

**Annex B**

**Human Readable Feature Catalogue**

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**S-128**

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4b quai Antoine 1er Principauté de Monaco Tel: (377) 93.10.81.00

Fax: (377) 93.10.81.40

[info@iho.int](mailto:info@iho.int) [www.iho.int](http://www.iho.int/)

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# Meta Feature Types

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# Geo Feature Types

## Catalogue Element

**Definition: catalogue of element.**

**CamelCase:** CatalogueElement

Alias:

**Super type:**

**Feature use type:** geographic

**Primitive:** surface

**Remarks:** No remarks.

Attribute Bindings:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S-10x Attribute** | **S-57**  **Acronym** | **Allowable Encoding Value** | **Type** | **Multiplicity** |
| Agency Responsible For Production |  |  | TE | 0,1 |
| Catalogue Element Classification |  | 1 : ENC  2 : Bathymetric Chart  3 : Water Level Product  4 : Surface Current Product  5 : MSI Service  6 : AtoN Information  7 : Catalogue Service  8 : Routing Service  9 : Ice Information  10 : Routing Information  11 : Special Purpose Chart  12 : Nautical Publication  13 : Printed nautical chart | TE | 1, \* |
| Classification |  |  | TE | 0, 1 |
| IMO Maritime Service |  | 1 : Vessel traffic service  2 : Aids to navigation service  3 : Reserved for future use  4 : Port support service  5 : Maritime safety information service  6 : Pilotage service  7 : Tug service  8 : Vessel shore reporting  9 : Telemedical assistance service  10 : Maritime assistance service  11 : Nautical chart service  12 : Nautical publications service  13 : Ice navigation service  14 : Meteorological information service  15 : Real-time hydrographic and environmental information services  16 : Search and rescue service | TE | 0, \* |
| Catalogue Element Identifier |  |  | UN | 0, 1 |
| Not For Navigation |  |  | BO | 1, 1 |
| Feature Name |  |  | C | 0, \* |
| Language |  |  | (S) TE | 1, 1 |
| Name |  |  | (S) TE | 1, 1 |
| Name Usage |  | 1 : default name display  2 : alternate name display  3 : no chart display | (S) EN | 0, 1 |
| Information |  |  | C | 0, \* |
| File Locator |  |  | TE | 0, 1 |
| File Reference |  |  | TE | 0, 1 |
| Headline |  |  | TE | 0, 1 |
| Language |  |  | TE | 0, 1 |
| Text |  |  | TE | 0, \* |
| Online Resource |  |  | C | 0, 1 |
| Application Profile |  |  | TE | 0, 1 |
| Linkage |  |  | TE | 1, 1 |
| Name Of Resource |  |  | TE | 0, 1 |
| Online Description |  |  | TE | 0, 1 |
| Protocol |  |  | TE | 0, 1 |
| Protocol Request |  |  | TE | 0, 1 |
| Source Indication |  |  | C | 0, 1 |
| Category Of Authority |  | 2 : border control  3 : police  4 : port  5 : immigration  6 : health  7 : coast guard  8 : agricultural  9 : military  10 : private company  11 : maritime police  12 : environmental  13 : fishery  14 : finance  15 : maritime  16 : customs  17 : hydrographic office  18 : RENC  19 : VARs | EN | 0, 1 |
| Country Name |  |  | TE | 0, 1 |
| Reported Date | (SORDAT) |  | TD | 0, 1 |
| Source |  |  | TE | 0 ,1 |
| Source Type |  | 1 : law or regulation  2 : official publication  7 : mariner report, confirmed  8 : mariner report, not confirmed  9 : industry publications and reports  10 : remotely sensed images  11 : photographs  12 : products issued by HO service  13 : news media  14 : traffic data  15 : maritime | EN | 0, 1 |
| Feature Name |  |  | C | 0, \* |
| Language |  |  | (S) TE | 1, 1 |
| Name |  |  | (S) TE | 1, 1 |
| Name Usage |  | 1 : default name display  2 : alternate name display  3 : no chart display | (S) EN | 0, 1 |
| Support File |  |  | C | 0, \* |
| Comment |  |  | TE | 0, 1 |
| Digital Signature Reference |  | 8 : ECDSA-384-SHA2 | EN | 1, 1 |
| Digital Signature Value |  |  | TE | 0, 1 |
| Edition Number |  |  | TE | 0, 1 |
| File Locator |  |  | TE | 1, 1 |
| File Name |  |  | TE | 1, 1 |
| Issue Date |  |  | DA | 0, 1 |
| Other Data Type Description |  |  | TE | 0, 1 |
| Support File Format |  | 1 : ASCII  2 : JPEG2000  3 : HTML  4 : XML  5 : XSLT  6 : VIDEO  7 : TIFF  8 : PDF/A or U/A  9 : LUA  100 : other | EN | 1, 1 |
| Support File Purpose |  | 1 : new  2 : replacement  3 : deletion | EN | 1, 1 |
| Default Locale |  |  | C | 1, 1 |
| Character Encoding |  |  | TE | 1, 1 |
| Country Name |  |  | TE | 1, 1 |
| Language |  |  | TE | 0, 1 |
| Support File Specification |  |  | C | 1, 1 |
| Date |  |  | DA | 1, 1 |
| Name |  |  | TE | 1, 1 |
| Version |  |  | TE | 1, 1 |
| Time Interval Of Product |  |  | C | 0, 1 |
| Issue Date |  |  | DA | 1, 1 |
| Expiration Date |  |  | DA | 0, 1 |
| Issuance Cycle |  |  | C | 0, 1 |
| Periodic Date Range |  |  | C | 0, 1 |
| Date End | (SORDAT) |  | TD | 1, 1 |
| Date Start | (SORDAT) |  | TD | 1, 1 |
| Time Interval Of Cycle |  |  | C | 0, 1 |
| Type Of Time Interval Unit |  | 1 : hour  2 : day  3 : month  4 : year | EN | 1, \* |
| Value Of Time |  |  | IN | 1, 1 |

**Feature Bindings:**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Type** | **Association Name** | **Association Ends** | | | | | |
| **Class** | **Role** | **Mult** | **Class** | **Role** | **Mult** |
| Assoc iation | Product Mapping | **CatalogueEle ments** | theSource | 1 | **CatalogueEle ments** | theReference | 0, \* |



## Navigational Product

**Definition:** navigation product

**CamelCase:** NavigationalProduct

Alias:

**Super type:** CatalogueElement **Feature use type:** geographic **Primitive:** surface

**Remarks:** No remarks.

Attribute Bindings:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S-10x Attribute** | **S-57**  **Acronym** | **Allowable Encoding Value** | **Type** | **Multiplicity** |
| Approximate Grid Resolution |  |  | RE | 0, \* |
| Compilation Scale |  |  | IN | 1, \* |
| Distribution Status |  | 1. : production 2. : withdrawn | EN | 0, 1 |
| Edition Number |  |  | IN | 0,1 |
| Maximum Display Scale |  |  | IN | 0, 1 |
| Minimum Display Scale |  |  | IN | 0, 1 |
| Navigation Purpose |  | 1: port  2: transit  3 : overview | EN | 0, 3 |
| Optimum Display Scale |  |  | IN | 0, 1 |
| Original Product Number |  |  | TE | 0, 1 |
| Producer Nation |  |  | UN | 0, 1 |
| Product Number |  |  | TE | 0, 1 |
| Specific Usage |  | 1. : Navigational Purpose Overview 2. : Navigational Purpose General 3. : Navigational Purpose Coastal 4. : Navigational Purpose Approach 5. : Navigational Purpose Harbour 6. : Navigational Purpose Berthing | EN | 0, 1 |
| Update Date |  |  | DA | 0, 1 |
| Update Number |  |  | IN | 0, 1 |
| Horizontal Datum Epsg |  | 3395 : EPSG3395 (World Mercator)  3857 : EPSG3857 (Pseudo-Mercator)  4326 : EPSG4326 (WGS84) | EN | 0, 1 |
| Vertical Datum |  | 1. Mean Low Water Springs 2. Mean Lower Low Water Springs 3. Mean Sea Level 4. Lowest Low Water 5. Mean Low Water 6. Lowest Low Water Springs 7. Approximate Mean Low Water Springs 8. Indian Spring Low Water 9. Low Water Springs 10. Approximate Lowest Astronomical Tide 11. Nearly Lowest Low Water 12. Mean Lower Low Water 13. Low Water 14. Approximate Mean Low Water 15. Approximate Mean Lower Low Water 16. Mean High Water 17. Mean High Water Springs 18. High Water 19. Approximate Mean Sea Level 20. High Water Springs 21. Mean Higher High Water 22. Equinoctial Spring Low Water 23. Lowest Astronomical Tide 24. Local Datum 25. International Great Lakes Datum 1985 26. Mean Water Level 27. Lower Low Water Large Tide 28. Higher High Water Large Tide 29. Nearly Highest High Water 30. Highest Astronomical Tide 31. Local Low Water Reference Level 32. Local High Water Reference Level 33. Local Mean Water Reference Level 34. Equivalent Height of Water (German GlW) 35. Highest Shipping Height of Water (German HSW) 36. Reference Low Water Level According to Danube Commission 37. Highest Shipping Height of Water According to Danube Commission 38. Dutch River Low Water Reference Level (OLR) 39. Russian Project Water Level 40. Russian Normal Backwater Level 41. Ohio River Datum 42. Dutch High Water Reference Level 43. Baltic Sea Chart Datum 2000 44. Dutch Estuary Low Water Reference Level (OLW) 45. International Great Lakes Datum 2020 46. Sea Floor 47. Sea Surface 48. Hydrographic Zero | EN | 0, 1 |

**Feature Bindings:**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Type** | **Association Name** | **Association Ends** | | | | | |
| **Class** | **Role** | **Mult** | **Class** | **Role** | **Mult** |
| Assoc iation | Correlated | **NavigationalProduct** | theMain | 0, \* | **NavigationalProduct** | thePanel | 0, \* |

## Electronic Product

**Definition:** Electronic navigation products.

**CamelCase:** ElectronicProduct

Alias:

**Super type:** NavigationalProduct

**Feature use type:** geographic **Primitive:** surface

**Remarks:** No remarks.

Attribute Bindings:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S-10x Attribute** | **S-57**  **Acronym** | **Allowable Encoding Value** | **Type** | **Multiplicity** |
| Compression Flag |  |  | BO | 0, 1 |
| Dataset Name |  |  | TE | 0, 1 |
| Issue Date |  |  | DA | 1, 1 |
| Issue Time |  |  | TIDT | 0, 1 |
| Type Of Product Format | () | 1 : GML  2 : ISO/IEC 8211  3 : PDF  4 : HTML  5 : ePub  6 : paper  7 : HDF-5  8 : BSB  9 : GeoTiff  10 : Application  11 : XML  12 : PNG | EN | 1, 1 |
| Product Specification |  |  | C | 0, 1 |
| Date |  |  | DA | 1, 1 |
| ISSN |  |  | TE | 0, 1 |
| Name |  |  | TE | 1, 1 |
| Version |  |  | TE | 1, 1 |
|  |  |  |  |  |

## Physical Product

Definition: Paper navigation proucts.

**CamelCase:** Physical Product

Alias:

**Super type:** NavigationalProduct

**Feature use type:** geographic **Primitive:** surface

**Remarks:** No remarks.

Attribute Bindings:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S-10x Attribute** | **S-57**  **Acronym** | **Allowable Encoding Value** | **Type** | **Multiplicity** |
| Edition Date |  |  | DA | 1, 1 |
| ISBN |  |  | TE | 0, 1 |
| Publication Number |  |  | TE | 0, 1 |
| Reference To NM |  |  | DA | 0, 1 |
| Type Of Paper |  |  | TE | 0, 1 |
| Print Information |  |  | C | 0, 1 |
| Print Agency |  |  | TE | 0, 1 |
| Print Nation |  |  | TE | 0, 1 |
| Re Print Edition |  |  | TE | 0, 1 |
| Print Size |  |  | C | 1, 1 |
| ISO216 |  | 1 : A0  2 : A1  3 : A2  4 : A3  5 : A4  6 : A5  7 : A6  8 : A7 | EN | 0, 1 |
| Custom Paper Size |  |  | C | 0, 1 |
| X |  |  | IN | 1, 1 |
| Y |  |  | IN | 1, 1 |

## S100 Service

Definition: S-100 based non-navigation products.

**CamelCase:** S100Service

Alias:

**Super type:** CatalogueElement **Feature use type:** geographic **Primitive:** surface

**Remarks:** No remarks.

Attribute Bindings:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S-10x Attribute** | **S-57**  **Acronym** | **Allowable Encoding Value** | **Type** | **Multiplicity** |
| Comprssion Flag |  |  | BO | 0, 1 |
| Service Name |  |  | TE | 0, 1 |
| Service Status |  | 1. : provisional 2. : released 3. : deprecated 4. : deleted | EN | 0, 1 |
| Type Of Product Format |  | 1 : GML  2 : ISO/IEC 8211  3 : PDF  4 : HTML  5 : ePub  6 : paper  7 : HDF-5  8 : BSB  9 : GeoTiff  10 : Application  11 : XML  12 : PNG | EN | 1, 1 |
| Product Specification |  |  | C | 0, 1 |
| Date |  |  | DA | 1, 1 |
| ISSN |  |  | TE | 0, 1 |
| Name |  |  | TE | 1, 1 |
| Version |  |  | TE | 1, 1 |
| Service Specification |  |  | C | 0, 1 |
| Date |  |  | DA | 1, 1 |
| Name |  |  | TE | 1, 1 |
| Version |  |  | TE | 1, 1 |







# Carto Feature Types

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# Information Types

## Catalogue Section Header

Definition: Catalogue section header.

**CamelCase:** CatalogueSectionHeader

Alias:

**Super type:**

**Remarks:** No remarks.

Attribute Bindings:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S-10x Attribute** | **S-57**  **Acronym** | **Allowable Encoding Value** | **Type** | **Multiplicity** |
| Catalogue Section Number |  |  | IN | 1, 1 |
| Catalogue Section Title |  |  | TE | 0, 1 |
| Information |  |  | C | 0, 1 |
| File Locator |  |  | TE | 0, 1 |
| File Reference |  |  | TE | 0, 1 |
| Headline |  |  | TE | 0, 1 |
| Language |  |  | TE | 0, 1 |
| Text |  |  | TE | 0, \* |

**Information Bindings:**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Type** | **Association Name** | **Association Ends** | | | | | |
| **Class** | **Role** | **Mult** | **Class** | **Role** | **Mult** |
| Assoc iation | Product Package | **CatalogueEle ments** | theCatalogue Elements | 1 | **CatalogueSectionHeader** | elementContainer | 1, \* |

## 4.2 Contact Details

Definition: Instruction on how to reach a person or organization by postal, internet, telephone, telex and radio systems.

**CamelCase:** ContactDetails

Alias:

**Super type:**

**Remarks:** No remarks.

Attribute Bindings:

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **S-10x Attribute** | | **S-57**  **Acronym** | | **Allowable Encoding Value** | | **Type** | | **Multiplicity** | |
| Contact Instructions | |  | |  | | TE | | 1, 1 | |
| Contact Address | |  | |  | | C | | 1, \* | |
| Administrative Division | |  | |  | | TE | | 0, 1 | |
| City Name | |  | |  | | TE | | 0, 1 | |
| Country Name | |  | |  | | TE | | 0, 1 | |
| Delivery Point | |  | |  | | TE | | 0, \* | |
| Postal Code | |  | |  | | TE | | 0, 1 | |
| Information | |  | |  | | C | | 0, 1 | |
| File Locator | |  | |  | | TE | | 0, 1 | |
| File Reference | |  | |  | | TE | | 0, 1 | |
| Headline | |  | |  | | TE | | 0, 1 | |
| Language | |  | |  | | TE | | 0, 1 | |
| Text | |  | |  | | TE | | 0, \* | |
| Online Resource | |  | |  | | C | | 0, 1 | |
| Application Profile | |  | |  | | TE | | 0, 1 | |
| Linkage | |  | |  | | TE | | 1, 1 | |
| Name Of Resource | |  | |  | | TE | | 0, 1 | |
| Online Description | |  | |  | | TE | | 0, 1 | |
| Protocol | |  | |  | | TE | | 0, 1 | |
| Protocol Request | |  | |  | | TE | | 0, 1 | |
| Source Indication | |  | |  | | C | | 0, \* | |
| Category Of Authority | |  | | 2 : border control  3 : police  4 : port  5 : immigration  6 : health  7 : coast guard  8 : agricultural  9 : military  10 : private company  11 : maritime police  12 : environmental  13 : fishery  14 : finance  15 : maritime  16 : customs  17 : hydrographic office  18 : RENC  19 : VARs | | IN | | 0, 1 | |
| Country Name | |  | |  | | TE | | 0, 1 | |
| Reported Date | | (SORDAT) | |  | | TD | | 0, 1 | |
| Source | |  | |  | | TE | | 0 ,1 | |
| Source Type | |  | | 1 : law or regulation  2 : official publication  7 : mariner report, confirmed  8 : mariner report, not confirmed  9 : industry publications and reports  10 : remotely sensed images  11 : photographs  12 : products issued by HO service  13 : news media  14 : traffic data  15 : maritime | | IN | | 0, 1 | |
| Telecommunications | |  | |  | | C | | 0, \* | |
| Contact Instruction | |  | |  | | TE | | 1, 1 | |
| Telecommunication Identifier | |  | |  | | TE | | 1, 1 | |
| Telecommunication Service | |  | | 1 : voice  2 : facsimile  3 : sms  4 : data  5 : streamedData  6 : telex  7 : telegraph  8 : email | | EN | | 0, \* | |

**Information Bindings:**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Type** | **Association Name** | **Association Ends** | | | | | |
| **Class** | **Role** | **Mult** | **Class** | **Role** | **Mult** |
| Assoc iation | ProducerContact | **theProducer** | theProducer | 0,1 | **ContactDetails** | theContactDetails | 0,\* |
| Assoc iation | Distributor Contact | **DistributorInformation** | theDistributor | 0, 1 | **ContactDetails** | theContactDetails | 0, \* |

## 4.3 Indication Of Carriage Requirement

Definition: Requirments for transportation.

**CamelCase:** IndicationOfCarriageRequirment

Alias:

**Super type:**

**Remarks:** No remarks.

Attribute Bindings:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S-10x Attribute** | **S-57**  **Acronym** | **Allowable Encoding Value** | **Type** | **Multiplicity** |
| Feature Name |  |  | C | 0, \* |
| Language |  |  | (S) TE | 1, 1 |
| Name |  |  | (S) TE | 1, 1 |
| Name Usage |  | 1 : default name display  2 : alternate name display  3 : no chart display | (S) EN | 0, 1 |
| Domestic Carriage Requirements |  |  | TE | 0, 1 |
| International Carriage Requirements |  |  | TE | 0, 1 |

Information Bindings:

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Type** | **Association Name** | **Association Ends** | | | | | |
| **Class** | **Role** | **Mult** | **Class** | **Role** | **Mult** |
| Assoc iation | Product Package | **CatalogueEle ments** | theCatalogue Elements | 1 | **CatalogueSectionHeader** | elementContainer | 1, \* |

## 4.4 Price Information

**Definition:** Pricing information of nautical product.

**CamelCase:** PriceInformation

Alias:

**Super type:**

**Remarks:** No remarks.

Attribute Bindings:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S-10x Attribute** | **S-57**  **Acronym** | **Allowable Encoding Value** | **Type** | **Multiplicity** |
| Information |  |  | C | 0, 1 |
| File Locator |  |  | TE | 0, 1 |
| File Reference |  |  | TE | 0, 1 |
| Headline |  |  | TE | 0, 1 |
| Language |  |  | TE | 0, 1 |
| Text |  |  | TE | 0, \* |
| Online Resource |  |  | C | 0, 1 |
| Application Profile |  |  | TE | 0, 1 |
| Linkage |  |  | TE | 1, 1 |
| Name Of Resource |  |  | TE | 0, 1 |
| Online Description |  |  | TE | 0, 1 |
| Protocol |  |  | TE | 0, 1 |
| Protocol Request |  |  | TE | 0, 1 |
| Pricing |  |  | C | 0, \* |
| Contact Period |  |  | TE |  |
| Currency |  |  | TE |  |
| Price |  |  | TE |  |
| Source Indication |  |  | C | 0, \* |
| Category Of Authority |  | 2 : border control  3 : police  4 : port  5 : immigration  6 : health  7 : coast guard  8 : agricultural  9 : military  10 : private company  11 : maritime police  12 : environmental  13 : fishery  14 : finance  15 : maritime  16 : customs  17 : hydrographic office  18 : RENC  19 : VARs | EN | 0, 1 |
| Country Name |  |  | TE | 0, 1 |
| Reported Date | (SORDAT) |  | TD | 0, 1 |
| Source |  |  | TE | 0 ,1 |
| Source Type |  | 1 : law or regulation  2 : official publication  7 : mariner report, confirmed  8 : mariner report, not confirmed  9 : industry publications and reports  10 : remotely sensed images  11 : photographs  12 : products issued by HO service  13 : news media  14 : traffic data  15 : maritime | EN | 0, 1 |
| Feature Name |  |  | C | 0, \* |
| Language |  |  | (S) TE | 1, 1 |
| Name |  |  | (S) TE | 1, 1 |
| Name Usage |  | 1 : default name display  2 : alternate name display  3 : no chart display | (S) EN | 0, 1 |

Information Bindings:

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Type** | **Association Name** | **Association Ends** | | | | | |
| **Class** | **Role** | **Mult** | **Class** | **Role** | **Mult** |
| Assoc iation | PriceOfElement | **CatalogueEle ment** | theCatalogueElement | 0, 1 | **PriceInformation** | thePriceInformation | 0, \* |
| Assoc iation | PriceOfNauticalProduct | **CatalogueSectionHeader** | theCatalogueOfNauticalProduct | 0, \* | **PriceInformation** | thePriceInformation | 0,\* |

## 4.5 Producer Information

**Definition:** Information about the country of production.

**CamelCase:** ProducerInformation

Alias:

**Super type:**

**Remarks:** No remarks.

Attribute Bindings:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S-10x Attribute** | **S-57**  **Acronym** | **Allowable Encoding Value** | **Type** | **Multiplicity** |
| Agency Name |  |  | TE | 0, 1 |
| Agency Responsible For Production |  |  | TE | 1, 1 |

Information Bindings:

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Type** | **Association Name** | **Association Ends** | | | | | |
| **Class** | **Role** | **Mult** | **Class** | **Role** | **Mult** |
| Assoc iation | ProductionDetails | **CatalogueSectionHeader** | catalogueHeader | 0, \* | **Producer Information** | theProducer | 0,1 |



## 4.6 Distributor Information

Definition: Distributor information.

**CamelCase:** DistributorInformation

Alias:

**Super type:**

**Remarks:** No remarks.

Attribute Bindings:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S-10x Attribute** | **S-57**  **Acronym** | **Allowable Encoding Value** | **Type** | **Multiplicity** |
| Distributor Name |  |  | TE | 1, 1 |

**Information Bindings:**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Type** | **Association Name** | **Association Ends** | | | | | |
| **Class** | **Role** | **Mult** | **Class** | **Role** | **Mult** |
| Association | DistributionDetails | **DistributorInformation** | theDistributor | 0, \* | **catalgoueSectionHeader** | catalogueHeader | 0, \* |

# Simple Attributes

## Administrative Division

Definition: A generic term for an administrative region within a country at a level below that of the sovereign state.

**CamelCase:** administrativeDivision

Alias:

**Value type:** text

**Remarks:** No remarks.

## Agency Name

Definition: The name of an agency, entity or organization.

**CamelCase:** agencyName

Alias:

**Value type:** text

**Remarks:** No remarks.

## Agency Responsible for Production

Definition: Identifies the agency which produced the data.

**CamelCase:** agencyResponsibleForProduction

Alias:

**Value type:** text

**Remarks:** No remarks.

## Application Profile

Definition: Approximate grid resolution for nautical products.

**CamelCase:** applicationProfile

Alias:

**Value type:** text

**Remarks:** No remarks.

## Approximate Grid Resolution

Definition: Approximate grid resolution for nautical products

**CamelCase:** approximateGridResolution

Alias:

**Value type:** real

**Remarks:** A single value may be provided when all axes have a common resolution. For multiple value provision, use axis order as specified in dataset. May be approximate for ungeorectified data. For example, for 5 metre resolution, the value 5 must be encoded. If the grid cell size varies over the extent of the grid, an approximated value based on model parameters or production metadata should be used. For S-111, approximateGridResolution is mandatory for grid formats, thus with multiplicity [1..\*]. It is also mandatory for S-104. .

## Catalogue Element Classification

Definition: Catalogue element classification

**CamelCase:** catalogueElementClassification

Alias:

**Value type:** enumeration

**Remarks:** No remarks.

Listed Values:

|  |  |  |
| --- | --- | --- |
| **Code** | **Label** | **Definition** |
| 1 | ENC | Electronic Navigational Chart |
| 2 | Bathymetric Chart | Bathymetric Surface |
| 3 | Water Level Product | Water Level Information for Surface Navigation |
| 4 | Surface Current Product | Surface Currents |
| 5 | MSI Service | MSI(Maritime Safety Information) service |
| 6 | AtoN Information | Marine Aids to Navigational |
| 7 | Catalogue Service | Catalogue Service< |
| 8 | Routing Service | The services associated with the route |
| 9 | Ice Information | ice information |
| 10 | Routing Information | The information associated with the route |
| 11 | Special Purpose Chart | A special purpose chart |
| 12 | Nautical Publication | Catalogue of Nautical Products |
| 13 | printed Nautical Chart | printed Nautical Chart |

## Catalogue Element Identifier

Definition: Catalogue Element Identifier

CamelCase: catalogueElementIdentifier

Alias:

**Value type:** URN

**Remarks:** No remarks.

## Catalogue Section Number

Definition: Catalogue section number.

**CamelCase:** catalogueSectionNumber

Alias:

**Value type:** integer

**Remarks:** No remarks.

## Catalogue Section Title

Definition: Catalogue section title.

**CamelCase:** catalogueSectionTitle

Alias:

**Value type:** text

**Remarks:** Application schemas must describe how the associated file is identified. The associated file will commonly be named in a file reference co-attribute of the same complex attribute. Each DCEG must specify requirements for the format of the associated file and the semantics of file locator. For example, the value of file locator may be an HTML ID in an HTML file, line number in a text file) or a bookmark in a PDF file.

## Category of Authority

Definition: The type of person, government agency or organisation granted powers of managing or controlling access to and/or activity in an area.

**CamelCase:** categoryOfAuthority

Alias:

**Value type:** enumeration

**Remarks:** No remarks.

Listed Values:

|  |  |  |
| --- | --- | --- |
| **Code** | **Label** | **Definition** |
| 2 | border control | The administration to prevent or detect and prosecute violations of rules and regulations at international boundaries. |
| 3 | police | The department of government, or civil force, charged with maintaining public order. |
| 4 | port | Person or corporation, owners of, or entrusted with or invested with the power of managing a port. May be called a Harbour Board, Port Trust, Port Commission, Harbour Commission, Marine Department. |
| 5 | immigration | The authority controlling people entering a country. |
| 6 | health | The authority with responsibility for checking the validity of the health declaration of a vessel and for declaring free pratique. |
| 7 | coast guard | Organization keeping watch on shipping and coastal waters according to governmental law; normally the authority with responsibility for search and rescue. |
| 8 | agricultural | The authority with responsibility for preventing infection of the agriculture of a country and for the protection of the agricultural interests of a country. |
| 9 | military | A military authority which provides control of access to or approval for transit through designated areas or airspace. |
| 10 | private company | A private or publicly owned company or commercial enterprise which exercises control of facilities, for example a calibration area. |
| 11 | maritime police | A governmental or military force with jurisdiction in territorial waters. Examples could include Gendarmerie Maritime, Carabinierie, and Guardia Civil. |
| 12 | environmental | An authority with responsibility for the protection of the environment. |
| 13 | fishery | An authority with responsibility for the control of fisheries. |
| 14 | finance | An authority with responsibility for the control and movement of money. |
| 15 | maritime | A national or regional authority charged with administration of maritime affairs. |
| 16 | customs | The agency or establishment for collecting duties, tolls. |
| 17 | hydrographic office | State agency in charge of marine surveys. |
| 18 | RENC | Regional ENC Coordination Centre Entities set up by the IHO. |
| 19 | VARs | Value Added Resellers (VARs), who are able to offer comprehensive end-use services that bring together various navigational products into one package. |

## Character Encoding

Definition: Designation of the character set to be used to encode the textual value of the locale.

**CamelCase:** characterEncoding

Alias:

**Value type:** text

**Remarks:** No remarks.

## City Name

**Definition:** The name of a town or city.

**CamelCase:** cityName

Alias:

**Value type:** text

**Remarks:** No remarks.

## Classification

Definition: Indicates the security classification of the dataset.

**CamelCase:** classification

Alias:

**Value type:** text

**Remarks:** No remarks.

## Comment

Definition: Comment regarding an entity obvious from context.

**CamelCase:** comment

Alias:

**Value type:** text

**Remarks:** No remarks.

## Compilation Scale

**Definition:** The scale of something that is compiled.

**CamelCase:** compilationScale

Alias:

**Value type:** text

**Remarks:** No remarks.

## Compression Flag

**Definition:** Indicates if the resource is compressed

**CamelCase:** compressionFlag

Alias:

**Value type:** boolean

**Remarks:** No remarks.

## Contact Instructions

Definition: Instructions provided on how to contact a particular person, organisation or service.

**CamelCase:** contactInstructions

Alias:

**Value type:** text

**Remarks:** No remarks.

## Contract Period

Definition: The available period of contact

**CamelCase:** contractPeriod

Alias:

**Value type:** text

**Remarks:** No remarks.

## Country Name

**Definition:** The name of a town or city.

**CamelCase:** countryName

Alias:

**Value type:** text

**Remarks:** No remarks.

## Currency

Definition: The metal or paper medium of exchange that is presently used.

**CamelCase:** currency

Alias:

**Value type:** text

**Remarks:** No remarks.

## Dataset Name

Definition: A logical entity of data consisting of several elements (fields) grouped under one criterion.

**CamelCase:** datasetName

Alias:

**Value type:** text

**Remarks:** No remarks.

## Date

**Definition:** The version of date of the specification.

**CamelCase:** date

Alias:

**Value type:** date

**Remarks:** No remarks.

## Date End

**Definition:** The latest date on which an object (for example a buoy) will be present.

**CamelCase:** dateEnd

Alias:

**Value type:** S-100\_TruncatedDate

**Remarks:** No remarks.

## Date Start

**Definition:** The earliest date on which an object (for example a buoy) will be present.

**CamelCase:** dateStart

Alias:

**Value type:** S-100\_TruncatedDate

**Remarks:** No remarks.

## Delivery Point

Definition: Details of where post can be delivered such as the apartment, name and/or number of a street, building or PO Box.

**CamelCase:** deliveryPoint

Alias:

**Value type:** text

**Remarks:** No remarks.



## Digital Signature Value

Definition: Value derived from the digital signature

CamelCase: digitalSignatureValue

Alias:

**Value type:** text

**Remarks:** No remarks.

## Name Usage

Definition: Classification of the type and display level of the name of a feature in an end-user.

**CamelCase:** nameUsage

Alias:

**Value type:** enumeration

Remarks: For ECDIS, all encoded instances of the complex attribute feature name will be able to be viewed in the ECDIS Pick Report, regardless of the value populated for name usage.

Listed Values:

|  |  |  |
| --- | --- | --- |
| **Code** | **Label** | **Definition** |
| 1 | Default name display | The name is intended to be displayed when the end-user system is set to the default name/text display setting.. |
| 2 | Alternate name display | The name is intended to be displayed when the end-user system is set to an alternate name/text display setting, for example an alternate language |
| 3 | No chart display | The name or text is not intended to be displayed |

## Distribution Status

**Definition:** Supply status of nautical products.

**CamelCase:** distributionStatus

Alias:

**Value type:** enumeration

**Remarks:** No remarks.

Listed Values:

|  |  |  |
| --- | --- | --- |
| **Code** | **Label** | **Definition** |
| 1 | production | The act or process of producing something. |
| 2 | withdrawn | The action to withdraw a time stamp (Used when a time stamp has been reported incorrectly). |

## Distributor Name

Definition: Name of the distributor

**CamelCase:** distributorName

Alias:

**Value type:** text

**Remarks:** No remarks.

## Domestic Carriage Requirements

Definition: Domestic Carriage requirements.

**CamelCase:** domesticCarriageRequirements

Alias:

**Value type:** integer

**Remarks:** No remarks.

## Edition Date

**Definition:** Edition date of the voyage product data.

**CamelCase:** editionDate

Alias:

**Value type:** date

**Remarks:** No remarks.

## Edition Number

**Definition:** Edition of the ENC being referenced.

**CamelCase:** editionNumber

Alias:

**Value type:** integer

**Remarks:** No remarks.



## Expiration Date

**Definition:** Expiration date of nautical product data

**CamelCase:** expirationDate

Alias:

**Value type:** date

**Remarks:** No remarks.

## File Locator

Definition: The location of a fragment of text or other information in a support file.

**CamelCase:** fileLocator

Alias:

**Value type:** text

**Remarks:** No remarks.

## File Name

**Definition:** Name of the file.

**CamelCase:** fileName

Alias:

**Value type:** text

**Remarks:** No remarks.

## File Reference

Definition: The file name of an externally referenced text file.

**CamelCase:** fileReference

Alias:

**Value type:** text

**Remarks:** No remarks.

## Headline

Definition: Words set at the head of a passage or page to introduce or categorize.

**CamelCase:** headline

Alias:

**Value type:** text

**Remarks:** No remarks.

## IMO MaritimeService

**Definition:** International Maritime Organization (IMO) maritime services.

**CamelCase:** IMOMaritimeService

Alias:

**Value type:** enumeration

**Remarks:** No remarks.

Listed Values:

|  |  |  |
| --- | --- | --- |
| **Code** | **Label** | **Definition** |
| 1 | Vessel traffic service | VTS Information Service(IS) |
| 2 | Aids to navigation service | Navigational Assistance Service(NAS) |
| 3 | Reserved for future use | Traffic Organization Service(TOS) |
| 4 | Port support service | Local Port Service |
| 5 | Maritime safety information service | Maritime Safety Information Service(MSI) |
| 6 | Pilotage service | Pilotage service |
| 7 | Tug service | Tug Service |
| 8 | Vessel shore reporting | Vessel Shore Reporting |
| 9 | Telemedical assistance service | Telemedical Assistance Service(TMAS) |
| 10 | Maritime assistance service | Maritime Assistnace Service(MAS) |
| 11 | Nautical chart service | Nautical Chart Service |
| 12 | Nautical publications service | Nautical Publications Service |
| 13 | Ice navigation service | Ice Navigation Service |
| 14 | Meteorological information service | Meteorological Information Service |
| 15 | Real-time hydrographic and environmental information services | Real-time hydrographic and environmental information services |
| 16 | Search and rescue service | Search and rescue service |

## International Carriage Requirements

Definition: International Carriage requirements.

**CamelCase:**

Alias:

**Value type:** integer

**Remarks:** No remarks.

## ISBN

Definition: International Standard Book Number.

**CamelCase:** isbn

Alias:

**Value type:** text

**Remarks:** No remarks.

## ISO216

**Definition:** A paper-size standard established by the International Organization for Standardization.

**CamelCase:** iso216

Alias:

**Value type:** enumeration

**Remarks:** No remarks.

Listed Values:

|  |  |  |
| --- | --- | --- |
| **Code** | **Label** | **Definition** |
| 1 | A0 | The first size as output size on nautical paper chart. |
| 2 | A1 | The second size as output size on nautical paper chart. |
| 3 | A2 | The third size as output size on nautical paper chart. |
| 4 | A3 | The fourth size as output size on nautical paper chart. |
| 5 | A4 | The fifth size as output size on nautical paper chart. |
| 6 | A5 | The sixth size as output size on nautical paper chart. |
| 7 | A6 | The seventh size as output size on nautical paper chart. |
| 8 | A7 | The eighth size as output size on nautical paper chart. |

## ISSN

**Definition:** International Standard Serial Number.

**CamelCase:** issn

Alias:

**Value type:** text

**Remarks:** No remarks.

## Issue Date

**Definition:** Date up to which the Data Producer has incorporated all applicable changes.

**CamelCase:** issueDate

Alias:

**Value type:** date

**Remarks:** Issue date in S-57 and S-101 ENCs defines the date when the ENC cell edition was issued. The issue date must be greater than the previous issue date of the dataset.

## Issue Time

**Definition:** Time of day at which the data was made available by the Data Producer.

**CamelCase:** issueTime

Alias:

**Value type:** time

**Remarks:** No remarks.

## Language

Definition: The method of human communication, either spoken or written, consisting of the use of words in a structured and conventional way.

**CamelCase:** language

Alias:

**Value type:** text

Remarks: The language is encoded by a 3 character code following ISO 639-3/T.

## Linkage

Definition: Location (address) for on-line access using a URL/URI address or similar addressing scheme.

**CamelCase:** linkage

Alias:

**Value type:** text

**Remarks:** No remarks.

## Category of Product Mapping

Definition: A classification of the internal relationships between products and services.

CamelCase: categoryOfProductMapping

Alias:

**Value type:** enumeration

**Remarks:** No remarks.

Listed Values:

|  |  |  |
| --- | --- | --- |
| **Code** | **Label** | **Definition** |
| 1 | Higher Priority Alternative | A higher prioritized or recommended alternative product or service, that can fully replace another. |
| 2 | Lower Priority Alternative | A lower prioritized or not recommended alternative product or service, that can fully replace another. |
| 3 | Recommended Enhancement Provider | A recommended additional product or service, that provides added value to another. |
| 4 | Recommended Enhancement User | A product or service, that is recommended to make use of added value provided by another product or service |

## Maximum Display Scale

Definition: The value considered by the Data Producer to be the maximum (largest) scale at which the data is to be displayed before it can be considered to be “grossly overscaled”.

**CamelCase:** maximumDisplayScale

Alias:

**Value type:** integer

**Remarks:** No remarks.

## Minimum Display Scale

Definition: The smallest intended viewing scale for the data.

**CamelCase:** minimumDisplayScale

Alias:

**Value type:** integer

**Remarks:** No remarks.

## Name

**Definition:** The individual name of a feature.

**CamelCase:** name

Alias:

**Value type:** text

**Remarks:** No remarks.

## Name of Resource

Definition: Name of the online resource.

CamelCase: nameOfResource

Alias:

**Value type:** text

**Remarks:** No remarks.



## Not For Navigation

Definition: Indicates the dataset is not intended to be used for navigation.

**CamelCase:** notForNavigation

Alias:

**Value type:** boolean

**Remarks:** No remarks.

## Online Description

**Definition:** Description of online resources.

**CamelCase:** onlineDescription

Alias:

**Value type:** text

**Remarks:** No remarks.

## Optimum Display Scale

Definition: The largest intended viewing scale for the data.

**CamelCase:** optimumDisplayScale

Alias:

**Value type:** integer

**Remarks:** No remarks.

## Original Product Number

Definition: A Product which has been drawn up as a result of direct survey.

**CamelCase:** originalProductNumber

Alias:

**Value type:** text

**Remarks:** Encode Original Chart Number Original Product Number.

## Other Data Type Description

Definition: Support file format other than those listed

**CamelCase:** otherDataTypeDescription

Alias:

**Value type:** text

**Remarks:** No remarks.

## Postal Code

Definition: Known in various countries as a postcode, or ZIP code, the postal code is a series of letters and/or digits that identifies each postal delivery area.

**CamelCase:** postalCode

Alias:

**Value type:** text

**Remarks:** No remarks.

## Price

**Definition:** The property of having material worth.

**CamelCase:** price

Alias:

**Value type:** real

**Remarks:** No remarks.

## Print Agency

Definition: Name of the publishing institution of the paper chart for navigation.

**CamelCase:** printAgency

Alias:

**Value type:** text

**Remarks:** No remarks.

## Print Nation

**Definition:** Country with printed nautical paper chart.

**CamelCase:** printNation

Alias:

**Value type:** text

**Remarks:** No remarks.

## Producer Nation

**Definition:** Country of publication of nautical products.

**CamelCase:** producerNation

Alias:

**Value type:** text

**Remarks:** No remarks.

## Product Number

Definition: Number of Product.

CamelCase: ProductNumber

Alias:

Value type: text

Remarks: Encode Chart Number in the Product Number.

## Product Reference

**Definition:** product reference.

**CamelCase:** productReference

Alias:

**Value type:** text

**Remarks:** No remarks.

## Protocol

Definition: Connection protocol to be used. Example: ftp, http get KVP, http POST, etc.

**CamelCase:** protocol

Alias:

**Value type:** text

**Remarks:** No remarks.

## Protocol Request

Definition: Request used to access the resource. Structure and content depend on the protocol and standard used by the online resource, such as Web Feature Service standard.

**CamelCase:** protocolRequest

Alias:

**Value type:** text

**Remarks:** No remarks.

## Publication Number

**Definition:** Publication number of the nautical product.

**CamelCase:** publicationNumber

Alias:

**Value type:** text

**Remarks:** No remarks.

## Re Print Edition

**Definition:** Reprinted version of nautical paper chart.

**CamelCase:** rePrintEdition

Alias:

**Value type:** text

**Remarks:** No remarks.

## Re Print Nation

**Definition:** Reprinted country name of nautical paper chart.

**CamelCase:** rePrintNation

Alias:

**Value type:** text

**Remarks:** No remarks.



## Reported Date

Definition: The date that the item was observed, done, or investigated.

**CamelCase:** reportedDate

Alias:

**Value type:** S100\_TruncatedDate

**Remarks:** No remarks.

## S-100\_Digital Signature Reference

Definition: Specifies the algorithm used to compute digitalSignatureValue

**CamelCase:** digitalSignatureReference

Alias:

**Value type:** enumeration

**Remarks:** No remarks.

Listed Values:

|  |  |  |
| --- | --- | --- |
| **Code** | **Label** | **Definition** |
| 8 | ECDSA-384-SHA2 |  |



## S100\_Navigation Purpose

Definition: The navigational purpose of the dataset.

**CamelCase:** navigationPurpose

Alias:

**Value type:** enumeration

**Remarks:** No remarks.

Listed Values:

|  |  |  |
| --- | --- | --- |
| **Code** | **Label** | **Definition** |
| 1 | port | For port and near shore operations. |
| 2 | transit | For coast and planning purposes. |
| 3 | overview | For ocean crossing and planning purposes. |

## S100\_Support File Format

Definition: The format used for the support file.

**CamelCase:** supportFileFormat

Alias:

**Value type:** enumeration

**Remarks:** No remarks.

Listed Values:

|  |  |  |
| --- | --- | --- |
| **Code** | **Label** | **Definition** |
| 1 | ASCII | American Standard Code for Information Interchange. American character standard code system established in 1968. |
| 2 | JPEG2000 | Raster image compression technology based on wavelet transformation. |
| 3 | HTML | Hypertext Markup Language. A type of basic web language used to create web documents. |
| 4 | XML | Extensible Markup Language. A language created by remarkably improving HTML to create Internet web pages. |
| 5 | XSLT | Extensible Stylesheet Language Transformations. XML-based language used to convert XML documents into other XML documents. |
| 6 | VIDEO | A digital recording of an image or set of images (such as a movie or animation). |
| 7 | TIFF | Tagged Image File Format. |
| 8 | PDF/A or U/A | ISO-standardized version of the Portable Document Format (PDF) specialized for use in the archiving and long-  term preservation of electronic documents or U/A. |
| 9 | LUA | A lightweight, extensible programming language. |
| 100 | other | Other support file purpose. |

## S100\_**Support** File Purpose

Definition: The reason for inclusion of the support file.

**CamelCase:** supportFilePurpose

Alias:

**Value type:** enumeration

**Remarks:** No remarks.

Listed Values:

|  |  |  |
| --- | --- | --- |
| **Code** | **Label** | **Definition** |
| 1 | new | A file which is new. |
| 2 | replacement | A file which replaces an existing file. |
| 3 | deletion | Deletes an existing file. |

## Service Name

**Definition:** name of maritime service.

**CamelCase:** serviceName

Alias:

**Value type:** text

**Remarks:** No remarks.

## Service Status

**Definition:** Types of status of nautical services.

**CamelCase:** serviceStatus

Alias:

**Value type:** enumeration

**Remarks:** No remarks.

Listed Values:

|  |  |  |
| --- | --- | --- |
| **Code** | **Label** | **Definition** |
| 1 | provisional | Under terms not final or fully worked out or agreed upon. |
| 2 | released | Merchandise issued for sale or public showing. |
| 3 | deprecated | Data that is deprecated in importance and is no longer used and will disappear in the future. |
| 4 | deleted | Item that has been removed or deleted. |







## Source

Definition: The publication, document, or reference work from which information comes or is acquired.

**CamelCase:** source

Alias:

**Value type:** text

**Remarks:** No remarks.

## Source Date

Definition: The production date of the source; for example the date of measurement.

**CamelCase:** sourceDate

Alias:

**Value type:** date

**Remarks:** No remarks.

## Source Type

Definition: Type of the source.

CamelCase: sourceType

Alias:

**Value type:** enumeration

**Remarks:** No remarks.

Listed Values:

|  |  |  |
| --- | --- | --- |
| **Code** | **Label** | **Definition** |
| 1 | law or regulation | Treaty, convention, or international agreement; law or regulation issued by a national or other authority. |
| 2 | official publication | Publication not having the force of law, issued by an international organisation or a national or local administration. |
| 7 | mariner report, confirmed | Reported by mariner(s) and confirmed by another source. |
| 8 | mariner report, not confirmed | Reported by mariner(s) but not confirmed. |
| 9 | industry publications and reports | Shipping and other industry publications, including graphics, charts and web sites. |
| 10 | remotely sensed images | Information obtained from satellite images. |
| 11 | photographs | Information obtained from photographs. |
| 12 | products issued by HO service | Information obtained from products issued by Hydrographic Offices. |
| 13 | news media | Information obtained from news media. |
| 14 | traffic data | Information obtained from the analysis of traffic data. |
| 15 | maritime | A national or regional authority charged with administration of maritime affairs. |

## Specific Usage

Definition: The use for which the dataset is intended.

**CamelCase:** specificUsage

Alias:

**Value type:** enumeration

**Remarks:** No remarks.

Listed Values:

|  |  |  |
| --- | --- | --- |
| **Code** | **Label** | **Definition** |
| 1 | Navigational Purpose Overview | For use in the study of the characteristics of maritime zones, in the formulation of plans, in the selection of routes, etc., showing only relevant elements of the coastline, harbours, islands, principal navigational marks and obstructions, and submarine landforms.  Scale <1:1499999. |
| 2 | Navigational Purpose General | A nautical chart with universality (i.e., generality) in use, characterized by the requirement that the chart must comprehensively describe various natural elements and socioeconomic elements, and that each element of  the subject matter expressed is universal. The scale is between 1:350000-1:1499999. |
| 3 | Navigational Purpose Coastal | Used for marine navigation, mainly displaying submarine landforms, navigational marks, navigational obstacles and other elements related to navigation.  The scale is between 1:90000-1:349999. |
| 4 | Navigational Purpose Approach | Used for near-shore navigation, mainly showing the marine elements close to coastal areas.  The scale is between 1:22000-1:89999. |
| 5 | Navigational Purpose Harbour | Used for entering and leaving harbours, selecting anchorage, studying harbour topography, and carrying out the construction of harbours.  The scale is between 1:4000-1:21999. |
| 6 | Navigational Purpose Berthing | For ships berthing. Scale > 1:4000. |







## Telecommunication Identifier

Definition: An identifier, such as words, numbers, letters, symbols, or any combination of those used to establish a contact to a particular person, organisation or service.

**CamelCase:** telecommunicationIdentifier

Alias:

**Value type:** text

**Remarks:** No remarks.

## Telecommunication Service

Definition: Classification of methods of communication over a distance by electrical, electronic, or electromagnetic means.

**CamelCase:** telecommunicationService

Alias:

**Value type:** enumeration

**Remarks:** No remarks.

Listed Values:

|  |  |  |
| --- | --- | --- |
| **Code** | **Label** | **Definition** |
| 1 | voice | The transfer or exchange of information by using sounds that are being made by mouth and throat when speaking. |
| 2 | facsimile | Sometimes called telecopying or telefax (the latter short for telefacsimile), is the telephonic transmission of scanned printed material (both text and images), normally to a telephone number connected to a printer or other output device. |
| 3 | sms | Short Message Service is a form of text messaging communication on phones and mobile phones. |
| 4 | data | Materials that serve as the basis for initiation. |
| 5 | streamed data | Data that is constantly received by and presented to an end-user while being delivered by a provider. |
| 6 | telex | A system of communication in which messages are sent over long distances by using a telephone system and are printed by using a special machine (called a teletypewriter). |
| 7 | telegraph | An apparatus, system or process for communication at a distance by electric transmission over wire. |
| 8 | email | Messages and other data exchanged between individuals using computers in a network. |

## Text

Definition: A non-formatted digital text string.

**CamelCase:** text

Alias:

**Value type:** text

**Remarks:** No remarks.



## Type of Paper

Definition: Types of paper chart.

CamelCase: typeOfPaper

Alias:

**Value type:** text

**Remarks:** No remarks.

## Type of Product Format

Definition: Types of product format.

CamelCase: typeOfProductFormat

Alias:

**Value type:** enumeration

**Remarks:** No remarks.

Listed Values:

|  |  |  |
| --- | --- | --- |
| **Code** | **Label** | **Definition** |
| 1 | GML | Geography Markup Language. An XML-based geographic information encoding language developed by the Open GIS Consortium (OGC) to enhance the interoperability of geographic information. |
| 2 | ISO/IEC 8211 | Specification for a data descriptive file for information interchange. |
| 3 | PDF | Portable Document Format. A file format developed by Adobe in 1993 to present documents, including text formatting and images, in a manner independent of application software, hardware, and operating systems. |
| 4 | HTML | Hypertext Markup Language. A type of basic web language used to create web documents. |
| 5 | ePub | E-book file format. |
| 6 | paper | For printing hydrographic charts, heavyweight, single layer paper is used. Such paper is generally made wholly or partly from rags and simulates hand-made paper. It is strong, moisture resistant and manufactured to withstand surface erasure. |
| 7 | HDF-5 | Grid file format. |
| 8 | BSB | Raster data format used by USA and Canada and others. |
| 9 | GeoTiff | Extension of the TIFF specification to allow the storage of geo- referencing information. |
| 10 | Application | Manipulation and processing of data in support of user requirements. |
| 11 | XML | Extensible Markup Language. |
| 12 | PNG | Portable Network Graphics format. |

## Type of Time Interval Unit

Definition: Type of Time Interval Unit

CamelCase: typeOfTimeIntervalUnit

Alias:

**Value type:** enumeration

**Remarks:**  This attribute is used for periodically published data, such as S-111. The periodicity is entered as shown in the example below.

For example, if you want to express 26hrs, you would express it as 1day 2hour.

For example, if you want to express 45days, you would express it as 1month 15hour.

For example, if you want to express 18months, you would express it as 1year 6month.

Listed Values:

|  |  |  |
| --- | --- | --- |
| **Code** | **Label** | **Definition** |
| 1 | hour | 60 minutes or 3600 seconds |
| 2 | day | For a day |
| 3 | month | For a month |
| 4 | year | A period of one year |

## Update Date

**Definition:** Update date information.

**CamelCase:** updateDate

Alias:

**Value type:** date

**Remarks:** Update Date in S-57 and S-101 ENCs defines the date when the latest update for the current ENC cell edition was issued. This field is used whenever there is an update or re-issue of the cell.

## Update Number

**Definition:** Update number of nautical product data.

**CamelCase:** updateNumber

Alias:

**Value type:** integer

**Remarks:** No remarks.

## Value of Time

Definition: Actual time for time interval units.

**CamelCase:** valueOfTime

Alias:

**Value type:** integer

**Remarks:** No remarks.

## Version

Definition: The version number of the specification.

**CamelCase:** version

Alias:

**Value type:** text

**Remarks:** No remarks.







## X

Definition: The horizontal length(cm) of the paper to be printed

**CamelCase:** x

Alias:

**Value type:** integer

**Remarks:** No remarks.

(cm)

## Publication Date

Definition: The date when the notice was officially published.

**CamelCase:** publicationDate

Alias:

**Value type:** date

**Remarks:** No remarks.

## Week Number

Definition: This is the number that represents which week of the year it is.

**CamelCase:** weekNumber

Alias:

**Value type:** integer

**Remarks:** No remarks.

## Year Number

Definition: This is the number that indicates the year to which the week belongs.

**CamelCase:** yearNumber

Alias:

**Value type:** integer

**Remarks:** No remarks.

## Horizontal Datum Epsg

Definition: Horizontal reference as an EPSG code representing a valid entry in the EPSG Geodetic Parameter Dataset, as maintained by the Geodesy Subcommittee of the IOGP Geomatics Committee, and provided online at epsg.org.

**CamelCase:** horizontalDatumEpsg

Alias:

**Value type:** s100\_codelist

**Remarks:** codeListType=open enumeration; encoding=other: [something]

## Vertical Datum

Definition: The reference level used for expressing the vertical measurements of points on the earth's surface. Also called datum level, reference plane, levelling datum, datum for sounding reduction, datum for heights.

**CamelCase:** verticalDatum

Alias:

**Value type:** enummeration

**Remarks:** No remarks.

Listed Values:

|  |  |  |
| --- | --- | --- |
| **Code** | **Label** | **Definition** |
| 1 | Mean Low Water Springs | A higher prioritized or recommended alternative product or service, that can fully replace another. |
| 2 | Mean Lower Low Water Springs | A lower prioritized or not recommended alternative product or service, that can fully replace another. |
| 3 | Mean Sea Level | A recommended additional product or service, that provides added value to another. |
| 4 | Lowest Low Water | A product or service, that is recommended to make use of added value provided by another product or service |
| 5 | Mean Low Water | The average height of all low waters at a place over a 19-year period. |
| 6 | Lowest Low Water Springs | An arbitrary level conforming to the lowest water level observed at a place at spring tides during a period of time shorter than 19 years. |
| 7 | Approximate Mean Low Water Springs | An arbitrary level, usually within 0.3m from that of Mean Low Water Springs (MLWS). |
| 8 | Indian Spring Low Water | An arbitrary tidal datum approximating the level of the mean of the lower low water at spring tides. It was first used in waters surrounding India. |
| 9 | Low Water Springs | An arbitrary level, approximating that of mean low water springs (MLWS). |
| 10 | Approximate Lowest Astronomical Tide | An arbitrary level, usually within 0.3m from that of Lowest Astronomical Tide (LAT). |
| 11 | Nearly Lowest Low Water | An arbitrary level approximating the lowest water level observed at a place, usually equivalent to the Indian Spring Low Water (ISLW). |
| 12 | Mean Lower Low Water | The average height of the lower low waters at a place over a 19-year period. |
| 13 | Low Water | The lowest level reached at a place by the water surface in one oscillation. |
| 14 | Approximate Mean Low Water | An arbitrary level, usually within 0.3m from that of Mean Low Water (MLW). |
| 15 | Approximate Mean Lower Low Water | An arbitrary level, usually within 0.3m from that of Mean Lower Low Water (MLLW). |
| 16 | Mean High Water | The average height of all high waters at a place over a 19-year period. |
| 17 | Mean High Water Springs | The average height of the high waters of spring tides. |
| 18 | High Water | The highest level reached at a place by the water surface in one oscillation. |
| 19 | Approximate Mean Sea Level | An arbitrary level, usually within 0.3m from that of Mean Sea Level (MSL). |
| 20 | High Water Springs | An arbitrary level, approximating that of mean high water springs (MHWS). |
| 21 | Mean Higher High Water | The average height of higher high waters at a place over a 19-year period. |
| 22 | Equinoctial Spring Low Water | The level of low water springs near the time of an equinox. |
| 23 | Lowest Astronomical Tide | The lowest tide level which can be predicted to occur under average meteorological conditions and under any combination of astronomical conditions. |
| 24 | Local Datum | An arbitrary datum defined by a local harbour authority, from which levels and tidal heights are measured by this authority. |
| 25 | International Great Lakes Datum 1985 | A vertical reference system with its zero based on the mean water level at Rimouski/Pointe-au-Pere, Quebec, over the period 1970 to 1988. |
| 26 | Mean Water Level | The average of all hourly water levels over the available period of record. |
| 27 | Lower Low Water Large Tide | The average of the lowest low waters, one from each of 19 years of observations. |
| 28 | Higher High Water Large Tide | The average of the highest high waters, one from each of 19 years of observations. |
| 29 | Nearly Highest High Water | An arbitrary level approximating the highest water level observed at a place, usually equivalent to the high water springs. |
| 30 | Highest Astronomical Tide | The highest tidal level which can be predicted to occur under average meteorological conditions and under any combination of astronomical conditions. |
| 31 | Local Low Water Reference Level | Low water reference level of the local area. |
| 32 | Local High Water Reference Level | High water reference level of the local area. |
| 33 | Local Mean Water Reference Level | Mean water reference level of the local area. |
| 34 | Equivalent Height of Water (German GlW) | A low water level which is the result of a defined low water discharge - called &quot;equivalent discharge&quot;. |
| 35 | Highest Shipping Height of Water (German HSW) | Upper limit of water levels where navigation is allowed. |
| 36 | Reference Low Water Level According to Danube Commission | The water level at a discharge, which is exceeded 94 % of the year within a period of 30 years. |
| 37 | Highest Shipping Height of Water According to Danube Commission | The water level at a discharge, which is exceeded 1% of the year within a period of 30 years. |
| 38 | Dutch River Low Water Reference Level (OLR) | The water level at a discharge, which is exceeded 95% of the year within a period of 20 years. |
| 39 | Russian Project Water Level | Conditional low water level with established probability. |
| 40 | Russian Normal Backwater Level | Highest water level derived from the upper backwater stream in watercourse or reservoir under the normal operational conditions. |
| 41 | Ohio River Datum | The Ohio River datum. |
| 43 | Dutch High Water Reference Level | Dutch High Water Reference Level. |
| 44 | Baltic Sea Chart Datum 2000 | The datum refers to each Baltic country&apos;s realization of the European Vertical Reference System (EVRS) with land-uplift epoch 2000, which is connected to the Normaal Amsterdams Peil (NAP). |
| 45 | Dutch Estuary Low Water Reference Level (OLW) | Dutch Estuary Low Water Reference Level (OLW) |
| 46 | International Great Lakes Datum 2020 | The 2020 update to the International Great Lakes Datum (IGLD), the official reference system used to measure water level heights in the Great Lakes, connecting channels, and the St. Lawrence River system. |
| 47 | Sea Floor | The bottom of the ocean and seas where there is a generally smooth gentle gradient. Also referred to as sea bed (sometimes seabed or sea-bed), and sea bottom. |
| 48 | Sea Surface | A two-dimensional (in the horizontal plane) field representing the air-sea interface, with high-frequency fluctuations such as wind waves and swell, but not astronomical tides, filtered out. |
| 49 | Hydrographic Zero | A vertical reference near the lowest astronomical tide (LAT), below which the sea level falls only very exceptionally. |

# Complex Attributes

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  | 0 |
| Name |  |  |  | 0 |
|  |  |  |  |  |
|  |  |  |  |  |

## Custom Paper Size

Definition: User specified paper size width x, height y.

**CamelCase:** customPaperSize

Alias:

**Remarks:** No remarks.

SubAttribute Bindings:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S-10x Attribute** | **S-57**  **Acronym** | **Allowable Encoding Value** | **Type** | **Multiplicity** |
| X |  |  | IN | 1, 1 |
| Y |  |  | IN | 1, 1 |

## Default Locale

Definition: Default language and character set used in the dataset.

**CamelCase:** defaultLocale

Alias:

**Remarks:** No remarks.

SubAttribute Bindings:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S-10x Attribute** | **S-57**  **Acronym** | **Allowable Encoding Value** | **Type** | **Multiplicity** |
| Character Encoding |  |  | TE | 1, 1 |
| Country Name |  |  | TE | 1, 1 |
| Language |  |  | TE | 0. 1 |

## Feature Name

Definition: Provides the name of an entity, defines the national language of the name, and provides the option to display the name at various system display settings.

**CamelCase:** featureName

Alias:

**Remarks:** No remarks.

SubAttribute Bindings:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S-10x Attribute** | **S-57**  **Acronym** | **Allowable Encoding Value** | **Type** | **Multiplicity** |
| Language |  |  | (S) TE | 1, 1 |
| Name |  |  | (S) TE | 1, 1 |
| Name Usage |  | 1 : default name display  2 : alternate name display  3 : no chart display | (S) EN | 0, 1 |



## Information

Definition: Textual information about the feature. The information may be provided as a string of text or as a file name of a single external text file that contains the text.

**CamelCase:** information

Alias:

Remarks: At least one of the sub-attributes file reference or text must be populated.The sub-attribute file reference is generally used for long text strings or those that require formatting, however, there is no restriction on the type of text (except for lexical level) that can be held in files referenced by sub-attribute file reference.

SubAttribute Bindings:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S-10x Attribute** | **S-57**  **Acronym** | **Allowable Encoding Value** | **Type** | **Multiplicity** |
| File Locator |  |  | TE | 0, 1 |
| File Reference |  |  | TE | 0, 1 |
| Headline |  |  | TE | 0, 1 |
| Language |  |  | TE | 0, 1 |
| Text |  |  | TE | 0, \* |

## Issuance Cycle

Definition: The cycle of issuing the nautical product data

**CamelCase:** issuanceCycle

Alias:

**Remarks:** No remarks.

SubAttribute Bindings:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S-10x Attribute** | **S-57**  **Acronym** | **Allowable Encoding Value** | **Type** | **Multiplicity** |
| Periodic Date Range |  |  | C | 0, 1 |
| Date End | (SORDAT) |  | TD | 1, 1 |
| Date Start | (SORDAT) |  | TD | 1, 1 |
| Time Interval Of Cycle |  |  | C | 0, 1 |
| Type Of Time Interval Unit |  | 1 : hour  2 : day  3 : month  4 : year | EN | 1, \* |
| Value Of Time |  |  | IN | 1, 1 |

## Online Resource

Definition: Information about online sources from which a resource or data can be obtained.

**CamelCase:** onlineResource

Alias:

**Remarks:** No remarks.

SubAttribute Bindings:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S-10x Attribute** | **S-57**  **Acronym** | **Allowable Encoding Value** | **Type** | **Multiplicity** |
| Application Profile |  |  | TE | 0, 1 |
| Linkage |  |  | TE | 1, 1 |
| Name Of Resource |  |  | TE | 0, 1 |
| Online Description |  |  | TE | 0, 1 |
| Protocol |  |  | TE | 0, 1 |
| Protocol Request |  |  | TE | 0, 1 |

## Periodic Date Range

**Definition:** The active period of a recurring event or occurrence.

**CamelCase:** periodicDateRange

Alias:

**Remarks:** No remarks.

SubAttribute Bindings:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S-10x Attribute** | **S-57**  **Acronym** | **Allowable Encoding Value** | **Type** | **Multiplicity** |
| Date End | (SORDAT) |  | TD | 1, 1 |
| Date Start | (SORDAT) |  | TD | 1, 1 |

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## Print Size

Definition: Size of nautical paper charts.

**CamelCase:** printSize

Alias:

**Remarks:** No remarks.

SubAttribute Bindings:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S-10x Attribute** | **S-57**  **Acronym** | **Allowable Encoding Value** | **Type** | **Multiplicity** |
| ISO216 |  | 1 : A0  2 : A1  3 : A2  4 : A3  5 : A4  6 : A5  7 : A6  8 : A7 | EN | 0, 1 |
| Custom Paper Size |  |  | C | 0, 1 |
| X |  |  | IN | 1, 1 |
| Y |  |  | IN | 1, 1 |

## Product Specification

Definition: Product standard name referenced when manufacturing nautical products.

**CamelCase:** productSpecification

Alias:

**Remarks:** No remarks.

SubAttribute Bindings:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S-10x Attribute** | **S-57**  **Acronym** | **Allowable Encoding Value** | **Type** | **Multiplicity** |
| Date |  |  | DA | 1, 1 |
| ISSN |  |  | TE | 0, 1 |
| Name |  |  | TE | 1, 1 |
| Version |  |  | TE | 1, 1 |



## S100\_Support File

Definition: Information on additional files used in addition to nautical products.

**CamelCase:** supportFile

Alias:

**Remarks:** No remarks.

SubAttribute Bindings:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S-10x Attribute** | **S-57**  **Acronym** | **Allowable Encoding Value** | **Type** | **Multiplicity** |
| Comment |  |  | TE | 0, 1 |
| Digital Signature |  | 1 : dsa | IN | 1, 1 |
| Digital Signature Value |  |  | TE | 0, 1 |
| Edition Number |  |  | TE | 0, 1 |
| File Locator |  |  | TE | 1, 1 |
| File Name |  |  | TE | 1, 1 |
| Issue Date |  |  | DA | 0, 1 |
| Other Data Type Description |  |  | TE | 0, 1 |
| Support File Format |  | 1 : ASCII  2 : JPEG2000  3 : HTML  4 : XML  5 : XSLT  6 : VIDEO  7 : TIFF  8 : PDF/A or U/A  9 : LUA  100 : other | EN | 1, 1 |
| Support File Purpose |  | 1 : new  2 : replacement  3 : deletion | IN | 1, 1 |
| Default Locale |  |  | C | 1, 1 |
| Character Encoding |  |  | TE | 1, 1 |
| Country Name |  |  | TE | 1, 1 |
| Language |  |  | TE | 1, 1 |
| Support File Specification |  |  | C | 1, 1 |
| Date |  |  | DA | 1, 1 |
| Name |  |  | TE | 1, 1 |
| Version |  |  | TE | 1, 1 |

## S100\_Support File Specification

Definition: The reason for inclusion of the support file.

**CamelCase:** supportFileSpecification

Alias:

**Remarks:** No remarks.

SubAttribute Bindings:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S-10x Attribute** | **S-57**  **Acronym** | **Allowable Encoding Value** | **Type** | **Multiplicity** |
| Date |  |  | DA | 1, 1 |
| Name |  |  | TE | 1, 1 |
| Version |  |  | TE | 1, 1 |

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## Source Indication

Definition: Information about the source document, publication, or reference from which object data or textual material included or referenced in a dataset are derived.

**CamelCase:** sourceIndication

Alias:

Remarks: Content of featureName is source authority name.

SubAttribute Bindings:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S-10x Attribute** | **S-57**  **Acronym** | **Allowable Encoding Value** | **Type** | **Multiplicity** |
| Category of Authority |  | 2 : border control  3 : police  4 : port  5 : immigration  6 : health  7 : coast guard  8 : agricultural  9 : military  10 : private company  11 : maritime police  12 : environmental  13 : fishery  14 : finance  15 : maritime  16 : customs  17 : hydrographic office  18 : RENC  19 : VARs | EN | 0, 1 |
| Country Name |  |  | TE | 0, 1 |
| Reported Date | (SORDAT) |  | TD | 0, 1 |
| Source |  |  | TE | 0, 1 |
| Source Type |  | 1 : law or regulation  2 : official publication  7 : mariner report, confirmed  8 : mariner report, not confirmed  9 : industry publications and reports  10 : remotely sensed images  11 : photographs  12 : products issued by HO service  13 : news media  14 : traffic data  15 : maritime | EN | 0, 1 |
| Feature Name |  |  | C | 0,\* |
| Language |  |  | (S) TE | 1, 1 |
| Name |  |  | (S) TE | 1, 1 |
| Name Usage |  | 1 : default name display  2 : alternate name display  3 : no chart display | (S) EN | 0, 1 |

|  |  |  |  |  |
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## Time Interval of Product

**Definition:** The temporal interval over which the product is issued

**CamelCase:** timeIntervalOfProduct

Alias:

**Remarks:** No remarks.

SubAttribute Bindings:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S-10x Attribute** | **S-57**  **Acronym** | **Allowable Encoding Value** | **Type** | **Multiplicity** |
| Issue Date |  |  | DA | 1, 1 |
| Expiration Date |  |  | DA | 0, 1 |
| Issuance Cycle |  |  | DA | 1, 1 |
| Periodic Date Range |  |  | C | 0, 1 |
| Date End | (SORDAT) |  | TD | 1, 1 |
| Date Start | (SORDAT) |  | TD | 1, 1 |
| Time Interval Of Cycle |  |  | C | 0, 1 |
| Type Of Time Interval Unit |  | 1 : hour  2 : day  3 : month  4 : year | EN | 1, \* |
| Value Of Time |  |  | IN | 1, 1 |



## Time Interval of Cycle

**Definition:** The temporal interval over which the cycle of issuing the nautical product data.

**CamelCase:** timeIntervalOfCycle

Alias:

**Remarks:** No remarks.

SubAttribute Bindings:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S-10x Attribute** | **S-57**  **Acronym** | **Allowable Encoding Value** | **Type** | **Multiplicity** |
| Type of Time Interval Unit |  | 1. : hour 2. : day 3. : month 4. : year | EN | 1, \* |
| Value of Time |  |  | IN | 1, 1 |

## Reference To NM

**Definition:**

**CamelCase:** referenceToNM

Alias:

**Remarks:** No remarks.

SubAttribute Bindings:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S-10x Attribute** | **S-57**  **Acronym** | **Allowable Encoding Value** | **Type** | **Multiplicity** |
| Publication Date |  |  | DA | 1, 1 |
| Week Of Year |  |  | C | 0, 1 |
| Week Number |  |  | (S) IN | 1, 1 |
| Year Number |  |  | (S) IN | 1, 1 |

## Week Of Year

**Definition:** Week of the year.

**CamelCase:** weekOfYear

Alias:

**Remarks:** No remarks.

SubAttribute Bindings:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S-10x Attribute** | **S-57**  **Acronym** | **Allowable Encoding Value** | **Type** | **Multiplicity** |
| Week Number |  |  | IN | 1, 1 |
| Year Number |  |  | IN | 1, 1 |







































# Roles

## Catalogue Header

Definition: The top section of a catalogue.

**CamelCase:** catalogueHeader

Alias:

**Remarks:** No remarks.

## Element Container

Definition: Container of element.

**CamelCase:** elementContainer

Alias:

**Remarks:** No remarks.

## The Catalogue of Element

Definition: Catalogue of Element.

CamelCase: theCatalogueElements

Alias:

**Remarks:** No remarks.

## The Catalogue of Nautical Product

Definition: Types of nautical products.

CamelCase: theCatalogueOfNauticalProduct

Alias:

Remarks: No remarks.

## The Contact Details

Definition: Information on how to reach a person or organization by postal, internet, telephone, telex.

CamelCase: theContactDetails

Alias:

**Remarks:** No remarks.

## The Distributor

Definition: One that distributes.

CamelCase: theDistributor

Alias:

**Remarks:** No remarks.

## The Element

Definition: A component or part within the context of maritime information and charts.

CamelCase: theElement

Alias:

Remarks: No remarks.

## The Price Information

Definition: Information of price.

CamelCase: thePriceInformation

Alias:

**Remarks:** No remarks.

## The Producer

Definition: Information about the producer or creator of chart.

CamelCase: theProducer

Alias:

**Remarks:** No remarks.

## The Reference

Definition: Indicates supporting material or information related to a specific element or data.

CamelCase: theReference

Alias:

**Remarks:** No remarks.

## The Requirement

Definition: Essential conditions of functionalities for a specific system of process.

CamelCase: theRequirement

Alias:

**Remarks:** No remarks.

## The Source

Definition: Source of information of data.

CamelCase: theSource

Alias:

**Remarks:** No remarks.

## The Main

Definition: The primary or central component of the product that serves the most significant or leading function in its operation.

CamelCase: theMain

Alias:

**Remarks:** No remarks.

## The Panel

Definition: A supplementary or secondary part of the product.

CamelCase: thePanel

Alias:

**Remarks:** No remarks.

# Information Associations

## Carriage Requirement

Definition: carriage requirement

**CamelCase:** CarriageRequirement

Alias:

**Remarks:** No remarks.

**Role:** The Element

**Role:** The Requirement

## Distribution Details

Definition: Contact information of nautical product suppliers.

**CamelCase:** DistributionDetails

Alias:

**Remarks:** No remarks.

**Role:** Catalogue Header

**Role:** The Distributor

## Distributor Contact

Definition: Contact information of distributor.

**CamelCase:** DistributorContact

Alias:

**Remarks:** No remarks.

**Role:** The Distributor

**Role:** The Contact Details

## Price Of Element

Definition: Price of element.

**CamelCase:** PriceOfElement

Alias:

**Remarks:** No remarks.

**Role:** The Catalogue Element

**Role:** The Price Information

## Price Of Nautical Product

Definition: The price of nautical product.

**CamelCase:** PriceOfNauticalProduct

Alias:

**Remarks:** No remarks.

**Role:** The Catalogue Of Nautical Product

**Role:** The Price Information

## Producer Contact

Definition: Contact information of producer.

**CamelCase:** ProducerContact

Alias:

**Remarks:** No remarks.

**Role:** The Producer

**Role:** The Contact Details

## Production Details

Definition: Contact information of nautical product publishing organizations..

**CamelCase:** Production Details

Alias:

**Remarks:** No remarks.

**Role:** Catalogue Header

**Role:** The Producer

## Product Package

Definition: Package of the various substances which are transported, stored or exploited.

**CamelCase:** ProductPackage

Alias:

**Remarks:** No remarks.

**Role:** The Catalogue Element

**Role:** Element Container

# Feature Associations

## Product Mapping

Definition: Mapping information between S-100 products and existing publications.

**CamelCase:** ProductMapping

Alias:

**Remarks:** No remarks.

**Role:** The Source

**Role:** The Reference

## Correlated

Definition: A mutual relationship or connection, in which one thing affects or depends on another..

**CamelCase:** correlated

Alias:

**Remarks:** No remarks.

**Role:** TheMain

**Role:** ThePanel

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