S-131

IHO Marine Harbour Infrastructure (MHI) Feature Catalogue

Edition 1.0.0 – March 2023

IHO

International Hydrographic Organization

Published by the
International Hydrographic Organization
4b quai Antoine 1er
Principauté de Monaco
Tel: (377) 93.10.81.00
Fax: (377) 93.10.81.40
info@iho.int
www.iho.int

Document History

Changes to this Specification are coordinated by the Nautical Information Provision Working Group, an IHO working group under HSSC. 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
1.0.0	2022-08-18		Draft 1
1.0.0	2022-08-22		Revised Draft 1
1.0.0	2022-11-25	RM	Draft 2. Applied feedback from NIPWG after NIPWG 9.
1.0.0	2023-01-10		Added Location Hours association for Harbour Facility.

Table of Contents

1 Catalogue header information

Name: Feature Catalogue for S-131
Scope: Global coverage of maritime areas
Field of Application: Marine Harbour Infrastructure
Version Number: 1.0.0
Version date: 2023-03-15
Producer information:
Individual name:
Organisation name: International Hydrographic Organization
Phone:
Address:

Delivery point	City	Administrative area	Postal code	Country	Email address
4b quai Antoine 1er				Monaco	info@iho.int

Online resource information:
Hours of Service:
Contact Instructions: Portolan Sciences LLC
Position Name:
Role: pointOfContact
Classification: unclassified

2 Definition Sources

Source Id (internal catalogue tag): IHOREG
Title: IHO GI Registry
Identifier:

3 Simple Attributes

3.1 Administrative Division

Name: Administrative Division [IHOREG 384]
Definition: A generic term for an administrative region within a country at a level below that of the sovereign state.
Code: `administrativeDivision`
Remarks:
Aliases: (none)
Value Type: text

3.2 Applicable Load Line Zone

Name: Applicable Load Line Zone [IHOREG 1024]
Definition: The load line zone in which the port is located. Defined by the International Convention on Load Lines.
Code: `applicableLoadLineZone`
Remarks:
Aliases: (none)
Value Type: text

3.3 Application Profile

Name: Application Profile [IHOREG 389]
Definition: Name of an application profile that can be used with the online resource.
Code: `applicationProfile`
Remarks:
Aliases: APPPRF
Value Type: text

3.4 Approach Description

Name: Approach Description [IHOREG 1025]
Definition: Description of the approach to a location.
Code: `approachDescription`
Remarks:
Aliases: (none)
Value Type: text

3.5 Associated Feature Name

Name: Associated Feature Name [IHOREG 1026]
Definition: The name of an associated feature.
Code: `associatedFeatureName`
Remarks: Intended for designating related features in other datasets or products, since such feature instances cannot be linked by feature associations.
Aliases: (none)
Value Type: text

3.6 Available Berthing Length

Name: Available Berthing Length [IHOREG 1027]
Definition: The length of a berth or dock which is available for use.
Code: `availableBerthingLength`
Remarks:
Aliases: (none)
Value Type: real

Unit of measure name: metre definition: SI Metre symbol: m

Quantity specification: length

Constraints

string Length	text Pattern	range		precision
(not specified)	(none)	lowerBound	0.0	(not specified)
		upperBound	10000.0	
		closure	closedInterval	

For real values, precision is the number of digits after the decimal point.

3.7 Berthing Assistance

Name: Berthing Assistance [IHOREG 1028]
Definition: Classification of assistance for mooring or anchoring operations.
Code: `berthingAssistance`
Remarks:
Aliases: (none)
Value Type: enumeration

Listed Values

Label	Definition	Code	Remarks
`Berthing Information`	Information about assistance or arrangements for a service related to berthing operations. [IHOREG 3072]	`1`	
`Line Personnel`	Personnel specializing in the mooring and unmooring of vessels. [IHOREG 3073]	`2`	
`Mooring Boat`	A boat which assists the securement of a vessel to a berth or mooring with ropes or anchor. [IHOREG 3074]	`3`	
`Mule`	A locomotive for moving vessels. [IHOREG 3075]	`4`	
`Tugboat`	A powerful small boat designed to pull or push larger ships or powerless barges. [IHOREG 1711]	`5`	
`Icebreaking Ship`	A ship equipped to make and maintain a channel through ice. [IHOREG 3438]	`6`	

3.8 Bollard Description

Name: Bollard Description [IHOREG 1029]
Definition: A textual description of the type of bollard at a berth or mooring facility.
Code: `bollardDescription`
Remarks:
Aliases: (none)
Value Type: text

3.9 Bollard Number

Name: Bollard Number [IHOREG 1023]
Definition: An identifier used to locate a specific bollard.
Code: `bollardNumber`
Remarks: A bollard is a small shaped post, mounted on a wharf or dolphin used to secure ship's lines.
Aliases: (none)
Value Type: text

3.10 Bollard Pull

Name: Bollard Pull [IHOREG 1030]
Definition: The rated pull force for a bollard or other structure used to secure a vessel’s lines at a berth, a mooring

facility or to a tug.
Code: `bollardPull`
Remarks:
Aliases: (none)
Value Type: real

Unit of measure name: Tonnes (force) definition: Tonnes of force symbol: Tonnes

Quantity specification: otherQuantity

Constraints

string Length	text Pattern	range		precision
(not specified)	(none)	lowerBound	0.0	(not specified)
		upperBound	1000.0	
		closure	closedInterval	

For real values, precision is the number of digits after the decimal point.

3.11 Call Name

Name: Call Name [IHOREG 396]
Definition: The designated call name of a station; for example, radio station, radar station, pilot.
Code: `callName`
Remarks: This is the name used when calling a radio station by radio; for example, "Singapore Pilots".
Aliases: (none)
Value Type: text

3.12 Call Sign

Name: Call Sign [IHOREG 271]
Definition: The designated call-sign of a station (radio station, radar station, pilot, ...).
Code: `callSign`
Remarks:
Aliases: CALSGN
Value Type: text

3.13 Cardinal Direction

Name: Cardinal Direction [IHOREG 397]
Definition: Principal and intermediate compass points.
Code: `cardinalDirection`
Remarks:
Aliases: CARDIR
Value Type: enumeration

Listed Values

Label	Definition	Code	Remarks
`North`	348.75-011.25 degrees (true north). [IHOREG 1773]	`1`	
`North Northeast`	011.25 - 033.75 degrees. [IHOREG 1774]	`2`	
`Northeast`	033.75 - 056.25 degrees. [IHOREG 1775]	`3`	
`East Northeast`	056.25-078.75 degrees. [IHOREG 1776]	`4`	

Label	Definition	Code	Remarks
East	078.75-101.25 degrees. [IHOREG 1777]	5	
East Southeast	101.25-123.75 degrees. [IHOREG 1778]	6	
Southeast	123.75-146.25 degrees. [IHOREG 1779]	7	
South Southeast	146.25-168.75 degrees. [IHOREG 1780]	8	
South	168.75-191.25 degrees. [IHOREG 1781]	9	
South Southwest	191.25-213.75 degrees. [IHOREG 1782]	10	
Southwest	213.75-236.25 degrees. [IHOREG 1783]	11	
West Southwest	236.25-258.75 degrees. [IHOREG 1784]	12	
West	258.75-281.25 degrees. [IHOREG 1785]	13	
West Northwest	281.25-303.75 degrees. [IHOREG 1786]	14	
Northwest	303.75 - 326.25 degrees. [IHOREG 1787]	15	
North Northwest	326.25 - 348.75 degrees. [IHOREG 1788]	16	

3.14 Cargo Service

Name: Cargo Service [IHOREG 1031]
Definition: Classification of services related to the goods or items carried by vessels.
Code: cargoService
Remarks: Defines an enumeration or codelist listing specific services.
Aliases: (none)
Value Type: enumeration

Listed Values

Label	Definition	Code	Remarks
Stevedoring	The loading, unloading, moving or handling of cargo, ship's stores, gear, or other materials, into, in, on, or out of any vessel. [IHOREG 3076]	1	
Cargo Surveying	Inspection, evaluation or monitoring of the quantity, stowage, loading and unloading, and condition of cargo, and the effects of cargoes on vessel stability and safety. [IHOREG 3060]	2	Distinguished from "cargo survey" which is has been defined as a term describing a more specialized concept.
Cargo Lashing	The securement of cargo to the ship's structure and/or other cargo. [IHOREG 3077]	3	
Draught Survey	Determination of the quantity of certain types of bulk cargo by assessment of its effect on displacement when loaded in a vessel. [IHOREG 3078]	4	

3.15 Category of Authority

Name: Category of Authority [IHOREG 398]
Definition: The type of person, government agency or organisation granted powers of managing or controlling access to and/or activity in an area.
Code: `categoryOfAuthority`
Remarks:
Aliases: CATAUT
Value Type: enumeration

Listed Values

Label	Definition	Code	Remarks
Border Control	The administration to prevent or detect and prosecute violations of rules and regulations at international boundaries. [IHOREG 1789]	2	
Police	The department of government, or civil force, charged with maintaining public order. [IHOREG 1790]	3	
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. [IHOREG 1791]	4	
Immigration	The authority controlling people entering a country. [IHOREG 1792]	5	
Health	The authority with responsibility for checking the validity of the health declaration of a vessel and for declaring free pratique. [IHOREG 1793]	6	
Coast Guard	Organization keeping watch on shipping and coastal waters according to governmental law; normally the authority with responsibility for search and rescue. [IHOREG 1794]	7	
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. [IHOREG 1795]	8	
Military	A military authority which provides control of access to or approval for transit through designated areas or airspace. [IHOREG 1796]	9	
Private Company	A private or publicly owned company or commercial enterprise which exercises control of facilities, for example a calibration area. [IHOREG 1797]	10	
Maritime Police	A governmental or military force with jurisdiction in territorial waters. Examples could include Gendarmerie Maritime, Carabinierie, and Guardia Civil. [IHOREG 1798]	11	
Environmental	An authority with responsibility for the protection of the environment. [IHOREG 1799]	12	
Fishery	An authority with responsibility for the control of fisheries. [IHOREG 1800]	13	
Finance	An authority with responsibility for the control and movement of money. [IHOREG 1801]	14	
Maritime	A national or regional authority charged with administration of maritime affairs. [IHOREG 1802]	15	

Label	Definition	Code	Remarks
Customs	The agency or establishment for collecting duties, tolls. [IHOREG 1803]	16	

3.16 Category of Berth Location

Name: Category of Berth Location [IHOREG 1058]
Definition: Classification of a berth according to the method of describing its location or extent.
Code: categoryOfBerthLocation
Remarks:
Aliases: (none)
Value Type: enumeration

Listed Values

Label	Definition	Code	Remarks
Wharf Reference Metre Mark	A wharf or quay with reference position(s) given by one or more metre marks. [IHOREG 3129]	1	
Wharf Reference Position	A wharf or quay with reference position(s) given by one or more point or points in geographic coordinates. [IHOREG 3130]	2	
Pier (Jetty)	A long, narrow structure extending into the water to afford a berthing place for vessels, to serve as a promenade, etc. [IHOREG 537]	3	
Conventional Mooring	Mooring using the vessel's anchors and buoys to secure the vessel at multiple points. [IHOREG 3107]	4	

3.17 Category of Cargo

Name: Category of Cargo [IHOREG 401]
Definition: Classification of the different types of cargo that a ship may be carrying.
Code: categoryOfCargo
Remarks: If item 7 is used, the nature of dangerous or hazardous cargoes can be amplified with category of dangerous or hazardous cargo.
Aliases: CATCGO
Value Type: enumeration

Listed Values

Label	Definition	Code	Remarks
Container	One of a number of standard sized cargo carrying units, secured using standard corner attachments and bar. [IHOREG 1808]	2	
Passenger	A fee paying traveller. [IHOREG 1811]	5	
Livestock	Live animals carried in bulk. [IHOREG 1812]	6	
Dangerous or Hazardous	Dangerous or hazardous cargo as described by the IMO International Maritime Dangerous Goods code. [IHOREG 1813]	7	
Heavy Lift	Indivisible heavy items of weight generally over 100 tons, and width or height greater than 100 metres. [IHOREG 1814]	8	
Dry Bulk Cargo	Commodity cargo that is transported unpackaged in large quantities. These types of goods usually need to be kept dry during the whole transportation period.	10	

Label	Definition	Code	Remarks
	[IHOREG 3201]		
Liquid Bulk Cargo	Liquids or gases that are transported in bulk and carried unpackaged. [IHOREG 3202]	11	
Reefer Container Cargo	Cargo transported in refrigerated containers, generally perishable commodities which require temperature-controlled transportation, such as fruit, meat, fish, vegetables, dairy products and other foods. [IHOREG 3203]	12	
Ro-Ro Cargo	Wheeled cargo, such as cars, busses, trucks, agricultural vehicles and cranes, that are driven on and off the ship on their own wheels or using a platform vehicle, such as a self-propelled modular transporter. [IHOREG 3204]	13	
Project Cargo	Project cargo is a term used to broadly describe the national or international transportation of large, heavy, high value, or critical (to the project they are intended for) pieces of equipment. Also commonly referred to as heavy lift, this includes shipments made of various components which need disassembly for shipment and reassembly after delivery. [IHOREG 3205]	14	
Break Bulk Cargo	Goods that are stowed on board ship in individually counted units, and not in intermodal containers nor in bulk as with oil or grain. [IHOREG 3206]	15	

3.18 Category of Communication Preference

Name: Category of Communication Preference [IHOREG 402]
Definition: Classification of frequencies, VHF channels, telephone numbers, or other means of communication based on preference.
Code: categoryOfCommunicationPreference
Remarks:
Aliases: (none)
Value Type: enumeration

Listed Values

Label	Definition	Code	Remarks
Preferred Calling	The first choice channel or frequency to be used when calling a radio station. [IHOREG 1815]	1	
Alternate Calling	A channel or frequency to be used for calling a radio station when the preferred channel or frequency is busy or is suffering from interference. [IHOREG 1816]	2	
Preferred Working	The first choice channel or frequency to be used when working with a radio station. [IHOREG 1817]	3	
Alternate Working	A channel or frequency to be used for working with a radio station when the preferred working channel or frequency is busy or is suffering from interference. [IHOREG 1818]	4	

3.19 Category Of Dangerous Or Hazardous Cargo

Name: Category Of Dangerous Or Hazardous Cargo [IHOREG 406]
Definition: Classification of dangerous goods or hazardous materials based on the International Maritime Dangerous Goods Code (IMDG Code).

Code: categoryOfDangerousOrHazardousCargo
Remarks:
Aliases: CATDHC
Value Type: enumeration

Listed Values

Label	Definition	Code	Remarks
IMDG Code Class 1 Div. 1.1	Explosives, Division 1: Substances and articles which have a mass explosion hazard. [IHOREG 1834]	1	
IMDG Code Class 1 Div. 1.2	Explosives, Division 2: Substances and articles which have a projection hazard but not a mass explosion hazard. [IHOREG 1835]	2	
IMDG Code Class 1 Div. 1.3	Explosives, Division 3: Substances and articles which have a fire hazard and either a minor blast hazard or a minor projection hazard or both, but not a mass explosion hazard. [IHOREG 1836]	3	
IMDG Code Class 1 Div. 1.4	Explosives, Division 4: Substances and articles which present no significant hazard. [IHOREG 1837]	4	
IMDG Code Class 1 Div. 1.5	Explosives, Division 5: Very insensitive substances which have a mass explosion hazard. [IHOREG 1838]	5	
IMDG Code Class 1 Div. 1.6	Explosives, Division 6: Extremely insensitive articles which do not have a mass explosion hazard. [IHOREG 1839]	6	
IMDG Code Class 2 Div. 2.1	Gases, flammable gases. [IHOREG 1840]	7	
IMDG Code Class 2 Div. 2.2	Gases, non-flammable, non-toxic gases. [IHOREG 1841]	8	
IMDG Code Class 2 Div. 2.3	Gases, toxic gases. [IHOREG 1842]	9	
IMDG Code Class 3	Flammable liquids. [IHOREG 1843]	10	
IMDG Code Class 4 Div. 4.1	Flammable solids, self-reactive substances and desensitized explosives. [IHOREG 1844]	11	
IMDG Code Class 4 Div. 4.2	Substances liable to spontaneous combustion. [IHOREG 1845]	12	
IMDG Code Class 4 Div. 4.3	Substances which, in contact with water, emit flammable gases. [IHOREG 1846]	13	
IMDG Code Class 5 Div. 5.1	Oxidizing substances. [IHOREG 1847]	14	
IMDG Code Class 5 Div. 5.2	Organic peroxides. [IHOREG 1848]	15	
IMDG Code Class 6 Div. 6.1	Toxic substances. [IHOREG 1849]	16	
IMDG Code Class 6 Div. 6.2	Infectious substances. [IHOREG 1850]	17	
IMDG Code Class 7	Radioactive material. [IHOREG 1851]	18	
IMDG Code Class 8	Corrosive substances. [IHOREG 1852]	19	
IMDG Code Class 9	Miscellaneous dangerous substances and articles. [IHOREG 1853]	20	

Label	Definition	Code	Remarks
Harmful Substances in Packaged Form	Harmful substances are those substances which are identified as marine pollutants in the International Maritime Dangerous Goods Code (IMDG Code). Packaged form is defined as the forms of containment specified for harmful substances in the IMDG Code. [IHOREG 1854]	21	

3.20 Category of Depths Description

Name: Category of Depths Description [IHOREG 1034]
Definition: Classification of significant aspects of depths about which information is provided.
Code: categoryOfDepthsDescription
Remarks:
Aliases: (none)
Value Type: enumeration

Listed Values

Label	Definition	Code	Remarks
Shoal	A shallow elevation composed of unconsolidated material that may constitute a hazard to surface navigation. [IHOREG 491]	1	
General Depth	General information about the vertical distance from the water surface to the bottom. [IHOREG 3091]	2	
Controlling Depth	The least depth in the approach or channel to an area, such as a port or anchorage, governing the maximum draft of vessels that can enter. [IHOREG 3092]	3	

3.21 Category of Harbour Facility

Name: Category of Harbour Facility [IHOREG 26]
Definition: Classification of harbour use.
Code: categoryOfHarbourFacility
Remarks:
Aliases: CATHAF
Value Type: enumeration

Listed Values

Label	Definition	Code	Remarks
RoRo Terminal	A terminal for roll-on roll-off ferries. [IHOREG 137]	1	
Ferry Terminal	A terminal for passenger and vehicle ferries. [IHOREG 138]	3	
Fishing Harbour	A harbour with facilities for fishing boats. [IHOREG 139]	4	
Yacht Harbour/Marina	A harbour facility for small boats, yachts, etc., where supplies, repairs, and various services are available. [IHOREG 140]	5	
Naval Base	A centre of operations for naval vessels. [IHOREG 141]	6	
Tanker Terminal	A terminal for the bulk handling of liquid cargoes. [IHOREG 142]	7	
Passenger Terminal	A terminal for the loading and unloading of passengers. [IHOREG 143]	8	
Shipyard	A place where ships are built or repaired.	9	

Label	Definition	Code	Remarks
	[IHOREG 144]		
Container Terminal	A terminal with facilities to load/unload or store shipping containers. [IHOREG 145]	10	
Bulk Terminal	A terminal for the handling of bulk materials such as iron ore, coal, etc. [IHOREG 146]	11	
Ship Lift	A platform powered by synchronous electric motors (for example syncrolift) used to lift vessels (larger than boats) in and out of the water. [IHOREG 147]	12	
Straddle Carrier	A wheeled vehicle designed to lift and carry containers or vessels within its own framework. It is used for moving, and sometimes stacking, shipping containers and vessels. [IHOREG 148]	13	
Service Harbour	A harbour within which the floating equipment (dredges, tugs ...) of harbour services are stationed. [IHOREG 149]	14	
Pilotage Service	The services of a person who directs the movements of a vessel through pilot waters, usually a person who has demonstrated extensive knowledge of channels, aids to navigation, dangers to navigation, etc., in a particular area and is licensed for that area, are available. [IHOREG 150]	15	
Service and Repair	A place where mechanical services or repairs can be undertaken to engines or other vessel equipment. [IHOREG 1391]	16	
Quarantine Station	A medical control center located in an isolated spot ashore where patients with contagious diseases from vessel in quarantine are taken. [IHOREG 1392]	17	

3.22 Category of Mooring/Warping Facility

Name: Category of Mooring/Warping Facility [IHOREG 38]
Definition: A place or structure to which a vessel can be secured.
Code: categoryOfMooringWarpingFacility
Remarks:
Aliases: CATMOR
Value Type: enumeration

Listed Values

Label	Definition	Code	Remarks
Dolphin	A post or group of posts, used for mooring or warping a vessel, or as an aid to navigation. The dolphin may be in the water, on a wharf or on the beach. [IHOREG 302]	1	
Deviation Dolphin	A post or group of posts, which a vessel may swing around for compass adjustment. [IHOREG 303]	2	
Bollard	Small shaped post, mounted on a wharf or dolphin used to secure ship's lines. [IHOREG 304]	3	
Tie-Up Wall	A section of wall designated for tying-up vessels awaiting transit. Bollards and mooring devices are available for both large and small ships.	4	

Label	Definition	Code	Remarks
	[IHOREG 305]		
Post or Pile	A long heavy timber or section of steel, wood, concrete, etc., forced into the seabed to serve as a mooring facility. [IHOREG 306]	5	
Mooring Cable	A chain or very strong fibre or wire rope used to anchor or moor vessels or buoys. [IHOREG 63]	6	
Mooring Buoy	A buoy secured to the bottom by permanent moorings with means for mooring a vessel by use of its anchor chain or mooring lines. [IHOREG 307]	7	

3.23 Category of Port Section

Name: Category of Port Section [IHOREG 1032]
Definition: Classification of subdivisions of a port or harbour area by usage.
Code: categoryOfPortSection
Remarks:
Aliases: (none)
Value Type: enumeration

Listed Values

Label	Definition	Code	Remarks
Port Fairway	The main navigable channel in a harbour or its approaches, for vessels of larger size. [IHOREG 3079]	1	
Berth Pocket	A body of water at a berth or anchor berth, of adequate dimensions to allow a vessel to make fast to the shore, mooring buoys, berthing dolphins or to anchor. [IHOREG 3080]	3	
Seaplane Anchorage	An area in which sea-planes anchor or may anchor. [IHOREG 34]	8	
Dredged Basin	An area of water or channel enlargement of increased depth compared to adjacent areas, where the depth is maintained by dredging operations. [IHOREG 3081]	9	
Port Safety Zone	The area around a port facility or harbour installation within which vessels are prohibited from entering without permission. [IHOREG 3082]	11	
Lay-by Berth	A general berth for use by vessels for short term waiting until a loading or discharging berth is available. [IHOREG 3083]	12	

3.24 Category of Relationship

Name: Category of Relationship [IHOREG 422]
Definition: Expresses constraints or requirements on vessel actions or activities in relation to a geographic feature, facility, or service.
Code: categoryOfRelationship
Remarks:
Aliases: (none)
Value Type: enumeration

Listed Values

Label	Definition	Code	Remarks
Prohibited	Use of facility, waterway or service is forbidden.	1	

Label	Definition	Code	Remarks
	[IHOREG 1953]		
Not Recommended	Use of facility, waterway or service is not recommended. [IHOREG 1954]	2	
Permitted	Use of facility, waterway, or service is permitted but not required. [IHOREG 1955]	3	
Recommended	Use of facility, waterway, or service is recommended. [IHOREG 1956]	4	
Required	Use of facility, waterway, or service is required. [IHOREG 1957]	5	
Not Required	Use of facility, waterway, or service is not required. [IHOREG 1958]	6	

3.25 Category of Schedule

Name: Category of Schedule [IHOREG 57]
Definition: The type of schedule, for instance opening, closure, etc.
Code: categoryOfSchedule
Remarks:
Aliases: (none)
Value Type: enumeration

Listed Values

Label	Definition	Code	Remarks
Normal Operation	The service, office, is open, fully manned, and operating normally, or the area is accessible as usual. [IHOREG 429]	1	
Closure	The service, office, or area is closed. [IHOREG 430]	2	
Unmanned Operation	The service is available but not manned. [IHOREG 431]	3	

3.26 Category of Temporal Variation

Name: Category of Temporal Variation [IHOREG 200]
Definition: An assessment of the likelihood of change over time.
Code: categoryOfTemporalVariation
Remarks:
Aliases: (none)
Value Type: enumeration

Listed Values

Label	Definition	Code	Remarks
Extreme Event	Indication of the possible impact of a significant event (for example hurricane, earthquake, volcanic eruption, landslide, etc), which is considered likely to have changed the seafloor or landscape significantly. [IHOREG 1241]	1	
Likely to Change and Significant Shoaling Expected	Continuous or frequent change (for example river siltation, sand waves, seasonal storms, ice bergs, etc) that is likely to result in new significant shoaling. [IHOREG 1242]	2	
Likely to Change But Significant Shoaling Not	Continuous or frequent change (for example sand wave shift, seasonal storms, ice bergs, etc) that is not likely to result in new significant shoaling. [IHOREG 1243]	3	

Label	Definition	Code	Remarks
Expected			
Likely to Change	Continuous or frequent change to non-bathymetric features (for example river siltation, glacier creep/recession, sand dunes, buoys, marine farms, etc). [IHOREG 1244]	4	
Unlikely to Change	Significant change to the seafloor is not expected. [IHOREG 1245]	5	
Unassessed	Not having been assessed. [IHOREG 1246]	6	

3.27 Category of Text

Name: Category of Text [IHOREG 429]
Definition: Classification of completeness of textual information in relation to the source material from which it is derived.
Code: categoryOfText
Remarks:
Aliases: CATTXT
Value Type: enumeration

Listed Values

Label	Definition	Code	Remarks
Abstract or Summary	A statement summarizing the important points of a text. [IHOREG 1996]	1	
Extract	An excerpt or excerpts from a text. [IHOREG 1997]	2	
Full Text	The whole text. [IHOREG 1998]	3	

3.28 Category of Vessel Registry

Name: Category of Vessel Registry [IHOREG 430]
Definition: The locality of vessel registration or enrolment relative to the nationality of a port, territorial sea, administrative area, exclusive zone or other location.
Code: categoryOfVesselRegistry
Remarks:
Aliases: (none)
Value Type: enumeration

Listed Values

Label	Definition	Code	Remarks
Domestic	The vessel is registered or enrolled under the same national flag as the port, harbour, territorial sea, exclusive economic zone, or administrative area in which the object that possesses this attribute applies or is located. [IHOREG 1999]	1	
Foreign	The vessel is registered or enrolled under a national flag different from the port, harbour, territorial sea, exclusive economic zone, or other administrative area in which the object that possesses this attribute applies or is located. [IHOREG 2000]	2	

3.29 Cathodic Protection System

Name: Cathodic Protection System [IHOREG 1035]

Definition: A system used to protect metal structures against corrosion by supplying direct current to the immersed external surface of the structure.
Code: `cathodicProtectionSystem`
Remarks: Cathodic protection is applied to protect harbour installations from corrosion due to seawater, brackish water, saline mud or soil fill.
Aliases: (none)
Value Type: boolean

3.30 City Name

Name: City Name [IHOREG 434]
Definition: The name of a town or city.
Code: `cityName`
Remarks:
Aliases: CITYNM
Value Type: text

3.31 Communication Channel

Name: Communication Channel [IHOREG 74]
Definition: A channel number assigned to a specific radio frequency, frequencies or frequency band.
Code: `communicationChannel`
Remarks: The expected input is the specific VHF-Channel. The attribute 'communication channel' encodes the various VHF-channels used for communication.
Aliases: COMCHA
Value Type: text

3.32 Comparison Operator

Name: Comparison Operator [IHOREG 441]
Definition: Numerical comparison.
Code: `comparisonOperator`
Remarks: Provides the relation between the value given in the model and the real ship's value.
Aliases: COMPOP
Value Type: enumeration

Listed Values

Label	Definition	Code	Remarks
`Greater Than`	The value of the left value is greater than that of the right. [IHOREG 2039]	`1`	
`Greater Than or Equal To`	The value of the left expression is greater than or equal to that of the right. [IHOREG 2040]	`2`	
`Less Than`	The value of the left expression is less than that of the right. [IHOREG 2041]	`3`	
`Less Than or Equal To`	The value of the left expression is less than or equal to that of the right. [IHOREG 2042]	`4`	
`Equal To`	The two values are equivalent. [IHOREG 2043]	`5`	
`Not Equal To`	The two values are not equivalent. [IHOREG 2044]	`6`	

3.33 Condition

Name: Condition [IHOREG 75]
Definition: The various conditions of buildings and other constructions.
Code: `condition`
Remarks: The default 'condition' should be considered to be completed, undamaged and working normally.
Aliases: CONDTN

Value Type: enumeration

Listed Values

Label	Definition	Code	Remarks
Under Construction	Being built but not yet capable of function. [IHOREG 804]	1	
Ruined	A structure in a decayed or deteriorated condition resulting from neglect or disuse, or a damaged structure in need of repair. [IHOREG 805]	2	
Under Reclamation	An area of the sea, a lake or the navigable part of a river that is being reclaimed as land, usually by the dumping of earth and other material. [IHOREG 806]	3	
Planned Construction	Detailed planning has been completed but construction has not been initiated. [IHOREG 808]	5	

3.34 Contact Instructions

Name: Contact Instructions [IHOREG 76]
Definition: Instructions provided on how to contact a particular person, organisation or service.
Code: contactInstructions
Remarks:
Aliases: (none)
Value Type: text

3.35 Country Name

Name: Country Name [IHOREG 449]
Definition: The name of a nation.
Code: countryName
Remarks:
Aliases: (none)
Value Type: text

3.36 Date End

Name: Date End [IHOREG 790]
Definition: The latest date on which an object (for example a buoy) will be present.
Code: dateEnd
Remarks: The Date End should be encoded using 4 digits for the calendar year (YYYY), 2 digits for the month (MM) (for example April = 04) and 2 digits for the day (DD). When no specific month and/or day is required/known, indication of the month and/or day is omitted, and replaced with dashes (-). When no specific year is required (that is, the event or date range ends at the same time each year) the following two cases may be considered:- same day each year: ----MMDD- same month each year: ----MM--This conforms to ISO 8601: 2004. Date End indicates the latest date of an event or the end of a date range. It is used to indicate the end of a fixed date range, the end of a periodic date range, or the removal or cancellation of a feature at a specific date in the future.
Aliases: DATEND
Value Type: S100_TruncatedDate

3.37 Date Fixed

Name: Date Fixed [IHOREG 791]
Definition: The date of an event.
Code: dateFixed
Remarks:
Aliases: (none)
Value Type: S100_TruncatedDate

3.38 Date Start

Name: Date Start [IHOREG 792]
Definition: The earliest date on which an object (for example a buoy) will be present.
Code: `dateStart`
Remarks: The Date Start should be encoded using 4 digits for the calendar year (YYYY), 2 digits for the month (MM) (for example April = 04) and 2 digits for the day (DD). When no specific month and/or day is required/known, indication of the month and/or day is omitted, and replaced with dashes (-). When no specific year is required (that is, the event or date range ends at the same time each year) the following two cases may be considered:- same day each year: ----MMDD- same month each year: ----MM--This conforms to ISO 8601: 2004. Date Start indicates the earliest date of an event or the start of a date range. It is used to indicate the start of a fixed date range, the start of a periodic date range, or the deployment or implementation of a feature at a specific date in the future.
Aliases: DATSTA
Value Type: S100_TruncatedDate

3.39 Date Variable

Name: Date Variable [IHOREG 82]
Definition: A day which is not fixed in the Gregorian calendar.
Code: `dateVariable`
Remarks: Examples: The fourth Thursday in November; new moon day of Kartika (Diwali); Easter Sunday.
Aliases: (none)
Value Type: text

3.40 Day of Week

Name: Day of Week [IHOREG 83]
Definition: Any one of seven days in a week.
Code: `dayOfWeek`
Remarks:
Aliases: (none)
Value Type: enumeration

Listed Values

Label	Definition	Code	Remarks
`Sunday`	The first day of the week. [IHOREG 813]	`1`	
`Monday`	The second day of the week. [IHOREG 814]	`2`	
`Tuesday`	The third day of the week. [IHOREG 815]	`3`	
`Wednesday`	The fourth day of the week. [IHOREG 816]	`4`	
`Thursday`	The fifth day of the week. [IHOREG 817]	`5`	
`Friday`	The sixth day of the week. [IHOREG 818]	`6`	
`Saturday`	The seventh day of the week. [IHOREG 819]	`7`	

3.41 Day of Week is Range

Name: Day of Week is Range [IHOREG 84]
Definition: A statement expressing if the days of the week identified define a range or not.
Code: `dayOfWeekIsRange`
Remarks: A True value is an indication that the identified days of the week define a range between and inclusive of those days.
Aliases: (none)
Value Type: boolean

3.42 Delivery Point

Name: Delivery Point [IHOREG 460]
Definition: Details of where post can be delivered such as the apartment, name and/or number of a street, building or PO Box.
Code: `deliveryPoint`
Remarks:
Aliases: DELPNT
Value Type: text

3.43 Development

Name: Development [IHOREG 1002]
Definition: Describes a feature that is in development.
Code: `development`
Remarks:
Aliases: (none)
Value Type: text

3.44 Display Name

Name: Display Name [IHOREG 94]
Definition: A statement expressing if a feature name is to be displayed in certain system display settings or not.
Code: `displayName`
Remarks: Where it is allowable to encode multiple instances of feature name for a single feature instance, only one feature name instance can indicate that the name is to be displayed (display name set to True).
Aliases: (none)
Value Type: boolean

3.45 Distance

Name: Distance [IHOREG 812]
Definition: A numeric measure of the spatial separation between two locations.
Code: `distance`
Remarks:
Aliases: (none)
Value Type: real

Unit of measure name: Nautical Mile definition: Nautical mile symbol: NM

Quantity specification: length

Constraints

string Length	text Pattern	range	precision
(not specified)	(none)	(not specified)	1

For real values, precision is the number of digits after the decimal point.

3.46 Dynamic Resource

Name: Dynamic Resource [IHOREG 471]
Definition: Whether a vessel must use a shore-based or other resource to obtain up-to-date information.
Code: `dynamicResource`
Remarks:
Aliases: (none)
Value Type: enumeration

Listed Values

Label	Definition	Code	Remarks
Static	The information is static, or a source of up-to-date information is unavailable or unknown. [IHOREG 2073]	1	
Mandatory External Dynamic	An external source of up-to-date information is available and interaction with it to obtain up-to-date information is required. [IHOREG 2074]	2	
Optional External Dynamic	An external source of up-to-date information is available but interaction with it to obtain up-to-date information is not required. [IHOREG 2075]	3	
Onboard Dynamic	Up-to-date information may be computed using only onboard resources. [IHOREG 2076]	4	

3.47 Elevation

Name: Elevation [IHOREG 826]
Definition: The altitude of the ground level of an object, measured from a specified vertical datum.
Code: elevation
Remarks:
Aliases: ELEVAT
Value Type: real

Unit of measure name: metre definition: SI metre symbol: m

Quantity specification: length

Constraints

string Length	text Pattern	range		precision
(not specified)	(none)	lowerBound	0.0	(not specified)
		upperBound	8850.0	
		closure	closedInterval	

For real values, precision is the number of digits after the decimal point.

3.48 Entrance Description

Name: Entrance Description [IHOREG 1036]
Definition: Description of the seaward end of a channel, harbour, dock, etc.
Code: entranceDescription
Remarks:
Aliases: (none)
Value Type: text

3.49 File Locator

Name: File Locator [IHOREG 101]
Definition: The location of a fragment of text or other information in a support file.
Code: fileLocator
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.
Aliases: (none)
Value Type: text

3.50 File Reference

Name: File Reference [IHOREG 102]
Definition: The file name of an externally referenced text file.
Code: `fileReference`
Remarks:
Aliases: TXTDSC
Value Type: text

3.51 Firefighting Service

Name: Firefighting Service [IHOREG 1037]
Definition: Services for combating fires, provided by different methods.
Code: `firefightingService`
Remarks:
Aliases: (none)
Value Type: enumeration

Listed Values

Label	Definition	Code	Remarks
`Shore-Based Firefighting`	Personnel and equipment that are capable of combating a fire from ashore. [IHOREG 3093]	`1`	Generally do not have training in or capability of boarding and combating a fire on a vessel. For example, portable fire pumps and shore side fire trucks.
`Onboard Firefighting`	Trained firefighting personnel with the capability of boarding and combating a fire on a vessel. [IHOREG 3094]	`2`	
`Firefighting Boat`	Specialised watercraft with firefighting apparatus designed for fighting shoreline and shipboard fires [IHOREG 3095]	`3`	

3.52 Frequency Shore Station Receives

Name: Frequency Shore Station Receives [IHOREG 924]
Definition: The shore station receiver frequency.
Code: `frequencyShoreStationReceives`
Remarks:
Aliases: FRQRXV
Value Type: integer

Unit of measure name: Hz definition: Cycles per second symbol: Hz

Quantity specification: frequency

Constraints

string Length	text Pattern	range		precision
(not specified)	(none)	lowerBound	1	(not specified)
		upperBound	(none)	
		closure	gtSemiInterval	

3.53 Frequency Shore Station Transmits

Name: Frequency Shore Station Transmits [IHOREG 925]

Definition: The shore station transmitter frequency.
Code: `frequencyShoreStationTransmits`
Remarks:
Aliases: FRQTXM
Value Type: integer

Unit of measure name: Hz definition: Cycles per second symbol: Hz

Quantity specification: frequency

Constraints

string Length	text Pattern	range		precision
(not specified)	(none)	lowerBound	1	(not specified)
		upperBound	(none)	
		closure	gtSemiInterval	

3.54 GLN Extension

Name: GLN Extension [IHOREG 1022]
Definition: The GLN extension component is used to identify internal physical locations within a location which is identified with a GLN. Must conform to the rules for GLN extension. (GS1 specification).
Code: `gLNExtension`
Remarks:
Aliases: (none)
Value Type: text

3.55 Global Location Number

Name: Global Location Number [IHOREG 997]
Definition: A globally unique, standardised identifier for parties and locations in business processes or supply chains.
Code: `globalLocationNumber`
Remarks: Global Location Numbers may be used to identify physical or digital locations, legal entities, organisational subdivisions or departments. A Global Location Number must conform to the GLN format specified in GS1 General Specifications.
Aliases: GLN
Value Type: text

Constraints

string Length	text Pattern	range	precision
13	\d{13}	(not specified)	(not specified)

3.56 Headline

Name: Headline [IHOREG 108]
Definition: Words set at the head of a passage or page to introduce or categorize.
Code: `headline`
Remarks:
Aliases: (none)
Value Type: text

3.57 Heaving Lines From Shore

Name: Heaving Lines From Shore [IHOREG 1038]
Definition: Ships must take heaving lines thrown from the shore.

Code: heavingLinesFromShore
Remarks: Some ports make a ship take their heaving line.
Aliases: (none)
Value Type: boolean

3.58 Horizontal Distance Uncertainty

Name: Horizontal Distance Uncertainty [IHOREG 837]
Definition: The best estimate of the horizontal accuracy of horizontal clearances and distances.
Code: horizontalDistanceUncertainty
Remarks: The error is assumed to be positive and negative. The plus/minus character must not be encoded.
Aliases: HORACC
Value Type: real

Unit of measure name: metres definition: SI Metres symbol: m

Quantity specification: length

Constraints

string Length	text Pattern	range		precision
(not specified)	(none)	lowerBound	0	1
		upperBound	(none)	
		closure	geSemiInterval	

For real values, precision is the number of digits after the decimal point.

3.59 ID Code

Name: ID Code [IHOREG 522]
Definition: Identification code as specified in predefined system. Also called identification number.
Code: iDCode
Remarks:
Aliases: Identification Number; Identification Code
Value Type: text

3.60 In Ballast

Name: In Ballast [IHOREG 524]
Definition: Whether the vessel is in ballast.
Code: inBallast
Remarks:
Aliases: (none)
Value Type: boolean

3.61 ISPS Level

Name: ISPS Level [IHOREG 533]
Definition: Classification of ISPS security levels according to the ISPS Code.
Code: iSPSLevel
Remarks:
Aliases: (none)
Value Type: enumeration

Listed Values

Label	Definition	Code	Remarks
ISPS Level 1	The level for which minimum appropriate protective security measures shall be maintained at all times.	1	

Label	Definition	Code	Remarks
	[IHOREG 2461]		
ISPS Level 2	The level for which appropriate additional protective security measures shall be maintained for a period of time as a result of heightened risk of a security incident. [IHOREG 2462]	2	
ISPS Level 3	The level for which further specific protective security measures shall be maintained for a limited period of time when a security incident is probable or imminent, although it may not be possible to identify the specific target. [IHOREG 2463]	3	

3.62 Language

Name: Language [IHOREG 120]
Definition: The method of human communication, either spoken or written, consisting of the use of words in a structured and conventional way.
Code: language
Remarks: The language is encoded by a 3 character code following ISO 639-2/T.
Aliases: (none)
Value Type: text

3.63 Local Knowledge Description

Name: Local Knowledge Description [IHOREG 1062]
Definition: Description of local knowledge that may be needed, for example to traverse a location.
Code: localKnowledgeDescription
Remarks:
Aliases: (none)
Value Type: text

3.64 Location by Text

Name: Location by Text [IHOREG 545]
Definition: A textual rendering of a geographic location.
Code: locationByText
Remarks:
Aliases: (none)
Value Type: text

3.65 Location Maritime Resource Name

Name: Location Maritime Resource Name [IHOREG 546]
Definition: Location identifier, based on MRN. This can be either a specific identifier for an identified physical location or a type-only identifier for a logical location, such as BERTH.
Code: locationMRN
Remarks:
Aliases: (none)
Value Type: URN

3.66 Logical Connectives

Name: Logical Connectives [IHOREG 547]
Definition: Expresses whether all the constraints described by its co-attributes must be satisfied, or only one such constraint need be satisfied.
Code: logicalConnectives
Remarks: Is intended to be used with co-attributes that encode limits on vessel dimensions, type of cargo, and other characteristics. The combination of constraints described by logicalConnectives and its co-attributes defines a subset of vessels to which information described by a feature or information type instance applies (or does not apply, is required, recommended, etc.). The relationship between the vessel subset and the information is indicated by an association - see PermissionType and InclusionType). The two listed values of logicalConnective are two of

the basic operations of Boolean logic. The third basic operation (not) is not used.
Aliases: LOGCON
Value Type: enumeration

Listed Values

Label	Definition	Code	Remarks
Logical Conjunction	All the conditions described by the other attributes of the object, or sub-attributes of the same complex attribute, are true. [IHOREG 2487]	1	
Logical Disjunction	At least one of the conditions described by the other attributes of the object, or sub-attributes of the same complex attributes, is true. [IHOREG 2488]	2	

3.67 Manifold Number

Name: Manifold Number [IHOREG 1020]
Definition: An identifier for a specific location on a manifold (a pipe or chamber with several openings).
Code: manifoldNumber
Remarks:
Aliases: (none)
Value Type: text

3.68 Maximum Display Scale

Name: Maximum Display Scale [IHOREG 936]
Definition: The largest intended viewing scale for the data.
Code: maximumDisplayScale
Remarks:
Aliases: (none)
Value Type: integer

Constraints

string Length	text Pattern	range		precision
(not specified)	(none)	lowerBound	1	(not specified)
		upperBound	(none)	
		closure	geSemiInterval	

3.69 Medical Service

Name: Medical Service [IHOREG 1039]
Definition: Services for the prevention or treatment of, or response to injury or illness.
Code: medicalService
Remarks:
Aliases: (none)
Value Type: enumeration

Listed Values

Label	Definition	Code	Remarks
Ambulance	A vehicle for conveying the sick or injured to or from a hospital. [IHOREG 3096]	1	
Fumigation	Disinfection or purification with fumes. [IHOREG 3097]	2	
Doctor	A place where a doctor is available to provide medical attention. [IHOREG 597]	3	
Quarantine	The isolation of patients with contagious diseases.	4	

Label	Definition	Code	Remarks
	[IHOREG 3098]		
Vaccination Centre	A place where substances intended to procure immunity against one or several diseases are administered. [IHOREG 3099]	5	

3.70 Membership

Name: Membership [IHOREG 556]
Definition: Indicates whether a vessel is included or excluded from the regulation/restriction/recommendation/nautical information.
Code: membership
Remarks:
Aliases: (none)
Value Type: enumeration

Listed Values

Label	Definition	Code	Remarks
Included	Vessels with these characteristics are included in the regulation/restriction/recommendation/nautical information. [IHOREG 2499]	1	
Excluded	Vessels with these characteristics are excluded from the regulation/restriction/recommendation/nautical information. [IHOREG 3437]	2	

3.71 Method of Securing

Name: Method of Securing [IHOREG 1040]
Definition: The process, arrangement or scheme of attachment used to secure a vessel to a berth.
Code: methodOfSecuring
Remarks:
Aliases: (none)
Value Type: enumeration

Listed Values

Label	Definition	Code	Remarks
Bow to Seaward	Vessel is secured perpendicular to the wharf with bow to seaward. [IHOREG 3100]	1	
Stern to Seaward	Vessel is secured perpendicular to the wharf with stern to the seaward. [IHOREG 3101]	2	
Mediterranean Mooring	The vessel is secured perpendicular to the wharf. [IHOREG 3102]	3	Mediterranean mooring may be bow-to or stern-to the wharf. In a Mediterranean mooring the vessel sets a temporary anchor off the pier and then approaches the pier at a perpendicular angle. The vessel then runs two lines to the pier. Alternatively, simple moorings may be placed off the pier and vessels may tie to these instead of setting a temporary anchor.
Baltic Mooring	Mooring method/procedure used during onshore wind conditions without a tug. [IHOREG 3103]	4	
Running Mooring	Mooring by maneuvering ahead	5	

Label	Definition	Code	Remarks
	and astern while dropping anchors to secure the vessel with reduced swinging room. [IHOREG 3104]		
Standing Mooring	Mooring by using mainly wind and tide to position the vessel while dropping anchors to secure the vessel with reduced swinging room. Makes limited use of the engine to position the vessel. [IHOREG 3105]	6	
Single Point Mooring	A mooring structure used by tankers to load and unload in port approaches or in offshore oil and gas fields. The size of the structure can vary between a large mooring buoy and a manned floating structure. [IHOREG 3106]	7	
Conventional Mooring	Mooring using the vessel's anchors and buoys to secure the vessel at multiple points. [IHOREG 3107]	8	
Ship-to-Ship Mooring	Mooring alongside another vessel. [IHOREG 3108]	9	
Spider Buoy Mooring	Mooring system supported by a spider buoy. [IHOREG 3109]	10	

3.72 Metre Mark Number

Name: Metre Mark Number [IHOREG 1021]
Definition: An identifier for a specific position along a linear or curvilinear extent of a wharf, quay, or jetty. Numbering may be continued over multiple segments.
Code: metreMarkNumber
Remarks: Metre marks may be painted so as to be visible to ships approaching alongside. Metre mark numbering typically starts with zero at one end and increases with distance alongside from the commencement point.
Aliases: (none)
Value Type: text

3.73 Minimum Berth Depth

Name: Minimum Berth Depth [IHOREG 1019]
Definition: The least depth of the body of water at the berth or in a berth pocket adjacent to the berth.
Code: minimumBerthDepth
Remarks: The minimum depth is measured from a specified sounding datum. A berth pocket is the body of water at a berth or anchor berth, of adequate dimensions to allow a vessel to make fast to the shore, mooring buoys, berthing dolphins or to anchor.
Aliases: (none)
Value Type: real

Unit of measure name: metre definition: SI metre symbol: m

Constraints

string Length	text Pattern	range		precision
(not specified)	(none)	lowerBound	0.00	(not specified)

string Length	text Pattern	range		precision
		upperBound	(none)	
		closure	gtSemiInterval	

For real values, precision is the number of digits after the decimal point.

3.74 Minimum Display Scale

Name: Minimum Display Scale [IHOREG 941]
Definition: The smallest intended viewing scale for the data.
Code: `minimumDisplayScale`
Remarks:
Aliases: (none)
Value Type: integer

Constraints

string Length	text Pattern	range		precision
(not specified)	(none)	lowerBound	1	(not specified)
		upperBound	(none)	
		closure	geSemiInterval	

3.75 MMSI Code

Name: MMSI Code [IHOREG 131]
Definition: The Maritime Mobile Service Identity (MMSI) Code is formed of a series of nine digits which are transmitted over the radio path in order to uniquely identify ship stations, ship earth stations,coast stations, coast earth stations, and group calls. These identities are formed in such a way that the identity or part thereof can be used by telephone and telex subscribers connected to the general telecommunications network principally to call ships automatically.
Code: `mMSICode`
Remarks:
Aliases: (none)
Value Type: text

3.76 Name

Name: Name [IHOREG 134]
Definition: The individual name of a feature.
Code: `name`
Remarks:
Aliases: OBJNAM
Value Type: text

3.77 Name of Resource

Name: Name of Resource [IHOREG 135]
Definition: Name of the online resource.
Code: `nameOfResource`
Remarks:
Aliases: (none)
Value Type: text

3.78 Nationality

Name: Nationality [IHOREG 136]
Definition: Identifier of membership of a particular nation.

Code: nationality
Remarks:
Aliases: NATION
Value Type: text

3.79 Online Function

Name: Online Function [IHOREG 577]
Definition: Code for function performed by the online resource.
Code: onlineFunction
Remarks:
Aliases: ONLFUN
Value Type: enumeration

Listed Values

Label	Definition	Code	Remarks
Download	Online instructions for transferring data from one storage device or system to another. [IHOREG 1894]	1	
Offline Access	Online instructions for requesting the resource from the provider. [IHOREG 1896]	3	
Order	Online order process for obtaining the resource. [IHOREG 1897]	4	
Search	To make painstaking investigation or examination. [IHOREG 1898]	5	
Complete Metadata	Complete metadata provided. [IHOREG 2510]	6	
Browse Graphic	Browse graphic provided. [IHOREG 2511]	7	
Upload	Online resource upload capability provided. [IHOREG 2512]	8	
Email Service	Online email service provided. [IHOREG 2513]	9	
Browsing	Online browsing provided. [IHOREG 2514]	10	
File Access	Online file access provided. [IHOREG 2515]	11	

3.80 Online Resource Description

Name: Online Resource Description [IHOREG 579]
Definition: Detailed text description of what the online resource is/does.
Code: onlineResourceDescription
Remarks:
Aliases: (none)
Value Type: text

3.81 Online Resource Linkage URL

Name: Online Resource Linkage URL [IHOREG 580]
Definition: Universal Resource Locator of the online resource.
Code: onlineResourceLinkageURL
Remarks:
Aliases: (none)
Value Type: URL

3.82 Orientation Uncertainty

Name: Orientation Uncertainty [IHOREG 859]

Definition: The best estimate of the accuracy of a bearing.
Code: `orientationUncertainty`
Remarks:
Aliases: (none)
Value Type: real

3.83 Orientation Value

Name: Orientation Value [IHOREG 860]
Definition: The angular distance measured from true north to the major axis of the feature.
Code: `orientationValue`
Remarks:
Aliases: ORIENT
Value Type: real

Unit of measure name: degrees definition: degrees of arc symbol: °

Quantity specification: planeAngle

Constraints

string Length	text Pattern	range		precision
(not specified)	(none)	lowerBound	0.0	1
		upperBound	360.0	
		closure	closedInterval	

For real values, precision is the number of digits after the decimal point.

3.84 Pictorial Representation

Name: Pictorial Representation [IHOREG 142]
Definition: Indicates whether a pictorial representation of the feature is available.
Code: `pictorialRepresentation`
Remarks: The 'pictorial representation' could be a drawing or a photo. The string encodes the file name of an external graphic file (pixel/vector).
Aliases: PICREP
Value Type: text

3.85 Picture Caption

Name: Picture Caption [IHOREG 593]
Definition: Short description of the purpose of the image.
Code: `pictureCaption`
Remarks:
Aliases: (none)
Value Type: text

3.86 Picture Information

Name: Picture Information [IHOREG 594]
Definition: A set of information to provide credits to picture creator, copyright owner etc.
Code: `pictureInformation`
Remarks:
Aliases: (none)
Value Type: text

3.87 Port Facility Number

Name: Port Facility Number [IHOREG 1018]

Definition: Number assigned to the port facility in the IMO port facility database.
Code: `portFacilityNumber`
Remarks: The IMO port facility number consists of a UN LOCODE with a 4-digit sufffix, seperated by a hyphen, for example USLAX-0001.
Aliases: IMO Port Facility Number
Value Type: text

3.88 Postal Code

Name: Postal Code [IHOREG 602]
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.
Code: `postalCode`
Remarks:
Aliases: POSCOD; Postcode; ZIP Code
Value Type: text

3.89 Product

Name: Product [IHOREG 144]
Definition: The various substances which are transported, stored or exploited.
Code: `product`
Remarks:
Aliases: PRODCT
Value Type: enumeration

Listed Values

Label	Definition	Code	Remarks
Oil	A thick, slippery liquid that will not dissolve in water, usually petroleum based in the context of storage tanks. [IHOREG 979]	1	
Gas	A substance with particles that can move freely, usually a fuel substance in the context of storage tanks. [IHOREG 980]	2	
Stone	A general term for rock and rock fragments ranging in size from pebbles and gravel to boulders or large rock masses. [IHOREG 955]	4	
Coal	A hard black mineral that is burned as fuel. [IHOREG 982]	5	
Ore	A solid rock or mineral from which metal is obtained. [IHOREG 983]	6	
Chemicals	Any substance obtained by or used in a chemical process. [IHOREG 984]	7	
Milk	A white fluid secreted by female mammals as food for their young. [IHOREG 986]	9	
Bauxite	A mineral from which aluminum is obtained. [IHOREG 987]	10	
Coke	A solid substance obtained after gas and tar have been extracted from coal, used as a fuel. [IHOREG 988]	11	
Iron Ingots	An oblong lump of cast iron metal. [IHOREG 989]	12	
Salt	Sodium chloride obtained from mines or by the evaporation of sea water. [IHOREG 990]	13	
Sand	Loose material consisting of small but easily distinguishable, separate grains, between 0.0625 and 2.000 millimetres in diameter. [IHOREG 954]	14	

Label	Definition	Code	Remarks
Timber	Wood prepared for use in building or carpentry. [IHOREG 991]	15	
Sawdust/Wood Chips	Powdery fragments of wood made in sawing timber or coarse chips produced for use in manufacturing pressed board. [IHOREG 992]	16	
Scrap Metal	Discarded metal suitable for being reprocessed. [IHOREG 993]	17	
Liquefied Natural Gas	Natural gas that has been liquefied for ease of transport by cooling the gas to -162 Celsius. [IHOREG 994]	18	
Liquefied Petroleum Gas	A compressed gas consisting of flammable light hydrocarbons and derived from petroleum. [IHOREG 995]	19	
Wine	The fermented juice of grapes. [IHOREG 996]	20	
Cement	A substance made of powdered lime and clay, mixed with water. [IHOREG 997]	21	
Grain	A small hard seed, especially that of any cereal plant such as wheat, rice, corn, rye etc. [IHOREG 998]	22	

3.90 Protocol

Name: Protocol [IHOREG 608]
Definition: Connection protocol to be used. Example: ftp, http get KVP, http POST, etc.
Code: protocol
Remarks:
Aliases: PROTCL
Value Type: text

3.91 Protocol Request

Name: Protocol Request [IHOREG 609]
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.
Code: protocolRequest
Remarks:
Aliases: PROTRQ
Value Type: text

3.92 Quality of Horizontal Measurement

Name: Quality of Horizontal Measurement [IHOREG 215]
Definition: The degree of reliability attributed to a position.
Code: qualityOfHorizontalMeasurement
Remarks:
Aliases: QUAPOS
Value Type: enumeration

Listed Values

Label	Definition	Code	Remarks
Surveyed	The position(s) was(were) determined by the operation of making measurements for determining the relative position of points on, above or beneath the earth's surface. Survey implies a regular, controlled survey of any date. [IHOREG 1262]	1	
Unsurveyed	Survey data is does not exist or is very poor.	2	

Label	Definition	Code	Remarks
	[IHOREG 1263]		
Inadequately Surveyed	Not surveyed to modern standards; or due to its age, scale, or positional or vertical uncertainties is not suitable to the type of navigation expected in the area. [IHOREG 1264]	3	
Approximate	A position that is considered to be less than third-order accuracy, but is generally considered to be within 30.5 metres of its correct geographic location. Also may apply to an object whose position does not remain fixed. [IHOREG 1265]	4	
Position Doubtful	Of uncertain position. The expression is used principally on charts to indicate that a wreck, shoal, etc., has been reported in various positions and not definitely determined in any. [IHOREG 1266]	5	
Unreliable	A feature's position has been obtained from questionable or unreliable data. [IHOREG 1267]	6	
Reported (Not Surveyed)	An object whose position has been reported and its position confirmed by some means other than a formal survey such as an independent report of the same object. [IHOREG 2711]	7	
Reported (Not Confirmed)	An object whose position has been reported and its position has not been confirmed. [IHOREG 2710]	8	
Estimated	The most probable position of an object determined from incomplete data or data of questionable accuracy. [IHOREG 1268]	9	
Precisely Known	A position that is of a known value, such as the position of an anchor berth or other defined object. [IHOREG 1269]	10	
Calculated	A position that is computed from data. [IHOREG 1270]	11	

3.93 Ramp Number

Name: Ramp Number [IHOREG 1017]
Definition: An identifier for a specific ramp (a sloping structure that can be used as a landing place for small vessels, landing ships, or a ferry boat, or for hauling a cradle carrying a vessel, or for the transfer of rolling cargo).
Code: rampNumber
Remarks:
Aliases: (none)
Value Type: text

3.94 Repair Service

Name: Repair Service [IHOREG 1041]
Definition: Work or maintenance activities whereby vessels or equipment are restored to working order, renovated, or improved in condition.
Code: repairService
Remarks:
Aliases: (none)
Value Type: enumeration

Listed Values

Label	Definition	Code	Remarks
Compensation of Magnetic Compass	The process of neutralizing or reducing to a minimum the magnetic effects the vessel itself exerts on a magnetic compass. It is based on	1	

Label	Definition	Code	Remarks
	the principle that the magnetic effect of the iron and steel of the vessel can be counterbalanced by means of magnets and soft iron placed near the compass. Also called compass adjustment, compass compensation, or magnetic compensation. [IHOREG 3058]		
Diver Service	Underwater inspection and repair performed by divers. [IHOREG 3110]	2	
Bridge Equipment Repair	Repairs to eqipment installed on the ship's bridge. [IHOREG 3111]	3	
Engine Repair	Repair of an engine or machine parts. [IHOREG 3112]	4	
Electronic Equipment Repair	Repair of marine electronic instruments. [IHOREG 3113]	5	
Hull Repair	Repairs to the ship's body, frame, or superstructure. [IHOREG 3114]	6	
Navigational Equipment Repair	Repairs to equipment used in the act of navigating a ship. [IHOREG 3115]	7	
Propeller Repair	Repairs to propeller hub and blades. [IHOREG 3116]	8	
Salvage Gear Repair	Repairs to equipment used in salvage operations. [IHOREG 3117]	9	
Shaft Repair	Repairs to drive shafts used for transmitting mechanical power and torque to a propeller. [IHOREG 3118]	10	

3.95 Reported Date

Name: Reported Date [IHOREG 154]
Definition: The date that the item was observed, done, or investigated.
Code: reportedDate
Remarks:
Aliases: SORDAT
Value Type: S100_TruncatedDate

3.96 Scale Minimum

Name: Scale Minimum [IHOREG 958]
Definition: The minimum scale at which the feature may be used for example for ECDIS presentation.
Code: scaleMinimum
Remarks: The modulus of the scale is indicated, that is 1:1 250 000 is encoded as 1250000.
Aliases: SCAMIN
Value Type: integer

3.97 Sector Bearing

Name: Sector Bearing [IHOREG 866]
Definition: A sector is the part of a circle between two straight lines drawn from the centre to the circumference. Sector bearing specifies the limit of the sector.
Code: sectorBearing
Remarks: The values given to the common limits of adjacent sectors should be identical. The orientation of bearing is from seaward to the central object. This conforms with the method used in 'List of Lights' publications. A generic term such as 'to shore' cannot be used; a specific bearing must be encoded. Where a light sector limit is defined as 'to the shore', it should be encoded using a value that ensures that, when the limit is drawn, it will fall entirely on land.
Aliases: SECTR1; SECTR2
Value Type: real

Unit of measure name: degrees definition: degrees of arc symbol: °

Quantity specification: planeAngle

Constraints

string Length	text Pattern	range		precision
(not specified)	(none)	lowerBound	0	(not specified)
		upperBound	360	
		closure	closedInterval	

For real values, precision is the number of digits after the decimal point.

3.98 Ship Sanitation Control

Name: Ship Sanitation Control [IHOREG 1042]
Definition: Application of measures to ensure that a vessel is free of disease and disease risks, or issue of completion or exemption certificates for such measures.
Code: `shipSanitationControl`
Remarks:
Aliases: (none)
Value Type: enumeration

Listed Values

Label	Definition	Code	Remarks
`Sanitation Measures Only`	Capable of applying measures to ensure that a vessel is free of disease and disease risks, but cannot issue a certificate. [IHOREG 3119]	`1`	Measures may include disinfection, decontamination, disinsection or deratting, or other measures necessary to prevent the spread of infection or contamination.
`Issue SSCC`	The competent authority can issue a Ship Sanitation Control Certificate after satisfactorily completing or supervising the completion of ship sanitation control measures. [IHOREG 3120]	`2`	Ship Sanitation Control Certificates (SSCC) replace the previous deratting certificates provided for under the International health Regulations (1969).
`Issue SSCEC`	The competent authority may issue a Ship Sanitation Control Exemption Certificate if it is satisfied that the ship is free of infection and contamination, including vectors and reservoirs. [IHOREG 3121]	`3`	Ship Sanitation Control Exemption Certificates (SSCEC) replace the previous deratting exemption certificates provided for under the International Health Regulations (1969). Such a certificate shall normally be issued only if the inspection of the ship has been carried out when the ship and holds are empty or when they contain only ballast or other material, of such a nature or so disposed as to make a thorough inspection of the holds possible.

3.99 Signal Frequency

Name: Signal Frequency [IHOREG 1105]
Definition: The frequency of a signal.
Code: `signalFrequency`
Remarks:
Aliases: SIGFRQ
Value Type: integer

Unit of measure name: Hertz definition: Cycles per second symbol: Hz

Quantity specification: frequency

Constraints

string Length	text Pattern	range		precision
(not specified)	(none)	lowerBound	1	(not specified)
		upperBound	(none)	
		closure	geSemiInterval	

3.100 Sill Depth

Name: Sill Depth [IHOREG 992]
Definition: The greatest depth over a sill.
Code: `sillDepth`
Remarks:
Aliases: (none)
Value Type: real

Unit of measure name: metre definition: SI metre symbol: m

Quantity specification: length

Constraints

string Length	text Pattern	range		precision
(not specified)	(none)	lowerBound	0.0	(not specified)
		upperBound	100.0	
		closure	closedInterval	

For real values, precision is the number of digits after the decimal point.

3.101 SMDG Terminal Code

Name: SMDG Terminal Code [IHOREG 1016]
Definition: A code from the SMDG (Ship Message Design Group) Terminal Code List.
Code: `sMDGTerminalCode`
Remarks: The SMDG Terminal Code List (TCL) contains codes for container handling terminal facilities that are called by seagoing cargo vessels in maritime transport. The SMDG terminal code is used when necessary to define a geographic subset of a location identified by a UN/LOCODE.
Aliases: (none)
Value Type: text

3.102 Source

Name: Source [IHOREG 220]
Definition: The publication, document, or reference work from which information comes or is acquired.
Code: `source`
Remarks: May be populated with the corresponding paper chart Notice to Mariners numbers, although other references are permitted.
Aliases: (none)
Value Type: text

Constraints

string Length	text Pattern	range	precision
150	(none)	(not specified)	(not specified)

3.103 Source Date

Name: Source Date [IHOREG 288]
Definition: The production date of the source; for example the date of measurement.
Code: `sourceDate`
Remarks:
Aliases: SORDAT
Value Type: date

3.104 Source Type

Name: Source Type [IHOREG 724]
Definition: Type of the source.
Code: `sourceType`
Remarks:
Aliases: (none)
Value Type: enumeration

Listed Values

Label	Definition	Code	Remarks
`Law or Regulation`	Treaty, convention, or international agreement; law or regulation issued by a national or other authority. [IHOREG 2685]	`1`	
`Official Publication`	Publication not having the force of law, issued by an international organisation or a national or local administration. [IHOREG 2686]	`2`	
`Mariner Report, Confirmed`	Reported by mariner(s) and confirmed by another source. [IHOREG 2687]	`7`	
`Mariner Report, Not Confirmed`	Reported by mariner(s) but not confirmed. [IHOREG 2688]	`8`	
`Industry Publications and Reports`	Shipping and other industry publications, including graphics, charts and web sites. [IHOREG 2689]	`9`	
`Remotely Sensed Images`	Information obtained from satellite images. [IHOREG 2690]	`10`	
`Photographs`	Information obtained from photographs. [IHOREG 2691]	`11`	
`Products Issued by HO Services`	Information obtained from products issued by Hydrographic Offices. [IHOREG 2692]	`12`	
`News Media`	Information obtained from news media. [IHOREG 2693]	`13`	
`Traffic Data`	Information obtained from the analysis of traffic data. [IHOREG 2694]	`14`	

3.105 Supply Service

Name: Supply Service [IHOREG 1043]
Definition: Classification of services for the provision of materials, goods, utilities, or personal services to vessels, passengers, or crew.
Code: `supplyService`
Remarks: Describes an enumeration or codelist listing specific services.

Aliases: (none)
Value Type: enumeration

Listed Values

Label	Definition	Code	Remarks
Shore Power	The provision of shoreside electrical power to a ship at berth while its main and auxiliary engines are shut down. [IHOREG 3122]	1	
Fuel Oil Bunkering	Transfer of fuel oil to the fuel compartments of a ship. [IHOREG 3123]	2	
LNG Bunkering	Transfer of liquefied natural gas to the fuel compartments of a ship. [IHOREG 3124]	3	
Lubricants	Substances capable of reducing friction, heat, and wear when introduced as a film between solid surfaces. [IHOREG 3125]	4	
Steam	The gas into which water is changed by boiling. [IHOREG 3126]	5	
Potable Water	Water which can be used for drinking and food preparation. [IHOREG 3127]	6	
International Shore Connection	A universal hose connection for the supply of water for fighting fires. [IHOREG 3128]	7	
Provisions	A place where food and other such supplies are available. [IHOREG 596]	8	
Chandler	A dealer in ships' supplies. [IHOREG 595]	9	
Mechanics Workshop	A place where mechanical repairs can be undertaken to engines or other vessel equipment. [IHOREG 619]	10	

3.106 Technical Port Service

Name: Technical Port Service [IHOREG 1014]
Definition: Services for the adjustment of vessel equipment or for assessments pertaining to cargo, compliance with regulations, safety, or security.
Code: technicalPortService
Remarks:
Aliases: (none)
Value Type: enumeration

Listed Values

Label	Definition	Code	Remarks
Compensation of Magnetic Compass	The process of neutralizing or reducing to a minimum the magnetic effects the vessel itself exerts on a magnetic compass. It is based on the principle that the magnetic effect of the iron and steel of the vessel can be counterbalanced by means of magnets and soft iron placed near the compass. Also called compass adjustment, compass compensation, or magnetic compensation. [IHOREG 3058]	1	
Degaussing	Neutralization of the strength of the magnetic field of a vessel, by means of suitably arranged electric coils permanently installed in the vessel. See also Degaussing Cable. [IHOREG 3059]	2	
Cargo Surveying	Inspection, evaluation or monitoring of the quantity, stowage, loading and unloading, and condition of cargo, and the effects of cargoes on vessel stability and safety.	3	

Label	Definition	Code	Remarks
	[IHOREG 3060]		
Vetting	Assessment of quality and compliance with applicable law, regulations, and safety standards. [IHOREG 3061]	4	

3.107 Telecommunication Carrier

Name: Telecommunication Carrier [IHOREG 661]
Definition: The name of a provider or type of carrier for a telecommunication service. This service may include land line based, shore based or satellite based radio connections.
Code: telecommunicationCarrier
Remarks:
Aliases: (none)
Value Type: text

3.108 Telecommunication Identifier

Name: Telecommunication Identifier [IHOREG 174]
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.
Code: telecommunicationIdentifier
Remarks:
Aliases: (none)
Value Type: text

3.109 Telecommunication Service

Name: Telecommunication Service [IHOREG 175]
Definition: Classification of methods of communication over a distance by electrical, electronic, or electromagnetic means.
Code: telecommunicationService
Remarks:
Aliases: (none)
Value Type: enumeration

Listed Values

Label	Definition	Code	Remarks
Voice	The transfer or exchange of information by using sounds that are being made by mouth and throat when speaking. [IHOREG 1085]	1	
Facsimile	A system of transmitting and reproducing graphic matter (as printing or still pictures) by means of signals sent over telephone lines. [IHOREG 1086]	2	
SMS	Short Message Service is a form of text messaging communication on phones and mobile phones. [IHOREG 1087]	3	
Data	A representation of facts, concepts or instructions in a formalised manner suitable for communication, interpretation or processing. [IHOREG 1088]	4	
Streamed Data	Data that is constantly received by and presented to an end-user while being delivered by a provider. [IHOREG 1089]	5	
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). [IHOREG 1090]	6	
Telegraph	An apparatus, system or process for communication at a distance	7	

Label	Definition	Code	Remarks
	by electric transmission over wire. [IHOREG 62]		
Email	Messages and other data exchanged between individuals using computers in a network. [IHOREG 1091]	8	

3.110 Terminal Identifier

Name: Terminal Identifier [IHOREG 1044]
Definition: The unique identifier for a given terminal.
Code: terminalIdentifier
Remarks:
Aliases: (none)
Value Type: text

3.111 Text

Name: Text [IHOREG 176]
Definition: A non-formatted digital text string.
Code: text
Remarks: Should be used, for example, to hold the information that is for short cautionary or explanatory notes. Therefore, text populated in text must not exceed 300 characters. Text may be in English, or in a national language. No formatting of text is possible within text. If formatted text, or text strings exceeding 300 characters, is required, then an alternate concept should be used.
Aliases: INFORM; NINFOM
Value Type: text

3.112 Text Offset Mm

Name: Text Offset Mm [IHOREG 993]
Definition: The distance in millimetres that text associated with a feature is positioned from the feature in an end-user system.
Code: textOffsetMm
Remarks:
Aliases: (none)
Value Type: integer

3.113 Text Type

Name: Text Type [IHOREG 179]
Definition: The attribute from which a text string is derived.
Code: textType
Remarks:
Aliases: (none)
Value Type: enumeration

Listed Values

Label	Definition	Code	Remarks
Name	The individual name of a feature. [IHOREG 1095]	1	

3.114 Thickness of Ice Capability

Name: Thickness of Ice Capability [IHOREG 967]
Definition: The thickness of ice that the ship can safely transit.
Code: thicknessOfIceCapability
Remarks:
Aliases: (none)
Value Type: integer

Unit of measure name: centimetres definition: Centimetres (SI) symbol: cm

Quantity specification: length

Constraints

string Length	text Pattern	range		precision
(not specified)	(none)	lowerBound	0	0
		upperBound	(none)	
		closure	gtSemiInterval	

3.115 Time of Day End

Name: Time of Day End [IHOREG 180]
Definition: The time corresponding to the end of an active period.
Code: `timeOfDayEnd`
Remarks: The time of day end must be encoded using 2 digits for the hour (hh), 2 digits for the minutes(mm) and 2 digits for the seconds (ss). This conforms to ISO 8601:2004.
Aliases: (none)
Value Type: time

3.116 Time of Day Start

Name: Time of Day Start [IHOREG 181]
Definition: The time corresponding to the start of an active period.
Code: `timeOfDayStart`
Remarks: The time of day start must be encoded using 2 digits for the hour (hh), 2 digits for the minutes(mm) and 2 digits for the seconds (ss). This conforms to ISO 8601:2004.
Aliases: (none)
Value Type: time

3.117 Tug Information

Name: Tug Information [IHOREG 1012]
Definition: Textual description of the types and capacities of available tugs.
Code: `tugInformation`
Remarks:
Aliases: (none)
Value Type: text

3.118 UN Location Code

Name: UN Location Code [IHOREG 370]
Definition: Used to encode the UN Location Code (http://www.unece.org/cefact/locode/service/location.html) or - in Europe - the Inland Ship Reporting Standard (ISRS) Code.
Code: `uNLocationCode`
Remarks: The ISRS Code exists of: - UN country code (2 digits), - UN Location code (3 digits, "XXX" if not available), - Fairway section number (5 numerical digits, to be determined by the national authority; a side branch should have an own section number, when there are special restrictions, e.g. bridges), - terminal code or passage point code (5 alphanumerical digits, "00000" if not available), - fairway section hectometre (5 numerical digits, hectometre at the centre of the area, "00000" if not available). If the ISRS code is not available, the code of the Nordersoft RIS-Index may be used.
Aliases: unlocd
Value Type: text

Constraints

string Length	text Pattern	range	precision
20	(none)	(not specified)	(not specified)

3.119 Uncertainty Fixed

Name: Uncertainty Fixed [IHOREG 885]
Definition: The best estimate of the fixed horizontal or vertical accuracy component for positions, depths, heights, vertical distances and vertical clearances.
Code: `uncertaintyFixed`
Remarks:
Aliases: POSACC; SOUACC; VERACC
Value Type: real

Unit of measure name: metre definition: SI metre symbol: m

Constraints

string Length	text Pattern	range	precision
(not specified)	(none)	(not specified)	1

For real values, precision is the number of digits after the decimal point.

3.120 Uncertainty Variable Factor

Name: Uncertainty Variable Factor [IHOREG 886]
Definition: The factor to be applied to the variable component of an uncertainty equation so as to provide the best estimate of the variable horizontal or vertical accuracy component for positions, depths, heights, vertical distances and vertical clearances.
Code: `uncertaintyVariableFactor`
Remarks:
Aliases: (none)
Value Type: real

3.121 Vertical Clearance Value

Name: Vertical Clearance Value [IHOREG 905]
Definition: The vertical clearance measured from the horizontal plane towards the feature overhead.
Code: `verticalClearanceValue`
Remarks:
Aliases: VERCLR; VERCCL; VERCOP; VERCSA
Value Type: real

Unit of measure name: metre definition: SI metre symbol: m

Quantity specification: length

Constraints

string Length	text Pattern	range		precision
(not specified)	(none)	lowerBound	0.1	(not specified)
		upperBound	100.0	
		closure	closedInterval	

For real values, precision is the number of digits after the decimal point.

3.122 Vertical Datum

Name: Vertical Datum [IHOREG 996]
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.
Code: `verticalDatum`
Remarks:
Aliases: VERDAT; Datum Level; Reference Plane; Levelling Datum; Datum for Sounding Reduction; Datum for Heights
Value Type: enumeration

Listed Values

Label	Definition	Code	Remarks
Mean Low Water Springs	The average height of the low waters of spring tides. This level is used as a tidal datum in some areas. Also called spring low water. [IHOREG 1185]	1	
Mean Lower Low Water Springs	The average height of lower low water springs at a place. [IHOREG 1186]	2	
Mean Sea Level	The average height of the surface of the sea at a tide station for all stages of the tide over a 19-year period, usually determined from hourly height readings measured from a fixed predetermined reference level. [IHOREG 1187]	3	
Lowest Low Water	An arbitrary level conforming to the lowest tide observed at a place, or some what lower. [IHOREG 1188]	4	
Mean Low Water	The average height of all low waters at a place over a 19-year period. [IHOREG 1189]	5	
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. [IHOREG 1190]	6	
Approximate Mean Low Water Springs	An arbitrary level, usually within 0.3m from that of Mean Low Water Springs (MLWS). [IHOREG 1191]	7	
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. [IHOREG 1192]	8	
Low Water Springs	An arbitrary level, approximating that of mean low water springs (MLWS). [IHOREG 1193]	9	
Approximate Lowest Astronomical Tide	An arbitrary level, usually within 0.3m from that of Lowest Astronomical Tide (LAT). [IHOREG 1194]	10	
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). [IHOREG 1195]	11	
Mean Lower Low Water	The average height of the lower low waters at a place over a 19-year period. [IHOREG 1196]	12	
Low Water	The lowest level reached at a place by the water surface in one oscillation. Also called low tide. [IHOREG 1012]	13	
Approximate Mean Low Water	An arbitrary level, usually within 0.3m from that of Mean Low Water (MLW). [IHOREG 1197]	14	
Approximate Mean	An arbitrary level, usually within 0.3m from that of Mean Lower	15	

Label	Definition	Code	Remarks
Lower Low Water	Low Water (MLLW). [IHOREG 1198]		
Mean High Water	The average height of all high waters at a place over a 19-year period. [IHOREG 1199]	16	
Mean High Water Springs	The average height of the high waters of spring tides. Also called spring high water. [IHOREG 1200]	17	
High Water	The highest level reached at a place by the water surface in one oscillation. [IHOREG 1011]	18	
Approximate Mean Sea Level	An arbitrary level, usually within 0.3m from that of Mean Sea Level (MSL). [IHOREG 1201]	19	
High Water Springs	An arbitrary level, approximating that of mean high water springs (MHWS). [IHOREG 1202]	20	
Mean Higher High Water	The average height of higher high waters at a place over a 19-year period. [IHOREG 1203]	21	
Equinoctial Spring Low Water	The level of low water springs near the time of an equinox. [IHOREG 1204]	22	
Lowest Astronomical Tide	The lowest tide level which can be predicted to occur under average meteorological conditions and under any combination of astronomical conditions. [IHOREG 1205]	23	
Local Datum	An arbitrary datum defined by a local harbour authority, from which levels and tidal heights are measured by this authority. [IHOREG 1206]	24	
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. [IHOREG 1207]	25	
Mean Water Level	The average of all hourly water levels over the available period of record. [IHOREG 1208]	26	
Lower Low Water Large Tide	The average of the lowest low waters, one from each of 19 years of observations. [IHOREG 1209]	27	
Higher High Water Large Tide	The average of the highest high waters, one from each of 19 years of observations. [IHOREG 1210]	28	
Nearly Highest High Water	An arbitrary level approximating the highest water level observed at a place, usually equivalent to the high water springs. [IHOREG 1211]	29	
Highest Astronomical Tide	The highest tidal level which can be predicted to occur under average meteorological conditions and under any combination of astronomical conditions. [IHOREG 1212]	30	
Baltic Sea Chart Datum 2000	The datum refers to each Baltic country's realization of the European Vertical Reference System (EVRS) with land-uplift epoch 2000, which is connected to the Normaal Amsterdams Peil (NAP). [IHOREG 1213]	44	

3.123 Vessel Performance

Name: Vessel Performance [IHOREG 710]
Definition: A description of the required handling characteristics of a vessel including hull design, main and auxiliary machinery, cargo handling equipment, navigation equipment and manoeuvring behaviour.
Code: `vesselPerformance`
Remarks:
Aliases: (none)
Value Type: text

3.124 Vessels Characteristics

Name: Vessels Characteristics [IHOREG 711]
Definition: Characteristics of vessels.
Code: `vesselsCharacteristics`
Remarks:
Aliases: VSLCAR
Value Type: enumeration

Listed Values

Label	Definition	Code	Remarks
`Length Overall`	The maximum length of the ship. [IHOREG 2637]	`1`	
`Length at Waterline`	The ship's length measured at the waterline. [IHOREG 2638]	`2`	
`Breadth`	The width or beam of the vessel. [IHOREG 2639]	`3`	
`Draught`	The depth of water necessary to float a vessel fully loaded. [IHOREG 2640]	`4`	
`Displacement Tonnage`	A measurement of the weight of the vessel, usually used for warships. (Merchant ships are usually measured based on the volume of cargo space; see tonnage). Displacement is expressed either in long tons of 2,240 pounds or metric tonnes of 1,000 kg. Since the two units are very close in size (2,240 pounds = 1,016 kg and 1,000 kg = 2,205 pounds), it is common not to distinguish between them. To preserve secrecy, nations sometimes misstate a warship's displacement. [IHOREG 2641]	`6`	
`Displacement Tonnage, Light`	The weight of the ship excluding cargo, fuel, ballast, stores, passengers, and crew, but with water in the boilers to steaming level. [IHOREG 2642]	`7`	
`Displacement Tonnage, Loaded`	The weight of the ship including cargo, passengers, fuel, water, stores, dunnage and such other items necessary for use on a voyage, which brings the vessel down to her load draft. [IHOREG 2643]	`8`	
`Deadweight Tonnage`	The difference between displacement, light and displacement, loaded. A measure of the ship's total carrying capacity. [IHOREG 2644]	`9`	
`Gross Tonnage`	The entire internal cubic capacity of the ship expressed in tons of 100 cubic feet to the ton, except certain spaces with are exempted such as: peak and other tanks for water ballast, open forecastle bridge and poop, access of hatchways, certain light and air spaces, domes of skylights, condenser, anchor gear, steering gear, wheel house, galley and cabin for passengers. [IHOREG 2645]	`10`	
`Net Tonnage`	Obtained from the gross tonnage by deducting crew and navigating spaces and allowances for propulsion machinery. [IHOREG 2646]	`11`	

Label	Definition	Code	Remarks
Panama Canal/Universal Measurement System Net Tonnage	The Panama Canal/Universal Measurement System (PC/UMS) is based on net tonnage, modified for Panama Canal purposes. PC/UMS is based on a mathematical formula to calculate a vessel's total volume; a PC/UMS net ton is equivalent to 100 cubic feet of capacity. [IHOREG 2647]	12	
Suez Canal Net Tonnage	The Suez Canal Net Tonnage (SCNT) is derived with a number of modifications from the former net register tonnage of the Moorsom System and was established by the International Commission of Constantinople in its Protocol of 18 December 1873. It is still in use, as amended by the Rules of Navigation of the Suez Canal Authority, and is registered in the Suez Canal Tonnage Certificate. [IHOREG 2648]	13	

3.125 Vessels Characteristics Unit

Name: Vessels Characteristics Unit [IHOREG 1106]
Definition: The unit used for vessel characteristics attribute.
Code: vesselsCharacteristicsUnit
Remarks:
Aliases: VSLUNT
Value Type: enumeration

Listed Values

Label	Definition	Code	Remarks
Metres	The basic unit of length in the International System of Units (SI) system. [IHOREG 820]	1	
Metric Ton	The tonne or metric ton (U.S.), often redundantly referred to as a metric tonne, is a unit of mass equal to 1,000 kg (2,205 lb) or approximately the mass of one cubic metre of water at four degrees Celsius. It is sometimes abbreviated as mt in the United States, but this conflicts with other SI symbols. The tonne is not a unit in the International System of Units (SI), but is accepted for use with the SI. In SI units and prefixes, the tonne is a megagram (Mg). The Imperial and US customary units comparable to the tonne are both spelled ton in English, though they differ in mass. Pronunciation of tonne (the word used in the UK) and ton is usually identical, but is not too confusing unless accuracy is important as the tonne and UK long ton differ by only 1.6. [IHOREG 2649]	3	
Ton	Long ton (weight ton or imperial ton) is the name for the unit called the "ton" in the avoirdupois or Imperial system of measurements, as used in the United Kingdom and several other Commonwealth countries. It has been mostly replaced by the tonne, and in the United States by the short ton. One long ton is equal to 2,240 pounds (1,016 kg) or 35 cubic feet (0.9911 m) of salt water with a density of 64 lb/ft (1.025 g/ml). It has some limited use in the United States, most commonly in measuring the displacement of ships, and was the unit prescribed for warships by the Washington Naval Treaty for example battleships were limited to a mass of 35,000 long tons (36,000 t; 39,000 ST). [IHOREG 2650]	4	
Short Ton	A unit of weight equal to 2,000 pounds (907.18474 kg). In the United States it is often called simply ton without distinguishing it from the metric ton (tonne, 1,000 kilograms) or the long ton (2,240 pounds / 1,016.0469088 kilograms); rather, the other two are specifically noted. There are, however, some US applications for	5	

Label	Definition	Code	Remarks
	which unspecified tons normally means long tons (for example, Navy ships) or metric tons (world grain production figures). Both the long and short ton are defined as 20 hundredweights, but a hundredweight is 100 pounds (45.359237 kg) in the US system (short or net hundredweight) and 112 pounds (50.80234544 kg) in the Imperial system (long or gross hundredweight). [IHOREG 2651]		
Gross Ton	Gross tonnage (GT) is a function of the volume of all ship's enclosed spaces (from keel to funnel) measured to the outside of the hull framing. There is a sliding scale factor. So GT is a kind of capacity-derived index that is used to rank a ship for purposes of determining manning, safety and other statutory requirements and is expressed simply as GT, which is a unitless entity, even though its derivation is tied to the cubic meter unit of volumetric capacity.Tonnage measurements are now governed by an IMO Convention (International Convention on Tonnage Measurement of Ships, 1969 (London-Rules)), which applies to all ships built after July 1982. In accordance with the Convention, the correct term to use now is GT, which is a function of the moulded volume of all enclosed spaces of the ship. [IHOREG 2652]	6	
Net Ton	Net tonnage (NT) is based on a calculation of the volume of all cargo spaces of the ship. It indicates a vessels earning space and is a function of the moulded volume of all cargo spaces of the ship. [IHOREG 2653]	7	
Suez Canal Net Tonnage	The Suez Canal Net Tonnage (SCNT) is derived with a number of modifications from the former net register tonnage of the Moorsom System and was established by the International Commission of Constantinople in its Protocol of 18 December 1873. It is still in use, as amended by the Rules of Navigation of the Suez Canal Authority, and is registered in the Suez Canal Tonnage Certificate. [IHOREG 2648]	9	

3.126 Vessels Characteristics Value

Name: Vessels Characteristics Value [IHOREG 908]
Definition: The value of a particular characteristic such as a dimension or tonnage of a vessel.
Code: vesselsCharacteristicsValue
Remarks: Indicates range limits in expressions characterizing vessels by dimensions and tonnages. The unit of measure, characteristic, and comparison operator (greater, less, etc.) are encoded separately.
Aliases: (none)
Value Type: real

3.127 Waste Disposal Service

Name: Waste Disposal Service [IHOREG 1011]
Definition: Service for the reception of residues, polluting substances, refuse, oily wastes, and by-products from ships.
Code: wasteDisposalService
Remarks:
Aliases: (none)
Value Type: enumeration

Listed Values

Label	Definition	Code	Remarks
MARPOL Annex I Oily Bilge Water	The service with facility to receive oil related waste/residue of the type "Oily bilge water" as specified in MARPOL Annex I. [IHOREG 3030]	1	

Label	Definition	Code	Remarks
MARPOL Annex I Oily Residues	The service with facility to receive oil related waste/residue of the type "Oily Residues (sludge)" as specified in MARPOL Annex I. [IHOREG 3031]	2	
MARPOL Annex I Oily Tank Washings	The service with facility to receive oil related waste/residue of the type "Oily tank washings (slops)" as specified in MARPOL Annex I. [IHOREG 3032]	3	
MARPOL Annex I Dirty Ballast Water	The service with facility to receive oil related waste/residue of the type "Dirty ballast water" as specified in MARPOL Annex I. [IHOREG 3033]	4	
MARPOL Annex I Scale and Sludge from Tank Cleaning	The service with facility to receive oil related waste/residue of the type "Scale and sludge from tank cleaning" as specified in MARPOL Annex I. [IHOREG 3034]	5	
MARPOL Annex I Other Oily Waste	The service with facility to receive oil related waste/residue of the type "Other" as specified in MARPOL Annex I. [IHOREG 3035]	6	
MARPOL Annex II Category X	The service with facility to receive chemical/Noxious liquid substances related waste/residue of the type "Category X" as specified in MARPOL Annex II. [IHOREG 3036]	7	
MARPOL Annex II Category Y	The service with facility to receive chemical/Noxious liquid substances related waste/residue of the type "Category Y" as specified in MARPOL Annex II. [IHOREG 3037]	8	
MARPOL Annex II Category Z	The service with facility to receive chemical/Noxious liquid substances related waste/residue of the type "Category Z" as specified in MARPOL Annex II. [IHOREG 3038]	9	
MARPOL Annex II Category OS	The service with facility to receive chemical/Noxious liquid substances related waste/residue of the type "Other substance" as specified in MARPOL Annex II. [IHOREG 3039]	10	
MARPOL Annex IV Sewage	The service with facility to receive waste/residue of the type "Sewage" as specified in MARPOL Annex IV. [IHOREG 3040]	11	
MARPOL Annex V Plastics	The service with facility to receive garbage related waste/residue of the type "Plastics", as specified in MARPOL Annex V [IHOREG 3041]	12	
MARPOL Annex V Food Wastes	The service with facility to receive garbage related waste/residue of the type "Food wastes", as specified in MARPOL Annex V [IHOREG 3042]	13	
MARPOL Annex V Domestic Wastes	The service with facility to receive garbage related waste/residue of the type "Domestic wastes", as specified in MARPOL Annex V [IHOREG 3043]	14	
MARPOL Annex V Cooking Oil	The service with facility to receive garbage related waste/residue of the type "Cooking oil", as specified in MARPOL Annex V [IHOREG 3044]	15	
MARPOL Annex V Incinerator Ashes	The service with facility to receive garbage related waste/residue of the type "Incinerator ashes", as specified in MARPOL Annex V [IHOREG 3045]	16	
MARPOL Annex V Operational Wastes	The service with facility to receive garbage related waste/residue of the type "Operational wastes", as specified in MARPOL Annex V [IHOREG 3046]	17	
MARPOL Annex V	The service with facility to receive garbage related waste/residue of	18	

Label	Definition	Code	Remarks
Animal Carcasses	the type "Animal carcasses", as specified in MARPOL Annex V [IHOREG 3047]		
MARPOL Annex V Fishing Gear	The service with facility to receive garbage related waste/residue of the type "Fishing gear", as specified in MARPOL Annex V [IHOREG 3048]	19	
MARPOL Annex V E-Waste	The service with facility to receive garbage related waste/residue of the type "E-waste", as specified in MARPOL Annex V [IHOREG 3049]	20	
MARPOL Annex V Cargo Residues - non-HME	The service with facility to receive garbage related waste/residue of the type "Cargo residues not determined to be harmful to the marine environment", as specified in MARPOL Annex V [IHOREG 3050]	21	
MARPOL Annex V Cargo Residues - HME	The service with facility to receive garbage related waste/residue of the type "Cargo residues harmful to the marine environment", as specified in MARPOL Annex V [IHOREG 3051]	22	
MARPOL Annex VI Ozone-Depleting Substances	The service with facility to receive air pollution related waste/residue of the type "Ozone-depleting substances" as specified in MARPOL Annex VI. [IHOREG 3052]	23	
MARPOL Annex VI Exhaust Gas-Cleaning Residues	The service with facility to receive air pollution related waste/residue of the type "Exhaust gas-cleaning residues" as specified in MARPOL Annex VI. [IHOREG 3053]	24	

3.128 Action or Activity

Name: Action or Activity [IHOREG 974]
Definition: The action or activity of a vessel.
Code: actionOrActivity
Remarks: codeListType=open enumeration; encoding=other: [something]
Aliases: (none)
Value Type: S100_CodeList

Listed Values

Label	Definition	Code	Remarks
Navigating With a Pilot	Carrying a qualified pilot as part of the vessel navigation team. [IHOREG 2844]	1	
Entering Port	Navigating a vessel into a port. [IHOREG 2845]	2	
Leaving Port	Navigating a vessel out of a port. [IHOREG 2846]	3	
Berthing	Attaching a vessel to a wharf or jetty. [IHOREG 2858]	4	Defined in registry as "A signal station for the control of vessels when berthing." which does not match the term.
Slipping	Detaching a vessel from a wharf or jetty. [IHOREG 2847]	5	
Anchoring	Attaching a vessel to the seabed by means of an anchor and cable. [IHOREG 2848]	6	
Weighing Anchor	Detaching a vessel from the seabed by recovering an anchor and cable.	7	

Label	Definition	Code	Remarks
	[IHOREG 2849]		
Transiting	Navigating a vessel along a route or through a narrow gap, such as under a bridge or through a lock. [IHOREG 2850]	8	
Overtaking	Navigating a vessel past another traveling broadly in the same direction. [IHOREG 2851]	9	
Reporting	Providing details such as the name, location or intentions of a vessel. [IHOREG 2852]	10	
Working Cargo	Loading or unloading cargo. [IHOREG 2853]	11	
Landing	Placing crew or passengers on shore. [IHOREG 2854]	12	
Diving	A signal or message warning of diving activity. [IHOREG 2859]	13	
Fishing	Hunting or catching fish. [IHOREG 2855]	14	
Discharging Overboard	Releasing anything into the sea; often ballast water; or spoil from dredging elsewhere. [IHOREG 2856]	15	
Passing	Navigating a vessel past another travelling broadly in the opposite direction. [IHOREG 2857]	16	

3.129 Category of RxN

Name: Category of RxN [IHOREG 978]
Definition: The principal subject matter of regulations, restrictions, recommendations or nautical information.
Code: categoryOfRxN
Remarks: codeListType=open enumeration; encoding=other: [something]
Aliases: (none)
Value Type: S100_CodeList

Listed Values

Label	Definition	Code	Remarks
Navigation	The process of directing the movement of a craft from one point to another. [IHOREG 2861]	1	
Communication	Transmitting and/or receiving electronic communication signals. [IHOREG 2869]	2	
Environmental Protection	Pertaining to environmental protection. [IHOREG 2862]	3	
Wildlife Protection	Pertaining to wildlife protection. [IHOREG 2863]	4	
Security	Pertaining to security. [IHOREG 2864]	5	
Customs	The agency or establishment for collecting duties, tolls. [IHOREG 2870]	6	
Cargo Operation	Pertaining to cargo operations.	7	

Label	Definition	Code	Remarks
	[IHOREG 2865]		
Refuge	Pertaining to a place of safety or refuge. [IHOREG 2866]	8	
Health	The authority with responsibility for checking the validity of the health declaration of a vessel and for declaring free pratique. [IHOREG 2871]	9	
Natural Resources or Exploitation	Pertaining to natural resources or exploitation. [IHOREG 2867]	10	
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. [IHOREG 2872]	11	
Finance	An authority with responsibility for the control and movement of money. [IHOREG 2873]	12	
Agriculture	The science, art, or practice of cultivating the soil, producing crops, and raising livestock and in varying degrees the preparation and marketing of the resulting products. [IHOREG 2868]	13	

3.130 Category of Vessel

Name: Category of Vessel [IHOREG 979]
Definition: Classification of vessels by function or use.
Code: categoryOfVessel
Remarks: codeListType=open enumeration; encoding=other: [something]
Aliases: (none)
Value Type: S100_CodeList

Listed Values

Label	Definition	Code	Remarks
General Cargo Vessel	A vessel which is designed for carrying general cargo, e.g. boxes, sacks. [IHOREG 2886]	1	
Container Carrier	A vessel designed to carry ISO containers. [IHOREG 2874]	2	
Tanker	A vessel which is designed for carrying liquid goods, for example oil or water. [IHOREG 2887]	3	
Bulk Carrier	A vessel which is designed for carrying bulk goods, e.g. coal, ore or grain. [IHOREG 2888]	4	
Passenger Vessel	A day trip or cabin vessel constructed and equipped to carry more than 12 passengers. [IHOREG 2889]	5	
Roll-On Roll-Off	A vessel designed to allow road vehicles to be driven on and off; often a ferry. [IHOREG 2875]	6	
Refrigerated Cargo Vessel	A vessel designed to carry refrigerated cargo. [IHOREG 2876]	7	
Fishing Vessel	A vessel that is used and equipped for the fishing of living aquatic resources. [IHOREG 2890]	8	
Service	A vessel which provides a service such as a tug, anchor handler,	9	

Label	Definition	Code	Remarks
	survey or supply vessel. [IHOREG 2877]		
Warship	A vessel designed for the conduct of military operations. [IHOREG 2878]	10	
Towed or Pushed Composite Unit	Either a tug and tow, or any combination of a tug providing propulsion to barges or vessels secured ahead or alongside. [IHOREG 2879]	11	
Tug and Tow	A combination of tug(s) and non-powered tow(s). [IHOREG 2880]	12	
Light Recreational	A pleasure boat or watercraft, or an excursion vessel used for short cruises such as whale watching. [IHOREG 2881]	13	
Semi-Submersible Offshore Installation	An installation which is designed to float at all times and which is normally anchored in position when deployed in the offshore gas and oil industry. [IHOREG 2882]	14	
Jack-Up Exploration or Project Installation	An exploration or project installation with legs which can be raised and lowered. The legs are raised when the installation is re-positioned. When stationary the legs are lowered to the sea floor and the working platform is raised clear of the sea surface. [IHOREG 2883]	15	
Livestock Carrier	A vessel designed to carry large quantities of live animals. [IHOREG 2884]	16	
Sport Fishing	A vessel used in fishing for pleasure or competition. [IHOREG 2885]	17	

3.131 Security-Safety-Emergency Service

Name: Security-Safety-Emergency Service [IHOREG 1033]
Definition: Protective services, law enforcement, or services for responding to sudden danger.
Code: securitySafetyEmergencyService
Remarks: codelistType=openEnumeration
Aliases: (none)
Value Type: S100_CodeList

Listed Values

Label	Definition	Code	Remarks
Coast Guard	Organization keeping watch on shipping and coastal waters according to governmental law; normally the authority with responsibility for search and rescue. [IHOREG 3084]	1	
Customs	The agency or establishment for collecting duties, tolls. [IHOREG 2870]	2	
Environmental Emergency Information Centre	Office for reporting or obtaining information about sudden dangers to the environment such as spillage of polluting or hazardous substances. [IHOREG 3085]	3	
Emergency Coordination Centre	An office or organisation for reporting or coordinating response to emergencies. [IHOREG 3086]	4	
Guard and/or Security Service	A place where a vessel is patrolled by a security service or stored in a secure lockup. [IHOREG 3087]	5	
Immigration	The authority controlling people entering a country. [IHOREG 3088]	6	

Label	Definition	Code	Remarks
Police	The department of government, or civil force, charged with maintaining public order. [IHOREG 3089]	7	
Sea Rescue Control	A unit responsible for promoting efficient organization of search and rescue services and for coordinating the conduct of search and rescue operations within a search and rescue region. [IHOREG 3090]	8	

3.132 Transport Connection

Name: Transport Connection [IHOREG 1015]
Definition: Classification of services for the conveyance of persons and/or goods, according to means of transport, nature of path, or representative installation.
Code: transportConnection
Remarks: codelistType=openEnumeration
Aliases: Transportation Service
Value Type: S100_CodeList

Listed Values

Label	Definition	Code	Remarks
Heliport	A small airport for the use of helicopters and some other vertical lift aircraft. Heliports typically contain one or more touchdown and liftoff areas and also have facilities such as fuel or hangars. In some larger towns and cities, customs facilities may also be available. [IHOREG 3062]	2	Not designed for use by aircraft that need a runway to take off and land.
Helipad	A small landing surface for helicopters, with minimal or no supporting installations or facilities. [IHOREG 3063]	3	Typically a small paved, metallic, or other type of prepared surface intended for landings and takeoffs by a single helicopter, and generally without specialised supporting technical or administrative facilities as provided in heliports and airports.
Hired Boat	Small boat with crew that may be hired for single journeys. [IHOREG 3064]	4	
Bus Station	A building where buses and coaches regularly stop to take on and/or let off passengers, especially for long-distance travel. [IHOREG 3065]	5	
Ferry	A vessel for transporting passengers, vehicles, and/or goods across a stretch of water, especially as a regular service. [IHOREG 3066]	6	
Motorway	A limited access dual carriageway road specially designed for fast long-distance traffic and subject to special regulations concerning its use. It may have more than two lanes. [IHOREG 3067]	8	
Launch	Large open or half decked boat. [IHOREG 3068]	9	
Inland Waterway	The carriage of goods or passengers	11	

Label	Definition	Code	Remarks
Transport	using navigable waterways such as canals, rivers, lakes, or other stretch of water that is not part of the sea. [IHOREG 3069]		
Short Sea Transportation	The carriage of specified types of cargo between qualifying ports. The types of cargo and/or qualifying ports are generally specified by law or government regulation. [IHOREG 3070]	12	Different legal jurisdictions have different rules specfying the criteria for qualifying cargo and ports. For example, the European Union and United States each define their own criteria.
Marine Highway	Specially designated commercially navigable routes in coastal, inland, and intracoastal waters, frequently as waterborne relievers to congested landside routes. [IHOREG 3071]	13	The routes are designated by governmental authorities, such as the United States Department of Transportation, and may include connections to specified foreign ports.

4 Complex Attributes

4.1 Bearing Information

Name: Bearing Information [IHOREG 733]
Definition: A bearing is the direction one object is from another object.
Code: `bearingInformation`
Remarks:
Aliases: (none)

Sub-Attributes

Sub-attribute	Type	Mult.	Permitted Values	Sequential
cardinalDirection	enumeration	0..1	1: North 2: North Northeast 3: Northeast 4: East Northeast 5: East 6: East Southeast 7: Southeast 8: South Southeast 9: South 10: South Southwest 11: Southwest 12: West Southwest 13: West 14: West Northwest 15: Northwest 16: North Northwest	false
distance	real	0..1		false
sectorBearing	real	0..2		true
information	complex	0..*		false
orientation	complex	0..1		false

4.2 Cargo Services Description

Name: Cargo Services Description [IHOREG 1045]
Definition: Description of services related to the goods or items carried by vessels.
Code: `cargoServicesDescription`
Remarks: Textual or narrative description of cargo services.
Aliases: (none)

Sub-Attributes

Sub-attribute	Type	Mult.	Permitted Values	Sequential
textContent	complex	1..*		false

4.3 Construction Information

Name: Construction Information [IHOREG 1046]
Definition: A description of construction or other development in a location where the work will affect vessel operations such as navigation, maneuvering or docking/berthing.
Code: `constructionInformation`
Remarks:
Aliases: Development Information

Sub-Attributes

Sub-attribute	Type	Mult.	Permitted Values	Sequential
fixedDateRange	complex	0..1		false
condition	enumeration	0..1	1: Under Construction 2: Ruined 3: Under Reclamation 5: Planned Construction	false
development	text	1..1		false
locationByText	text	0..1		false
textContent	complex	0..*		false

4.4 Contact Address

Name: Contact Address [IHOREG 735]
Definition: Direction or superscription of a letter, package, etc., specifying the name of the place to which it is directed, and optionally a contact person or organisation who should receive it.
Code: `contactAddress`
Remarks:
Aliases: (none)

Sub-Attributes

Sub-attribute	Type	Mult.	Permitted Values	Sequential
deliveryPoint	text	0..*		true
cityName	text	0..1		false
administrativeDivision	text	0..1		false
countryName	text	0..1		false
postalCode	text	0..1		false

4.5 Depths Description

Name: Depths Description [IHOREG 1047]
Definition: Textual description of the characteristics and notable matters pertaining to depths in an area.
Code: `depthsDescription`
Remarks:
Aliases: (none)

Sub-Attributes

Sub-attribute	Type	Mult.	Permitted Values	Sequential
categoryOfDepthsDescription	enumeration	1..1	1: Shoal 2: General Depth	false

Sub-attribute	Type	Mult.	Permitted Values	Sequential
			3: Controlling Depth	
textContent	complex	1..*		false

4.6 Facilities Layout Description

Name: Facilities Layout Description [IHOREG 1048]
Definition: Textual description of the layout of port facilities.
Code: `facilitiesLayoutDescription`
Remarks:
Aliases: (none)

Sub-Attributes

Sub-attribute	Type	Mult.	Permitted Values	Sequential
textContent	complex	1..*		false

4.7 Feature Name

Name: Feature Name [IHOREG 227]
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.
Code: `featureName`
Remarks:
Aliases: (none)

Sub-Attributes

Sub-attribute	Type	Mult.	Permitted Values	Sequential
displayName	boolean	0..1		false
language	text	0..1		false
name	text	1..1		false

4.8 Fixed Date Range

Name: Fixed Date Range [IHOREG 798]
Definition: An active period of a single fixed event or occurrence, as the date range between discrete start and end dates.
Code: `fixedDateRange`
Remarks: Dates must be encoded in the format YYYYMMDD; using 4 digits for the calendar year (YYYY) and, optionally, 2 digits for the month (MM) (for example April = 04) and 2 digits for the day (DD). When no specific month and/or day is required/known, the values are replaced with dashes (-). The date range of a recurring event or occurrence must be encoded using periodicDateRange.
Aliases: (none)

Sub-Attributes

Sub-attribute	Type	Mult.	Permitted Values	Sequential
dateStart	S100_TruncatedDate	0..1		false
dateEnd	S100_TruncatedDate	0..1		false

4.9 Frequency Pair

Name: Frequency Pair [IHOREG 230]
Definition: A pair of frequencies for transmitting and receiving radio signals. The shore station transmits and receives on the frequencies indicated.
Code: `frequencyPair`
Remarks:
Aliases: FRQPAR

Sub-Attributes

Sub-attribute	Type	Mult.	Permitted Values	Sequential
frequencyShoreStationTransmits	integer	0..*		true
frequencyShoreStationReceives	integer	0..*		true
contactInstructions	text	0..*		true

4.10 General Harbour Information

Name: General Harbour Information [IHOREG 1057]
Definition: General information about the port or harbour area.
Code: `generalHarbourInformation`
Remarks: Describes a collection of information designed to give a general overview of harbour related Information.
Aliases: General Port Information

Sub-Attributes

Sub-attribute	Type	Mult.	Permitted Values	Sequential
generalPortDescription	complex	0..1		false
facilitiesLayoutDescription	complex	0..1		false
limitsDescription	complex	0..1		false
constructionInformation	complex	0..1		false
cargoServicesDescription	complex	0..1		false
weatherResource	complex	0..*		false

4.11 General Port Description

Name: General Port Description [IHOREG 1049]
Definition: General, introductory information about the port.
Code: `generalPortDescription`
Remarks: General statement about the port, including social/political aspects, which could have an impact on the mariner’s/company’s safety or professional reputation. The information covered by this should be confined to information not contained in any other place in the data.
Aliases: General Harbour Description

Sub-Attributes

Sub-attribute	Type	Mult.	Permitted Values	Sequential
textContent	complex	1..*		false

4.12 Graphic

Name: Graphic [IHOREG 745]
Definition: Pictorial information such as a photograph, sketch or other graphic, optionally accompanied by descriptive information about the graphic and the location relative to its subject from which it was made.
Code: `graphic`
Remarks:
Aliases: (none)

Sub-Attributes

Sub-attribute	Type	Mult.	Permitted Values	Sequential
pictorialRepresentation	text	1..*		false
pictureCaption	text	0..1		false
sourceDate	date	0..1		false
pictureInformation	text	0..1		false
bearingInformation	complex	0..1		false

4.13 Horizontal Position Uncertainty

Name: Horizontal Position Uncertainty [IHOREG 233]
Definition: The best estimate of the accuracy of a position.
Code: `horizontalPositionUncertainty`
Remarks: The expected input is the maximum of the two-dimensional error. The error is assumed to be positive and negative.
Aliases: POSACC

Sub-Attributes

Sub-attribute	Type	Mult.	Permitted Values	Sequential
uncertaintyFixed	real	1..1		false
uncertaintyVariableFactor	real	0..1		false

4.14 Information

Name: Information [IHOREG 234]
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.
Code: `information`
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.
Aliases: INFORM

Sub-Attributes

Sub-attribute	Type	Mult.	Permitted Values	Sequential
fileLocator	text	0..1		false
fileReference	text	0..1		false
headline	text	0..*		true
language	text	0..1		false
text	text	0..1		false

4.15 Landmark Description

Name: Landmark Description [IHOREG 1050]
Definition: Textual description of selected landmarks that have significance in an area.
Code: `landmarkDescription`
Remarks:
Aliases: (none)

Sub-Attributes

Sub-attribute	Type	Mult.	Permitted Values	Sequential
textContent	complex	1..*		false

4.16 Limits Description

Name: Limits Description [IHOREG 1051]
Definition: Description of the area covered by the information specified.
Code: `limitsDescription`
Remarks:
Aliases: (none)

Sub-Attributes

Sub-attribute	Type	Mult.	Permitted Values	Sequential
textContent	complex	1..*		false

4.17 Major Light Description

Name: Major Light Description [IHOREG 1052]
Definition: A description of navigationally significant lights essential for marking landfalls, offshore dangers, shipping routes, port access channels or protection of the marine environment.
Code: `majorLightDescription`
Remarks:
Aliases: (none)

Sub-Attributes

Sub-attribute	Type	Mult.	Permitted Values	Sequential
textContent	complex	1..*		false

4.18 Marked By

Name: Marked By [IHOREG 1053]
Definition: Description of the aids to navigation used to mark an area or object.
Code: `markedBy`
Remarks:
Aliases: (none)

Sub-Attributes

Sub-attribute	Type	Mult.	Permitted Values	Sequential
textContent	complex	1..*		false

4.19 Offshore Mark Description

Name: Offshore Mark Description [IHOREG 1054]
Definition: Description of aids to navigation or prominent marks located away from the shore.
Code: `offshoreMarkDescription`
Remarks:
Aliases: (none)

Sub-Attributes

Sub-attribute	Type	Mult.	Permitted Values	Sequential
textContent	complex	1..*		false

4.20 Online Resource

Name: Online Resource [IHOREG 243]
Definition: Information about online sources from which a resource or data can be obtained.
Code: `onlineResource`
Remarks:
Aliases: (none)

Sub-Attributes

Sub-attribute	Type	Mult.	Permitted Values	Sequential
onlineResourceLinkageURL	URL	1..1		false
protocol	text	0..1		false
applicationProfile	text	0..1		false
nameOfResource	text	0..1		false
onlineResourceDescription	text	0..1		false
onlineFunction	enumeration	0..1	1: Download 3: Offline Access 4: Order 5: Search 6: Complete Metadata 7: Browse Graphic 8: Upload 9: Email Service 10: Browsing 11: File Access	false
protocolRequest	text	0..1		false

4.21 Orientation

Name: Orientation [IHOREG 225]
Definition: (1) The angular distance measured from true north to the major axis of the feature. (2) In ECDIS, the mode in which information on the ECDIS is being presented. Typical modes include: north-up - as shown on a nautical chart, north is at the top of the display; Ships head-up - based on the actual heading of the ship, (e.g. Ships gyrocompass); course-up display - based on the course or route being taken.
Code: `orientation`
Remarks:
Aliases: (none)

Sub-Attributes

Sub-attribute	Type	Mult.	Permitted Values	Sequential

Sub-attribute	Type	Mult.	Permitted Values	Sequential
orientationUncertainty	real	0..1		false
orientationValue	real	1..1		false

4.22 Periodic Date Range

Name: Periodic Date Range [IHOREG 794]
Definition: The active period of a recurring event or occurrence.
Code: `periodicDateRange`
Remarks:
Aliases: (none)

Sub-Attributes

Sub-attribute	Type	Mult.	Permitted Values	Sequential
dateStart	S100_TruncatedDate	1..1		false
dateEnd	S100_TruncatedDate	1..1		false

4.23 RxN Code

Name: RxN Code [IHOREG 765]
Definition: A summary of the impact of the most common types of regulation, restriction, recommendation and nautical information on a vessel.
Code: `rxNCode`
Remarks:
Aliases: (none)

Sub-Attributes

Sub-attribute	Type	Mult.	Permitted Values	Sequential
categoryOfRxN	S100_CodeList	0..1	1: Navigation 2: Communication 3: Environmental Protection 4: Wildlife Protection 5: Security 6: Customs 7: Cargo Operation 8: Refuge 9: Health 10: Natural Resources or Exploitation 11: Port 12: Finance 13: Agriculture	false
actionOrActivity	S100_CodeList	0..1	1: Navigating With a Pilot 2: Entering Port 3: Leaving Port 4: Berthing	false

Sub-attribute	Type	Mult.	Permitted Values	Sequential
			5: Slipping 6: Anchoring 7: Weighing Anchor 8: Transiting 9: Overtaking 10: Reporting 11: Working Cargo 12: Landing 13: Diving 14: Fishing 15: Discharging Overboard 16: Passing	
headline	text	0..*		true

4.24 Schedule by Day of Week

Name: Schedule by Day of Week [IHOREG 249]
Definition: The nature and timings of a daily schedule by days of the week.
Code: `scheduleByDayOfWeek`
Remarks:
Aliases: (none)

Sub-Attributes

Sub-attribute	Type	Mult.	Permitted Values	Sequential
categoryOfSchedule	enumeration	0..1	1: Normal Operation 2: Closure 3: Unmanned Operation	false
timeIntervalsByDayOfWeek	complex	1..*		false

4.25 Spatial Accuracy

Name: Spatial Accuracy [IHOREG 985]
Definition: Provides an indication of the vertical and horizontal positional uncertainty of bathymetric data, optionally within a specified date range.
Code: `spatialAccuracy`
Remarks:
Aliases: (none)

Sub-Attributes

Sub-attribute	Type	Mult.	Permitted Values	Sequential
fixedDateRange	complex	0..1		false
horizontalPositionUncertainty	complex	0..1		false
verticalUncertainty	complex	0..1		false

4.26 Survey Date Range

Name: Survey Date Range [IHOREG 795]
Definition: The complex attribute describes the period of the hydrographic survey, as the time between its sub-attributes.
Code: `surveyDateRange`
Remarks:
Aliases: (none)

Sub-Attributes

Sub-attribute	Type	Mult.	Permitted Values	Sequential
dateStart	S100_TruncatedDate	0..1		false
dateEnd	S100_TruncatedDate	1..1		false

4.27 Telecommunications

Name: Telecommunications [IHOREG 255]
Definition: A means or channel of communicating at a distance by electrical or electromagnetic means such as telegraphy, telephony, or broadcasting.
Code: `telecommunications`
Remarks: If no value is populated for the sub-attribute telecommunication service, this means the service is by voice communication. If no value is populated for the sub-attribute telecommunication carrier, this means the service is by land line communication.
Aliases: (none)

Sub-Attributes

Sub-attribute	Type	Mult.	Permitted Values	Sequential
categoryOfCommunicationPreference	enumeration	0..1	1: Preferred Calling 2: Alternate Calling 3: Preferred Working 4: Alternate Working	false
telecommunicationIdentifier	text	1..1		false
telecommunicationCarrier	text	0..1		false
contactInstructions	text	0..1		false
telecommunicationService	enumeration	0..*	1: Voice 2: Facsimile 3: SMS 4: Data 5: Streamed Data 6: Telex 7: Telegraph 8: Email	false
scheduleByDayOfWeek	complex	0..1		false

4.28 Text Content

Name: Text Content [IHOREG 768]
Definition: Textual material, or a pointer to a resource providing textual material. May be accompanied by basic information about its source and relationship to the source.

Code: `textContent`
Remarks: Exactly one of sub-attributes onlineResource or information must be completed in one instance of textContent. Product specifications may restrict the use or content of onlineResource for security. For example, a product specification may forbid populating onlineResource. Product specification authors must consider whether applications using the data product may be prevented from accessing off-system resources by security policies.
Aliases: TXTCON

Sub-Attributes

Sub-attribute	Type	Mult.	Permitted Values	Sequential
categoryOfText	enumeration	0..1	1: Abstract or Summary 2: Extract 3: Full Text	false
information	complex	0..*		false
onlineResource	complex	0..1		false
source	text	0..1		false
sourceType	enumeration	0..1	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 Services 13: News Media 14: Traffic Data	false
reportedDate	S100_TruncatedDate	0..1		false

4.29 Time Intervals by Day of Week

Name: Time Intervals by Day of Week [IHOREG 248]
Definition: The regular weekly operation times of a service or schedule.
Code: `timeIntervalsByDayOfWeek`
Remarks:
Aliases: (none)

Sub-Attributes

Sub-attribute	Type	Mult.	Permitted Values	Sequential
dayOfWeek	enumeration	0..7	1: Sunday 2: Monday	true

Sub-attribute	Type	Mult.	Permitted Values	Sequential
			3: Tuesday 4: Wednesday 5: Thursday 6: Friday 7: Saturday	
dayOfWeekIsRange	boolean	0..1		false
timeOfDayStart	time	0..*		true
timeOfDayEnd	time	0..*		true

4.30 Useful Mark Description

Name: Useful Mark Description [IHOREG 1055]
Definition: Description of Aids to Navigation or prominent marks which are usually clearly visible and identifiable enough to be used in determining location or direction.
Code: `usefulMarkDescription`
Remarks:
Aliases: (none)

Sub-Attributes

Sub-attribute	Type	Mult.	Permitted Values	Sequential
textContent	complex	1..*		false

4.31 Vertical Uncertainty

Name: Vertical Uncertainty [IHOREG 261]
Definition: The best estimate of the vertical accuracy of depths, heights, vertical distances and vertical clearances.
Code: `verticalUncertainty`
Remarks: Encodes the vertical uncertainty associated with any vertical measurement.
Aliases: VERACC

Sub-Attributes

Sub-attribute	Type	Mult.	Permitted Values	Sequential
uncertaintyFixed	real	1..1		false
uncertaintyVariableFactor	real	0..1		false

4.32 Vessels Measurements

Name: Vessels Measurements [IHOREG 772]
Definition: Values, discovered by measuring, that correspond to vessels characteristics.
Code: `vesselsMeasurements`
Remarks: Combines (i) specifications of vessels' measurable characteristics (length, beam, tonnages, etc.), (ii) limit values for the specified characteristics (with units), (iii) arithmetical comparison operators (greater than, etc.), and (iv) logical operators (AND/OR) to define a subset of vessels characterized by the specified ranges. For example, the combination (draught, 10.5, metres, greaterThan) describes "vessels with draught greater than 10.5 metres".
Aliases: (none)

Sub-Attributes

Sub-attribute	Type	Mult.	Permitted Values	Sequential
comparisonOperator	enumeration	1..1	1: Greater Than	false

Sub-attribute	Type	Mult.	Permitted Values	Sequential
			2: Greater Than or Equal To 3: Less Than 4: Less Than or Equal To 5: Equal To 6: Not Equal To	
vesselsCharacteristics	enumeration	1..1	1: Length Overall 2: Length at Waterline 3: Breadth 4: Draught 6: Displacement Tonnage 7: Displacement Tonnage, Light 8: Displacement Tonnage, Loaded 9: Deadweight Tonnage 10: Gross Tonnage 11: Net Tonnage 12: Panama Canal/Universal Measurement System Net Tonnage 13: Suez Canal Net Tonnage	false
vesselsCharacteristicsValue	real	1..1		false
vesselsCharacteristicsUnit	enumeration	1..1	1: Metres 3: Metric Ton 4: Ton 5: Short Ton 6: Gross Ton 7: Net Ton 9: Suez Canal Net Tonnage	false

4.33 Weather Resource

Name: Weather Resource [IHOREG 1056]
Definition: Links for relevant weather related information.
Code: `weatherResource`
Remarks:
Aliases: (none)

Sub-Attributes

Sub-attribute	Type	Mult.	Permitted Values	Sequential
onlineResource	complex	0..1		false
dynamicResource	enumeration	0..1	1: Static	false

Sub-attribute	Type	Mult.	Permitted Values	Sequential
			2: Mandatory External Dynamic 3: Optional External Dynamic 4: Onboard Dynamic	
textContent	complex	0..1		false

5 Roles

5.1 Positions

Name: Positions [IHOREG 3]
Definition: A pointer to a specific cartographically positioned location for text.
Code: `positions`
Remarks:
Aliases: (none)

5.2 Component of

Name: Component of [IHOREG 9]
Definition: A pointer to the aggregate in a whole-part relationship.
Code: `componentOf`
Remarks:
Aliases: (none)

5.3 Information provided for

Name: Information provided for [IHOREG 16]
Definition: A pointer to a specific feature(s) for which further information is required.
Code: `informationProvidedFor`
Remarks:
Aliases: (none)

5.4 Provides information

Name: Provides information [IHOREG 17]
Definition: A pointer to an object that provides more information about the referencing feature or information type.
Code: `providesInformation`
Remarks:
Aliases: (none)

5.5 The applicable RxN

Name: The applicable RxN [IHOREG 18]
Definition: The applicable regulation, restriction, recommendation or nautical information
Code: `theApplicableRxN`
Remarks:
Aliases: (none)

5.6 Applies in location

Name: Applies in location [IHOREG 19]
Definition: The location in which the information item applies
Code: `appliesInLocation`
Remarks:
Aliases: (none)

5.7 Authority

Name: Authority [IHOREG 20]
Definition: A pointer to an Authority object
Code: `theAuthority`
Remarks:
Aliases: (none)

5.8 Authority service hours

Name: Authority service hours [IHOREG 21]
Definition: The authority for which service hours are given
Code: `theAuthority_srvHrs`

Remarks:
Aliases: (none)

5.9 Contact details

Name: Contact details [IHOREG 22]
Definition: A pointer to an Contact Details object
Code: `theContactDetails`
Remarks:
Aliases: (none)

5.10 Control authority

Name: Control authority [IHOREG 23]
Definition: The controlling organization or authority for a geographically located service
Code: `controlAuthority`
Remarks:
Aliases: (none)

5.11 Controlled service

Name: Controlled service [IHOREG 24]
Definition: The service controlled by an organisation or authority
Code: `controlledService`
Remarks:
Aliases: (none)

5.12 Identifies

Name: Identifies [IHOREG 27]
Definition: A pointer to a specific feature(s).
Code: `identifies`
Remarks:
Aliases: (none)

5.13 Is applicable to

Name: Is applicable to [IHOREG 28]
Definition: The object or class of objects to which the regulation, restriction, recommendation, or nautical information applies
Code: `isApplicableTo`
Remarks:
Aliases: (none)

5.14 Service Hours (reference)

Name: Service Hours (reference) [IHOREG 29]
Definition: Service hours for an authority or service provider
Code: `theServiceHours`
Remarks:
Aliases: (none)

5.15 The RxN

Name: The RxN [IHOREG 30]
Definition: The regulation, restriction, recommendation, or nautical information
Code: `theRxN`
Remarks:
Aliases: (none)

5.16 The service hours for a non-standard workday

Name: The service hours for a non-standard workday [IHOREG 32]
Definition: The usual service hours to which an exception applies
Code: `theServiceHours_nsdy`

Remarks:
Aliases: (none)

5.17 Vessel location

Name: Vessel location [IHOREG 35]
Definition: The location to which the permission statement applies
Code: `vslLocation`
Remarks:
Aliases: (none)

5.18 Partial working day

Name: Partial working day [IHOREG 36]
Definition: The work hours for a non-standard workday
Code: `partialWorkingDay`
Remarks:
Aliases: (none)

5.19 Service place

Name: Service place [IHOREG 43]
Definition: Pointer to service or facility
Code: `servicePlace`
Remarks:
Aliases: (none)

5.20 Location service hours

Name: Location service hours [IHOREG 44]
Definition: The location for which service hours are given
Code: `location_srvHrs`
Remarks:
Aliases: (none)

5.21 The organisation

Name: The organisation [IHOREG 47]
Definition: The organisation to which information relates
Code: `theOrganisation`
Remarks:
Aliases: (none)

5.22 The information

Name: The information [IHOREG 48]
Definition: Information related to an organisation
Code: `theInformation`
Remarks: Registry definition "The information" merely repeats the name.
Aliases: (none)

5.23 Permission

Name: Permission [IHOREG 49]
Definition: Association class for associations describing whether the subsets of vessels determined by the ship characteristics specified in APPLIC may (or must, etc.) transit, enter, or use a feature.
Code: `permission`
Remarks:
Aliases: (none)

5.24 Constitute

Name: Constitute [IHOREG 57]
Definition: Reference to a whole of the same type as the part feature in the relationship.
Code: `constitute`

Remarks:
Aliases: (none)

5.25 Auxiliary Facility

Name: Auxiliary Facility [IHOREG 58]
Definition: A reference to a feature that supplements or supports the use of the primary feature in an AuxiliaryFacility relationship.
Code: `auxiliaryFacility`
Remarks:
Aliases: (none)

5.26 Demarcated Feature

Name: Demarcated Feature [IHOREG 59]
Definition: Reference to the feature within which locations are demarcated.
Code: `demarcatedFeature`
Remarks:
Aliases: (none)

5.27 Demarcation Indicator

Name: Demarcation Indicator [IHOREG 60]
Definition: Reference to a feature demarcating a location within another feature.
Code: `demarcationIndicator`
Remarks:
Aliases: (none)

5.28 Entrance Reference

Name: Entrance Reference [IHOREG 61]
Definition: Reference to an information type describing the entrance to a limit area.
Code: `entranceReference`
Remarks:
Aliases: (none)

5.29 Entrance To

Name: Entrance To [IHOREG 62]
Definition: A reference to the feature to which entrance information pertains.
Code: `entranceTo`
Remarks:
Aliases: (none)

5.30 Has Infrastructure

Name: Has Infrastructure [IHOREG 63]
Definition: Reference to the feature describing a particular instance of physical infrastructure.
Code: `hasInfrastructure`
Remarks:
Aliases: (none)

5.31 Infrastructure Location

Name: Infrastructure Location [IHOREG 64]
Definition: Reference to the feature within which the infrastructure is located.
Code: `infrastructureLocation`
Remarks:
Aliases: (none)

5.32 Limit Extent

Name: Limit Extent [IHOREG 65]
Definition: Reference to a feature demarcating the extent to which a coastal State claims or may claim a specific jurisdiction.

Code: `limitExtent`
Remarks:
Aliases: (none)

5.33 Limit Reference

Name: Limit Reference [IHOREG 66]
Definition: Reference to the feature for which a coastal State claims a specific jurisdiction different from the feature's geographic boundary.
Code: `limitReference`
Remarks:
Aliases: (none)

5.34 Layout Unit

Name: Layout Unit [IHOREG 67]
Definition: A reference to the diverse units comprising a feature of a different type.
Code: `layoutUnit`
Remarks:
Aliases: (none)

5.35 Location Served

Name: Location Served [IHOREG 68]
Definition: Reference to the location (feature) where specified services are available.
Code: `locationServed`
Remarks:
Aliases: (none)

5.36 Facility Operating Hours

Name: Facility Operating Hours [IHOREG 69]
Definition: Reference to information about the days and times during which a facility operates or may be used.
Code: `facilityOperatingHours`
Remarks:
Aliases: (none)

5.37 Primary Facility

Name: Primary Facility [IHOREG 70]
Definition: A reference to the primary feature in an Auxiliaryfacility relationship.
Code: `primaryFacility`
Remarks:
Aliases: (none)

5.38 Service Description Reference

Name: Service Description Reference [IHOREG 71]
Definition: Reference to an information object describing services.
Code: `serviceDescriptionReference`
Remarks:
Aliases: (none)

5.39 Sub-Unit

Name: Sub-Unit [IHOREG 72]
Definition: Reference to a part of the same type as the whole feature in the relationship.
Code: `subUnit`
Remarks:
Aliases: (none)

5.40 Defined for

Name: Defined for [IHOREG 14]
Definition: A pointer to a specific spatial type(s).

Code: `definedFor`
Remarks:
Aliases: (none)

5.41 Defines

Name: Defines [IHOREG 15]
Definition: A pointer to an information type providing spatial quality information.
Code: `defines`
Remarks:
Aliases: (none)

6 Information Associations

6.1 Additional information

Name: Additional information [IHOREG 8000001]
Definition: A feature association for the binding between at least one instance of a geo feature and an instance of an information type.
Code: `AdditionalInformation`
Remarks:
Aliases: (none)

Attribute Bindings

(No local attribute bindings)

Role: providesInformation informationProvidedFor

6.2 Authority contact

Name: Authority contact [IHOREG 8000003]
Definition: Contact information for an authority
Code: `AuthorityContact`
Remarks:
Aliases: (none)

Attribute Bindings

(No local attribute bindings)

Role: theAuthority theContactDetails

6.3 Authority hours

Name: Authority hours [IHOREG 8000004]
Definition: Service hours for an authority
Code: `AuthorityHours`
Remarks:
Aliases: (none)

Attribute Bindings

(No local attribute bindings)

Role: theAuthority_srvHrs theServiceHours

6.4 Associated RxN

Name: Associated RxN [IHOREG 8000005]
Definition: Association between a geographic location and a regulation, restriction, recommendation, or nautical information
Code: `AssociatedRxN`
Remarks:
Aliases: (none)

Attribute Bindings

(No local attribute bindings)

Role: appliesInLocation theRxN

6.5 Exceptional workday

Name: Exceptional workday [IHOREG 8000006]
Definition: Exception to the usual working day
Code: `ExceptionalWorkday`
Remarks:
Aliases: (none)

Attribute Bindings

(No local attribute bindings)

Role: theServiceHours_nsdy partialWorkingDay

6.6 Service control

Name: Service control [IHOREG 8000010]
Definition: The controlling authority for a service area
Code: `ServiceControl`
Remarks: This is an information association linking a location where a service is provided with an information type describing the provider. Contrast to serviceProvisionArea, which is a feature association linking the area served with another feature describing the provider. Role controlledService encodable only as a generic inverse association in 3.0.0 datasets as it is an information->feature link
Aliases: (none)

Attribute Bindings

(No local attribute bindings)

Role: controlledService controlAuthority

6.7 Service contact

Name: Service contact [IHOREG 8000012]
Definition: Contact details for a service or facility
Code: `ServiceContact`
Remarks:
Aliases: (none)

Attribute Bindings

(No local attribute bindings)

Role: servicePlace theContactDetails

6.8 Location hours

Name: Location hours [IHOREG 8000013]
Definition: Working hours for a service or facility described by a geographic location
Code: `LocationHours`
Remarks: This association links a geo feature to a Service Hours object. Distinction: authyHours, which links an information type (Authority) to a Service Hours object.
Aliases: (none)

Attribute Bindings

(No local attribute bindings)

Role: location_srvHrs facilityOperatingHours

6.9 Related organisation

Name: Related organisation [IHOREG 8000014]
Definition: Related organisation
Code: `RelatedOrganisation`
Remarks:
Aliases: (none)

Attribute Bindings

(No local attribute bindings)

Role: theInformation theOrganisation

6.10 InclusionType

Name: InclusionType [IHOREG 8000015]
Definition: Association class specifying the relationship between the subset of vessels described by an APPLIC data object and a regulation (restriction, recommendation, or nautical information).
Code: `InclusionType`

Remarks:
Aliases: (none)

Attribute Bindings

Attribute	Type	Mult.	Permitted Values	Sequential
membership	enumeration	1..1	1 : Included 2 : Excluded	false

Role: theApplicableRxN isApplicableTo

6.11 Permission Type

Name: Permission Type [IHOREG 8000016]
Definition: Association class for associations describing whether the subsets of vessels determined by the ship characteristics specified in APPLIC may (or must, etc.) transit, enter, or use a feature.
Code: `PermissionType`
Remarks:
Aliases: (none)

Attribute Bindings

Attribute	Type	Mult.	Permitted Values	Sequential
categoryOfRelationship	enumeration	1..1	1 : Prohibited 2 : Not Recommended 3 : Permitted 4 : Recommended 5 : Required 6 : Not Required	false

Role: vslLocation permission

6.12 Spatial Association

Name: Spatial Association [IHOREG 8000019]
Definition: Association for linking spatial quality to spatial objects.
Code: `SpatialAssociation`
Remarks:
Aliases: (none)

Association is not referenced in any information binding

Attribute Bindings

(No local attribute bindings)

Role: defines definedFor

6.13 Limit Entrance

Name: Limit Entrance [IHOREG 8000021]
Definition: Association between a limit feature and the entrance for the limit.
Code: `LimitEntrance`
Remarks:
Aliases: (none)

Attribute Bindings

(No local attribute bindings)

Role: entranceTo entranceReference

6.14 Service Availability

Name: Service Availability [IHOREG 8000022]
Definition: The services available within a location.

Code: `ServiceAvailability`
Remarks:
Aliases: (none)

Attribute Bindings

(No local attribute bindings)

Role: locationServed serviceDescriptionReference

7 Feature Associations

7.1 Text association

Name: Text association [IHOREG 9000014]
Definition: A feature association for the binding between a geo feature and the cartographically positioned location for text.
Code: `TextAssociation`
Remarks:
Aliases: (none) [IHOREG 9000014]

Attribute Bindings

(No local attribute bindings)

Role(s): identifies positions

7.2 Subsection

Name: Subsection [IHOREG 9000026]
Definition: A division of a feature into parts of the same type as the whole.
Code: `Subsection`
Remarks:
Aliases: (none) [IHOREG 9000026]

Attribute Bindings

(No local attribute bindings)

Role(s): subUnit constitute

7.3 Infrastructure

Name: Infrastructure [IHOREG 9000027]
Definition: The infrastructure facilities in an area.
Code: `Infrastructure`
Remarks:
Aliases: (none) [IHOREG 9000027]

Attribute Bindings

(No local attribute bindings)

Role(s): infrastructureLocation hasInfrastructure

7.4 Primary/Auxiliary Facility

Name: Primary/Auxiliary Facility [IHOREG 9000028]
Definition: Describes the relationship between a primary feature and a feature that plays a supporting role in the use of the primary facility by a vessel.
Code: `PrimaryAuxiliaryFacility`
Remarks:
Aliases: (none) [IHOREG 9000028]

Attribute Bindings

(No local attribute bindings)

Role(s): primaryFacility auxiliaryFacility

7.5 Demarcation

Name: Demarcation [IHOREG 9000029]
Definition: Demarcation of location(s) within a feature by relation to another feature or features
Code: `Demarcation`
Remarks:
Aliases: (none) [IHOREG 9000029]

Attribute Bindings

(No local attribute bindings)

Role(s): demarcationIndicator demarcatedFeature

7.6 Jurisdictional Limit

Name: Jurisdictional Limit [IHOREG 9000030]
Definition: The limit(s) of a jurisdiction claimed by a coastal State.
Code: `JurisdictionalLimit`
Remarks:
Aliases: (none) [IHOREG 9000030]

Attribute Bindings

(No local attribute bindings)

Role(s): limitReference limitExtent

7.7 Layout Division

Name: Layout Division [IHOREG 9000031]
Definition: A division of a feature into parts of type(s) different from the type of the whole.
Code: `LayoutDivision`
Remarks:
Aliases: (none) [IHOREG 9000031]

Attribute Bindings

(No local attribute bindings)

Role(s): layoutUnit componentOf

8 Information Types

8.1 Information Type

Name: Information Type Abstract type: true [IHOREG 42]
Definition: Generalized information type which carries all the common attributes.
Code: `InformationType`
Remarks:
Aliases: (none)

Attribute Bindings

Attribute	Type	Mult.	Permitted Values	Sequential
featureName	complex	0..*		false
fixedDateRange	complex	0..1		false
periodicDateRange	complex	0..*		false
graphic	complex	0..*		false
source	text	0..1		false
sourceType	enumeration	0..1	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 Services 13 : News Media 14 : Traffic Data	false
reportedDate	S100_TruncatedDate	0..1		false

Information bindings

Assoc. Type	Code of association	Code of associated class	Role	Mult.
association	AdditionalInformation	NauticalInformation	providesInformation	0..*

8.2 AbstractRxN

Name: AbstractRxN Abstract type: true [IHOREG 33]
Definition: An abstract superclass for information types that encode rules, recommendations, and general information in text or graphic form.
Code: `AbstractRxN`
Remarks:
Aliases: (none) Supertype: InformationType

Attribute Bindings
See InformationType for inherited attributes

Attribute	Type	Mult.	Permitted Values	Sequential
categoryOfAuthority	enumeration	0..1	2 : Border Control 3 : Police 4 : Port 5 : Immigration 6 : Health 7 : Coast Guard 8 : Agricultural 9 : Military 10 : Private Company 11 : Maritime Police	false

Attribute	Type	Mult.	Permitted Values	Sequential
			12 : Environmental 13 : Fishery 14 : Finance 15 : Maritime 16 : Customs	
rxNCode	complex	0..*		false
textContent	complex	0..*		false

Information bindings
See InformationType for inherited bindings

Assoc. Type	Code of association	Code of associated class	Role	Mult.
association	InclusionType	Applicability	isApplicableTo	0..*
association	RelatedOrganisation	Authority	theOrganisation	0..*

8.3 Applicability

Name: Applicability [IHOREG 35]
Definition: Describes the relationship between vessel characteristics and: (i) the applicability of an associated information object or feature to the vessel; or, (ii) the use of a facility, place, or service by the vessel; or, (iii) passage of the vessel through an area.
Code: `Applicability`
Remarks:
Aliases: (none) Supertype: InformationType

Attribute Bindings
See InformationType for inherited attributes

Attribute	Type	Mult.	Permitted Values	Sequential
inBallast	boolean	0..1		false
categoryOfCargo	enumeration	0..*	2 : Container 5 : Passenger 6 : Livestock 7 : Dangerous or Hazardous 8 : Heavy Lift 10 : Dry Bulk Cargo 11 : Liquid Bulk Cargo 12 : Reefer Container Cargo 13 : Ro-Ro Cargo 14 : Project Cargo 15 : Break Bulk Cargo	false
categoryOfDangerousOrHazardousCargo	enumeration	0..*	1 : IMDG Code Class 1 Div. 1.1 2 : IMDG Code Class 1 Div. 1.2 3 : IMDG Code Class 1 Div. 1.3 4 : IMDG Code Class 1 Div. 1.4 5 : IMDG Code Class 1 Div. 1.5 6 : IMDG Code Class 1 Div. 1.6 7 : IMDG Code Class 2 Div. 2.1 8 : IMDG Code Class 2 Div. 2.2 9 : IMDG Code Class 2 Div. 2.3 10 : IMDG Code Class 3 11 : IMDG Code Class 4 Div. 4.1 12 : IMDG Code Class 4 Div. 4.2 13 : IMDG Code Class 4 Div. 4.3 14 : IMDG Code Class 5 Div. 5.1 15 : IMDG Code Class 5 Div. 5.2 16 : IMDG Code Class 6 Div. 6.1	false

Attribute	Type	Mult.	Permitted Values	Sequential
			17 : IMDG Code Class 6 Div. 6.2 18 : IMDG Code Class 7 19 : IMDG Code Class 8 20 : IMDG Code Class 9 21 : Harmful Substances in Packaged Form	
categoryOfVessel	S100_CodeList	0..1	1 : General Cargo Vessel 2 : Container Carrier 3 : Tanker 4 : Bulk Carrier 5 : Passenger Vessel 6 : Roll-On Roll-Off 7 : Refrigerated Cargo Vessel 8 : Fishing Vessel 9 : Service 10 : Warship 11 : Towed or Pushed Composite Unit 12 : Tug and Tow 13 : Light Recreational 14 : Semi-Submersible Offshore Installation 15 : Jack-Up Exploration or Project Installation 16 : Livestock Carrier 17 : Sport Fishing	false
categoryOfVesselRegistry	enumeration	0..1	1 : Domestic 2 : Foreign	false
logicalConnectives	enumeration	0..1	1 : Logical Conjunction 2 : Logical Disjunction	false
thicknessOfIceCapability	integer	0..1		false
vesselPerformance	text	0..1		false
information	complex	0..*		false
vesselsMeasurements	complex	0..*		false

Information bindings
See InformationType for inherited bindings

Assoc. Type	Code of association	Code of associated class	Role	Mult.
association	InclusionType	AbstractRxN	theApplicableRxN	0..*
association	PermissionType	InformationType	vslLocation	0..*

8.4 Authority

Name: Authority [IHOREG 36]
Definition: A person or organisation having political or administrative power and control.
Code: `Authority`
Remarks:
Aliases: (none) Supertype: InformationType

Attribute Bindings
See InformationType for inherited attributes

Attribute	Type	Mult.	Permitted Values	Sequential
categoryOfAuthority	enumeration	1..1	2 : Border Control 3 : Police	false

Attribute	Type	Mult.	Permitted Values	Sequential
			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	
textContent	complex	0..1		false

Information bindings
See InformationType for inherited bindings

Assoc. Type	Code of association	Code of associated class	Role	Mult.
association	AuthorityContact	ContactDetails	theContactDetails	0..*
association	RelatedOrganisation	AbstractRxN	theInformation	0..*
association	AuthorityHours	ServiceHours	theServiceHours	0..*

8.5 Available Port Services

Name: Available Port Services [IHOREG 52]
Definition: Services that are available for a given port.
Code: `AvailablePortServices`
Remarks:
Aliases: Port Services Supertype: InformationType

Attribute Bindings
See InformationType for inherited attributes

Attribute	Type	Mult.	Permitted Values	Sequential
firefightingService	enumeration	0..*	1 : Shore-Based Firefighting 2 : Onboard Firefighting 3 : Firefighting Boat	false
medicalService	enumeration	0..*	1 : Ambulance 2 : Fumigation 3 : Doctor 4 : Quarantine 5 : Vaccination Centre	false
repairService	enumeration	0..*	1 : Compensation of Magnetic Compass 2 : Diver Service 3 : Bridge Equipment Repair 4 : Engine Repair 5 : Electronic Equipment Repair 6 : Hull Repair 7 : Navigational Equipment Repair 8 : Propeller Repair 9 : Salvage Gear Repair 10 : Shaft Repair	false
technicalPortService	enumeration	0..*	1 : Compensation of Magnetic Compass 2 : Degaussing 3 : Cargo Surveying 4 : Vetting	false

Attribute	Type	Mult.	Permitted Values	Sequential
shipSanitationControl	enumeration	0..*	1 : Sanitation Measures Only 2 : Issue SSCC 3 : Issue SSCEC	false
transportConnection	S100_CodeList	0..*	2 : Heliport 3 : Helipad 4 : Hired Boat 5 : Bus Station 6 : Ferry 8 : Motorway 9 : Launch 11 : Inland Waterway Transport 12 : Short Sea Transportation 13 : Marine Highway	false
berthingAssistance	enumeration	0..*	1 : Berthing Information 2 : Line Personnel 3 : Mooring Boat 4 : Mule 5 : Tugboat 6 : Icebreaking Ship	false
cargoService	enumeration	0..*	1 : Stevedoring 2 : Cargo Surveying 3 : Cargo Lashing 4 : Draught Survey	false
securitySafetyEmergencyService	S100_CodeList	0..*	1 : Coast Guard 2 : Customs 3 : Environmental Emergency Information Centre 4 : Emergency Coordination Centre 5 : Guard and/or Security Service 6 : Immigration 7 : Police 8 : Sea Rescue Control	false
wasteDisposalService	enumeration	0..*	1 : MARPOL Annex I Oily Bilge Water 2 : MARPOL Annex I Oily Residues 3 : MARPOL Annex I Oily Tank Washings 4 : MARPOL Annex I Dirty Ballast Water 5 : MARPOL Annex I Scale and Sludge from Tank Cleaning 6 : MARPOL Annex I Other Oily Waste 7 : MARPOL Annex II Category X 8 : MARPOL Annex II Category Y 9 : MARPOL Annex II Category Z 10 : MARPOL Annex II Category OS 11 : MARPOL Annex IV Sewage 12 : MARPOL Annex V Plastics 13 : MARPOL Annex V Food Wastes 14 : MARPOL Annex V Domestic Wastes 15 : MARPOL Annex V Cooking Oil 16 : MARPOL Annex V Incinerator Ashes 17 : MARPOL Annex V Operational Wastes 18 : MARPOL Annex V Animal Carcasses 19 : MARPOL Annex V Fishing Gear 20 : MARPOL Annex V E-Waste 21 : MARPOL Annex V Cargo Residues - non-HME 22 : MARPOL Annex V Cargo Residues - HME 23 : MARPOL Annex VI Ozone-Depleting	false

Attribute	Type	Mult.	Permitted Values	Sequential
			Substances 24 : MARPOL Annex VI Exhaust Gas-Cleaning Residues	
supplyService	enumeration	0..*	1 : Shore Power 2 : Fuel Oil Bunkering 3 : LNG Bunkering 4 : Lubricants 5 : Steam 6 : Potable Water 7 : International Shore Connection 8 : Provisions 9 : Chandler 10 : Mechanics Workshop	false
tugInformation	text	0..1		false
textContent	complex	0..*		false

Information bindings
See InformationType for inherited bindings
(No local bindings, but may inherit bindings from super-types, if any)

8.6 Contact Details

Name: Contact Details [IHOREG 27]
Definition: Information on how to reach a person or organisation by postal, internet, telephone, telex and radio systems.
Code: `ContactDetails`
Remarks:
Aliases: (none) Supertype: InformationType

Attribute Bindings
See InformationType for inherited attributes

Attribute	Type	Mult.	Permitted Values	Sequential
callName	text	0..1		false
callSign	text	0..1		false
categoryOfCommunicationPreference	enumeration	0..1	1 : Preferred Calling 2 : Alternate Calling 3 : Preferred Working 4 : Alternate Working	false
communicationChannel	text	0..*		false
contactAddress	complex	0..*		false
contactInstructions	text	0..1		false
signalFrequency	integer	0..*		false
frequencyPair	complex	0..*		false
information	complex	0..*		false
mMSICode	text	0..1		false
onlineResource	complex	0..*		false
telecommunications	complex	0..*		false

Information bindings
See InformationType for inherited bindings

Assoc. Type	Code of association	Code of associated class	Role	Mult.
association	AuthorityContact	Authority	theAuthority	0..*

8.7 Entrance

Name: Entrance [IHOREG 53]
Definition: The seaward end of a channel, harbour, dock, etc.
Code: `Entrance`
Remarks:
Aliases: (none) Supertype: InformationType

Attribute Bindings
See InformationType for inherited attributes

Attribute	Type	Mult.	Permitted Values	Sequential
entranceDescription	text	0..1		false
associatedFeatureName	text	0..*		false
localKnowledgeDescription	text	0..1		false
approachDescription	text	0..1		false
markedBy	complex	0..*		false
landmarkDescription	complex	0..*		false
offshoreMarkDescription	complex	0..*		false
majorLightDescription	complex	0..*		false
usefulMarkDescription	complex	0..*		false
textContent	complex	0..*		false

Information bindings
See InformationType for inherited bindings
(No local bindings, but may inherit bindings from super-types, if any)

8.8 Nautical Information

Name: Nautical Information [IHOREG 30]
Definition: Nautical information about a related area or facility.
Code: `NauticalInformation`
Remarks:
Aliases: (none) Supertype: AbstractRxN

Attribute Bindings
See AbstractRxN for inherited attributes

(No local attribute bindings)

Information bindings
See AbstractRxN for inherited bindings

Assoc. Type	Code of association	Code of associated class	Role	Mult.
association	AdditionalInformation	InformationType	informationProvidedFor	0..*

8.9 Non-Standard Working Day

Name: Non-Standard Working Day [IHOREG 29]
Definition: Days when many services are not available. Often days of festivity or recreation or public holidays when normal working hours are limited, especially a national or religious festival, etc.
Code: `NonStandardWorkingDay`
Remarks:

Aliases: (none) Supertype: InformationType

Attribute Bindings

See InformationType for inherited attributes

Attribute	Type	Mult.	Permitted Values	Sequential
dateFixed	S100_TruncatedDate	0..*		false
dateVariable	text	0..*		false
information	complex	0..*		false

Information bindings

See InformationType for inherited bindings

(No local bindings, but may inherit bindings from super-types, if any)

8.10 Recommendations

Name: Recommendations [IHOREG 44]
Definition: Recommendations for a related area or facility.
Code: `Recommendations`
Remarks:
Aliases: RCMDTS Supertype: AbstractRxN

Attribute Bindings

See AbstractRxN for inherited attributes

(No local attribute bindings)

Information bindings

See AbstractRxN for inherited bindings

(No local bindings, but may inherit bindings from super-types, if any)

8.11 Regulations

Name: Regulations [IHOREG 45]
Definition: Regulations for a related area or facility.
Code: `Regulations`
Remarks:
Aliases: REGLTS Supertype: AbstractRxN

Attribute Bindings

See AbstractRxN for inherited attributes

(No local attribute bindings)

Information bindings

See AbstractRxN for inherited bindings

(No local bindings, but may inherit bindings from super-types, if any)

8.12 Restrictions

Name: Restrictions [IHOREG 47]
Definition: Restrictions for a related area or facility.
Code: `Restrictions`
Remarks:
Aliases: RESDES Supertype: AbstractRxN

Attribute Bindings

See AbstractRxN for inherited attributes

(No local attribute bindings)

Information bindings
See AbstractRxN for inherited bindings
(No local bindings, but may inherit bindings from super-types, if any)

8.13 Service Hours

Name: Service Hours [IHOREG 28]
Definition: The time when a service is available and known exceptions.
Code: `ServiceHours`
Remarks:
Aliases: (none) Supertype: InformationType

Attribute Bindings
See InformationType for inherited attributes

Attribute	Type	Mult.	Permitted Values	Sequential
scheduleByDayOfWeek	complex	1..*		false
information	complex	0..*		false

Information bindings
See InformationType for inherited bindings

Assoc. Type	Code of association	Code of associated class	Role	Mult.
association	ExceptionalWorkday	NonStandardWorkingDay	partialWorkingDay	0..*
association	AuthorityHours	Authority	theAuthority_srvHrs	0..*

8.14 Spatial Quality

Name: Spatial Quality [IHOREG 31]
Definition: The indication of the quality of the locational information for features in a dataset.
Code: `SpatialQuality`
Remarks:
Aliases: (none)

Attribute Bindings

Attribute	Type	Mult.	Permitted Values	Sequential
qualityOfHorizontalMeasurement	enumeration	0..1	1 : Surveyed 2 : Unsurveyed 3 : Inadequately Surveyed 4 : Approximate 5 : Position Doubtful 6 : Unreliable 7 : Reported (Not Surveyed) 8 : Reported (Not Confirmed) 9 : Estimated 10 : Precisely Known 11 : Calculated	false
spatialAccuracy	complex	0..*		false

Information bindings

(No local bindings, but may inherit bindings from super-types, if any)

9 Feature Types

9.1 Feature Type

Name: Feature Type Abstract type: true [IHOREG 422]
Definition: Generalized feature type which carries all the common attributes.
Code: `FeatureType`
Remarks:
Aliases: (none)
Feature use type: geographic
Permitted primitives: noGeometry

Attribute Bindings

Attribute	Type	Mult.	Permitted Values	Sequential
locationMRN	URN	0..1		false
globalLocationNumber	text	0..1		false
featureName	complex	0..*		false
fixedDateRange	complex	0..1		false
periodicDateRange	complex	0..*		false
rxNCode	complex	0..*		false
graphic	complex	0..*		false
source	text	0..1		false
sourceType	enumeration	0..1	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 Services 13 : News Media 14 : Traffic Data	false
reportedDate	S100_TruncatedDate	0..1		false
textContent	complex	0..*		false

Information bindings

Assoc. Type	Code of association	Code of associated class	Role	Mult.
association	PermissionType	Applicability	permission	0..*
association	AssociatedRxN	AbstractRxN	theRxN	0..*
association	AdditionalInformation	NauticalInformation	providesInformation	0..*

Feature bindings

Assoc. Type	Code of association	Code of associated class	Role	Mult.
association	TextAssociation	TextPlacement	positions	0..1

9.2 Organization Contact Area

Name: Organization Contact Area Abstract type: true [IHOREG 481]
Definition: A feature often associated with contact information for an organization that exercises a management role or offers a service in the location.
Code: `OrganizationContactArea`
Remarks: It is not a requirement that every instance of the feature be associated with a management, reporting, or service organization.

Aliases: (none) Supertype: FeatureType
Feature use type: geographic
Permitted primitives: noGeometry

Attribute Bindings
See FeatureType for inherited attributes

(No local attribute bindings)

Information bindings
See FeatureType for inherited bindings

Assoc. Type	Code of association	Code of associated class	Role	Mult.
association	ServiceContact	ContactDetails	theContactDetails	0..*

Feature bindings
See FeatureType for inherited bindings.
(No local bindings, but may inherit bindings from super-types, if any)

9.3 Supervised Area

Name: Supervised Area Abstract type: true [IHOREG 519]
Definition: A location which may be supervised by a responsible or controlling authority.
Code: `SupervisedArea`
Remarks: It is not a requirement that every feature instance be associated with an authority. Note that having AbstractService as well as SupervisedArea allows the subclasses to link to CONDET both directly and via AUTORI, which may not be desirable because it gives encoders two ways to reach almost the same result.
Aliases: (none) Supertype: OrganizationContactArea
Feature use type: geographic
Permitted primitives: noGeometry

Attribute Bindings
See OrganizationContactArea for inherited attributes

(No local attribute bindings)

Information bindings
See OrganizationContactArea for inherited bindings

Assoc. Type	Code of association	Code of associated class	Role	Mult.
association	ServiceControl	Authority	controlAuthority	0..1

Feature bindings
See OrganizationContactArea for inherited bindings.
(No local bindings, but may inherit bindings from super-types, if any)

9.4 Harbour Physical Infrastructure

Name: Harbour Physical Infrastructure Abstract type: true [IHOREG 612]
Definition: The physical installations and facilities that support operations in a port or harbour.
Code: `HarbourPhysicalInfrastructure`
Remarks: This generic type can serve as a super-class or aggregation type for classes defining specific feature types.
Aliases: Port Physical Infrastructure Supertype: SupervisedArea
Feature use type: geographic
Permitted primitives: point surface

Attribute Bindings
See SupervisedArea for inherited attributes

Attribute	Type	Mult.	Permitted Values	Sequential
verticalClearanceValue	real	0..1		false

Information bindings
See SupervisedArea for inherited bindings
(No local bindings, but may inherit bindings from super-types, if any)

Feature bindings
See SupervisedArea for inherited bindings.

Assoc. Type	Code of association	Code of associated class	Role	Mult.
association	Infrastructure	HarbourAreaSection, Terminal	infrastructureLocation	0..1

9.5 Layout

Name: Layout Abstract type: true [IHOREG 611]
Definition: The spatial arrangement of areas and other types of locations that are designated for specified purposes or otherwise distinguished from other areas and locations.
Code: `Layout`
Remarks:
Aliases: (none) Supertype: SupervisedArea
Feature use type: geographic
Permitted primitives: noGeometry

Attribute Bindings
See SupervisedArea for inherited attributes

(No local attribute bindings)

Information bindings
See SupervisedArea for inherited bindings
(No local bindings, but may inherit bindings from super-types, if any)

Feature bindings
See SupervisedArea for inherited bindings.
(No local bindings, but may inherit bindings from super-types, if any)

9.6 Anchor Berth

Name: Anchor Berth [IHOREG 308]
Definition: A designated area of water where a vessel, sea plane, etc., may anchor.
Code: `AnchorBerth`
Remarks: In general the anchor berth is defined by the centre point and a swinging circle radius.
Aliases: ACHBRT Supertype: Layout
Feature use type: geographic
Permitted primitives: point surface

Attribute Bindings
See Layout for inherited attributes

(No local attribute bindings)

Information bindings
See Layout for inherited bindings

Assoc. Type	Code of association	Code of associated class	Role	Mult.
association	ServiceAvailability	AvailablePortServices	serviceDescriptionReference	0..1
association	LocationHours	ServiceHours	location_srvHrs	0..1

Feature bindings
See Layout for inherited bindings.

Assoc. Type	Code of association	Code of associated class	Role	Mult.
association	PrimaryAuxiliaryFacility	MooringWarpingFacility	auxiliaryFacility	0..*

9.7 Anchorage Area

Name: Anchorage Area [IHOREG 307]
Definition: An area in which vessels or seaplanes anchor or may anchor.
Code: `AnchorageArea`
Remarks:
Aliases: ACHARE Supertype: Layout
Feature use type: geographic
Permitted primitives: point surface

Attribute Bindings
See Layout for inherited attributes

Attribute	Type	Mult.	Permitted Values	Sequential
depthsDescription	complex	0..1		false
locationByText	text	0..1		false
markedBy	complex	0..1		false
iSPSLevel	enumeration	0..1	1 : ISPS Level 1 2 : ISPS Level 2 3 : ISPS Level 3	false

Information bindings
See Layout for inherited bindings

Assoc. Type	Code of association	Code of associated class	Role	Mult.
association	LocationHours	ServiceHours	location_srvHrs	0..1

Feature bindings
See Layout for inherited bindings.

Assoc. Type	Code of association	Code of associated class	Role	Mult.
aggregation	LayoutDivision	HarbourAreaSection	componentOf	1..1

9.8 Berth

Name: Berth [IHOREG 638]
Definition: A place, generally named or numbered, where a vessel may moor or anchor.
Code: `Berth`
Remarks:
Aliases: BERTHS Supertype: Layout
Feature use type: geographic
Permitted primitives: point curve surface

Attribute Bindings
See Layout for inherited attributes

Attribute	Type	Mult.	Permitted Values	Sequential
availableBerthingLength	real	0..1		false
bollardDescription	text	0..1		false
bollardPull	real	0..1		false
minimumBerthDepth	real	0..1		false
elevation	real	0..1		false
cathodicProtectionSystem	boolean	0..1		false

Attribute	Type	Mult.	Permitted Values	Sequential
categoryOfBerthLocation	enumeration	0..1	1 : Wharf Reference Metre Mark 2 : Wharf Reference Position 3 : Pier (Jetty) 4 : Conventional Mooring	false
portFacilityNumber	text	0..1		false
bollardNumber	text	0..2		true
gLNExtension	text	0..1		false
metreMarkNumber	text	0..2		true
manifoldNumber	text	0..2		true
rampNumber	text	0..1		false
locationByText	text	0..1		false
methodOfSecuring	enumeration	0..1	1 : Bow to Seaward 2 : Stern to Seaward 3 : Mediterranean Mooring 4 : Baltic Mooring 5 : Running Mooring 6 : Standing Mooring 7 : Single Point Mooring 8 : Conventional Mooring 9 : Ship-to-Ship Mooring 10 : Spider Buoy Mooring	false
uNLocationCode	text	1..1		false
terminalIdentifier	text	0..1		false

Information bindings
See Layout for inherited bindings

Assoc. Type	Code of association	Code of associated class	Role	Mult.
association	ServiceAvailability	AvailablePortServices	serviceDescriptionReference	0..1
association	LocationHours	ServiceHours	location_srvHrs	0..1

Feature bindings
See Layout for inherited bindings.

Assoc. Type	Code of association	Code of associated class	Role	Mult.
association	Demarcation	BerthPosition	demarcationIndicator	0..*
aggregation	LayoutDivision	HarbourAreaSection, Terminal	componentOf	1..1

9.9 Berth Position

Name: Berth Position [IHOREG 613]
Definition: A specific position within a berth where a vessel may be moored or anchored.
Code: `BerthPosition`
Remarks: Within a Berth, Anchor Berth or Multiple Buoy Mooring berth, there may be many possible Berth Positions. The space required to berth the vessel may vary depending on its type and size.
Aliases: (none) Supertype: Layout
Feature use type: geographic
Permitted primitives: point

Attribute Bindings
See Layout for inherited attributes

Attribute	Type	Mult.	Permitted Values	Sequential
availableBerthingLength	real	0..1		false
bollardDescription	text	0..1		false

Attribute	Type	Mult.	Permitted Values	Sequential
bollardPull	real	0..1		false
bollardNumber	text	0..2		true
gLNExtension	text	0..1		false
metreMarkNumber	text	0..2		true
manifoldNumber	text	0..2		true
rampNumber	text	0..1		false
locationByText	text	0..1		false

Information bindings
See Layout for inherited bindings
(No local bindings, but may inherit bindings from super-types, if any)

Feature bindings
See Layout for inherited bindings.

Assoc. Type	Code of association	Code of associated class	Role	Mult.
composition	Demarcation	Berth	demarcatedFeature	1..1
association	PrimaryAuxiliaryFacility	MooringWarpingFacility	auxiliaryFacility	0..*

9.10 Dock Area

Name: Dock Area [IHOREG 624]
Definition: An artificially enclosed area within which ships may moor and which may have gates to regulate water level.
Code: `DockArea`
Remarks:
Aliases: DOCARE Supertype: Layout
Feature use type: geographic
Permitted primitives: surface

Attribute Bindings
See Layout for inherited attributes

Attribute	Type	Mult.	Permitted Values	Sequential
depthsDescription	complex	0..1		false
locationByText	text	0..1		false
markedBy	complex	0..1		false
iSPSLevel	enumeration	0..1	1 : ISPS Level 1 2 : ISPS Level 2 3 : ISPS Level 3	false

Information bindings
See Layout for inherited bindings

Assoc. Type	Code of association	Code of associated class	Role	Mult.
association	ServiceAvailability	AvailablePortServices	serviceDescriptionReference	0..1
association	LocationHours	ServiceHours	location_srvHrs	0..1

Feature bindings
See Layout for inherited bindings.

Assoc. Type	Code of association	Code of associated class	Role	Mult.
aggregation	LayoutDivision	HarbourAreaSection	componentOf	1..1

9.11 Dry Dock

Name: Dry Dock [IHOREG 245]
Definition: An artificial basin fitted with a gate or caisson, into which vessels can be floated and the water pumped out to expose the vessel's bottom. Also called graving dock.
Code: `DryDock`
Remarks:
Aliases: DRYDOC; Graving Dock Supertype: HarbourPhysicalInfrastructure
Feature use type: geographic
Permitted primitives: point surface

Attribute Bindings
See HarbourPhysicalInfrastructure for inherited attributes

Attribute	Type	Mult.	Permitted Values	Sequential
sillDepth	real	0..1		false

Information bindings
See HarbourPhysicalInfrastructure for inherited bindings

Assoc. Type	Code of association	Code of associated class	Role	Mult.
association	LocationHours	ServiceHours	location_srvHrs	0..1

Feature bindings
See HarbourPhysicalInfrastructure for inherited bindings.
(No local bindings, but may inherit bindings from super-types, if any)

9.12 Dumping Ground

Name: Dumping Ground [IHOREG 310]
Definition: A sea area where dredged material or other potentially more harmful material, for example explosives, chemical waste, is deliberately deposited.
Code: `DumpingGround`
Remarks:
Aliases: DMPGRD Supertype: Layout
Feature use type: geographic
Permitted primitives: surface point

Attribute Bindings
See Layout for inherited attributes

Attribute	Type	Mult.	Permitted Values	Sequential
depthsDescription	complex	0..1		false
locationByText	text	0..1		false
markedBy	complex	0..1		false
iSPSLevel	enumeration	0..1	1 : ISPS Level 1 2 : ISPS Level 2 3 : ISPS Level 3	false

Information bindings
See Layout for inherited bindings

Assoc. Type	Code of association	Code of associated class	Role	Mult.
association	LocationHours	ServiceHours	location_srvHrs	0..1

Feature bindings
See Layout for inherited bindings.

Assoc. Type	Code of association	Code of associated class	Role	Mult.
aggregation	LayoutDivision	HarbourAreaSection	componentOf	1..1

9.13 Floating Dock

Name: Floating Dock [IHOREG 246]
Definition: A form of dry dock consisting of a floating structure of one or more sections which can be partly submerged by controlled flooding to receive a vessel, then raised by pumping out the water so that the vessel's bottom can be exposed.
Code: `FloatingDock`
Remarks:
Aliases: FLODOC Supertype: HarbourPhysicalInfrastructure
Feature use type: geographic
Permitted primitives: point surface

Attribute Bindings
See HarbourPhysicalInfrastructure for inherited attributes

Attribute	Type	Mult.	Permitted Values	Sequential
sillDepth	real	0..1		false

Information bindings
See HarbourPhysicalInfrastructure for inherited bindings

Assoc. Type	Code of association	Code of associated class	Role	Mult.
association	LocationHours	ServiceHours	location_srvHrs	0..1

Feature bindings
See HarbourPhysicalInfrastructure for inherited bindings.
(No local bindings, but may inherit bindings from super-types, if any)

9.14 Gridiron

Name: Gridiron [IHOREG 249]
Definition: A structure in the intertidal zone serving as a support for vessels at low stages of the tide to permit work on the exposed portion of the vessel's hull.
Code: `Gridiron`
Remarks:
Aliases: GRIDRN; Careening Grid Supertype: HarbourPhysicalInfrastructure
Feature use type: geographic
Permitted primitives: point surface

Attribute Bindings
See HarbourPhysicalInfrastructure for inherited attributes

Attribute	Type	Mult.	Permitted Values	Sequential
sillDepth	real	0..1		false

Information bindings
See HarbourPhysicalInfrastructure for inherited bindings

Assoc. Type	Code of association	Code of associated class	Role	Mult.
association	LocationHours	ServiceHours	location_srvHrs	0..1

Feature bindings
See HarbourPhysicalInfrastructure for inherited bindings.
(No local bindings, but may inherit bindings from super-types, if any)

9.15 Harbour Area (Administrative)

Name: Harbour Area (Administrative) [IHOREG 323]
Definition: The area over which a harbour authority has jurisdiction.
Code: `HarbourAreaAdministrative`

Remarks:
Aliases: HRBARE Supertype: Layout
Feature use type: geographic
Permitted primitives: point surface

Attribute Bindings
See Layout for inherited attributes

Attribute	Type	Mult.	Permitted Values	Sequential
uNLocationCode	text	0..1		false
nationality	text	0..1		false
applicableLoadLineZone	text	0..1		false
iSPSLevel	enumeration	0..1	1 : ISPS Level 1 2 : ISPS Level 2 3 : ISPS Level 3	false
categoryOfHarbourFacility	enumeration	0..*	1 : RoRo Terminal 3 : Ferry Terminal 4 : Fishing Harbour 5 : Yacht Harbour/Marina 6 : Naval Base 7 : Tanker Terminal 8 : Passenger Terminal 9 : Shipyard 10 : Container Terminal 11 : Bulk Terminal 12 : Ship Lift 13 : Straddle Carrier 14 : Service Harbour 15 : Pilotage Service	false
generalHarbourInformation	complex	0..1		false

Information bindings
See Layout for inherited bindings

Assoc. Type	Code of association	Code of associated class	Role	Mult.
association	ServiceAvailability	AvailablePortServices	serviceDescriptionReference	0..1
association	LocationHours	ServiceHours	location_srvHrs	0..1

Feature bindings
See Layout for inherited bindings.

Assoc. Type	Code of association	Code of associated class	Role	Mult.
association	JurisdictionalLimit	OuterLimit	limitExtent	0..1
association	LayoutDivision	HarbourAreaSection	layoutUnit	0..*

9.16 Harbour Area Section

Name: Harbour Area Section [IHOREG 614]
Definition: A distinguishable portion of the area over which a harbour authority has jurisdiction.
Code: `HarbourAreaSection`
Remarks: Denotes a specific, distinguishable or designated portion of a harbour or port area, as distinct from the entire harbour or port area.
Aliases: Port Section Supertype: Layout
Feature use type: geographic
Permitted primitives: point surface

Attribute Bindings
See Layout for inherited attributes

Attribute	Type	Mult.	Permitted Values	Sequential

Attribute	Type	Mult.	Permitted Values	Sequential
categoryOfPortSection	enumeration	0..1	1 : Port Fairway 3 : Berth Pocket 8 : Seaplane Anchorage 9 : Dredged Basin 11 : Port Safety Zone 12 : Lay-by Berth	false
categoryOfHarbourFacility	enumeration	0..*	4 : Fishing Harbour 5 : Yacht Harbour/Marina 6 : Naval Base 9 : Shipyard 14 : Service Harbour 15 : Pilotage Service 16 : Service and Repair 17 : Quarantine Station	false
iSPSLevel	enumeration	0..1	1 : ISPS Level 1 2 : ISPS Level 2 3 : ISPS Level 3	false
facilitiesLayoutDescription	complex	0..1		false

Information bindings
See Layout for inherited bindings

Assoc. Type	Code of association	Code of associated class	Role	Mult.
association	ServiceAvailability	AvailablePortServices	serviceDescriptionReference	0..1
association	LocationHours	ServiceHours	location_srvHrs	0..1

Feature bindings
See Layout for inherited bindings.

Assoc. Type	Code of association	Code of associated class	Role	Mult.
aggregation	LayoutDivision	HarbourAreaAdministrative	componentOf	0..1
aggregation	Subsection	HarbourAreaSection	constitute	0..1
association	Subsection	HarbourAreaSection	subUnit	0..*
association	Infrastructure	HarbourPhysicalInfrastructure	hasInfrastructure	0..*
association	LayoutDivision	AnchorageArea, Berth, DockArea, DumpingGround, HarbourBasin, PilotBoardingPlace, SeaplaneLandingArea, Terminal, TurningBasin, WaterwayArea	layoutUnit	0..*

9.17 Harbour Basin

Name: Harbour Basin [IHOREG 380]
Definition: An enclosed area of water surrounded by quay walls constructed to provide means for the transfer of cargos from and to ships.
Code: `HarbourBasin`
Remarks:
Aliases: hrbbsn Supertype: Layout
Feature use type: geographic
Permitted primitives: surface

Attribute Bindings
See Layout for inherited attributes

Attribute	Type	Mult.	Permitted Values	Sequential
depthsDescription	complex	0..1		false
locationByText	text	0..1		false

Attribute	Type	Mult.	Permitted Values	Sequential
markedBy	complex	0..1		false
iSPSLevel	enumeration	0..1	1 : ISPS Level 1 2 : ISPS Level 2 3 : ISPS Level 3	false

Information bindings
See Layout for inherited bindings

Assoc. Type	Code of association	Code of associated class	Role	Mult.
association	LocationHours	ServiceHours	location_srvHrs	0..1

Feature bindings
See Layout for inherited bindings.

Assoc. Type	Code of association	Code of associated class	Role	Mult.
aggregation	LayoutDivision	HarbourAreaSection	componentOf	1..1

9.18 Harbour Facility

Name: Harbour Facility [IHOREG 367]
Definition: A harbour installation with a service or commercial operation of public interest.
Code: `HarbourFacility`
Remarks:
Aliases: HRBFAC Supertype: HarbourPhysicalInfrastructure
Feature use type: geographic
Permitted primitives: point surface

Attribute Bindings
See HarbourPhysicalInfrastructure for inherited attributes

Attribute	Type	Mult.	Permitted Values	Sequential
categoryOfHarbourFacility	enumeration	1..*	12 : Ship Lift 13 : Straddle Carrier	false

Information bindings
See HarbourPhysicalInfrastructure for inherited bindings

Assoc. Type	Code of association	Code of associated class	Role	Mult.
association	LocationHours	ServiceHours	location_srvHrs	0..1

Feature bindings
See HarbourPhysicalInfrastructure for inherited bindings.
(No local bindings, but may inherit bindings from super-types, if any)

9.19 Mooring/Warping Facility

Name: Mooring/Warping Facility [IHOREG 244]
Definition: The equipment or structure used to secure a vessel.
Code: `MooringWarpingFacility`
Remarks:
Aliases: MORFAC Supertype: Layout
Feature use type: geographic
Permitted primitives: point

Attribute Bindings
See Layout for inherited attributes

Attribute	Type	Mult.	Permitted Values	Sequential

Attribute	Type	Mult.	Permitted Values	Sequential
categoryOfMooringWarpingFacility	enumeration	1..1	1 : Dolphin 2 : Deviation Dolphin 3 : Bollard 4 : Tie-Up Wall 5 : Post or Pile 6 : Mooring Cable 7 : Mooring Buoy	false
iDCode	text	1..1		false
bollardDescription	text	0..1		false
bollardPull	real	0..1		false
heavingLinesFromShore	boolean	0..1		false

Information bindings
See Layout for inherited bindings

Assoc. Type	Code of association	Code of associated class	Role	Mult.
association	ServiceAvailability	AvailablePortServices	serviceDescriptionReference	0..1
association	LocationHours	ServiceHours	location_srvHrs	0..1

Feature bindings
See Layout for inherited bindings.

Assoc. Type	Code of association	Code of associated class	Role	Mult.
association	PrimaryAuxiliaryFacility	AnchorBerth, BerthPosition	primaryFacility	0..1

9.20 Outer Limit

Name: Outer Limit [IHOREG 615]
Definition: The extent to which a coastal State claims or may claim a specific jurisdiction in accordance with the provisions of International Law.
Code: `OuterLimit`
Remarks:
Aliases: (none) Supertype: Layout
Feature use type: geographic
Permitted primitives: curve surface

Attribute Bindings
See Layout for inherited attributes

Attribute	Type	Mult.	Permitted Values	Sequential
limitsDescription	complex	0..1		false
markedBy	complex	0..*		false
landmarkDescription	complex	0..*		false
offshoreMarkDescription	complex	0..*		false
majorLightDescription	complex	0..*		false
usefulMarkDescription	complex	0..*		false

Information bindings
See Layout for inherited bindings

Assoc. Type	Code of association	Code of associated class	Role	Mult.
association	LimitEntrance	Entrance	entranceReference	0..1

Feature bindings
See Layout for inherited bindings.

Assoc. Type	Code of association	Code of associated class	Role	Mult.
association	JurisdictionalLimit	HarbourAreaAdministrative	limitReference	1..1

9.21 Pilot Boarding Place

Name: Pilot Boarding Place [IHOREG 361]
Definition: A location offshore where a pilot may board a vessel in preparation to piloting it through local waters.
Code: `PilotBoardingPlace`
Remarks:
Aliases: PILBOP Supertype: Layout
Feature use type: geographic
Permitted primitives: surface point

Attribute Bindings
See Layout for inherited attributes

Attribute	Type	Mult.	Permitted Values	Sequential
depthsDescription	complex	0..1		false
locationByText	text	0..1		false
markedBy	complex	0..1		false
iSPSLevel	enumeration	0..1	1 : ISPS Level 1 2 : ISPS Level 2 3 : ISPS Level 3	false

Information bindings
See Layout for inherited bindings

Assoc. Type	Code of association	Code of associated class	Role	Mult.
association	LocationHours	ServiceHours	location_srvHrs	0..1

Feature bindings
See Layout for inherited bindings.

Assoc. Type	Code of association	Code of associated class	Role	Mult.
aggregation	LayoutDivision	HarbourAreaSection	componentOf	1..1

9.22 Seaplane Landing Area

Name: Seaplane Landing Area [IHOREG 309]
Definition: A designated portion of water for the landing and take-off of seaplanes.
Code: `SeaplaneLandingArea`
Remarks:
Aliases: SPLARE Supertype: Layout
Feature use type: geographic
Permitted primitives: surface point

Attribute Bindings
See Layout for inherited attributes

Attribute	Type	Mult.	Permitted Values	Sequential
depthsDescription	complex	0..1		false
locationByText	text	0..1		false
markedBy	complex	0..1		false
iSPSLevel	enumeration	0..1	1 : ISPS Level 1 2 : ISPS Level 2 3 : ISPS Level 3	false

Information bindings
See Layout for inherited bindings

Assoc. Type	Code of association	Code of associated class	Role	Mult.
association	LocationHours	ServiceHours	location_srvHrs	0..1

Feature bindings
See Layout for inherited bindings.

Assoc. Type	Code of association	Code of associated class	Role	Mult.
aggregation	LayoutDivision	HarbourAreaSection	componentOf	1..1

9.23 Terminal

Name: Terminal [IHOREG 388]
Definition: A terminal covers that area on shore which provides buildings and constructions for the transfer of cargo or passengers from and to ships.
Code: `Terminal`
Remarks:
Aliases: termnl Supertype: Layout
Feature use type: geographic
Permitted primitives: point surface

Attribute Bindings
See Layout for inherited attributes

Attribute	Type	Mult.	Permitted Values	Sequential
portFacilityNumber	text	0..1		false
categoryOfHarbourFacility	enumeration	0..1	1 : RoRo Terminal 3 : Ferry Terminal 5 : Yacht Harbour/Marina 7 : Tanker Terminal 8 : Passenger Terminal 10 : Container Terminal 11 : Bulk Terminal	false
categoryOfCargo	enumeration	0..*	2 : Container 5 : Passenger 6 : Livestock 7 : Dangerous or Hazardous 8 : Heavy Lift 10 : Dry Bulk Cargo 11 : Liquid Bulk Cargo 12 : Reefer Container Cargo 13 : Ro-Ro Cargo 14 : Project Cargo 15 : Break Bulk Cargo	false
product	enumeration	0..*	1 : Oil 2 : Gas 4 : Stone 5 : Coal 6 : Ore 7 : Chemicals 9 : Milk 10 : Bauxite 11 : Coke 12 : Iron Ingots 13 : Salt 14 : Sand 15 : Timber 16 : Sawdust/Wood Chips	false

Attribute	Type	Mult.	Permitted Values	Sequential
			17 : Scrap Metal 18 : Liquefied Natural Gas 19 : Liquefied Petroleum Gas 20 : Wine 21 : Cement 22 : Grain	
terminalIdentifier	text	0..1		false
sMDGTerminalCode	text	0..1		false
uNLocationCode	text	0..1		false

Information bindings
See Layout for inherited bindings

Assoc. Type	Code of association	Code of associated class	Role	Mult.
association	ServiceAvailability	AvailablePortServices	serviceDescriptionReference	0..1
association	LocationHours	ServiceHours	location_srvHrs	0..1

Feature bindings
See Layout for inherited bindings.

Assoc. Type	Code of association	Code of associated class	Role	Mult.
aggregation	LayoutDivision	HarbourAreaSection	componentOf	1..1
association	LayoutDivision	Berth	layoutUnit	0..*
association	Infrastructure	HarbourPhysicalInfrastructure	hasInfrastructure	0..*

9.24 Turning Basin

Name: Turning Basin [IHOREG 389]
Definition: An area of water or enlargement of a channel used for turning vessels.
Code: `TurningBasin`
Remarks:
Aliases: trnbsn Supertype: Layout
Feature use type: geographic
Permitted primitives: surface

Attribute Bindings
See Layout for inherited attributes

Attribute	Type	Mult.	Permitted Values	Sequential
depthsDescription	complex	0..1		false
locationByText	text	0..1		false
markedBy	complex	0..1		false
iSPSLevel	enumeration	0..1	1 : ISPS Level 1 2 : ISPS Level 2 3 : ISPS Level 3	false

Information bindings
See Layout for inherited bindings

Assoc. Type	Code of association	Code of associated class	Role	Mult.
association	LocationHours	ServiceHours	location_srvHrs	0..1

Feature bindings
See Layout for inherited bindings.

Assoc. Type	Code of association	Code of associated class	Role	Mult.

Assoc. Type	Code of association	Code of associated class	Role	Mult.
aggregation	LayoutDivision	HarbourAreaSection	componentOf	1..1

9.25 Waterway Area

Name: Waterway Area [IHOREG 391]
Definition: An area in which uniform general information of the waterway exists.
Code: `WaterwayArea`
Remarks:
Aliases: wtware Supertype: Layout
Feature use type: geographic
Permitted primitives: surface

Attribute Bindings
See Layout for inherited attributes

Attribute	Type	Mult.	Permitted Values	Sequential
categoryOfPortSection	enumeration	1..1	1 : Port Fairway 3 : Berth Pocket 8 : Seaplane Anchorage 9 : Dredged Basin 11 : Port Safety Zone 12 : Lay-by Berth	false
depthsDescription	complex	0..1		false
locationByText	text	0..1		false
markedBy	complex	0..1		false

Information bindings
See Layout for inherited bindings

Assoc. Type	Code of association	Code of associated class	Role	Mult.
association	LocationHours	ServiceHours	location_srvHrs	0..1

Feature bindings
See Layout for inherited bindings.

Assoc. Type	Code of association	Code of associated class	Role	Mult.
aggregation	LayoutDivision	HarbourAreaSection	componentOf	1..1

9.26 Data Coverage

Name: Data Coverage [IHOREG 187]
Definition: A geographical area that describes the coverage and extent of spatial objects.
Code: `DataCoverage`
Remarks:
Aliases: M_COVR
Feature use type: meta
Permitted primitives: surface

Attribute Bindings

Attribute	Type	Mult.	Permitted Values	Sequential
maximumDisplayScale	integer	1..1		false
minimumDisplayScale	integer	1..1		false

Information bindings
(No local bindings, but may inherit bindings from super-types, if any)

Feature bindings
(No local bindings, but may inherit bindings from super-types, if any)

9.27 Quality of Non-Bathymetric Data

Name: Quality of Non-Bathymetric Data [IHOREG 186]
Definition: An area within which a uniform assessment of the quality of the non-bathymetric data exists.
Code: `QualityOfNonBathymetricData`
Remarks:
Aliases: M_ACCY
Feature use type: meta
Permitted primitives: surface

Attribute Bindings

Attribute	Type	Mult.	Permitted Values	Sequential
categoryOfTemporalVariation	enumeration	0..1	1 : Extreme Event 2 : Likely to Change and Significant Shoaling Expected 3 : Likely to Change But Significant Shoaling Not Expected 4 : Likely to Change 5 : Unlikely to Change 6 : Unassessed	false
horizontalDistanceUncertainty	real	0..1		false
horizontalPositionUncertainty	complex	1..1		false
orientationUncertainty	real	0..1		false
surveyDateRange	complex	0..1		false
verticalUncertainty	complex	0..1		false
information	complex	0..*		false

Information bindings
(No local bindings, but may inherit bindings from super-types, if any)

Feature bindings
(No local bindings, but may inherit bindings from super-types, if any)

9.28 Sounding Datum

Name: Sounding Datum [IHOREG 191]
Definition: The horizontal plane or tidal datum to which soundings have been reduced. Also called datum for sounding reduction.
Code: `SoundingDatum`
Remarks:
Aliases: M_SDAT
Feature use type: meta
Permitted primitives: surface

Attribute Bindings

Attribute	Type	Mult.	Permitted Values	Sequential
verticalDatum	enumeration	1..1	1 : Mean Low Water Springs 2 : Mean Lower Low Water Springs 3 : Mean Sea Level	false

Attribute	Type	Mult.	Permitted Values	Sequential
			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 19 : Approximate Mean Sea Level 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 44 : Baltic Sea Chart Datum 2000	
information	complex	0..*		false

Information bindings
(No local bindings, but may inherit bindings from super-types, if any)

Feature bindings
(No local bindings, but may inherit bindings from super-types, if any)

9.29 Vertical Datum of Data

Name: Vertical Datum of Data [IHOREG 598]
Definition: Any level surface (for example Mean Sea Level) taken as a surface of reference to which the elevations within a data set are reduced. Also called datum level, reference level, reference plane, levelling datum, datum for heights.
Code: `VerticalDatumOfData`
Remarks:
Aliases: M_VDAT
Feature use type: meta
Permitted primitives: surface

Attribute Bindings

Attribute	Type	Mult.	Permitted Values	Sequential
verticalDatum	enumeration	1..1	3 : Mean Sea Level 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 24 : Local Datum 25 : International Great Lakes Datum 1985 26 : Mean Water Level 28 : Higher High Water Large Tide 29 : Nearly Highest High Water 30 : Highest Astronomical Tide 44 : Baltic Sea Chart Datum 2000	false
information	complex	0..*		false

Information bindings
(No local bindings, but may inherit bindings from super-types, if any)

Feature bindings
(No local bindings, but may inherit bindings from super-types, if any)

9.30 Text Placement

Name: Text Placement [IHOREG 637]
Definition: The Text Placement feature is used in association with the Feature Name attribute or a light description to optimize text positioning in ECDIS.
Code: `TextPlacement`
Remarks:
Aliases: (none)
Feature use type: cartographic
Permitted primitives: point

Attribute Bindings

Attribute	Type	Mult.	Permitted Values	Sequential
orientationValue	real	1..1		false
text	text	0..1		false
textOffsetMm	integer	1..1		false
textType	enumeration	0..1	1 : Name	false
scaleMinimum	integer	0..1		false

Information bindings
(No local bindings, but may inherit bindings from super-types, if any)

Feature bindings

Assoc. Type	Code of association	Code of associated class	Role	Mult.
association	TextAssociation	FeatureType	positions	1..1