IEC 81346-14:2026-05 (E)

Industrial systems, installations and equipment and industrial products - Structuring principles and reference designations - Part 14: Manufacturing and processing systems

Contents

Page

FOREWORD 3
INTRODUCTION 5
1 Scope 7
2 Normative references 7
3 Terms and definitions 7
4 General concepts 9
4.1 Object 9
4.2 Aspect 9
4.3 Systems 9
4.3.101 Prime systems 9
4.3.102 Technical systems 9
4.3.103 Component systems 9
4.4 Structuring 9
4.5 Function 10
4.6 Products and components 10
4.7 Location 10
4.8 Types 10
4.9 Object occurrences and product individuals 10
4.10 Relations between concepts 10
5 Structuring principles 10
5.1 General 10
5.2 Forming structures 10
5.3 Function-oriented structure 10
5.4 Product-oriented structure 10
5.5 Location-oriented structure 11
5.6 Type-oriented structure 11
5.7 Structures based on "other aspects" 11
5.8 Structures based on more than one aspect 11
6 Construction of reference designations 11
6.1 General 11
6.2 Format of reference designations 11
6.2.1 Single level 11
6.2.2 Multi-level 11
6.2.3 Use of letter codes 11
6.3 Different structures within the same aspect 13
7 Reference designation set 13
8 Designation of locations 13
8.1 General 13
8.2 Assemblies 13

9 Presentation of reference designations 14
9.1 Reference designations 14
9.2 Reference designation set 14
9.3 Presentation of identifiers for the top-node 14
10 Labelling 14
11 Presentation of properties for an object 14
12 Application of the reference designation system 14
Annex A (informative) Information model on the reference designation system 15
Annex B (informative) Establishment and life cycle of objects 15
Annex C (informative) Manipulation of objects 15
Annex D (informative) Interpretation of reference designations using different aspects 15
Annex E (normative) Object represented with several top nodes in an aspect 15
Annex F (informative) Examples of multiple structures based on the same aspect 15
Annex G (normative) Incorporating sub-objects in object structures 15
Annex H (informative) Example of reference designations within a system 15
Annex I (normative) Designation of relations between objects 15
Annex J (normative) Requirements for developing sector-specific parts of the International Standard 81346 series 15
Annex K (informative) Metadata resource for structure management 15
Annex L (informative) Recommendations for documentation of the application of the reference designation system 15
Annex M (informative) Fundamental ideas for this document 16
Annex N (informative) Relationship to other standards 16
Annex AA (normative) Classification letter codes for systems 17
AA.1 General 17
AA.2 Classes of prime systems for manufacturing 17
AA.3 Classes of technical systems 18
Annex BB (informative) Example of reference designations within a system 24
Bibliography 28

Figure 101 – Relation between prime systems, technical systems and component systems 12
Figure 102 – Relation between construction complexes, construction entities and construction spaces 13
Figure BB.1 – Process flow diagram for a material handling plant 24
Figure BB.2 – Overview diagram for part of the material process system (=M1) and part of the power supply system (=B1) supporting the material processing system 25
Figure BB.3 – Function-oriented structure tree for parts of the material handling plant 26
Figure BB.4 – Example of designation of technical systems of a prime system (=M1) in a block diagram for a chemical plant 27

Table 101 – Examples of using "?" in a class code 12
Table 102 – Examples of reference designations 12
Table AA.1 – Classes of prime systems for manufacturing 17
Table AA.2 – Classes of technical systems 18