

Contents

page

1	Scope	1
2	Normative references	1
3	Terms, definitions, and abbreviations	2
3.1	Terms defined in ISO 8859-1	2
3.2	Terms defined in ISO 10646	2
3.3	Terms defined in ISO 10303-1	3
3.4	Terms defined in ISO 10303-11	3
3.5	Other definitions	3
3.6	Abbreviations	4
4	Exchange structure fundamental concepts and assumptions	4
4.1	Introduction	4
4.2	Notational and typographical conventions	4
4.3	Conformance	5
5	Formal definitions	5
5.1	Formal notation	5
5.2	Basic alphabet definition	5
5.3	Exchange structure	6
5.4	Definition of tokens	6
5.5	WSN of the exchange structure	6
5.6	Token separators	7
6	Tokens	8
6.1	Special tokens	8
6.2	Keywords	9
6.3	Simple data type encodings	9
6.3.1	Integer	9
6.3.2	Real	10
6.3.3	String	10
6.3.4	Entity instance names	13
6.3.5	Enumeration values	14
6.3.6	Binary	14
7	Structured data types	15
8	Header section	16
8.1	Header section entities	16
8.2	Header section schema	16
8.2.1	file_description	17
8.2.2	file_name	18
8.2.3	file_schema	19
8.2.4	file_population	20
8.2.5	section_language	21
8.2.6	section_context	22

8.3	User-defined header section entities	23
9	Data sections	24
9.1	Data section entity instances	24
9.2	Data section user-defined entity instances	25
10	Mapping from EXPRESS to the exchange structure	25
10.1	Mapping of EXPRESS data types	25
10.1.1	Mapping of EXPRESS simple data types	26
10.1.2	List	28
10.1.3	Array	29
10.1.4	Set	30
10.1.5	Bag	31
10.1.6	Simple defined types	31
10.1.7	Enumeration	32
10.1.8	Select data types	32
10.2	Mapping of EXPRESS entity data types	36
10.2.1	Mapping of a simple entity instance	36
10.2.2	Mapping of OPTIONAL explicit attributes	37
10.2.3	Mapping of derived attributes	38
10.2.4	Mapping of attributes whose values are entity instances	39
10.2.5	Entities defined as subtypes of other entities	40
10.2.6	Explicit attributes redeclared as DERIVED	47
10.2.7	Attributes redeclared as INVERSE	48
10.2.8	Attributes redeclared as explicit attributes	48
10.2.9	Entity local rules	49
10.2.10	Mapping of INVERSE attributes	49
10.2.11	Encoding of entity type names	49
10.3	Mapping of the EXPRESS element of SCHEMA	50
10.4	Mapping of the EXPRESS element of CONSTANT	50
10.5	Mapping of the EXPRESS element of RULE	50
10.6	Remarks	50
11	Printed representation of exchange structures	50
Annex A (normative)	File representation on storage media	51
A.1	Record-oriented transport content	51
A.1.1	Transport format for magnetic tape media	51
A.1.2	Other storage media with record-oriented storage	52
A.2	Line-oriented transport content	52
A.2.1	Transport format for diskette media	52
A.2.2	Other media	53
A.3	Treatment of multi-volume files	53
Annex B (normative)	WSN notational conventions	54
Annex C (normative)	Information object registration	56
C.1	Document identification	56
C.2	Schema identification	56

Annex D (normative) Basic alphabet and graphic character set	57
Annex E (normative) Protocol Implementation Conformance Statement (PICS) proforma	58
E.1 Conformance to specified function	58
Check as many as are appropriate.	58
E.1.1 Entity instance encoding	58
E.1.2 Short name encoding	58
E.1.3 String encoding	58
E.2 Implementation limits	59
Annex F (normative) Multiple EXPRESS schemas in an exchange structure	60
F.1 Reference validity	60
F.1.1 EXPRESS interface specification method	60
F.1.2 SDAI domain equivalence method	61
F.2 Determining population of a schema	62
F.2.1 Section boundary method	63
F.2.2 Include all compatible method	64
F.2.3 Include referenced instance method	65
Annex G (informative) Guidelines for printing the exchange structure	66
G.1 Explicit print control directives	66
G.2 Implicit print control directives	66
Annex H (informative) Example of a complete exchange structure	68
H.1 Introduction	68
H.2 Example schema	68
H.3 Example short names	69
H.4 Example exchange structure	69
Index	71

Tables	page
Table 1 - WSN defining subsets of the basic alphabet	6
Table 2 - WSN of token definitions	7
Table 3 - WSN of the exchange structure	8
Table 4 - String control directives	11
Table 5 - Quick reference mapping table	26
Table 6 - Print control directives	50
Table B.1 - Wirth Syntax Notation (WSN) defined in itself	55
Table D.1 - Character set used in the exchange structure	57