Part & Document Numbering Principles

Scope

This paper contains my personal recommendations for creating of part and document numbering schemes.

Recommendations

Numbers (in CM sense) are used for identification and for classification. In the past part and document numbers often have had identifying and classifying function in common. They often have up today. Don't do so!

If you are free to create a new numbering scheme and if you have a PDM database to maintain all your parts and documents be happy and use the following principles:

1. Use each database field for storing of only one information, i.e. store each singular information into another database field. Each attribute/property needs its own database field. Avoid redundancy of data.

2. Incorporate no or only minimal significance into an identifying number. The best ID number is a non-significant sequential number.

3. Classification numbers may have significance, but remember that each significant numbering scheme may (or will?) collapse in future. Significant numbers should have enough "free space" for future.

4. Allowed characters in numbers are
   - numerals,
   - capital letters,
   - the minus sign “-“.

Never use blanks in numbers.

Never define numeric numbers with leading zeroes. If you want to have a constant number length use a digit > 0 or a letter as first character of the number.

Never define a number scheme that could be interpreted as a date when importing the number into MS Excel or the like.

5. Parts are identified by the unique part number.

6. Never code into the part number (part ID number):
   - classification information,
   - status or revision information,
   - sourcing or manufacturing methods,

   - kind of the material of the part,
   - where used information (depending on next higher assembly or project),
   - or any other temporary information.

7. My preferred part number formats are

Y#####[-TT] or
Y#####-GG[-TT]

where:

Y = a defined constant numeral > 0 or a defined capital letter. This is to show that it is a part number (the only one significance) and to force a constant length of the part number avoiding leading zeroes.

= a sequential number of a constant minimum length.

TT = the **tab number** (often called dash number). **-TT** is an optional suffix for parts on multi part drawings like
- opposite parts: Left: -01, Right: -02
- bulk items: e.g. cable assemblies: 1m: -01; 1.5m: -02
- Options, features: red: -01; blue: -02

Using tab numbers saves drawing expense.

GG = the **part generation number**. This is a number representing the historical sequence of non-interchangeable parts, which have been developed from each other.
A part version increased by +1 indicates that this is a part created by redesigning the part having the same part basis number Y##### and the previous part generation number. The GG is increased only then if the new part needs a new part number acc. to the interchangeability rules.

Note:
The part generation number forms an integral part of the part number.
It is not a revision and must never be referred to as revision or part revision.

In principle it is not necessary to use a part generation number. But it is useful if the people want to see the history of a part just by its part number.

8. Documents are identified by the unique combination of **Doc type + Doc Number + Revision**.

9. Each document type may have its own independent document number range. Doc Numbers can be doubled, the combination per par. 8 not. If you don't do so, you need a central organization assigning document numbers. IMHO it is better to let the sub-organizations/departments control the numbers of their own specific doc types by them self, according to rules stated by CM.

10. Strictly part specific documents – like drawings – in principle may have document numbers not depending on the part number. In this case the part number should be given on the drawing.

I recommend that strictly part specific documents - like drawings - get the part number or a part of the part number as document number.

Example:

Parts on the drawing:	12345-01	12345-01-01 12345-01-02 12345-01-03
Corresponding drawing number:	12345-01	12345-01 or 12345-01-XX

11. All other (not strictly part specific) document types get a non-significant number as document number. Separate sub-documents can get the main document number plus an additional dash or suffix number.

12. Use capital letters as revision indicators for documents. Revision letters can be better distinguished from part and document numbers than numeric revision indicators. Count revision letters like columns in MS Excel:
A, B … Z, AA, AB … AZ, BA …
The first (initial) revision gets the revision letter A.

13. Never code status information into the revision indicator. The document revision is just the counter of released document versions.

14. Releasing a document means providing or passing on the document for use. A document is considered released just by providing it or passing it on to someone for use/for application, regardless of whether it is marked as „Released“ or not.

15. Do not print or mark the document status – like Not released, Released, Canceled – on the document itself. The document status of a certain revision may change in time although the revision indicator does not. The current document status can and must be seen only in the PDM system.

Note:
The release date must be given in the document. But having a release date does not mean that the document is still released.

16. Link part related documents to all related parts using the functionality of your PDM system.

Revision History

Rev.	Released on	Author	Modifications
A	2009-03-24	Jörg Eisenträger	Initial revision
B	2019-05-16	Jörg Eisenträger	Added paragraphs 4 and 15. Amended paragraphs 6 and 7. Renumbered the paragraphs. Some editorial modifications.
C	2019-05-20	Jörg Eisenträger	In par. 6: Specified the “where used information” more precisely.

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