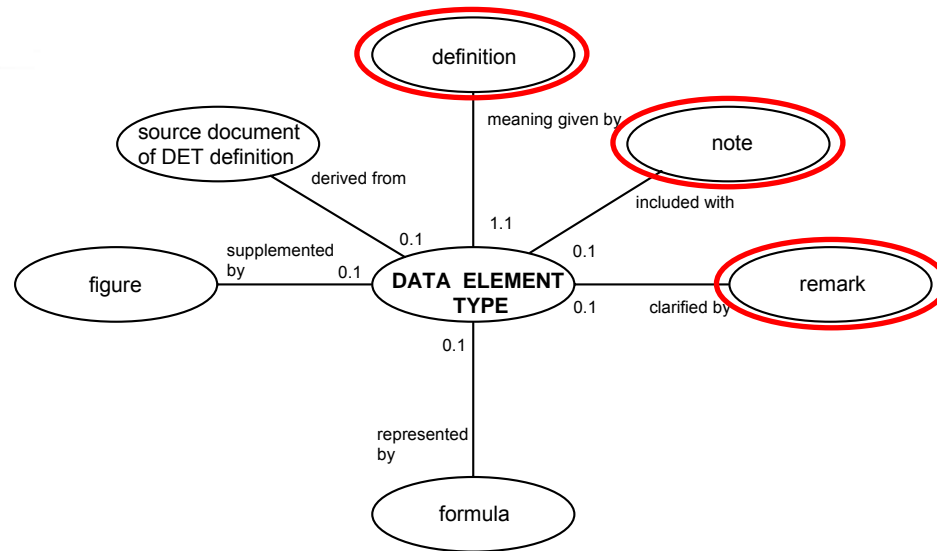# International Standardization of Product Properties — Definition writing

237gwg 3DWG2

Data model

Definition: statement that describes the meaning of a data element type in an unambiguous and unique manner to permit its differentiation from all other data element types

EXAMPLE   Definition of the quantitative data element type "arcing distance":

arcing distance
value of the shortest distance in air external to the insulator between metallic parts normally having the operating voltage between them

Note: statement which provides further information on the definition, which is essential to the understanding of that definition

Remark: explanatory text to further clarify the meaning of the definition

Definition – 1 of 2

a)		The definition of a data element type shall be derived from the original definition as appearing in the latest corresponding IEC or ISO Standards definition, if available.

b)		ISO 704 and ISO/IEC 11179-4 standards should be used as a basis for the writing of the definition.

c)		The unit of measure of the DET shall not be included in the DET definition.

d)		If the Level_type attribute is specified, the level information need not be repeated in the definition.

e)		The semantic context(s) should be included in the DET definition, if this is essential for the understanding of its meaning.

Definition – 2 of 2

f)　　　　If the concept requires a limitation of its applicability this shall be explicitly expressed in the definition.

EXAMPLE　　There exist different semantics by using the term "rated voltage"; within products ≥ 1 kV the terms rated voltage express the maximum voltage for which a product is being designed and can be operated (see IEC 60694). This is currently not applicable to products less than 1kV..

g)　　　　If dependency relations are an inherent part of the concept, these shall be included in the definition.

EXAMPLE　　Definition of the quantitative data element type "reverse recovery time":

reverse recovery time

value of the time required for the reverse current of a diode to recover to a specified value, when switched from a specified forward current to a specified reverse voltage, at specified conditions

h)　　　　In the case conditions are specified, the definition ends with the wording "at specified condition(s)".

i)　　　　If the concept represents a mean value, the type of average shall be specified by using a qualifier (e.g. arithmetic) either in the preferred name or be given in the definition.

Note

EXAMPLE   The data element type reverse recovery time is further clarified by a note: "The reverse recovery time is measured as the time interval between t_0, the point where the forward current crosses the zero current axis, and the instant when for decreasing values of i_R a line through the points for 0.9 I_{RM} and 0.25 I_{RM} crosses the zero current axis."

Remark

remarks shall not influence the meaning of the definition

Informative – ISO/IEC 11179-4

A data definition shall:

a)   be stated in the singular

b)   state what the concept is, not only what it is not

c)   be stated as one descriptive phrase or sentence

d)   contain only commonly understood abbreviations

e)   be expressed without embedding definitions of other data or underlying concepts

A data definition should:

a)   state the essential meaning of the concept

b)   be precise and unambiguous

c)   be concise

d)   be able to stand alone

e)   be expressed without embedding rationale, functional usage, or procedural information

f)   avoid circular reasoning

g)   use the same terminology and consistent logical structure for related definitions

h)   be appropriate for the type of metadata item being defined

Informative – ISO 704

a)   Define what it is, not what it is not

b)   Define the concept, do not write a list of examples (extensional definitions, i.e. list of subordinate concepts, are allowed in highly specialized domains

c)   Avoid circular definitions

d)   Do not define two concepts (A definition shall describe only one concept. It shall not include hidden definitions for any concepts used to identify characteristics. Any characteristic that requires an explanation shall be defined separately as a concept or given in a note.

e)   A definition is valid if it can replace a designation in a text without loss of or change in meaning.

f)   Definitions shall be as brief as possible and as complex as necessary. Complex definitions can contain several dependent clauses, but carefully written definitions contain only that information which makes the concept unique. Any additional descriptive information deemed necessary should be included in a note.

g)   The definition should not contain characteristics that belong logically to superordinate or subordinate concepts.

h)   A definition shall describe the content of the concept precisely. It shall be neither too narrow nor too broad.

Informative – Additional conventions

a) The term "value" shall not be written in plural even if it is a level type (e.g., minimum, typical and maximum value)

b) Always include the term "value" in the definition for quantitative DETs except for conditional data element types.

c) Changing attributes to conform to the new conventions of this part of IEC 61360 is by default a revision change (minor change) unless specified otherwise, and will only be done along with a change request associated with the relevant data element type.

Backup