native file barcodes used by this document are listed.. In a PDF Proxy file this section lists all barcodes used by the corresponding production file and all its descendants.

In a multi-page document the list of barcodes is the union of the list of barcodes of all pages.

Schema namespace <http://ns.esko-graphics.com/barodelist/1.0/>  
 Schema namespace prefix egBarcL

Property	ValueType	Description
egBarcL:barcodes	<i>bag</i> egBarc:Barcode	

## Barcode

Schema namespace <http://ns.esko-graphics.com/barcode/1.0/>  
 Schema namespace prefix egBarc

Property	ValueType	Description
egBarc:Type	string	The type of barcode e.g. EAN 13
egBarc:SymbolType	string	Additional field to define more details for the barcode type. Possible values of this field are dependent on the value of Type.
egBarc:Code	string	The code string. If the code string is a number it is always in decimal encoding.
egBarc:Code2	string	The secondary code string. Some barcode types like RSS-14 allow a second codestring. If the code string is a number it is always in decimal
egBarc:Resolution	double	The target output resolution in LPI
egBarc:BarwidthReduction	double	Bar width reduction. The width of the bars is reduced by this number to compensate for width change of the bars due to the printing process. (mm)
egBarc:DeviceCompensation	double	Device compensation. The width of the bars is reduced by this number to compensate for width change of the bars due to the output device. (see also BarWidthReduction – total



		compensation is the sum of BarWidthReduction and DeviceCompensation). (mm)
egBarc:Magnification	double	This is a scale factor for the width of the bars for those types of 1D barcodes like EAN where the bars consist of a number of basic cells (having fixed nominal widths). If this field is present, 'narrow' and 'ratio' are omitted. If this field is omitted, 'narrow' and 'ratio' have to be present.
egBarc:Narrow	double	The width of the narrow bar for 1D barcodes where the ratio between narrow and wide bars is not fixed like CODE-39. For 2D barcodes like Datamatrix this is the cell size. In technical specs this entry is sometimes referred to as 'x-dimension'
egBarc:Ratio	double	The ratio between the width of the wide bar and the width of the narrow bar.

### Remarks:

#### ☞ egBarc:Type

The following values are used.

2\_OF\_5

BOBST

CLF-8

CODABAR (CODABAR)

Code128 (old deprecated value: CODE-128)

Code39 (old deprecate value : CODE-39)

DATAMATRIX (DATAMATRIX)

EAN-128

EAN-13 (EAN-13)

EAN-8 (EAN-8)

HIBC-Code128 (old deprecated value : HIBC-128)

HIBC-Code39 (old deprecated value : HIBC-39)

ITF-14 (ITF-14)

ITF-16 (ITF-16)

Interleave25 (old deprecated value : INT\_2\_of\_5)

KURANDT

Laetus-Pharma (old deprecated value : LAETUS\_PHARMA)

MS\_7

MSI (MSI)  
 MARKS\_AND\_SPENCER  
 NDC-HRI (NDC-HRI)  
 PLESSEY  
 PZN (PZN)  
 PARAF (old deprecated value : PARAF\_ITALY)  
 RSS-14  
 UPC-A  
 UPC-E  
 UPC-SCS  
 PDF417  
 GS1-DataBar-Omnidirectional  
 GS1-DataBar-Stacked  
 GS1-DataBar-Stacked-Omnidirectional  
 GS1-DataBar-Truncated  
 GS1-DataBar-Expanded  
 GS1-DataBar-Expanded-Stacked  
 GS1-DataBar-Limited  
 GS1-US-Coupon-Interim  
 GS1-128  
 GS1-DataMatrix  
 SICK

☞ egBarc:SymbolType

For a DATAMATRIX barcode this field can have the values:

<i>Best_Fit</i>	<i>72_by_72</i>	<i>8_by_18</i>
<i>10_by_10</i>	<i>80_by_80</i>	<i>8_by_32</i>
<i>12_by_12</i>	<i>88_by_88</i>	<i>12_by_26</i>
<i>14_by_14</i>	<i>96_by_96</i>	<i>12_by_36</i>
<i>16_by_16</i>	<i>104_by_104</i>	<i>16_by_36</i>
<i>18_by_18</i>	<i>120_by_120</i>	<i>16_by_48</i>
<i>20_by_20</i>	<i>132_by_132</i>	
<i>22_by_22</i>	<i>144_by_144</i>	
<i>24_by_24</i>		
<i>26_by_26</i>		
<i>32_by_32</i>		
<i>40_by_40</i>		
<i>44_by_44</i>		
<i>48_by_48</i>		
<i>52_by_52</i>		
<i>64_by_64</i>		

Example:

```

<rdf:Description rdf:about='example'
  xmlns:egBarc='http://ns.esko-graphics.com/barcode/1.0/'

```

```

xmlns:egBarcL='http://ns.esko-graphics.com/barcodelist/1.0/'>
<egBarcL:barcodes>
  <rdf:Bag>
    <rdf:li rdf:parseType='Resource'>
      <egBarc:Type>EAN 13</egBarc:Type>
      <egBarc:Code>1234567890128</egBarc:Code>
      <egBarc:Resolution>2540</egBarc:Resolution>
      <egBarc:BarWidthReduction>0.1</egBarc:BarWidthReduction>
      <egBarc:DeviceCompensation>0</egBarc:DeviceCompensation>
      <egBarc:Magnification>1</egBarc:Magnification>
    </rdf:li>
  </rdf:Bag>
</egBarcL:barcodes>
</rdf:Description>

```

## Layers

In this element layer information is stored. In a PDF Proxy file this section lists the layers in the corresponding production file.

In a multi-page document the list of layers is the union of the list of layers of all pages.

Schema namespace <http://ns.esko-graphics.com/laylist/1.0/>

Schema namespace prefix egLayL

Property	ValueType	Description
egLayL:layers	seq egLay:Layer	A sequence of layers. Order of layers is from bottom to top.

### Layer

Schema namespace <http://ns.esko-graphics.com/layer/1.0/>

Schema namespace prefix egLay

Property	ValueType	Description
egLay:name	string	The name of the layer
egLay:printable	boolean	Indicates if the layer is printable
egLay:locked	boolean	Indicates if the layer is locked

Example:

```

<rdf:Description rdf:about='example'
  xmlns:egLay='http://ns.esko-graphics.com/layer/1.0/'
  xmlns:egLayL='http://ns.esko-graphics.com/laylist/1.0/'>
<egLayL:layers>
  <rdf:Seq>
    <rdf:li rdf:parseType='Resource'>
      <egLay:name>coupe</egLay:name>
      <egLay:printable>True</egLay:printable>
      <egLay:locked>False</egLay:locked>
    </rdf:li>
  </rdf:Seq>
</egLayL:layers>

```

```

<rdf:li rdf:parseType='Resource'>
  <egLay:name>Layer 5</egLay:name>
  <egLay:printable>True</egLay:printable>
  <egLay:locked>False</egLay:locked>
</rdf:li>
<rdf:li rdf:parseType='Resource'>
  <egLay:name>logo-text</egLay:name>
  <egLay:printable>True</egLay:printable>
  <egLay:locked>False</egLay:locked>
</rdf:li>
<rdf:li rdf:parseType='Resource'>
  <egLay:name>import_noir</egLay:name>
  <egLay:printable>True</egLay:printable>
  <egLay:locked>False</egLay:locked>
</rdf:li>
</rdf:Seq>
</egLayL:layers>
</rdf:Description>

```

## Ink Coverage

In this element ink coverage information is stored.

It is only defined for single page documents. The ink coverage (area and percentage) is calculated from the graphical contents inside the borders (TrimBox), graphical contents outside the borders are omitted.

Schema namespace <http://ns.esko-graphics.com/inkcovlist/1.0/>  
 Schema namespace prefix egInkCovL

Property	ValueType	Description
egInkCovL:coverage	seq egInkCov:InkCov	A sequence of inkcoverage data. The sequence corresponds to the sequence of inks in the inktable.

### Ink Coverage

Schema namespace <http://ns.esko-graphics.com/inkcov/1.0/>  
 Schema namespace prefix egInkCov

Property	ValueType	Description
egInkCov:pct	double	Ink coverage in percentage
egInkCov:mm2	double	Ink coverage in mm <sup>2</sup>

Example:

```

<rdf:Description rdf:about='example'
  xmlns:egInkCov='http://ns.esko-graphics.com/inkcov/1.0/'
  xmlns:egInkCovL='http://ns.esko-graphics.com/inkcovlist/1.0/'>
  <egInkCovL:coverage>
    <rdf:Seq>
      <rdf:li rdf:parseType='Resource'>

```

```

    <egInkCov:pct>3.018671421</egInkCov:pct>
    <egInkCov:mm2>213</egInkCov:mm2>
  </rdf:li>
  <rdf:li rdf:parseType='Resource'>
    <egInkCov:pct>4.308338553</egInkCov:pct>
    <egInkCov:mm2>304</egInkCov:mm2>
  </rdf:li>
  <rdf:li rdf:parseType='Resource'>
    <egInkCov:pct>53.58496076</egInkCov:pct>
    <egInkCov:mm2>3781</egInkCov:mm2>
  </rdf:li>
  <rdf:li rdf:parseType='Resource'>
    <egInkCov:pct>12.8258105</egInkCov:pct>
    <egInkCov:mm2>905</egInkCov:mm2>
  </rdf:li>
  <rdf:li rdf:parseType='Resource'>
    <egInkCov:pct>10.64329689</egInkCov:pct>
    <egInkCov:mm2>751</egInkCov:mm2>
  </rdf:li>
</rdf:Seq>
</egInkCovL:coverage>
</rdf:Description>

```

## Pages

In this element page information is stored. In a PDF Proxy file this section lists the pages in the corresponding production file.

Schema namespace <http://ns.esko-graphics.com/pagrange/1.0/>  
 Schema namespace prefix `egPagL`

Property	ValueType	Description
<code>egPagL:pagelist</code>	<code>seq egPag:PageRange</code>	A sequence of pageranges

### PageRange

Schema namespace <http://ns.esko-graphics.com/pagrange/1.0/>  
 Schema namespace prefix `egPag`

Property	ValueType	Description
<code>egPag:start</code>	<code>integer</code>	Start page (physical page number, 0 based)
<code>egPag:end</code>	<code>integer</code>	End page (physical page number, 0 based)
<code>egPag:inks</code>	<code>seq integer</code>	The list of ink nrs of this page. (Nrs start counting with 1).
<code>egPag:opacitymaskonlyinks</code>	<code>seq integer</code>	The list of ink nrs which are only used in an opacity mask object and not in any other object of the page (Nrs start

		counting with 1).
--	--	-------------------

## File SmartNames

---

In this element file SmartNames are stored.

Schema namespace <http://ns.esko-graphics.com/smnamelist/1.0/>  
 Schema namespace prefix egSmNameL

Property	ValueType	Description
egSmNameL:smartnames	seq egSmName:SmartName	A sequence of smartnames

### SmartName

Schema namespace <http://ns.esko-graphics.com/smname/1.0/>  
 Schema namespace prefix egSmName

Property	ValueType	Description
egSmName:name	string	The name of the SmartName
egSmName:value	string	The value of the SmartName

## Step and Repeat

---

In this element information is stored about the layout of a step and repeat. It describes both grid based step and repeat (tabular step and repeat) and die based step and repeat (template step and repeat).

Schema namespace <http://ns.esko-graphics.com/srlayout/1.0/>  
 Schema namespace prefix egSRLayout

Property	ValueType	Description
egSRLayout:repeats	bag egRep:Repeat	The repeats

### Repeat

Schema namespace <http://ns.esko-graphics.com/egRepeat/1.0/>  
 Schema namespace prefix egSRRep

Property	ValueType	Description
egSRRep:type	string	The type of repeat. Possible values are: “grid” for a grid based repeat “die” for a die based step and repeat
egSRRep:name	string	The name of the repeat. For a grid based step and repeat this

		is the name of a grid. For a template step and repeat this is the URL of the layout file.
egSRRep:stationname	string	The station identification in a layout file (MFG,CFF2, DDES3). For a grid based repeat this field is "" or absent.
egSRRep:vnr	integer	The number of stations vertically for a grid based step and repeat.
egSRRep:hnr	integer	The number of stations horizontally for a grid based step and repeat.
egSRRep:front	URI	The URI of the 1-up graphics file for the frontside in the repeat.
egSRRep:frontpage	integer	The pagenr of the 1-up graphics file for the frontside in the repeat. Page numbers are "0"-based.
egSRRep:back	URI	The URI of the 1-up graphics file for the backside in the repeat.
egSRRep:backpage	integer	The pagenr of the 1-up graphics file for the backside side in the repeat. Page numbers are "0"-based.
egSRRep:count	integer	The number of cells in this repeat.

## Imposition

This element is present for PDF production files that represent a fully imposed PDF. The XMP element describes the plates corresponding with this fully imposed PDF.

Note that the partitioning follows the hierarchy  
signature ->sheet->side->separation->version  
in analogy to JDF.

Schema namespace <http://ns.esko-graphics.com/impose/1.0/>  
Schema namespace prefix egImp

Property	ValueType	Description
egImp:surfaces	seq egSurf:Surface	A ordered list of surfaces. Each entry in the ordered list describes the surface that is represented by the corresponding page in the multi-page production PDF.

### Surface

Schema namespace <http://ns.esko-graphics.com/surface/1.0/>  
Schema namespace prefix egSurf

Property	ValueType	Description
----------	-----------	-------------

egSurf:sheetOrgX	double	The x pos of the origin of the sheet (see coordinate systems below)
egSurf:sheetOrgY	double	The y pos of the origin of the sheet (see coordinate systems below)
egSurf:sheetSizeX	double	The width of the sheet (see coordinate systems below)
egSurf:sheetSizeY	double	The width of the sheet (see coordinate systems below)
egSurf:plateOrgX	double	The x pos of the origin of the plate (see coordinate systems below)
egSurf:plateOrgY	double	The y pos of the origin of the plate (see coordinate systems below)
egSurf:plateSizeX	double	The width of the plate (see coordinate systems below)
egSurf:plateSizeY	double	The width of the plate (see coordinate systems below)
egSurf:signature	string	The name of the signature to which this surface belongs.
egSurf:sheet	string	The name of the sheet in the signature to which this surface belongs.
egSurf:side	string	The side of sheet in the signature this surface represents. Possible values: “front” “back”
egSurf:plates	seq egPlate:Plate	The plates of that surface

## Plate

Schema namespace

<http://ns.esko-graphics.com/plate/1.0/>

Schema namespace prefix

egPlate

Property	ValueType	Description
egPlate:inkname	string	Ink name of plate. E.g. “black”
egPlate:inkbook	string	Ink book name of plate E.g. “process”
egPlate:versions	bag string	The versions for which this plate will be used e.g. “French,German”.
egPlate:plateid	string	The id of the plate as known in the MIS system
egPlate:ftplateid	string	The FastTrack GUID of this plate

☞ Definition of coordinate systems

The fully imposed file has a Cartesian coordinate system with origin top left of the TrimBox (borders).

The sheet and plate have a Cartesian coordinate system with the origin top left.



# Copy Elements

This element describes Dynamic Content copy elements that contributed to this PDF. Please consult the IPC XML definition document.

Schema namespace <http://ns.esko-graphics.com/dyncont/1.0/>  
 Schema namespace prefix egDynCont

Property	ValueType	Description
egDynCont:POA	string	The IPC XML POA identification of this PDF.
egDynCont:datasources	seq egDynDat:DynDat	An ordered list of Dynamic Content datasources used for this PDF.
egDynCont:dynobjects	bag egDynObj:DynObj	A list of dynamic art objects with their position in the Artwork and reference to their dynamic contents.
egDynCont:copyelements	bag egCpEl:CpEl	A list of copy elements.
egDynCont:dynbarcodes	bag egBCEl:BarcEl	A list of dynamic barcode elements.
egDynCont:nutfacts	bag egNFEI:NutFactsEl	A list of nutrition facts tables. Deprecated as of January 2017.
egDynCont:structcopyelements	bag egStructCpEl:StructCpEl	A list of structured copy elements.
egDynCont:graphicelements	bag egGraphicEl:GraphicEl	List of graphical elements in artwork

## Dynamic Data

Schema namespace <http://ns.esko-graphics.com/dyndat/1.0/>  
 Schema namespace prefix egDynDat

Property	ValueType	Description
egDynDat:instanceID	URI	The referenced IPC XML datasource. In case of a filepath we use a relative path from the location of the production file.
egDynDat:RevisionNumber	string	The revision identification of the IPC XML datasource.

egDynDat:Name	string	A descriptive name for this data source
---------------	--------	---

### Copy Element

Schema namespace

<http://ns.esko-graphics.com/cpel/1.0/>

Schema namespace prefix

egCpEl

Property	ValueType	Description
egCpEl:DynDatNr	integer	A 1-based index in the egDynData:DynData sequence. This indicates the data source this copy element came from.
egCpEl:ID	string	The ID attribute of this copy element, "ID" from IPC XML files, "instanceSequence" from GS1 XML files.
egCpEl: CopyElementType	string	The IPC XML CopyElementType attribute of this copy element.
egCpEl:Locale	string	The IPC XML Locale attribute of this copy element.
egCpEl:Panels	string	The IPC XML Panels attribute of this copy element. I.e. the list of panels that was specified for this copy element in the IPC XML datasource. This is not the list of actual panels this copy element was placed in the PDF. Defined values are: Top Bottom Front Back Left Right Cylinder Values are separated by a blank " ".
egCpEl:Body	string	The text content of the IPC XML text content.
egCpEl:LinkedState	string	Optional attribute that indicates how the

		<p>CopyElement is linked.  Allowed values:</p> <ul style="list-style-type: none"> <li>• <i>LinkedToArtwork</i> indicates that the CopyElement is linked to a text object in the artwork.</li> <li>• <i>PartiallyLinkedToArtwork</i> indicates that a subset of the copy that resides under the CopyElement is linked to one or more text objects in the artwork. This means that one or more paragraphs of the copy/text are not linked to the artwork and are excluded from egCpEl:Body element.</li> <li>• <i>NotLinkedToArtwork</i> indicates that the CopyElement as it appears in the original XML file is not linked to any text object in the artwork.</li> </ul>
egCpEl:UID	string	Unique ID (UID) that will be used to reference this copy element from other elements throughout the XMP
egCpEl:VariableName	string	The unique name that is used by third party applications to reference this copy element
egCpEl:VariableType	string	This will indicate the third party applications on how to interpret the copyelement. Value of VariableType can be one of the following – <ul style="list-style-type: none"> <li>• Default</li> <li>• SingleLineText</li> <li>• MultiLineText</li> <li>• FormattedText</li> <li>• List</li> </ul>
egCpEl:VariableLength	integer	The maximum number of characters for the body of copy element.

egCpEl:SourceReference	egDynSrcRef:DynSrcRef	Source reference of this copy element in the external system.
egCpEl:ForPlacementOnly	boolean	Optional Boolean element, value “True” indicates that the Copy Element does not contain real value and that it is added only as a placeholder. E.g. the missing mandatory Dynamic Table values are added to the XML with their default values, these copy elements have this flag set to “True”.
egCpEl:ExpectedNumberOfOccurrences	integer	The expected number of occurrences of this copy element on artwork

### Structured Copy Element

Schema namespace

<http://ns.esko-graphics.com/stepel/1.0/>

Schema namespace prefix

egStructCpEl

Property	ValueType	Description
egStructCpEl:DynDatNr	integer	A 1-based index in the egDynData:DynData sequence. This indicates the data source this structured copy element came from.
egStructCpEl:ID	string	The ID attribute of this copy element, “ID” from IPC XML files, “instanceSequence” from GS1 XML files.
egStructCpEl:StructuredCopyElementType	string	The GS1 XML structuredCopyElementTypeCode of this structured copy element.

egStructCpEl:LinkedState	string	Optional attribute that indicates how the StructuredCopyElement is linked. Allowed values: <ul style="list-style-type: none"> <li>• <i>LinkedToArtwork</i> indicates that the Structured Copy Element is linked to a table object in the artwork.</li> <li>• <i>NotLinkedToArtwork</i> indicates that the Structured Copy Element as it appears in the original XML file is not linked to any table object in the artwork.</li> <li>• <i>PartiallyLinkedToArtwork</i> indicates that a subset of the copy elements that resides under the Structured Copy Element is linked to one or more table objects in the artwork.</li> </ul>
egStructCpEl:UID	string	Unique ID (UID) that will be used to reference this structured copy element from other elements throughout the XMP
egStructCpEl:Group	string	The group of table layouts to which the table belongs to. E.g. FDA Nutrition Facts Tables etc.
egStructCpEl:Standard	string	The regulatory standard that defines the format of the table. E.g. U.S. Linear, (GS1) U.S. Standard Bilingual etc.
egStructCpEl:ExpectedNumberOfOccurrences	integer	The expected number of occurrences of this structured copy element on artwork
egStructCpEl:CopyElements	bag egCpEl:CpEl	A list of copy elements

## Graphic Elements

Schema namespace  
Schema namespace prefix

<http://ns.esko-graphics.com/graphicel/1.0/>  
egGraphicEl

Property	ValueType	Description
egGraphicEl:DynDatNr	integer	A 1-based index in the egDynData:DynData sequence. This indicates the data source this graphic element came from.
egGraphicEl:ID	string	The ID attribute of this

		graphic element, "ID" from IPC XML files, "instanceSequence" from GS1 XML files.
egGraphicEl:GraphicElementTypeCode	string	The GS1 XML GraphicElementTypeCode attribute of this element.
egGraphicEl:LinkedState	string	Optional attribute that indicates how the Graphic Element is linked. Allowed values: <ul style="list-style-type: none"> <li>• <i>LinkedToArtwork</i> indicates that the Graphic Element is linked to an object(image/symbol) in the artwork.</li> <li>• <i>NotLinkedToArtwork</i> indicates that the Graphic Element as it appears in the original XML file is not linked to any object(image/symbol) in the artwork.</li> </ul>
egGraphicEl:UID	string	Unique ID (UID) that will be used to reference this graphic element from other elements throughout the XMP
egGraphicEl:SourceReference	egDynSrcRef:DynSrcRef	Source reference of this Graphic element in the external system. When there is no external source, SourceReference is not available.
egGraphicEl:GraphicElementReference	egDynSrcRef:DynSrcRef	Source reference of this Graphic Element. For Symbol "referenceIdentifier" will be available. For Image, "ReferenceURI" will hold location of the from network source/local storage
ForPlacementOnly	boolean	This field will be

		dependent on the GS1 “forPlacementOnly” field for this graphic element. This field is optional
egGraphicEl: ExpectedNumberOfOccurrences	integer	The expected number of occurrences of this graphic element on artwork

Ex: XMP structure when no external source is specified

```

<egDynCont:graphicElements>
  <rdf:Bag>
    <rdf:li rdf:parseType="Resource"><!-- SYMBOL -->
      <egGraphicEl:ID>1</egCpEl:ID><!--InstanceSequence-->
      <egGraphicEl:GraphicElementTypeCode>ICON</egCpEl:UID>
      <egGraphicEl:UID>ICON_I1</egCpEl:UID>
      <egGraphicEl:LinkedState>NotLinkedToArtwork</egCpEl:LinkedState>
      <egGraphicEl:GraphicElementReference>
        <sourceName>{LIBRARY_NAME}</sourceName>
        <referenceIdentifier>recycle</referenceIdentifier>
      </egGraphicEl:GraphicElementReference>
    </rdf:li>
    <rdf:li rdf:parseType="Resource"> <!-- IMAGE -->
      <egGraphicEl:ID>1</egCpEl:ID> <!--InstanceSequence-->
      <egGraphicEl:GraphicElementTypeCode>DESIGN_GRAPHIC</egCpEl:UID>
      <egGraphicEl:UID>GRAPHIC_IMAGE_I1</egCpEl:UID>
      <egGraphicEl:LinkedState>NotLinkedToArtwork</egCpEl:LinkedState>
    >
      <egGraphicEl:GraphicElementReference>
        <referenceURI>{File on local system/Network System}</referenceURI>
      </egGraphicEl:GraphicElementReference>
    </rdf:li>
  </rdf:Bag>
</egDynCont:graphicElements>

```

Ex: XMP structure when external source is specified

```

<egDynCont:graphicelements>
  <rdf:Bag>
    <rdf:li rdf:parseType="Resource"><!-- SYMBOL -->
      <egGraphicEl:ID>1</egCpEl:ID> <!--Instance Sequence -->
      <egGraphicEl:GraphicElementTypeCode>ICON</egCpEl:UID>
      <egGraphicEl:UID>ICON_I1</egCpEl:UID>

      <egGraphicEl:LinkedState>NotLinkedToArtwork</egCpEl:LinkedState>
      <graphicElementReference>
        <sourceName>{LIBRARY_NAME}</sourceName>
        <referenceIdentifier>recycle</referenceIdentifier>
      </graphicElementReference>
      <sourceReference>
        <sourceName>{EXTERNAL_SYSTEM_NAME}</sourceName>
        <referenceIdentifier>1010101</referenceIdentifier>

        <referenceURI>{EXTERNAL_REFERENCE_URI}</referenceURI>
        <versionIdentifier>111111</versionIdentifier>
        <versionDateTime>2017-08-
30T01:00:02.446+01:00</versionDateTime>
      </sourceReference>
    </rdf:li>
    <rdf:li rdf:parseType="Resource"> <!-- IMAGE -->
      <egGraphicEl:ID>1</egCpEl:ID> <!--Instance Sequence -->
      <egGraphicEl:GraphicElementTypeCode>DESIGN_GRAPHIC</egCpEl:UID>
      <egGraphicEl:UID>GRAPHIC_IMAGE_I1</egCpEl:UID>
      <egGraphicEl:LinkedState>NotLinkedToArtwork</egCpEl:LinkedState>
      <graphicElementReference> <!-- Refers local copy -->
        <sourceName>WEBCENTER</sourceName>
        <referenceURI>{IMAGE_FILE_LOCATION-local system/Network
System/External System}</referenceURI>
      </graphicElementReference>
      <sourceReference>
        <sourceName>WEBCENTER</sourceName>
        <referenceIdentifier>202020</referenceIdentifier>
        <referenceURI>{EXTERNAL_REFERENCE_URI }</referenceURI>
        <versionIdentifier>22222</versionIdentifier>
        <versionDateTime>2017-08-
30T18:00:02.446+01:00</versionDateTime>
      </sourceReference>
    </rdf:li>
  </rdf:Bag>
</egDynCont:graphicelements>

```

### Dynamic Source Reference

Schema namespace <http://ns.esko-graphics.com/dynsrcref/1.0/>  
 Schema namespace prefix egDynSrcRef

Reference to the external system that is the source of the dynamic object .

Property	ValueType	Description
egDynSrcRef:SourceName	string	Name of the external system that is the source



		of the dynamic object. If this dynamic object is a "Symbol", then SourceName field will contain the library name in which the Symbol is available.
egDynSrcRef:ReferenceIdentifier	string	Identifier that can be used to identify the dynamic object
egDynSrcRef:ReferenceURI	string	URI pointing to the external system(may point to location of dynamic object )
egDynSrcRef:VersionIdentifier	string	Identifier to identify the right version of the dynamic object
egDynSrcRef:VersionDateTime	datetime e.g.: "2016-01-19T17:52:30+05:30"	Creation date of dynamic object of this version. The format follows the default XMP formatting style.

### Dynamic Object

Schema namespace: <http://ns.esko-graphics.com/dynobj/1.0/>  
 Schema namespace prefix: egDynObj

The Dynamic Object contains the location (origin, rotation and bounding box) of various "dynamic art objects" (i.e.: "Copy elements", "Barcodes", "Tables", "Images and symbols").

Property	ValueType	Description
egDynObj:UID	string	Unique ID (UID)
egDynObj:Type	string	Type of object: For Dynamic Art: "DynArt" For Dynamic Content: "DynCont"
egDynObj:CopyElements	seq egDynElRef	Only one of the dynamic object be present at the same time.
egDynObj:StructuredCopyElement	egDynElRef	Only one of the dynamic object be present at the same time.
egDynObj:GraphicElement	egDynElRef	Only one of the dynamic object be present at the same time.
egDynObj:DynBarcode	egDynElRef	Only one of the dynamic object be present at the

		same time.
egDynObj:Locations	seq egDynObjLoc	The locations this copy element has.

### Dynamic Object Element References

Schema namespace: <http://ns.esko-graphics.com/dynelref/1.0/>  
 Schema namespace prefix: egDynElRef

Property	ValueType	Description
egDynElRef:UID	string	Unique ID (UID) for the Element

### Dynamic Objects Location

Schema namespace <http://ns.esko-graphics.com/dynobjloc/1.0/>  
 Schema namespace prefix egDynObjLoc

Definition of coordinate systems -  
 The graphics file has a Cartesian coordinate system with the origin top left of the TrimBox (borders) of the graphics.

The figures below illustrate the origins of the coordinate system and how to interpret the angles and the dimensions. Figure 1 displays a dynamic object (in this case a copy element) which is rotated by 320°. In order for the text to remain horizontal, an orientation change of -320° had to be applied. In Figure 2, only a rotation of 330° was applied, without an orientation change the inner text is therefore tilted by 30°. It's worth noting that while these rotations appear to be counter clockwise in the images they're actually clockwise due to the reversed Y axis in this coordinate system.

It's also clear from both figures that we define the origin of the dynamic object based on the top left corner of the containing box (blue) before the rotation was applied (dashed). The size of the box remains the same regardless of orientations or rotations.

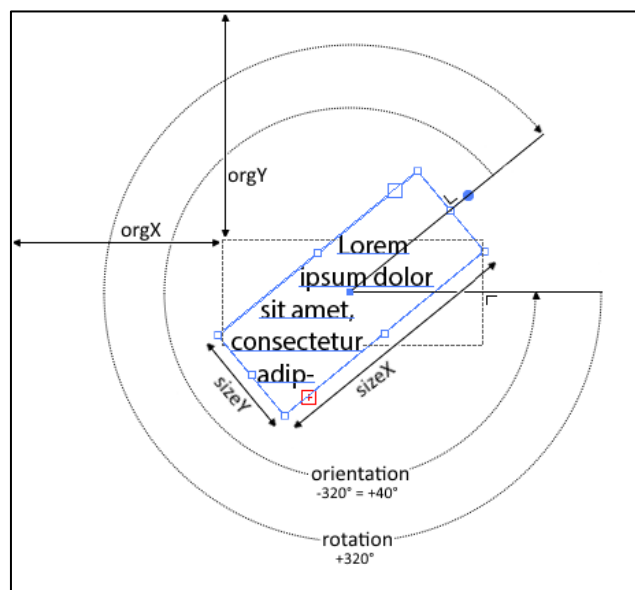


Figure 1

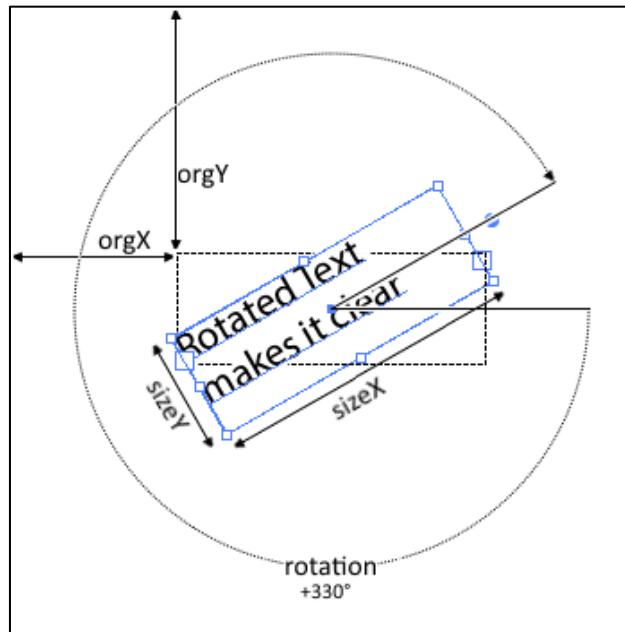


Figure 2

Property	ValueType	Description
egDynObjLoc:orgX	double	X position of the box in the graphic file (see coordinate system), in mm.
egDynObjLoc:orgY	double	Y position of the box in the graphic file (see coordinate system), in mm.
egDynObjLoc:sizeX	double	The width of the text box in mm. (before rotation).
egDynObjLoc:sizeY	double	The height of the text box in mm. (before rotation).
egDynObjLoc:orientation	double	The orientation provides information about the text orientation within the text box measured in degrees (clockwise), interval: [0-360).
egDynObjLoc:rotation	double	The degrees (clockwise) of rotation of the text box, interval: [0-360).

### Dynamic Barcode Element

Schema namespace

<http://ns.esko-graphics.com/bcel/1.0/>

Schema namespace prefix

egBCEL

Property	ValueType	Description
egBCEL:DynDatNr	integer	A 1-based index in the egDynData:DynData sequence. This

		indicates the data source this copy element came from.
egBCEI:ID	string	The IPC XML ID attribute of this copy element. “instanceSequence” from GS1 XML files.
egBCEI:UID	string	Unique ID (UID) that will be used to reference bar code element from other elements throughout the XMP
egBCEI:SourceReference	egDynSrcRef:DynSrcRef	Source reference of this bar code element in the external system
egBCEI:Panels	string	The IPC XML Panels attribute of this copy element. I.e. the list of panels that was specified for this copy element in the IPC XML datasource. This is not the list of actual panels this copy element was placed in the PDF.
egBCEI:Type	string	The type of barcode e.g. EAN 13 See Barcode section higher in this document.
egBCEI:SymbolType	string	Additional field to define more details for the barcode type. Possible values of this field are dependent on the value of Type. See Barcode section higher in this document.
egBCEI:Code	string	The code string. If the code string is a number it is always in decimal encoding. See Barcode section higher in this document.
egBCEI:Code2	string	The secondary code

		string. Some barcode types like RSS-14 allow a second codestring. If the code string is a number it is always in decimal See Barcode section higher in this document.
egBCEI:ExpectedNumberOfOccurrences	integer	The expected number of occurrences of this barcode on artwork

### Nutrition Facts Tables Deprecated as of January 2017.

Schema namespace <http://ns.esko-graphics.com/nfel/1.0/>  
 Schema namespace prefix egNFEl

Property	ValueType	Description
egNFEl:DynDatNr	integer	A 1-based index in the egDynData:DynData sequence. This indicates the data source this copy element came from.
egNFEl:ID	string	The IPC XML ID attribute of this copy element
egNFEl:Locale	string	The IPC XML Locale attribute of this copy element.
egNFEl:Panels	string	The IPC XML Panels attribute of this copy element. I.e. the list of panels that was specified for this copy element in the IPC XML datasource. This is not the list of actual panels this copy element was placed in the PDF. Defined values are: Top Bottom Front Back Left Right Cylinder Values are separated by a blank " "
egNFEl:RegulatoryStandard	string	The regulatory standard to which the nutrition facts comply. Currently supported values: "21CFR0101.9", the standard that regulates food

		labeling in the US.
egNFEI:RegulatoryBody	string	The regulatory body that has issued the standard to which the nutrition facts labeling information complies. Currently supported values: “US-FDA”.
egNFEI:LabelFormat	string	An optional indication of the label format that is used in the artwork. Currently supported values: <ul style="list-style-type: none"> <li>• US-Standard</li> <li>• US-Tabular</li> <li>• US-Linear</li> </ul>
egNFEI:Body	string	The content of the IPC XML nutrition facts table (Serving Size, Consumption Contexts, FootNotes, Comments). The body is XML with character escape sequences for the “<” and “>” character.

## VDP Info element

Schema namespace

<http://ns.esko-graphics.com/vdpinfo/1.0/>

Schema namespace prefix

eskoVDP

Property	ValueType	Description
eskoVDP:version	integer	The Esko VDP version The version number is a 3 digit number Mmm with “M” = major number and “mm”= minor number.