



Instruction for delivery to **BORIS**

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Detailed instructions for delivery to BORIS

This document describes in detail how drawings and related data are delivered into BORIS. There are two ways to deliver the data into BORIS. Either with the use of ERIT for BORIS and the user manual for ERIT, or with the use of the Användarhandbok BORIS and this document.

To deliver the drawings/documents into BORIS the following information is necessary:

- information about the documents
- the documents in digital form.

Delivery package

A supplier can deliver the packages to FMV in several different ways:

Delivery into BORIS can be done as follows:

- By entering the information directly into BORIS, if the user has access rights.
- By CD or DVD
- By E-mail

Permitted documents

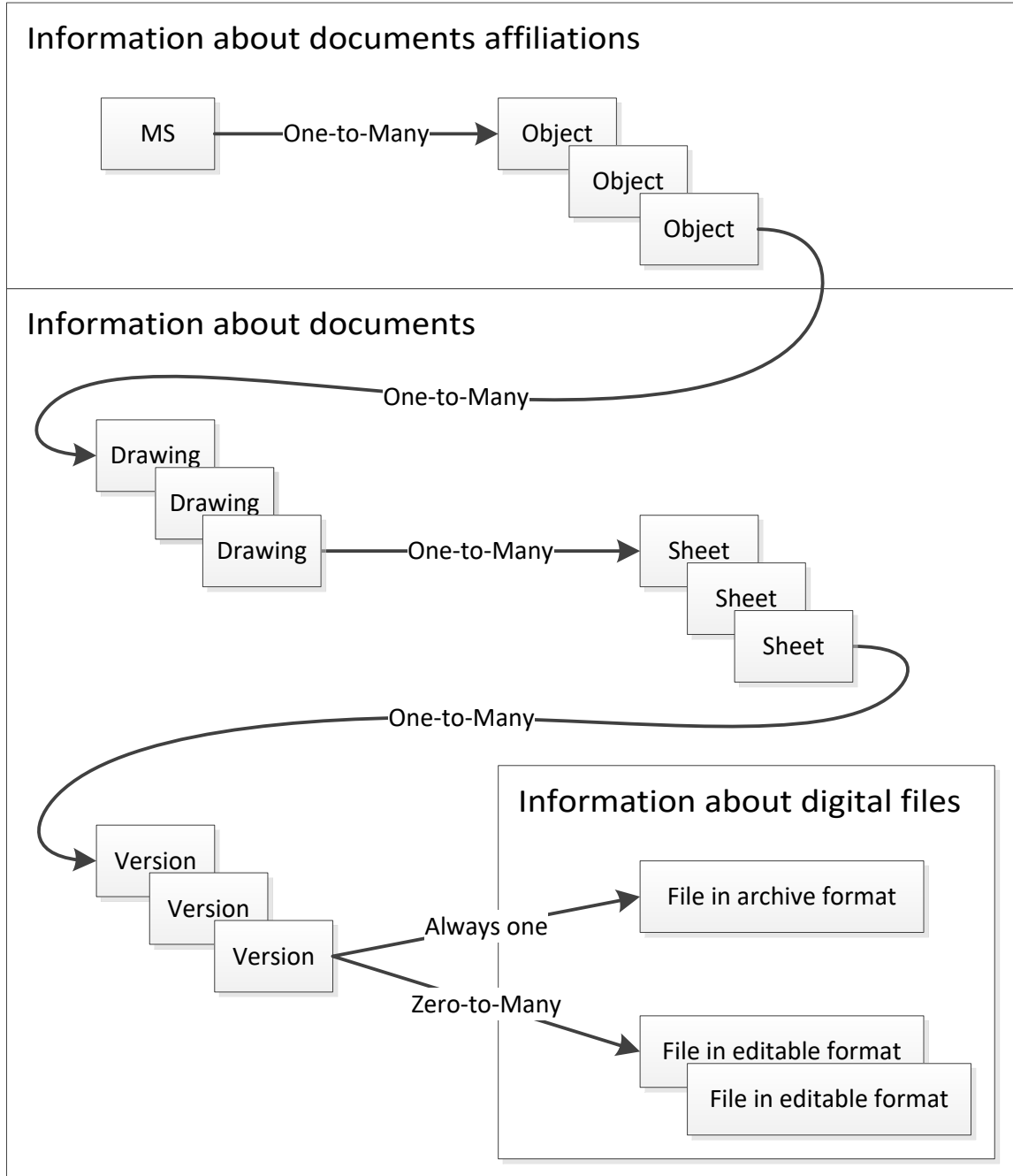
BORIS are for drawings, and documents directly associated to the drawings, so called drawing documents. All these documents have drawing header.

The documents are divided in two main groups:

- Documents with one or more sheets with a drawing header on each sheet. This type of documents is handled on sheet level, i.e. one sheet per file. Documents with multiple sheets within the same file is allowed, if each sheet is marked with the drawing number.
- Documents with one or more sheets with a drawing header on the first sheet, and all sheets consisting of text only. This type of document can be kept together in one file. For example: content lists, tables, etc.

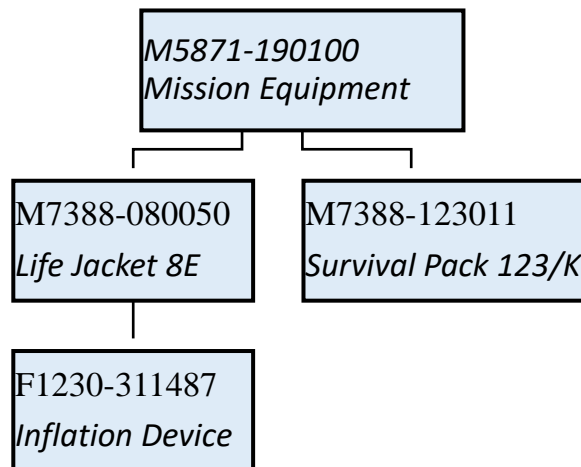
Information structure

Information about the drawing documents is structured as shown in the figure below:



MS **Supplies system** is the top level of the information structure.
For example. 2D1 HKP10.

Object is affiliated to **MS**. The object is the identification number (Fbet) on the physical object for the related document. The objects can themselves be organized hierarchically. Example, see the figure below:

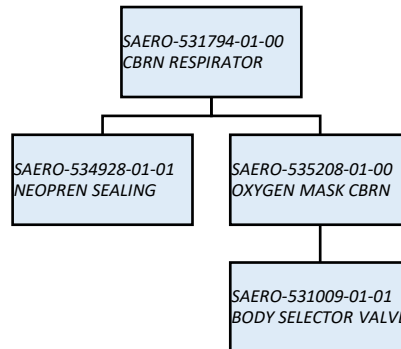


The object (Fbet) must exist in Försvarslogistikens Förnödenhetsregister to be used in BORIS.

Drawing document The drawing document is the document that will be registered in BORIS. The document must have a document-/drawing number and can have its own identification number (FBet).

If the document has a Fbet, it must exist in “Försvlogslogistikens Förnödenhetsregister” and have a M/F-nr.

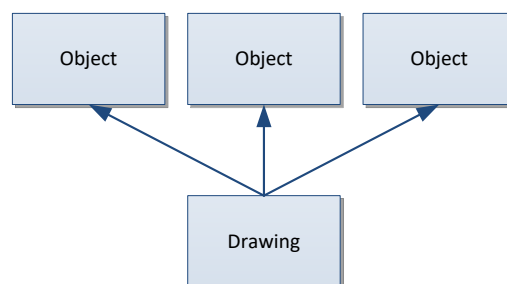
The documents must also be structured hierarchically. Example, see figure below:



See also the chapter [Drawing hierarchies](#)

The document is attached to one or more objects. It is very important that the document is attached to **all** applicable objects. **The object must be on the lowest level possible in the object structure.** For example, if there is a document that describes *Inflation devices*, as above, it must be attached to the object and not to the supplies system MS, *Mission Equipment*.

Example, to attach a drawing document to objects, see figure below:



Only applicable for BORIS.

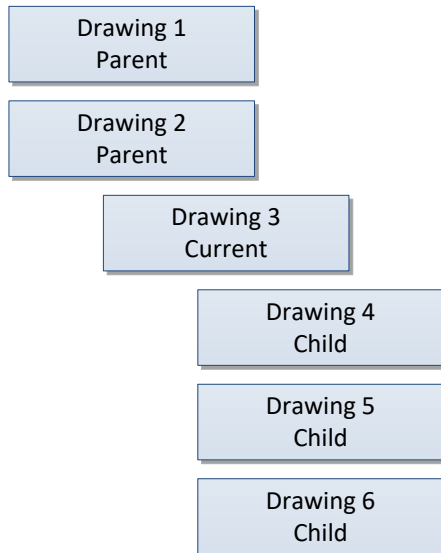
Sheet **The sheet** is the physical part of the drawing.

Version **The version** of the document is the applicable revision. Previously known as “Äläge”, which is an abbreviation for change level, which specify the amendment status of the document.

Drawing hierarchies

A drawing hierarchy gives the interrelationship between drawings. A selected drawing in a hierarchy can have one or more parent drawings and one or more child drawings.

Example, see figure below:



The specification of input data allows the registration of both the parent and child drawings because there can be additional drawings into the hierarchy. To reduce the risk of faults, either parent or child drawings must be given. e.g, example A or example B below:

Example A:

Child	Parent
Drawing 3	Drawing 1
Drawing 3	Drawing 2
Drawing 4	Drawing 3
Drawing 5	Drawing 3
Drawing 6	Drawing 3

Example B:

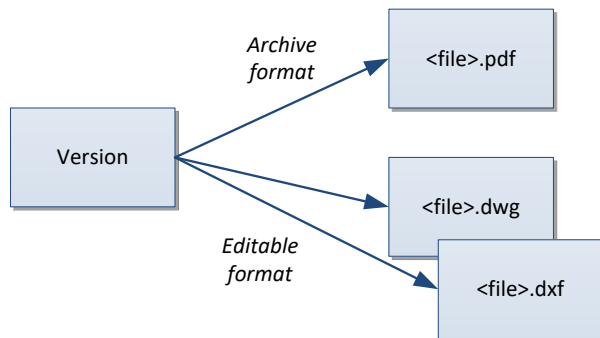
Child	Parent
Drawing 1	Drawing 3
Drawing 2	Drawing 3
Drawing 3	Drawing 4
Drawing 3	Drawing 5
Drawing 3	Drawing 6

All drawings given when the hierarchy is built up, according to the example above, must be found in the system. The drawings can have been registered earlier or been entered at the same time as the drawing hierarchy is built.

Document type

Each sheet of a drawing document must be classified with a document type. Appendix 2 lists the approved types of documents. New type codes can be applied and admitted to BORIS, **but only after a dialogue with and permission of the operations manager.**

File information



The files must be delivered in the archive format based on ISO standard to BORIS.

The editable files shall be delivered to BORIS if FMV/FM owns the design.

File name and extension

Each drawing must have a unique name according to the Windows standard, which means that the file name cannot be longer than 64 characters and the following characters are not allowed:

\ / : * ? " < > | .

The file extension for a drawing must show the format in which the drawing is delivered.

Archive format

Each unique version of a document **must** be delivered in an archival format.

Archive format **must** be PDF/A format.

Editable format

For each document, files in editable format can also be delivered. Editable format is the format used for the created original file. The editable file shall be delivered to BORIS if FMV/FM owns the design.

The requirement to register a file in the editable format is that the file name is the same no matter of format/file extension. The most common production formats for BORIS are CAD, Word and Excel. Other formats such as JPEG images and text files are also used. If it is necessary to use a format, not supported by BORIS, the operation manager has to be contacted.

Example, see below:

Archive format File name .PDF

Editable format File name .DWG, File name .DXF, File name .DOC, File name .XLS

The term CAD files refer to files that contain vector information, text information and any solid models. The CAD files must be made considering a later editing.

- When software that allows classification of lines/contours in layers is used, the required number of layers must be used to avoid confusion of lines/contours.
- When software that separates lines/contours by color coding is used, the required number of color codes must be used to avoid confusion of lines/contours.

The table 1 shows which CAD file formats that are approved.

Table 1

File extension	File format
*.DWG	AutoCAD drawing file.
*.IDW	AutoDesk Inventor.
*.DRW	PTC/PRO Engineer
*.DFT	Solid Edge
CATdrawing	Catia V5
SLDDRW	Solid Works
*.DXF	Digital eXchange Format

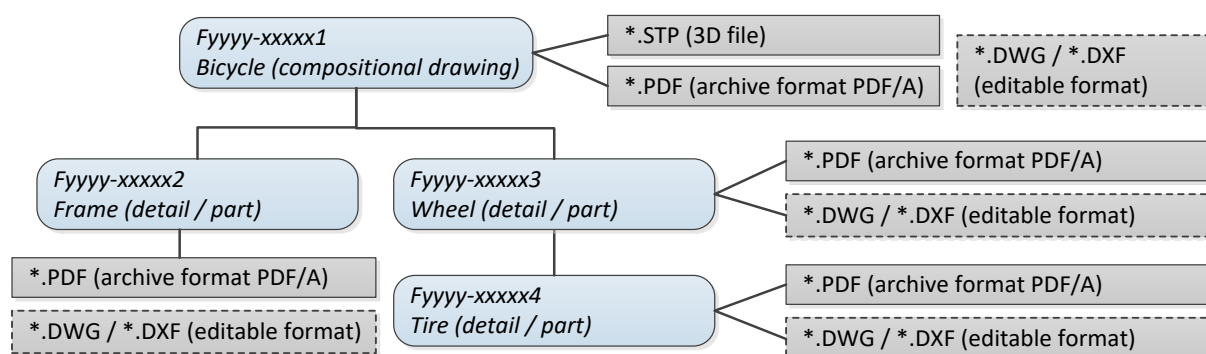
For the CAD drawing it is recommended that the editable format is composed of two types:

1. A file in the original format that is a file from the application that the file is created.
2. A file in a neutral CAD format (*.dwg/*.dxf), i.e, a file that can be read by most CAD programs.

3D format

It is only the compilation that will be stored as a 3D model whose 2D drawing has a unique drawing number. The constituent parts/parties are only stored with 2D drawings which are supplied with separate drawing number.

The compilation of 3D includes all constituent parties. The reason that 3D only will be stored in the summary is that it should not be stored information about 3D parties in more than one stage of the drawing hierarchy.



The drawing compilation digital files:



Table 2

Mandatory	Format	File extension	File format + description
X	3D format	*.STP	Solid model in STEP format.
X	Archive format	*.PDF	*.PDF/A-file that shows the 2D drawing compilation with drawing head.
	Editable format	*.*	Editable format for the 2D drawing and if available, with the package of files for the 3D model. It is very important that this package is created so all involved parties are present. For Autodesk Inventor the function <i>pack and go</i> should be used with a *.zip-file created of all child libraries in <i>pack and go</i> .

The detail/part digital files:



Table 3

Mandatory	Format	File extension	File format + description
No	3D format	-	The detail includes as a part in the compilations solid model and should not be stored here.
X	Archive format	*.PDF	*.PDF/A-file/files that shows the 2D drawing of the detail with drawing head.
	Editable format	*.*	See chapter Editable format

Example 3D delivery

1. Export the detail and the compilation for the detail from **BORIS**.
Then you get the following from **BORIS**:

Table 4

Compilation:	<ul style="list-style-type: none"> ▪ 3D model (STEP) ▪ archive format PDF/A ▪ optional editable format
Detail:	<ul style="list-style-type: none"> ▪ archive format PDF/A ▪ optional editable format

2. Convert the compilation in STEP format to a CAD original format with structure. (It provides a compilation that consist multiple components/partners).
3. Change the detail drawing and produce a 2D drawing in the archive and production formats.
4. Put the detail in the compilation again and update it.
5. Change the compilation drawing and produce a 2D drawing in the archive and editable formats. *Link the compilation model with compilation drawing in editable formats. All links will be updated. It is very important that all the links are correct.*
6. Convert the compilation to STEP format again.
7. Load the new version of the compilation and the detail in **BORIS**.
You must deliver the following to **BORIS**:

Table 5

Compilation:	<ul style="list-style-type: none"> ▪ 3D model (STEP) ▪ archive format PDF/A ▪ optional editable format
Detail:	<ul style="list-style-type: none"> ▪ archive format PDF/A ▪ optional editable format

Contents of the delivery to BORIS

The table below contains a summary of the information and files included in the delivery of drawing documents to BORIS. A detailed description of the record types and their respective denominations contained in the deliveries is given in Appendix 1.

Table 6

Mandatory	Denomination	Comment
X	FB code	Letter code for the company that has created the first version of the document that shall be recorded.
X	Document-number	Drawing/document number
	Document-denomination	Document name. Optional, but strongly recommended. If only one sheet, use the same name as on the sheet.
X	Drawing type	Drawing type must be given. NOTE! Only in the application approved drawing types can be specified.
	Replaces	If the document replaces another document, the drawing number/document number + FB code for the document must be given.
	Variant	If the document is a variant of another document, the drawing number/document number + FB code for the replaced document must be given.
	Parent drawing	Information about all parent documents that the document belongs to must be given.
X	Sheet	The sheet's number.
X	Document type	NOTE! Only in the application approved document types can be specified. See appendix 2. It is very important that the correct type of document is given and that it is the same as the document stored at the previous version of the drawing/document. This for the version management to work.
X	Sheet denomination	The sheet's name.
X	Version	Information about the document version must be given. It must be given as the same as previous versions of the document. The content of version can be empty for the first version of a document.
X	Format	Information about the documents size, A1 => 1, A2 => 2 etc. should be given.
X	Object	Information about all items that document is affiliated to must be given.
X	Frame	Set the number of frames. Usually 1.
X	Archive format	It must always be delivered one file in archive format per version. Regulations, see Information structure.
	Editable format	The file in editable format may be delivered. The file name, bar the extension, must be the same as the archive format file. The software version and its must be specified.
	3d format	3d format shall be delivered for the compilation drawing that the detail belongs to, if required. See 3D format.

Appendix 1 – Record types for the transaction file

This document specifies the technical information necessary to create a transaction file for the delivery of files to BORIS.

The transaction file is stored in standard ASCII (plain text format) and named according to the Windows standard.

Record types

In a file that contains document information are a number of record types with fixed area classification and variable length. Each record will end with carriage return and line feed. The value null is not permitted.

Possible record types are shown in the table.

Table 7

Record type	Mand.	Contents
R	X	Record type R contains data for drawing documents.
B	X	Record type B contains the data sheets for the document as defined in record type R. Will come after record type R
A	X	Record type A contains the version of the current sheet as defined in record type B. Will come after record type B.
T	X	Record type T contains data for object relation. Will come after record type A.
F	X	Record type F contains data for the image files. Will come after record type T.
O		Record type O contains data about underlying document (FB code and the drawing/document number). Can be anywhere in the file.
U		Record type U contains data about underlying drawing (FB code and the drawing/document number). Can be anywhere in the file.
I		Record type I contain data to indicate that a version shall be set to inactive, but do not need to be replaced. Can be anywhere in the file.
V		Record type V contain data to indicate that a version shall be set to active but is not replacing another version. Can be anywhere in the file.
G		Record type G contain data to mark, or unmark, a version with a "tag" (i.e. a label). Can be anywhere in the file.
L		Record type L contains data to indicate that a lent version has been returned. Can be anywhere in the file.

Each physical document describes the information in the required record types R, B, A, T and F. The record type R marks a new drawing number and does not need to be repeated for each sheet of multiple sheets supplied. The record types O, U, I, V and L are used only in some cases.

EXAMPLE OF RECORD TYPES

Below are some examples of arrangements between record types in a file:

- R, B, A, T, B, A, T, B, A, T, F
- R, B, A, T, T, T, F, B, A, T, T, T, F
- R, B, A, T, T, R, B, A, T, O, O, O, O, U, O, I, L, L., G, G
- R, B, A, T, V, V, L
- R, B, A, T, F, F, I

FIELD TYPES

An alphanumeric string (AN) contains numbers, letters or other characters. If the entire field is not filled with characters, it should be padded with blanks (space).

A field of type N contains numeric values (0-9) that you can use the four rules of arithmetic on. The values in that field are stored right aligned and the field beginning is padded with zeroes.

Example: the field N5 with the value 1 is written as 000001. Fields with no value will be filled with blanks (space).

Mandatory fields and record types must be specified.

Data descriptions

This section describes the fields included in the record types, for the administrative document information.

Record type R

Record type R contains data for identification of a drawing document, see the table below. This information is mandatory.

In case the drawing document already exists in BORIS. it can be updated with some of the data in the record. The column Upd. in the table below marks the fields that will be updated.

Table 8

Field	Type	Length	Mand.	Upd.	Comment
Record type	AN	1	Yes	No	Value R.
FB-code	AN	5	Yes	No	Letter code according to FMV
Document number	AN	27	Yes	No	As it is written in the document or drawing. The leading and trailing spaces (blanks) in a document number are removed during scanning. Double spaces (blanks) are replaced by one space (blanks).
Number of sheets	AN	5	Yes	Yes	Aligned right and filled with zeroes.
Identification number	AN	11	No	Yes	Is given as Mnnnnnnnnnn or Fnnnnnnnnnn.
Drawing type	N	1	Yes	Yes	Materiel drawing = 0
Variant of drawing. FB code Document number	 AN AN	 5 27	No	Yes	Both FB code and document number must be given.
Replace another drawing. FB code Document number	 AN AN	 5 27	No	No	Both FB code and document number must be given. The replaced drawings versions will be set to inactive.
Group or Chapter/Patch/Title	AN	6	No	Yes	Use for publications and contain groups for figures, or for constructions and then contains chapter-, patch- or title number that can be alphanumeric. Not used.

Description of delivery requirements BORIS

<i>Field</i>	<i>Type</i>	<i>Length</i>	<i>Mand.</i>	<i>Upd.</i>	<i>Comment</i>
Figure number or Folder number	AN	6	No	Yes	Use for publications and constructions. For publications, the field contains the image number the drawing has. For constructions, the field can be filled for patches and contains folder number that can be alphanumeric. Not used
Document title	AN	254	No	Yes	Use for publications and contains the drawing's descriptive name. Not used
Keep replaced drawing active	N	1	No	No	If the value is 1 the replaced drawings versions will still be active. The value must be 0 or 1.

Record type B

Record type B shows data for a sheet's FB-code and a document number as specified in record type R. This information is mandatory. Record type B is repeated if several sheets are delivered for the same FB code and document number.

In case the sheet already exists in BORIS, it can be updated with some of the data in the record. The column Upd in the table below marks the fields that will be updated.

Table 9

Field	Type	Length	Mand.	Upd.	Comment
Record type	AN	1	Yes	No	Value B.
Sheet number	AN	5	Yes	No	Right aligned and filled with zeroes.
Sheet designation	AN	32	Yes/No	Yes	Free text. Can be left blank if the long sheet title (below) is completed.
Document type code	AN	5	Yes	No	See Document type codes in appendix 2. NOTE! It is very important that the right type of document is given, and that it is the same document stored at the previous version of the drawing/document. This for the version management to work.
Long sheet designation	AN	254	No	Yes	Free text. Can be left blank. If the field is filled, it is used instead of the sheet title (above). Not necessary to pad with spaces (blanks).

Record type A

Record type A shows the version for a sheet number in the record type B. This information is mandatory.

In case the version already exists in BORIS, it can be updated with some of the data in the record. The column Upd in the table below marks the fields that will be updated.

Table 10

Field	Type	Length	Mand.	Upd.	Comment
Record type	AN	1	Yes	No	Value A.
Version	AN	6	Yes	No	Version is given as specified in the drawing document. May be blank for first version.
Version date (on the drawing)	AN	6	No	No	Given as YYMMDD. May be blank.
Format code	AN	2	Yes	Yes	Code Format 0 A0 1 A1 2 A2 3 A3 4 A4 S Other formats
Frame number	N	1	Yes	No	If the format code is S, a value between 2 and 9 is given, if not, set the value 1. Blank or 0 must not be given.
Defence secrecy status code	N	1	Yes	No	See Secrecy status codes below. The value must be 0 or 1.
Commercial secrecy status code	N	1	Yes	No	See Secrecy status codes below. The value must be 0 or 1.
Company secrecy status code	N	1	No	No	See Secrecy status codes below. The value must be 0 or 1.
Object affiliations	N	1	No	No	If the value is 1 the version will not inherit the objects affiliated to earlier versions. The version will only be affiliated to object in the following T-records. The value must be 0 or 1.
Extra data	AN	60	No	Yes	Data that will be stored with the version. It can later be included in some exports of data. An example is comma separated lists with PBS/MIMI for naval ships (Sample content: "1201,1202,1204").

SECURITY STATUS CODES

Each version can have different types of secrecy: *defense secrecy* shows how FM classifies the drawing document, the *commercial secrecy* shows how the supplier classifies the drawing document. A version that is marked by defense secrecy or business secrecy is **secret**.

There is also a *company secrecy status code* controlled by BORIS BKS, “Behörighet Kontroll System”. Authorization of *company secrecy* is set per MS, Supplies System. A version that is marked as *company secrecy* is **open**.

The following codes are used for secrecy status. 0=Open, 1=Not open information.

Record type T

Record type T shows the objects affiliations. At least one object affiliations must be specified for each version. All versions within the document number are usually affiliated of the same object, but they can in exceptional cases, be affiliated to different objects. Each version is affiliated to at least one object. This table shows the object affiliated for a version in the record type A. This information is mandatory.

In case the version already exists in BORIS. the record can be used to add new objects affiliations. The version keeps its older objects affiliations when new ones are added.

Table 11

<i>Field</i>	<i>Type</i>	<i>Length</i>	<i>Mand.</i>	<i>Comment</i>
Record type	AN	1	Yes	Value T.
Object relation	AN	11	Yes	Is given as Mnnnnnnnnnn or Fnnnnnnnnnn.

Record type F

Record type F contains data about the enclosed file in a drawing package. At least one record type F must be given for each record type A. The file extensions show in which digital format the drawings are supplied. Read more about digital drawings and image files earlier in this document.

Record type F must come after the record type T.

Record type F can be used for secret drawings in BORIS., i e drawings marked defense, secrecy or business secrecy, but it is optional. When the record type F is used for a secret drawing, only the file name will be stored in BORIS. The file itself must be stored separately on a secure media with a descriptive file name, e g with FB code, document number, sheet number and version in the file name.

Table 12

<i>Field</i>	<i>Type</i>	<i>Length</i>	<i>Mand.</i>	<i>Comment</i>
Record type	AN	1	Yes	Value F.
Frame number	N	1	No	Give the number 0-9 of the frame that the image file relates to. If the information is missing or specified as 0, it is interpreted as the 1.

Field	Type	Length	Mand.	Comment
Image file name	AN	32	Yes	File name is given according to Windows standard. Can be left blank if the image file name (below) is completed.
Digital format	AN	20	No	Give the program that created the file, such as WORD. Is left blank for archive formats.
Digital version	AN	10	No	Give the version of the program above, such as 2010 for WORD version 2010. Is left blank for archive formats.
Long image file name	AN	64	Yes	File name is given according to Windows standard. Can be left blank. If the field is filled, it is used instead of the image file name (above). Not necessary to pad with spaces (blanks).

Record type O

Record type O places a drawing document document as a child to another drawing in a drawing hierarchy. One record for each parent drawing. Record type O can be placed anywhere in the file and is optional.

The specified drawing document must be registered in i BORIS. or included in the current transaction file.

Table 14

Field	Type	Length	Mand.	Comment
Record type	AN	1	Yes	Value O.
Current drawing			Yes	The drawing has the following parent drawing.
FB code	AN	5		Both FB code and document number must be specified.
Document number	AN	27		
Parent drawing			Yes	The drawing is an parent drawing for the drawing above.
FB code	AN	5		Both FB code and document number must be specified.
Document number	AN	27		

Record type U

Record type U places a drawing document as a parent to another drawing in a drawing hierarchy. One record for each child drawing. Record type U can be placed anywhere in the file and is optional.

Both drawing documents must be registered in i BORIS or included in the current transaction file.

Table 15

<i>Field</i>	<i>Type</i>	<i>Length</i>	<i>Mand.</i>	<i>Comment</i>
Record type	AN	1	Yes	Värde U.
Current drawing			Yes	The drawing has the following child drawing.
FB code	AN	5		Both FB code and document number must be specified.
Document number	AN	27		
Child drawing			Yes	The drawing is a child drawing for the drawing above.
FB code	AN	5		Both FB code and document number must be specified.
Document number	AN	27		

Record type I

Record Type I is used to mark that a version is obsolete and should be marked as inactive. Record type I is optional and can be put anywhere in the file.

If there is an object relation in the record, then just the relation between the version and object will be marked inactive. Other relations to the version will not be changed. If there is no object relation in the record, then all relations will be inactivated.

The specified version must exist in BORIS.

Table 16

<i>Field</i>	<i>Type</i>	<i>Length</i>	<i>Mand.</i>	<i>Comment</i>
Record type	AN	1	Yes	Value I
FB code	AN	5	Yes	Letter code according to FMV.
Document number	AN	27	Yes	Leading and trailing spaces (blanks) in a drawing number is removed during scanning. Double spaces (blanks) are replaced by one space (blanks).
Sheet number	AN	5	Yes	Right aligned and padded with zeroes.
Version	AN	6	Yes	Value according to registered drawing number in BORIS.

<i>Field</i>	<i>Type</i>	<i>Length</i>	<i>Mand.</i>	<i>Comment</i>
Document type code	AN	5	Yes	Value according to registered drawing number in BORIS.
Object relation	AN	11	No	Is given as Mnnnnnnnnnn or Fnnnnnnnnnn.

Record type V

Record Type V is used to mark a version as active. Record type V is optional and can be put anywhere in the file.

If there is an object relation in the record, then just the relation between the version and object will be marked active. Other relations to the version will not be changed. If there is no object relation in the record, then all relations will be activated.

The specified version must exist in BORIS.

Table 17

<i>Field</i>	<i>Type</i>	<i>Length</i>	<i>Mand.</i>	<i>Comment</i>
Record type	AN	1	Yes	Value V
FB code	AN	5	Yes	Letter code according to FMV.
Document number	AN	27	Yes	Leading and trailing spaces (blanks) in a drawing number is removed during scanning. Double spaces (blanks) are replaced by one space (blanks).
Sheet number	AN	5	Yes	Right aligned and padded with zeroes.
Version	AN	6	Yes	Value according to registered drawing number in BORIS.
Document type code	AN	5	Yes	Value according to registered drawing number in BORIS.
Object relation	AN	11	No	Is given as Mnnnnnnnnnn or Fnnnnnnnnnn.

Record type G

Record type G is used to mark, or remove, a tag (i.e. a label) to a version. Record type G can be placed anywhere in the file.

Tags used in the record type must be registered in BORIS. before the records are read into BORIS.

A version can have multiple tags so there can be more than one record of this type for a version.

Tabell 18

Field	Type	Length	Mand.	Comment
Record type	AN	1	Yes	Value G
FB code	AN	5	Yes	Letter code according to FMV.
Document number	AN	27	Yes	Leading and trailing spaces (blanks) in a drawing number is removed during scanning. Double spaces (blanks) are replaced by one space (blank).
Sheet number	AN	5	Yes	Right aligned and padded with zeroes.
Version	AN	6	Yes	Value according to registered drawing number in BORIS.
Document type code	AN	5	Yes	Value according to registered drawing number in BORIS.
Tag	AN	24	Yes	In capital letters. The tag must be registered in BORIS.
Remove	AN	1	No	Enter X or 1 to mark that the tag should be removed from the version.

Record type L

Record type L is used to return a version of a lent document. Record type L can be placed anywhere in the file.

The specified version must already exist in BORIS. with a marking as lent.

Table 19

Field	Type	Length	Mand.	Comment
Record type	AN	1	Yes	Value L.
FB code	AN	5	Yes	Letter code according to FMV.
Document number	AN	27	Yes	Leading and trailing spaces (blanks) in a drawing number is removed during scanning. Double spaces (blanks) are replaced by one space (blanks).
Sheet number	AN	5	Yes	Right aligned and padded with zeroes.
Version	AN	6	Yes	Shows the version. Can be blank.

Description of delivery requirements BORIS

Document type code	AN	5	Yes	See Document type codes i appendix 2.
Returning date	AN	6	Yes	Given as YYYYMMDD.
Order number	N	8	No	Specifies the order where the drawing was borrowed.
Extra field	N	8	No	Used for "Entreprenad" (contract by tender).

Appendix 2 – Codes

Document type codes

Each sheet in a drawing must be classified with a document type. The table below shows the approved document type codes in BORIS and their designations. New document type codes can be applied and admitted in BORIS, **but only after a dialogue with and permission of the operations manager.**

AB	Artikelbeskrivning	Article description
AF	Apparatförteckning	Components list(
AI	Arbetsinstruktion	Work instruction
FS	Föreskrift	Instruction
FT	Förbindningstabell	Connection table
GA	Generalarrangemang	General Organization
GF	Gruppförteckning	List of Groups
GS	Gruppspecifikation	Specified groups
KCS	Schemaritning	Circuit drawing
KF	Konfigurationsförteckning	Configuration list
KI	Kontrollinstruktion	Instruction for inspections
KK	Kretskort	List of components
KL	Komponentlista	Printed circuit board
KT	Kopplingstabell	Sequence table
LL	Ledningslista	List of wiring
MK	Mönsterkort	Control card
MR	Mallritning	Template drawing
MSPEC	Materielspecifikation	Material specification
RF	Ritningsförteckning	List of drawings
RITN	Detaljritning	Detailed drawing
SCHAN	Anslutningsschema	Attachment diagram
SCHBL	Blockschema	Block diagram
SCHL	Elschema	Electrical diagram
SCHEN	Enlinjeschema	Single line diagram
SCHFL	Flödesschema	Flow chart
SCHFU	Funktionschema	Functional diagram
SCHFÖ	Förbindningsschema	Wiring diagram
SCHGR	Gruppschema	Group diagram
SCHHY	Hydraulschema	Hydraulic diagram
SCHIN	Installationsschema	Installation diagram
SCHKA	Kabelschema	Cable diagram
SCHKO	Kopplingschema	Connection diagram
SCHKR	Kretsschema	Circuit diagram
SCHLE	Ledningsschema	Conduit diagram
SCHNY	Nyckelschema	Key diagram
SCHNÄ	Nätsschema	Network diagram

SCHPR	Principschema	Principal diagram
SCHRÖ	Rörschema	Tube diagram
SCHSE	Serviceschema	Maintenance diagram
SCHSI	Signalschema	Signalling diagram
SCHSY	Systemschema	System diagram
SCHÖV	Översiktsschema	Survey diagram
SL	Stycklista resp. Detaljlista	Parts list
SMST	Sammanställningsritning	Compositional drawing
SPEC	Specifikation	Specification
STD	Standard	STD Standard
TB	Teknisk bestämmelse	Technical regulations
US	Uppställningsritning	Disposition drawing
VP	Förbindelseritning	Connecting drawing
YB	Ytbehandlingsnorm	Standard for surface treatment
ÄO	Ändringsorder	Amendment notice