ISO 14825:2011-07 (E)

Intelligent transport systems - Geographic Data Files (GDF) - GDF5.0

Contents

Page

Foreword vi

Introduction vii

1 Scope 1

2 Normative references 1

3 Terms and definitions 2
3.1 General terms 2
3.2 Mathematical terms 3
3.3 Geodetical terms 4
3.4 GDF terms 6

4 Symbolization and notation elements 9
4.1 GDF symbolizations 9
4.2 UML notation 9

5 Overall conceptual data model 15
5.1 Conceptual data models in GDF 15
5.2 The general data model of GDF 15
5.3 The Attribute model 24
5.4 The Relationship model 27
5.5 Linear referencing 27
5.6 The Feature representation scheme 28
5.7 Time modelling 28
5.8 Data management: organisation of Feature data into Layers and Sections 29

6 Feature Catalogue 33
6.1 Generic specifications 33
6.2 Roads and Ferries 34
6.3 Administrative Areas 51
6.4 Named Areas 59
6.5 Land Cover And Use 63
6.6 Terrain Elevation 93
6.7 Structures 98
6.8 Railways 99
6.9 Waterways 100
6.10 Road Furniture 104
6.11 Services 107
6.12 Public Transport 108
6.13 Linear Referencing Features 112
6.14 Linear Datum Features 114
6.15 General Features 116

7 Attribute Catalogue 118
7.1 Generic specifications 118
7.2 Attributes 166

8 Relationship Catalogue 314
8.1 Generic Specifications 314
8.2 Relationship Types 342

9 Feature representation rules 387
9.1 Generic specifications 387
9.2 Roads and Ferries 403
9.3 Administrative Areas 406
9.4 Named Areas 408
9.5 Land Cover And Use 409
9.6 Terrain Elevation 410
9.7 Structures 410
9.8 Railways 413
9.9 Waterways 414
9.10 Road Furniture 415
9.11 Services 415
9.12 Public Transport 415
9.13 Linear Referencing Features 416
9.14 Linear Datum Features 416
9.15 General Features 417

10 Metadata Catalogue 418
10.1 Generic specification 418
10.2 Headers and terminators 420
10.3 Data Dictionary 436
10.4 Table of Contents 448
10.5 Source Material 453
10.6 Geodetic Parameters 459
10.7 Update Information 468
10.8 General Comment 468

11 Logical Data Structures 469
11.1 Introduction 469
11.2 Logical GDF Album 474
11.3 Datasets 476
11.4 Layers 500
11.5 Sections 501
11.6 Time Domain Syntax 519
11.7 Update Information 530
11.8 Common Data Types 532

12 Media Record Specifications 541
12.1 General specifications 541
12.2 Field specifications 555
12.3 Additional Constraints for Topological Features 598
12.4 Additional Constraints for Non-Explicit Topological Features: Order of Coordinate triplets in Feature Records 599
12.5 Mandatory Records 599
12.6 Record Format Specifications: Global Records 599
12.7 Record Format Specifications: Data Records 650
12.8 Record Format Specifications: Update Information Records 684

13 XML schema specifications 687
13.1 Introduction 687
13.2 Data content 691
13.3 GDF XML schema 693
13.4 Schema GDF_Main.xsd 694
13.5 Schema GDF_data_dict.xsd 758
13.6 Schema GDF_userDefined.xsd 945

14 SQL encoding specifications 950
14.1 SQL design 950
14.2 Data content 953
14.3 Topology Type 978
14.4 Data partitioning 980

14.5 General GDF data 1018
14.6 Features 1022
14.7 Relationships 1059
14.8 Attributes 1063
14.9 Object Referencing 1071
14.10 Update registry 1074
14.11 Abbreviation 1080
14.12 Entity/Table indexes 1081
14.13 Entity Relationship diagram conventions 1086
14.14 SQL/MM base tables for Topology and Network 1095

Annex A (normative) Semantic codes 1099

Annex B (informative) Metadata codes 1127

Annex C (informative) Services 1165

Annex D (normative) Syntax for Time Domains 1173

Annex E (normative) Sectioning GDF Datasets 1195

Annex F (informative) Rules for the formation of Level 2 Features from Roads and Ferries 1198

Annex G (informative) Geopolitical Structure examples 1208

Annex H (informative) Specification of possible use of notation and phonetic Attributes for character strings 1226

Bibliography 1229