S-97 Edition 2.0.0 - Annex C

Checklist for Product Specification Developers

Edition 2.0.0

IHO

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Contents

Document History

Changes to this Specification are coordinated by the S-100 Working Group. New editions will be made available via the IHO web site. Maintenance of the Specification shall conform to IHO Resolution 2/2007 (as amended).

Version Number	Date	Approved By	Purpose
0.1	20250815		Initial version, created mostly from Collection B checks in S-158:100 Edition 1.0.0
2.0.0	20260202		Update to align with changes to S-97 2.0.0 draft..

Summary of Substantive Changes in Edition X.X.X

Bold references in the Clauses Affected column indicate the principal sections/clauses that are affected by the described change.

Change Summary	Clauses Affected
New Annex to S-97 for Edition 2.0.0.As a new Annex, there is no previous Edition 1.0.0 of this Annex.	N/A

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1   Overview

1.1   Introduction

This document contains a checklist of requirements for all S-100 based Product Specifications. It is intended as a work aid for development teams and responsible working groups.

1.2   Scope

This document applies to all S-100 based Product Specifications.

1.3   References

S-100   IHO Universal Hydrographic Data Model, Edition 5.2.0, June 2024.

S-100_5_2_1 IHO Universal Hydrographic Data Model, Edition 5.2.1, December 2025.

S-158   Validation Checks – Introduction and Structure, Edition 1.0.0, February 2025

S-158:100   Universal Hydrographic Data Model Validation Checks, Edition 1.0.0, February 2025.

1.4   Terms, definitions and abbreviations

1.4.1   Abbreviations

DCEG   Data Classification and Encoding Guide

FC   Feature Catalogue

GML   Geography Markup Language

PC   Portrayal Catalogue

PS   Product Specification

RL   Readiness Level as described in S-97

XML   eXtensible Markup Language

1.5   Use of language

Within this document:

- "Must" indicates a mandatory requirement.
- "Should" indicates an optional requirement, that is the recommended process to be followed, but is not mandatory.
- "May" means "allowed to" or "could possibly", and is not mandatory.

1.6   General data product description

Inapplicable.

1.7   Specification metadata

Title: S-97 Annex C - Checklist for Product Specification Developers

S-100 Version: 5.2.1

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Contact: International Hydrographic Organization.
4 quai Antoine 1er
B.P. 445 MC 98011 MONACO CEDEX
Telephone: +377 93 10 81 00
Fax: + 377 93 10 81 40
Email: info@iho.int

URL: https://iho.int

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Maintenance: Changes to the this document are coordinated by the S-100 Working group and made available via the IHO Publications web site. Maintenance of the document must conform to IHO Technical Resolution 2/2007 (as amended).

1.7.1   Specification Maintenance

1.7.1.1   Introduction

This document is maintained by the IHO S-100 Working Group on an as-needed basis. Changes will be released by the IHO as a new edition, revision, or clarification.

1.7.1.2   New Edition

New Editions introduce significant changes. *New Editions* will track new editions of S-97.

1.7.1.3   Revisions

Revisions are defined as substantive semantic changes to S-97 Annex C. Typically, revisions will track new revisions or new editions of S-100 which do not entail substantive changes to S-97.

1.7.1.4   Clarification

Clarifications are non-substantive changes to S-97 Annex C. Typically, clarifications: align S-97 Annex C better with the same version of S-100; remove ambiguity; correct grammatical and spelling errors; amend or update cross references; or insert improved graphics. A clarification must not cause any substantive semantic change to S-97 Annex C.

1.7.1.5   Version Numbers

The associated version control numbering to identify changes (n) to S-197 Annex C must be as follows:

New Editions denoted as n.0.0

Revisions denoted as n.n.0

Clarifications denoted as n.n.n

2   Specification Scopes

Scopes are not applicable to this document.

3   Dataset Identification

Inapplicable. This document does not describe any datasets.

4   Checklist

The following tables contain the checklist, organised by origin, either S-97 or the Collection B checks in S-158:100 Edition 1.0.0, indicated by the prefixes '97" and "100" respectively).

To save time in evaluation, users of this checklist may first determine which Parts of S-100 apply to their Product Specification and evaluate only the checklist items for the applicable Parts.

The spatial operators in the checks are defined in S-158.

The Classification of checklist items is described below. In order to pass, a Product Specification must pass all applicable checklist items designated as Critical.

Indicator	Type	Description
C	Critical	Failure to pass this check would render the Product Specification unusable for its intended purpose, or prevent the Product Specification Package proceeding through approval procedures.
E	Error	An error which may degrade the quality or usability of the Product Specification or data products based on it, but which will not pose a significant danger to the intended purpose of the product. Errors may hinder or prevent the Product Specification's progress through approval procedures.
W	Warning	An error which may be duplication or an inconsistency which will not noticeably degrade the usability of the S-100 based Product Specification or its dataset or exchange set in the end-user system and is unlikely to prevent the Product Specification's completion of approval procedures.

4.1   General information

Product Specification Number	S-NNN	
Product Specification Title		
Edition Number	X.Y.Z	
Operational or testing/evaluation edition	Operational / Testing and Evaluation	
Readiness Level (RL)	One of Level 1 through Level 5 (see Readiness Levels in S-97)	
Responsible group		
Covered by IHO Res. 2/2007 (Yes / No)		
Person(s) or group(s) completing this checklist		
Date checklist completed		
Notes or other information	If the evaluator completing this checklist is checking only part of the Product Specification package, that should be stated here.	
List of components verified including version number and build date of each. (Version numbers should match the Product Specification Edition Number in the first two components. Mismatches should be noted in the checklist below.)	Product Specification Main document	X.Y.Z YYYYMMDD / Not available / Not applicable / Not checked
	DCEG	X.Y.Z YYYYMMDD / Not available / Not applicable / Not checked
	Feature catalogue	X.Y.Z YYYYMMDD / Not available / Not applicable / Not checked
	Portrayal catalogue	X.Y.Z YYYYMMDD / Not available / Not applicable / Not checked
	Alert catalogue	X.Y.Z YYYYMMDD / Not available / Not applicable / Not checked
	GML schema	X.Y.Z YYYYMMDD / Not available / Not applicable / Not checked
	Sample dataset	X.Y.Z YYYYMMDD / Not available / Not applicable / Not checked
	Test datasets (S-164:1XX)	X.Y.Z YYYYMMDD / Not available / Not applicable / Not checked
	Validation Checks (S-158:1XX)	X.Y.Z YYYYMMDD / Not available / Not applicable / Not checked

	(Other – add rows as needed)	X.Y.Z YYYYMMDD / Not applicable / Not checked

4.2 Checklist

The "notes and action required" column is pre-populated with solutions, which should be amended as needed and deleted or replaced with "None", N/A. or "—" or similar "no action" indications when the item is passed.

The "notes and action required" column and the "Checked by" column may be used to maintain an evaluation history if multiple rounds of evaluation are needed, by adding successive lines in those cells for each evaluation round.

X in the "Check result" column means the check is not applicable (because the component is not needed for this format, not needed at the intended Technical Readiness Level, or similar reasons). "Y" means the answer to the question in the Description is Yes or the condition described in the Description is satisfied, "N" means the answer is No or the condition is not satisfied. To pass a check item the check result must be Y. Inapplicable items (marked X) are not counted in final scoring.

In the Reference Document column, "Part X" without a document means S-100 Part X.

Note: Checks which have been struck through have been identified for removal as potential duplicates of checks elsewhere in the table or not applying to Product Specifications.

Checklist Item ID	Classification	Description	Reference document	Clause reference	Check result (Y / N / X)	Notes and Action required. (Date(s) of evaluation may optionally be added.) Note: Changes to one component may require corresponding changes to another to keep them in alignment.	Checked by
97_1001	C	Does the specification package contain a Main Document?	S-97	A-5.2		Supply missing component	
97_1002	E	Does the specification package contain a DCEG?	S-97	A-5.2		Supply missing component	
97_1003	C	Does the specification package contain a Feature Catalogue that is compliant with the declared S-100 edition in the Product Specification?	S-97	A-5.2		Supply missing component	

Checklist Item ID	Classification	Description	Reference document	Clause reference	Check result (Y / N / X)	Notes and Action required. (Date(s) of evaluation may optionally be added.) Note: Changes to one component may require corresponding changes to another to keep them in alignment.	Checked by
97_1004	E	Does the PS define Product-specific constraints on the S-100 Exchange Catalogue model? If there are no product-specific constraints on the exchange catalogue, the S-100 model will apply as-is..	S-97	A-5.2		Amend PS to add product-specific constraints	
97_1005	C	Does the specification package contain a Portrayal Catalogue that is compliant with the declared editions of S-100 and the PS? NOTE: Not every Specification will need a Portrayal Catalogue	S-97	A-5.2		Supply missing component / Amend PC to comply with S-100 or PS	
97_1006	C	Does the specification package contain an S-158:1xx publication defining product-specific validation checks?	S-97	A-5.2		Supply missing component	
97_1007	W	Is the S-158:1xx publication compliant with S-158?	S-97	A-5.2		Amend to make compliant	
97_1008	W	Does the PS contain a data quality measures section compliant with S-97 Part C?	S-97	A-5.2		Amend PS to add data quality measures section / Amend data quality measures section to comply with S-97 Part C	
97_1009	E	Does the specification package contain a sample dataset that is compliant with the selected format and constraints in both the PS and S-100?	S-97	A-5.2		Supply sample dataset	
97_1010	W	Does the specification package contain a sample exchange catalogue that is compliant with both S-100 and product-specific constraints on exchange catalogues?	S-97	A-5.2		Supply sample exchange catalogue	
97_1011	W	Does the specification package contain a sample exchange set that is compliant with both S-100 and product-specific requirements?	S-97	A-5.2		Supply sample exchange set / Amend exchange set to comply	

Checklist Item ID	Classification	Description	Reference document	Clause reference	Check result (Y / N / X)	Notes and Action required. (Date(s) of evaluation may optionally be added.) Note: Changes to one component may require corresponding changes to another to keep them in alignment.	Checked by
97_1012	W	Are test datasets provided with the package? Note: No requirement at RL 1	S-97	A-5.2		Supply test datasets	
97_1013	C	Does the PS describe encryption and digital signature requirements compatible with S-100, or adopt S-100 requirements as is? Note: No requirement at RL 1	S-97	A-5.2		Amend PS to use S-100 requirements without change or add product-specific compatible constraints	
97_1014	C	If the PS requires alerts and indications, does the Portrayal Catalogue include an Alert Catalogue? Note: No requirement at RL 1	S-97	A-5.2		Supply Alerts Catalogue	
97_1015	C	Is Operational Data available? Note: Needed only at RL 5	S-97	A-5.2		Provide source for operational data or describe prospect or plans for provision of operational data	
97_1016	C	Do the version numbers of the different components match in the edition and revision number portions?	S-97	A-6.2.2		Amend version numbers so that all components match in the ED.REV part	
97_1017	W	For GML formats, does the PS require a schemaLocation attribute in the dataset?	S-97	A-6.2.6.2.1		Amend PS to require schemaLocation attribute in datasets.	
97_1018	W	For GML formats, does the PS require all datasets to indicate the spatial reference system for coordinates	S-97	A-6.2.6.2.2		Amend PS to require datasets to indicate the SRS in each dataset.	
97_1019	W	Coordinate order should be explicitly indicated in the product specification and should be compatible with the axis order in the CRS definition	S-97	A-6.2.6.2.3		Amend PS to add requirement for coordinate order..	
97_1020	W	For GML formats, does the PS impose restrictions on the use of <pos> or <posList> tags in successive segments of the same curve?	S-97	A-6.2.6.2.3		Amend PS	

Checklist Item ID	Classification	Description	Reference document	Clause reference	Check result (Y / N / X)	Notes and Action required. (Date(s) of evaluation may optionally be added.) Note: Changes to one component may require corresponding changes to another to keep them in alignment.	Checked by
97_1021	W	If there is a size limit on files, is the limit expressed in appropriate ISO/IEC 80000-13:2025 units?	S-97	A-6.2.9		Amend PS to use units according to S-100 convention	
97_1022	W	The Application Schema should use unique role names with each association	S-97	B-6.4.3		Amend Application Schema	
97_1023	W	The DCEG should include encoding instructions for feature and information types.	S-97	B-7		add encoding instructions	
97_1024	C	The feature catalogue must match the Application Schema and use the correct namespace	S-97	B-9		Amend Feature catalogue	
97_1025	W	The feature catalogue must restrict permitted values to only those in the Application Schema and use units of measure and constraints where appropriate.	S-97	B-9		Amend Feature catalogue	
97_1026	W	Product Specification should describe discovery metadata for release scenarios (new edition, update, etc.)	S-97	B-11.1.7		Add descriptions for different dataset release scenarios	
97_1027	C	GML products only: The structure of the schema must conform to requirements in Part 10b and S-97 Part B	S-97	B-12.2		Amend GML schema	
97_1028	C	GML products only: Does the PS make attribute *title* mandatory for associations?	S-97	B-12.2		Amend Product Specification	
97_1029	C	GML products only: Does the PS make attribute *arcrole* should be mandatory for associations from spatial primitives to information types?	S-97	B-12.2		Amend Product Specification	
97_1030	C	GML products only: Does S-158:1XX include validation checks for mandatory *title* and *arcrole* encoding in associations? (May be included by reference to S-158:100 checks.)	S-97	B-12.2		Amend S-158:1xx	

Checklist Item ID	Classification	Description	Reference document	Clause reference	Check result (Y / N / X)	Notes and Action required. (Date(s) of evaluation may optionally be added.) Note: Changes to one component may require corresponding changes to another to keep them in alignment.	Checked by
97_1031	E	GML products only: The order of elements in GML Schema types (feature, information, complex attributes) shall be identical with the ordering in the corresponding Feature Catalogue type. When the Feature Catalogue contains inheritance, a similar structure may be implemented in the GML schema. All inherited properties (attribute and association bindings) shall appear before those belonging to the derived type, and the order of properties within classes shall be preserved.	S-97	B-12.2		Amend GML Schema	
97_1032	C	GML products only: Enumeration attributes must be structured as XML types with the XML attribute code providing the numeric code of the listed value.	S-97	B-12.3		Amend GML schema	
97_1033	C	GML products only: Codelist attributes must be structured similarly (to enumeration attributes) but allow for appropriate "extra" values depending on the type of codelist	S-97	B-12.3		Amend GML schema	
97_1034	W	GML products: The PS should include pointers to OASIS XML Catalog specification as a means of managing references to S-100 schemas in datasets	S-97	A-6.2.6.2.1		Add references OASIS XML Catalog specification or alternative IHO material	
97_1035	W	Does the PS define naming conventions for datasets and support file compatible with S-100?	S-97	B-17.1.1		Specify naming convention	
97_1036	W	Does the PS describe the structure of exchange sets, applying product-specific constraints to the structure specified in Part 17? (Only if the PS uses exchange sets for packaging datasets)	S-97	B-17.1.1		Describe tailoring of Part 17 structure for this data product or describe delivery and packaging by means other than exchange set.	
97_1037	W	Does the PS define a strategy for updates, cancellations, reissues, and new datasets?	S-97	B-17.2.1, B-17.2.2, B-17.2.3		Define strategy	

Checklist Item ID	Classification	Description	Reference document	Clause reference	Check result (Y / N / X)	Notes and Action required. (Date(s) of evaluation may optionally be added.) Note: Changes to one component may require corresponding changes to another to keep them in alignment.	Checked by
97_1038	E	Does the PS prescribe a cancellation method, or otherwise describe when datasets should be removed (e.g., self-cancelling data, time-expired data).	S-97	B-17.2.1, B-17.2.2, B-17.2.3		Define cancellation method or state that datasets are self-cancelling (describe how they self-cancel or expire)	
97_1039	E	For time series datasets only (forecasts, predictions, etc.): Does the PS describe whether and how the product should use *temporalExtent* and *resourceMaintenance* attributes in discovery metadata?	S-97	B-17.2.4, B-17.2.4		Add description or constraints for temporalExtent and resourceMaintenance (may be in the form of a statement of non-use, constraints in Remarks of discovery metadata, etc.)	
97_1040	W	Does the PS describe how support files are delivered and managed?	S-97	B-17.3		Amend PS; align DCEG with PS if DCEG also addresses support files.	
97_1041	W	Does the PS describe how feature and portrayal catalogues are delivered?	S-97	B-17.3		Amend PS	
97_1042	E	Do the validation checks in S-158:1XX describe all the following: 1) Which S-100 level checks from S-158:100 apply to the data product. 2) Product-specific validation checks for datasets. 3) Product-specific validation checks for support files (if applicable) 4) Product-specific validation checks for exchange sets (if applicable).	S-97	B-18.2		Amend S-158:1XX	
97_1043	W	Do the PS and DCEG describe the use of the interoperabilityIdentifer attribute in the product or include a statement of non-use?	S-97	A-6.2.22, B-6.2 (6)		Describe use of interoperabilityIdentifier in the data product or add a statement of non-use	

Checklist Item ID	Classification	Description	Reference document	Clause reference	Check result (Y / N / X)	Notes and Action required. (Date(s) of evaluation may optionally be added.) Note: Changes to one component may require corresponding changes to another to keep them in alignment.	Checked by
97_1044	W	Does the sample dataset contain at least one instance of each feature, meta-feature, and information type in the Application Schema?	S-97	B-20		Amend sample dataset	
97_1045	C	Has an S-number been formally assigned to the data product?	S-97	B-22.1		Request number	
97_1046	W	Has DQWG review of the DCEG and FC been completed and evaluated by the project team or responsible group?	S-97	B-22.5		Submit DCEG, and FC for DQWG review	
97_1047	W	Have new or amended concepts been submitted to the GI registry?	S-97	B-4.1 (3)		Submit concepts	
97_1048	W	Have new or amended data dictionary entries been submitted to the GI registry?	S-97	B-4.1 (3)		Submit entries	
97_1049	W	Have new or amended portrayal elements been submitted to the GI registry?	S-97	B-4.1 (10)		Submit portrayal elements	
97_1050	W	Does the PS (and optionally the DCEG) address the matter of unique identifiers for data objects, including whether identifiers are persistent?	S-97	B-23.1		Amend Product Specification and DCEG if needed	
97_1051	W	Does the PS (and optionally the DCEG) address data overlaps?	S-97	B-23.2		Amend Product Specification and DCEG if needed	
97_1052	W	Does the PS describe the strategy for multiple datums (especially vertical datums) in the same dataset.	S-97	B-23.3		Amend Product Specification	
97_1053	W	Does the PS (and DCEG if applicable) specify the format of product specification name and identifier in datasets?	S-97	B-23.4		Amend Product Specification	
97_1054	W	Data Quality Measure Completeness (Commission/Omission) to be included in the Product Specification. (PS should use templates in C-7.2.1 & C-7.2.2)	S-97	C-5.1, C-7.2.1, C-7.2.2		Amend Product Specification	

Checklist Item ID	Classification	Description	Reference document	Clause reference	Check result (Y / N / X)	Notes and Action required. (Date(s) of evaluation may optionally be added.) Note: Changes to one component may require corresponding changes to another to keep them in alignment.	Checked by
97_1055	W	Data Quality Measure Conceptual Consistency to follow the guidelines from S-100 Part 1 and to be included in the Product Specification. (PS should use template in C-7.3.1)	S-97	C-5.2, C-7.3.1		Amend Product Specification	
97_1056	W	Data Quality Measure Domain Consistency to follow the guidelines from S-100 Part 5 and to be included in the Product Specification. (PS should use template in C-7.3.2)	S-97	C-5.3, C-7.3.2		Amend Product Specification	
97_1057	W	Data Quality Measure Format Consistency to follow the guidelines from S-100 Part 10 and to be included in the Product Specification (PS should use template in C-7.3.3)	S-97	C-5.4, C-7.3.3		Amend Product Specification	
97_1058	W	Data Quality Measure Topological Consistency to follow the guidelines from S-100 Part 7 and to be included in the Product Specification. (PS should use template in C-7.3.4)	S-97	C-5.5 C-7.3.4		Amend Product Specification	
97_1059	W	Data Quality Measure Positional Accuracy to follow the guidelines from S-100 Part 4c and to be included in the Product Specification. The calculation of the Positional Accuracy is to be further harmonized where possible with other S-100 based Product Specifications (PS should use templates in C-7.4.X)	S-97	C-5.6 C-7-4.1.1, C-7.4.1.2, C-7.4.2, C-7.4.3		Amend Product Specification	
97_1060	W	Data Quality Measure Thematic Accuracy to follow the guidelines from S-100 Part 4c and to be included in the Product Specification (PS should use templates in C-7.5.X)	S-97	C-5.7, C-7.5.1, C-7.5.2, C-7.5.3		Amend Product Specification	

Checklist Item ID	Classification	Description	Reference document	Clause reference	Check result (Y / N / X)	Notes and Action required. (Date(s) of evaluation may optionally be added.) Note: Changes to one component may require corresponding changes to another to keep them in alignment.	Checked by
97_1061	W	Data Quality Measure Temporal Quality to follow the guidelines from S-100 Part 4c and to be included in the Product Specification. Temporal Consistency and Temporal Validity should be included (PS should use templates in C-7.6.X)	S-97	C-5.8, C-7.6.1, C-7.6.2, C-7.6.3		Amend Product Specification	
97_1062	W	Data Quality Measure Aggregation results should be included to indicate if the dataset/dataset series have passed the Product Specifications (PS should use template in C-7.7)	S-97	C-5.9, C-7-7		Amend Product Specification	
97_1063	W	Is the *usability* data quality element necessary for the data product and if so, is it included?	S-97	C-5.10		Amend Product Specification	
97_1064	W	Paragraph "Introduction to data quality" from clause C-7.1 must be used as a template by all S-100 based Product Specifications.	S-97	C-5.11, C-7.1		Amend Product Specification	
97_1065	W	Does the PS contain the list of quality measures from S-97 Part C and describe their application to the data product? (Template in clause C-7.8. Measures not applicable to the data product may be listed separate or kept as part of the table and marked inapplicable.)	S-97	C-6, C-7-8		Amend Product Specification	
97_1066	E	Does the Product Specification satisfy the requirements for all compliancy categories which are permitted in PS discovery metadata? (If the PS does not specify a subset, evaluate for all compliancy categories in S-100.)	S-97	A-5.3		Complete requirements for all compliancy categories permitted by PS	
			S-100	4a-5.5, 17-4.5			
Checks from S-158:100 Collection B follow (clause references are to S-100)							
100_5001	C	The basic data type must be one of the supported category types.	Part 1	1-4.5		Replace with supported data type	

Checklist Item ID	Classification	Description	Reference document	Clause reference	Check result (Y / N / X)	Notes and Action required. (Date(s) of evaluation may optionally be added.) Note: Changes to one component may require corresponding changes to another to keep them in alignment.	Checked by
100_5002	C	The Derived Type must be one of the types defined in S-100 or in the Product Specification	Part 1	1-4.6		Replace with supported data type	
100_5003	C	The Enumeration Type must be part of the valid identifiers in the Enumerated Type Declaration	Part 1	1-4.7		Replace with supported type	
100_5004	C	The Codelist Type declaration must be one of the types defined	Part 1	1-4.8		Replace with one of the supported codelist declarations	
~~100_5005~~	~~W~~	~~A Product Specification for the dataset must be registered in the IHO GI Registry~~	~~Part 2~~	~~2-4.2.1~~		~~Add Product Specification to the IHO GI Registry~~	
~~100_5006~~	~~W~~	~~The features in the Feature Catalogue must be registered in the Concept Register and Data Dictionary Register~~	~~Part 2~~	~~2-4.2.1~~		~~Register feature type in IHO GI Registry~~	
~~100_5007~~	~~W~~	~~The Portrayal Catalogue must be registered in the Registry, if required for the product~~	~~Part 2~~	~~2-4.2.1~~		~~Add portrayal catalogue to entry for product specification in IHO GI Registry~~	
~~100_5008~~	~~W~~	~~The Feature Catalogue does not conform to the Registry~~	~~Part 2~~			~~Add feature catalogue to entry for product specification in IHO GI Registry~~	
100_6001	E	Is the Application Schema compliant with the S-100 General Feature Model in Part 3 (for vector products) or Parts 8/10c (for coverage products)?	Part 3; Part 8; Part 10c			Amend Application Schema to comply with the appropriate Part(s)	
~~100_6002~~	~~C~~	~~If the product is intended for ECDIS, are any product-specific customizations of discovery metadata only restrictions, not extensions?~~	~~App 4a-D S-97~~	~~last para B-11.1.1~~		~~Ensure that product-specific customizations are only restrictions, not extensions~~	
~~100_5009~~	~~W~~	~~All class names must be defined by a bi-alpha prefix that identifies the package to which a class belongs from the defined list~~	~~Part 4b~~	~~4b-3.2~~		~~Revise class name~~	

Checklist Item ID	Classification	Description	Reference document	Clause reference	Check result (Y / N / X)	Notes and Action required. (Date(s) of evaluation may optionally be added.) Note: Changes to one component may require corresponding changes to another to keep them in alignment.	Checked by
100_5010	C	A feature type cannot be derived from an information type or vice versa	Part 5	5-4.2.2.2		Amend feature catalogue	
100_5011	E	If constraints are provided in the feature catalogue definition of a simple attribute, the constraints shall be compatible with the datatype of the attribute	Part 5	2a-4.2.7		Amend feature catalogue	
100_5012	E	The Application Schema must define one or more geographic feature types or information types	Part 8	8-4.3		Amend Application Schema	
100_5013	E	If a feature structure is associated with an image it is necessary to link feature IDs to individual pixels in the image (Imagery products only)	Part 8	8-4.3		Amend Product Specification	
100_5014	E	Imagery, gridded or coverage data conforms to the required Image and Gridded data Structure in Part 8, Figures 8-3 & 8-4 as realized in Part 10c	Part 8 Part 10c	8-4.3 10c-X		Amend Product Specification	
100_5015	C	If imagery, gridded or coverage data metadata are encoded as feature types, the Application Schema should define feature or information types defining the attributes and, for types, a spatial representation which must be one of the spatial types defined in Part 8 as realized in Part 10c. Part 10c data coding formats may be used a proxy instead of Part 8 types.	Part 8, Part 10c	8-4.3-1, 10c-9.6		Amend Product Specification	
100_5016	C	For coverage encoding format, Hierarchical Data Format (HDF version 5) is used.	Part 8; Part 10c	8-4.3-2; 10c		Use Part 10c (HDF5) format	
100_5017	E	Geometric objects (Subtypes of the UML class GM_Object) to be used conform to the definition in ISO 19107	Part 8	8-5.1.1		Use only permitted spatial primitives	

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100_5018	E	Subtypes of GM_Object used for description of spatiotemporal domains conform to the definition in ISO 19123 as realised in Part 10c	Part 8; Part 10c	8-5.1.1; 10c		Use only permitted coverage types	
100_5019	C	A coverage is only a grid, TIN or point set	Part 8	8-5.1.1		Use only permitted coverage types	
100_5020	E	A discrete coverage is a discrete or step function, not a continuous coverage	Part 8	8-5.1.2		Ensure Product Specification does not treat a discrete coverage as a continuous function, including for portrayal purposes	
100_5021	C	If the cell size varies in a grid: the grid tessellation must still cover the bounded area and the traversal method must be able to sequence the cells in order. In addition it is necessary to include information that describes the size of each cell must be included with the cell	Part 8	8-5.2.5		(Validate dataset format as specified for Part 10c and/or PS) Amend PS to ensure tessellation covers bounded area, traversal method sequences all cells in definite order, and information about cell size is included.	
~~100_5022~~	~~E~~	~~CV_TINCoverage class conforms to ISO 19123~~	~~Part 8~~	~~8-5.2.8~~		~~Use only permitted coverage types~~	
~~100_5023~~	~~E~~	~~TIN coverages are continuous coverages~~	~~Part 8~~	~~8-5.2.8~~		~~Use only permitted coverage types~~	
~~100_5024~~	~~E~~	~~Grid cell structure conforms to Section 8.2.2 of ISO 19123.~~	~~Part 8~~	~~8-5.2.8~~		~~(Validate dataset format as specified for Part 10c and/or PS)~~	
100_5025	E	The sample space corresponding to each grid point is a cell centred at the grid point	Part 8	8-5.2.8		Constrain specification to use only permitted dataOffsetCode values	
~~100_5026~~	~~W~~	~~More detailed metadata at a lower level overrides general metadata for an entire coverage or collection.~~	~~Part 8~~	~~8-5.3~~		~~Amend Product Specification~~	
~~100_5027~~	~~E~~	~~A Product Specification for a particular data type needs to have a plan that indicates the organisation of that data product~~	~~Part 8~~	~~8-5.3.1~~		~~Amend Product Specification~~	

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100_5028	W	No transmittal metadata is shown except for the information contained in the S100_DatasetDiscoveryMetadata module	Part 8	8-5.3.3		Delete superfluous metadata	
100_5029	E	Only one tiling scheme can be defined for a particular data collection	Part 8	8-6		Amend to remove extra tiling(s)	
100_5030	E	The tiling scheme is discrete coverage	Part 8	8-6		Amend Product Specification	
~~100_5031~~	~~E~~	~~Any tiling scheme used must agree with the scheme described in the associated Product Specification including dimensions, locations and data density of tiles as well as a tile identification mechanism (tileID)~~	~~Part 8~~	~~8-6~~		~~Amend tiling information in dataset~~	
100_5032	C	A CV_GeometryValuePair consists of a domain object and a record of feature attribute values	Part 8	8-7.2		Amend Application Schema if it shows this class differently	
100_5033	C	Only the subclasses CV_PointValuePair and CV_GridPointValuePair are used	Part 8	8-7.2		Amend Application Schema if it shows this class differently	
100_5034	E	Acceptable CV_CommonPointRule values are 'all', 'average', 'high' or 'low'	Part 8	8-7.3		Amend Application Schema and Product Specification to conform to restriction	
100_5035	E	The interpolationType is a value from the codelist CV_InteroplationMethod	Part 8	8-7.4		Amend Application Schema and Product Specification to conform to restriction	
~~100_5036~~	~~C~~	~~For S100_IF_GridCoverage the grid organisation is either the simple quadrilateral grid with equal cell sizes traversed by a linear sequence rule, or the variable cell size quadrilateral grid traversed by a Morton Order sequence rule.~~	~~Part 8~~	~~8-7.5~~		~~Amend coverage types~~	

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100_5037	E	For S100_IF_GridCoverage the only permitted interpolationType values are Bilinear interpolation, Bicubic interpolation, Nearest-neighbour and Biquadratic interpolation.	Part 8	8-7.5		Amend Application Schema and Product Specification to conform to restriction	
~~100_5038~~	~~C~~	~~The S100_IF_Grid model is either Rectified or Georeferenceable~~	~~Part 8~~	~~8-7.6~~			
~~100_5039~~	~~C~~	~~Georeferenceable grids use Direct Positions of the grid points encoded along with the value record for each grid point.~~	~~Part 8~~	~~8-7.6~~			
100_5040	E	For CV_CommonPointRule enumeration the use of 'start' and 'end' is prohibited	Part 8	8-7.7.1		Amend Application Schema and Product Specification to conform to restriction	
100_5041	E	For S100_CV_InterpolationMethod the use of literals linear, quadratic and cubic are prohibited	Part 8	8-7.7.3		Amend Application Schema and Product Specification to conform to restriction	
100_5042	E	For S100_CV_InterpolationMethod the use of lostarea method is prohibited	Part 8	8-7.7.3		Amend Application Schema and Product Specification to conform to restriction	
100_5043	E	For S100_CV_InterpolationMethod, interpolation parameters, if used, must be encoded in the interpolationParameters	Part 8	8-7.7.3		Amend Application Schema and Product Specification	
~~100_5044~~	~~W~~	~~The metadata for S-100 Imagery and Gridded Data conforms to Appendix 8-D~~	~~Part 8~~	~~8-9~~		~~(In S-100 metadata must conform to S-100 Part 17)~~	
~~100_5045~~	~~W~~	~~The quality measures for imagery, gridded and coverage data conform to Appendix 8-C~~	~~Part 8~~	~~8-10~~		~~(In S-100 quality measures must conform to S-97 Part C)~~	
100_5046	E	IF the GML schema uses GML features not included in the S-100 GML profile.	Part 10b	10b-4		Amend GML schema	

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100_5047	C	IF the root element of the GML schema is not a GML AbstractFeature or Dictionary element, and is not in a substitution group of any of these elements	Part 10b	10b-5		Amend GML schema	
100_5048	E	The S-100 GML Profile must be declared within the Application Schema.	Part 10b	10b-7.1		Amend GML schema	
100_5049	C	AbstractGML shall be used to derive S-100 Information Classes	Part 10b	10b-8.1		Amend GML schema	
100_5050	C	AbstractFeature shall be used to derive S-100 Feature Classes.	Part 10b	10b-8.1		Amend GML schema	
100_5051	E	The GML schema must use the equivalent types defined in Table 10b-1 or restrictions of those types.	Part 10b	10b-8.2.1, 10b-8.2.3		Amend GML schema	
100_5052	E	S100_UnitOfMeasure type shall be realised by the uom property, the value of which should reference to a value defined in a codelist Register which provides the name, definition and symbol.	Part 10b	10b-8.2.2		Amend GML schema	
100_5053	E	The naming convention for Schema types of simple attributes and complex attributes shall have a defined type name "<Name>Type" where <Name> is the "code" field defined in the associated Feature Catalogue. The "code" field is expected to be compliant with the xs:NCName criteria.	Part 10b	10b-8.2.3		Amend GML schema	
~~100_5054~~	~~E~~	~~For S-100 enumeration or S-100 codelist attributes, datasets must use the code and label of the listed value as encoded in the Feature Catalogue.~~	~~Part 10b~~	~~10b-8.2.3~~		~~Amend GML schema~~ ~~(Potential duplicate?)~~	
100_5055	E	Enumerations and codelist attributes shall be constructed as specified in 10b-8.2.4 using a combination of restricted simple types for the code and label of listed values provided in the Feature Catalogue.	Part 10b	10b-8.2.4		Amend GML schema	

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~~100_5056~~	~~E~~	~~The code simple type shall be a restriction of xs:integer with the list of permitted enumeration codes from the Feature Catalogue.~~	~~Part 10b~~	~~10b-8.2.4~~		~~Amend GML schema~~	
~~100_5057~~	~~E~~	~~The type name for the code simple type shall be constructed as Code using the attribute code.~~	~~Part 10b~~	~~10b-8.2.4~~		~~Amend GML schema~~	
~~100_5058~~	~~E~~	~~The type name for the label simple type shall be constructed as <Name>Label using the attribute code.~~	~~Part 10b~~	~~10b-8.2.4~~		~~Amend GML schema~~	
100_5059	E	The dataset metadata field associationEncoding shall be defined as either "reference" or "inline" to define which method is used throughout conforming datasets.	Part 10b	10b-8.4		Amend GML schema	
100_5060	E	In addition to the dataset metadata constraint such associations shall only be used to express composition relationships defined by the corresponding Feature Catalogue.	Part 10b	10b-8.4		Amend GML schema	
100_5061	E	For associations which have attributes defined in a Feature Catalogue, the structure and naming scheme described in S-100 Part 10b shall be used to realise those attributes.	Part 10b	10b-8.4.1		Amend GML schema	
100_5062	E	For associations containing attributes, if the association is between a FeatureType and an InformationType, such association class is defined in the FC as an Information Association and included, as an informationBinding, only in the referencing FeatureType, not in the InformationType	Part 10b			Amend GML schema	
100_5063	C	Local name in element tag must match camel case code of corresponding feature, information type, attribute, or role.	Part 10b	10b-9		Amend GML schema	
100_5064	C	The tags "geometry" and "Dataset" are reserved and must not be used as local names of elements deriving from domain modelling.	Part 10b	10b-9		Amend GML schema	

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100_5065	C	GML data formats for S-100 datasets must follow the GML rules as described in the GML specification (ISO 19136/OGC 07-036), as modified by the S-100 GML profile and Part 10b.	Part 10b	10b-9		Amend GML schema	
100_5066	W	For the simplest geometry requirements where no spatial attribution or associations are required, native GML types, imported by the S-100 GML Profile Schemas, and representing S-100 point, curve and surface geometry can [MUST] be used. These implement equivalents to point, curve and surface geometry defined as geometric primitives in Feature Catalogues.	Part 10b	10b-10.1.1		Amend GML schema	
100_5067	E	More complex Schemas requiring referencing and spatial attributes (and more complex curve interpolations) must make use of the more complex constructions defined specifically for the S-100 GML Profile	Part 10b	10b-10.1.1		Amend GML schema	
100_5068	C	GML Application Schemas shall name the S100 spatial attribute type as geometry elements using the reserved element name "geometry".	Part 10b	10b-10.1.5		Amend GML schema	
100_5069	C	The GML schema codes dates and times as thematic attributes and not unsupported temporal primitives defined in ISO 19108 or the OGC GML specification.	Part 10b	10b-10.2		Amend GML schema to remove unsupported elements	
100_5070	c	The GML schema does not use GML dynamic features (unsupported by S-100)	Part 10b	10b-10.2		Amend GML schema to remove unsupported elements	
100_5071	C	The GML schema does not use GML Topology (unsupported by S-100)	Part 10b	10b-10.2		Amend GML schema to remove unsupported elements	
100_5072	C	The GML schema does not use GML Linear referencing (unsupported by S-100)	Part 10b	10b-10.2		Amend GML schema to remove unsupported elements	

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100_5073	C	The GML schema does not use GML Coverages (unsupported by S-100)	Part 10b	10b-10.2		Amend GML schema to remove unsupported elements	
100_5074	C	The GML schema does not use coordinate reference systems definitions (unsupported by S-100)	Part 10b	10b-10.2		Amend GML schema to remove unsupported elements	
100_5075	C	The GML schema does not use GML observations features (unsupported by S-100)	Part 10b	10b-10.2		Amend GML schema to remove unsupported elements	
100_5076	W	Compliance level must be indicated by an XML schema annotation as described in 10b-10.3	Part 10b	10b-10.3		Amend GML schema	
100_5077	C	Elements and types in the FC are defined using only the restricted subset of GML defined in the S-100 GML Profile.	Part 10b	10b-11.1		Amend GML schema	
100_5078	E	The Application Schema header must define namespaces and prefixes for all imported elements of the S-100 GML Profile.	Part 10b	10b-11.1		Amend GML schema	
100_5079	E	The Schema default namespace and the target namespace are the same and should be formed using a consistent pattern defined in S-100 Part 10b; perhaps based on the Product Specification and the Product Specification version	Part 10b	10b-11.1		Amend GML schema	
~~100_5080~~	~~W~~	~~Using elementFormDefault = 'qualified' means every element in the dataset must belong to a namespace but it does not mean that a namespace prefix is needed; a default namespace can be used to set the namespace for any elements without a specific prefix.~~	~~Part 10b~~	~~10b-11.1~~		~~Amend GML schema~~	
100_5082	C	All associations shall be implemented as named associations with names and types corresponding to those used in the source Feature Catalogue.	Part 10b	10b-11.2		Amend GML schema	

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100_5083	W	The GML identifier gml:id shall be used as a default feature identifier.	Part 10b	10b-11.2		Amend GML schema	
100_5084	E	The structure defined in 10b-11.4 must be used to encode all associations defined in the FC	Part 10b	10b-11.4		Amend GML schema	
~~100_5085~~	~~C~~	~~The roles defined in the Application Schema shall be used as the property element of the feature or information type. The role at the far end of the association should be used for the XML tag defining the property~~	~~Part 10b~~			~~Amend GML schema~~	
100_5086	E	The S-100 GML Profile does not explicitly contain any elements relating to dataset level metadata or integrity checks. Product Specifications and GML schemas shall not use these elements.	Part 10b	10b-13		Amend Product Specification and GML schema to remove unsupported elements	
100_5087	E	HDF5 constructs requiring the use of an HDF5 library later than version 1.8.8 must not be used.	Part 10c	10c-3, 10c-5.3		Amend Product Specification to remove mandates for later versions of HDF5	
100_5088	E	HDF5 data classes not listed in table 10c-1 shall not be used.	Part 10c	10c-7		Amend Product Specification to remove data classes not listed in S-100 Table 10c-1 or permitted subtypes of those classes	