Requirements for Survey of Materials and Equipment for the Classification of Naval Submarines

January 2018

Rule Note
NR 562 DT R00 E

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MARINE & OFFSHORE - GENERAL CONDITIONS

1. INDEPENDENCY OF THE SOCIETY AND APPLICABLE TERMS

1.1. The Society shall remain at all times an independent contractor and neither the Society nor any of its officers, employees, servants, agents or subcontractors shall be or act as an employee, servant or agent of any other party hereto in the performance of the Services.

1.2. The operations of the Society in providing its Services are exclusively conducted by way of random inspections and do not, in any circumstances, involve monitoring or exhaustive verification.

1.3. The Society acts as a services provider. This cannot be construed as an obligation bearing on the Society to obtain a result or as a warranty. The Society is not and may not be considered as an underwriter, broker in Unit's sale or chartering, expert in Unit's valuation, consulting engineer, controller, naval architect, manufacturer, shipbuilder, repair or conversion yard, charterer or shipowner; none of them above listed being relieved of any of their expressed or implied obligations as a result of the interventions of the Society.

1.4. The Services are carried out by the Society according to the applicable Rules and to the Bureau Veritas' Code of Ethics. The Society only is qualified to apply and interpret its Rules.

1.5. The Client acknowledges the latest versions of the Conditions and of the applicable Rules applying to the Services' performance.

1.6. Unless an express written agreement is made between the Parties on the applicable Rules, the applicable Rules shall be the rules applicable at the time of the Services' performance and con tract's execution.

1.7. The Services' performance is solely based on the Conditions. No other terms shall apply whether express or implied.

2. DEFINITIONS

2.1. "**Certificate(s)**" means class certificates, attestations and reports following the Society's intervention. The Certificates are an appraisement given by the Society to the Client, at a certain date, following surveys by its surveyors on the level of compliance of the Unit to the Society's Rules or to the documents of reference for the Services provided. They cannot be construed as an implied or express warranty of safety, fitness for the purpose, seaworthiness of the Unit or of its value for sale, insurance or chartering.

2.2. "**Certification**" means the activity of certification in application of national and international regulations or standards, in particular by delegation from different governments that can result in the issuance of a certificate.

2.3. "**Classification**" means the classification of a Unit that can result or not in the issuance of a class certificate with reference to the Rules.

2.4. "**Client**" means the Party and/or its representative requesting the Services.

2.5. "**Conditions**" means the terms and conditions set out in the present document.

2.6. "**Industry Practice**" means International Maritime and/or Offshore industry practices.

2.7. "**Intellectual Property**" means all patents, rights to inventions, utility models, copyright and related rights, trade marks, logos, service marks, trade dress, business and domain names, rights in trade dress or get-up, rights in goodwill or to sue for passing off, unfair competition rights, rights in designs, rights in computer software, database rights, topography rights, moral rights, rights in confidential information (including know-how and trade secrets), methods and proto cols for Services, and any other intellectual property rights, in each case whether capable of registration, registered or unregistered and including all applications for and renewals, reversions or extensions of such rights, and all similar or equivalent rights or forms of protection in any part of the world.

2.8. "**Parties**" means the Society and Client together.

2.9. "**Party**" means the Society or the Client.

2.10. "**Register**" means the register published annually by the Society.

2.11. "**Rules**" means the Society's classification rules, guidance notes and other documents. The Rules, procedures and instructions of the Society take into account at the date of their preparation the state of currently available and proven technical minimum requirements but are not a standard or a code of construction neither a guide for maintenance, a safety handbook or a guide of professional practices, all of which are assumed to be known in detail and carefully followed at all times by the Client.

2.12. "**Services**" means the services set out in clauses 2.2 and 2.3 but also other services related to Classification and Certification such as, but not limited to: ship and company safety management certification, ship and port security certification, training activities, all activities and duties incidental thereto such as documentation on any supporting means, software, instrumentation, measurements, tests and trials on board.

2.13. "**Society**" means the classification society '**Bureau Veritas Marine & Offshore SAS**', a company organized and existing under the laws of France, registered in Nanterre under the number 821 131 844, or any other legal entity of Bureau Veritas Group as may be specified in the relevant contract, and whose main activities are Classification and Certification of ships or offshore units.

2.14. "**Unit**" means any ship or vessel or offshore unit or structure of any type or part of it or system whether linked to shore, river bed or sea bed or not, whether operated or located at sea or in inland waters or partly on land, including submarines, hovercrafts, drilling rigs, offshore installations of any type and of any purpose, their related and ancillary equipment, subsea or not, such as well head and pipelines, mooring legs and mooring points or otherwise as decided by the Society.

3. SCOPE AND PERFORMANCE

3.1. The Society shall perform the Services according to the applicable national and international standards and Industry Practice and always on the assumption that the Client is aware of such standards and Industry Practice.

3.2. Subject to the Services performance and always by reference to the Rules, the Society shall:

- review the construction arrangements of the Unit as shown on the documents provided by the Client;
- conduct the Unit surveys at the place of the Unit construction;
- class the Unit and enters the Unit's class in the Society's Register;
- survey the Unit periodically in service to note that the requirements for the maintenance of class are met. The Client shall inform the Society without delay of any circumstances which may cause any changes on the conducted surveys or Services.

The Society will not:

- declare the acceptance or commissioning of a Unit, nor its construction in conformity with its design, such activities remaining under the exclusive responsibility of the Unit's owner or builder;
- engage in any work relating to the design, construction, production or repair checks, neither in the operation of the Unit or the Unit's trade, neither in any advisory services, and cannot be held liable on those accounts.

4. RESERVATION CLAUSE

4.1. The Client shall always: (i) maintain the Unit in good condition after surveys; (ii) present the Unit after surveys; (iii) present the Unit for surveys; and (iv) inform the Society in due course of any circumstances that may affect the given appraisement of the Unit or cause to modify the scope of the Services.

4.2. Certificates referring to the Society's Rules are only valid if issued by the Society.

4.3. The Society has entire control over the Certificates issued and may at any time withdraw a Certificate at its entire discretion including, but not limited to, in the following situations: where the Client fails to comply in due time with instructions of the Society or where the Client fails to pay in accordance with clause 6.2 hereunder.

5. ACCESS AND SAFETY

5.1. The Client shall give to the Society all access and information necessary for the efficient performance of the requested Services. The Client shall be the sole responsible for the conditions of presentation of the Unit for tests, trials and surveys and the conditions under which tests and trials are carried out. Any information, drawings, etc. required for the performance of the Services must be made available in due time.

5.2. The Client shall notify the Society of any relevant safety issue and shall take all necessary safety-related measures to ensure a safe work environment for the Society or any of its officers, employees, servants, agents or subcontractors and shall comply with all applicable safety regulations.

6. PAYMENT OF INVOICES

6.1. The provision of the Services by the Society, whether complete or not, involve, for the part carried out, the payment of fees thirty (30) days upon issuance of the invoice.

6.2. Without prejudice to any other rights hereunder, in case of Client's payment default, the Society shall be entitled to charge, in addition to the amount not properly paid, interests equal to twelve (12) months LIBOR plus two (2) per cent as of due date calculated on the number of days such payment is delinquent. The Society shall also have the right to withhold certificates and other documents and/or to suspend or revoke the validity of certificates.

6.3. In case of dispute on the invoice amount, the undisputed portion of the invoice shall be paid and an explanation on the dispute shall accompany payment so that action can be taken to solve the dispute.

7. 7. LIABILITY

7.1. The Society bears no liability for consequential loss. For the purpose of this clause consequential loss shall include, without limitation:

- Indirect or consequential loss;
- Any loss and/or deferral of production, loss of product, loss of use, loss of bargain, loss of revenue, loss of profit or anticipated profit, loss of business and business interruption, in each case whether direct or indirect.

The Client shall save, indemnify, defend and hold harmless the Society from the Client's own consequential loss regardless of cause.

7.2. In any case, the Society's maximum liability towards the Client is limited to one hundred and fifty per-cents (150%) of the price paid by the Client to the Society for the performance of the Services. This limit applies regardless of fault by the Society, including breach of contract, breach of warranty, tort, strict liability, breach of statute.

7.3. All claims shall be presented to the Society in writing within three (3) months of the Services' performance or (if later) the date when the events which are relied on were first discovered by the Client. Any claim not so presented as defined above shall be deemed waived and absolutely time barred.

8. INDEMNITY CLAUSE

8.1. The Client agrees to release, indemnify and hold harmless the Society from and against any and all claims, demands, lawsuits or actions for damages, including legal fees, for harm or loss to persons and/or property tangible, intangible or otherwise which may be brought against the Society, incidental to, arising out of or in connection with the performance of the Services except for those claims caused solely and completely by the negligence of the Society, its officers, employees, servants, agents or subcontractors.

9. TERMINATION

9.1. The Parties shall have the right to terminate the Services (and the relevant contract) for convenience after giving the other Party thirty (30) days' written notice, and without prejudice to clause 6 above.

9.2. In such a case, the class granted to the concerned Unit and the previously issued certificates shall remain valid until the date of effect of the termination notice issued, subject to compliance with clause 4.1 and 6 above.

10. FORCE MAJEURE

10.1. Neither Party shall be responsible for any failure to fulfil any term or provision of the Conditions if and to the extent that fulfilment has been delayed or temporarily prevented by a force majeure occurrence without the fault or negligence of the Party affected and which, by the exercise of reasonable diligence, the said Party is unable to provide against.

10.2. For the purpose of this clause, force majeure shall mean any circumstance not being within a Party's reasonable control including, but not limited to: acts of God, natural disasters, epidemics or pandemics, wars, terrorist attacks, riots, sabotages, impositions of sanctions, embargoes, nuclear, chemical or biological contaminations, laws or action taken by a government or public authority, quotas or prohibition, expropriations, destructions of the worksite, explosions, fires, accidents, any labour or trade disputes, strikes or lockouts

11. CONFIDENTIALITY

11.1. The documents and data provided to or prepared by the Society in performing the Services, and the information made available to the Society, are treated as confidential except where the information:

- is already known by the receiving Party from another source and is properly and lawfully in the possession of the receiving Party prior to the date that it is disclosed;
- is already in possession of the public or has entered the public domain, otherwise than through a breach of this obligation;
- is acquired independently from a third party that has the right to disseminate such information;
- is required to be disclosed under applicable law or by a governmental order, decree, regulation or rule or by a stock exchange authority (provided that the receiving Party shall make all reasonable efforts to give prompt written notice to the disclosing Party prior to such disclosure.

11.2. The Society and the Client shall use the confidential information exclusively within the framework of their activity underlying these Conditions.

11.3. Confidential information shall only be provided to third parties with the prior written consent of the other Party. However, such prior consent shall not be required when the Society provides the confidential information to a subsidiary.

11.4. The Society shall have the right to disclose the confidential information if required to do so under regulations of the International Association of Classifications Societies (IACS) or any statutory obligations.

12. INTELLECTUAL PROPERTY

12.1. Each Party exclusively owns all rights to its Intellectual Property created before or after the commencement date of the Conditions and whether or not associated with any contract between the Parties.

12.2. The Intellectual Property developed for the performance of the Services including, but not limited to drawings, calculations, and reports shall remain exclusive property of the Society.

13. ASSIGNMENT

13.1. The contract resulting from to these Conditions cannot be assigned or transferred by any means by a Party to a third party without the prior written consent of the other Party.

13.2. The Society shall however have the right to assign or transfer by any means the said contract to a subsidiary of the Bureau Veritas Group.

14. SEVERABILITY

14.1. Invalidity of one or more provisions does not affect the remaining provisions.

14.2. Definitions herein take precedence over other definitions which may appear in other documents issued by the Society.

14.3. In case of doubt as to the interpretation of the Conditions, the English text shall prevail.

15. GOVERNING LAW AND DISPUTE RESOLUTION

15.1. The Conditions shall be construed and governed by the laws of England and Wales.

15.2. The Society and the Client shall make every effort to settle any dispute amicably and in good faith by way of negotiation within thirty (30) days from the date of receipt by either one of the Parties of a written notice of such a dispute.

15.3. Failing that, the dispute shall finally be settled by arbitration under the LCIA rules, which rules are deemed to be incorporated by reference into this clause. The number of arbitrators shall be three (3). The place of arbitration shall be London (UK).

16. PROFESSIONNAL ETHICS

16.1. Each Party shall conduct all activities in compliance with all laws, statutes, rules, and regulations applicable to such Party including but not limited to: child labour, forced labour, collective bargaining, discrimination, abuse, working hours and minimum wages, anti-bribery, anti-corruption. Each of the Parties warrants that neither it, nor its affiliates, has made or will make, with respect to the matters provided for hereunder, any offer, payment, gift or authorization of the payment of any money directly or indirectly, to or for the use or benefit of any official or employee of the government, political party, official, or candidate.

16.2. In addition, the Client shall act consistently with the Society's Code of Ethics of Bureau Veritas. http://www.bureauveritas.com/home/about-us/ethics+and+compliance/

RULE NOTE NR 562

NR 562

Requirements for Survey of Materials and Equipment for the Classification of Naval Submarines

January 2018

Section 1 General

Section 2 Equipment and Materials Certification Requirements for the Classification of Naval Submarines

Section 3 General Index

SECTION 1 GENERAL

1 Scope of application

1.1 Purpose

1.1.1 Rule Note NR562 summarizes the certification requirements for materials and equipment (generally referred to as «products») which are covered by the Class and used or fitted on board the following units:

- Naval Submarines surveyed by the Society during construction in accordance with the Rules for the Classification of Naval Submarines (NR535).

2 Application

2.1 General

2.1.1 The requirements for materials and equipment covered by the Class and used or fitted on board are given in the relevant parts of the Rules for the Classification of Steel Ships (NR467) or Naval Submarines (NR535), as applicable.

2.1.2 A reference to an item of NR266 in the column Remarks of this NR562 means that the applicable requirements of the Rules for the Classification of Naval Submarines (NR535) are normally equivalent to those of the Rules for the Classification of Steel Ships (NR467). In such case, a certificate issued in reference to NR467 should be acceptable with regards to NR535.

2.1.3 For a given project of naval submarine, the Builder has to review the items covered by the Class to check that this equivalence of Rules is applicable to this project. The equivalences defined for the Project are to be submitted to Bureau Veritas for acceptance.

2.1.4 The certification scheme of materials and equipment covered by the Class is given in the Society's Rule Note NR320 "Certification Scheme of Materials and Equipment for the Classification of Marine Units".

2.1.5 In case of inconsistency, the requirements of the applicable Classification Rules for the concerned unit prevail over the provisions of the present NR562.

2.1.6 In the case of a discrepancy between the provisions of the applicable International and National Regulations specified by the Naval Authority and those of the Society's Rules, the former takes normally precedence.

2.1.7 The Society reserves the right to modify the requirements given in the present NR562 to formulate new ones or to change their application in order to take into account the particulars of a given construction, as well as local circumstances.

2.1.8 The particular conditions and requirements expressed by National Flag Authorities, owners, shipyards or manufacturers may lead to additional surveys or other services to be specified and agreed in each case by the concerned parties.

2.1.9 Shipboard tests or tests on board (both at the moorings and during sea trials) are not covered by this NR562 and are additional to the workshop tests. Refer to relevant provisions of NR535 regarding shipboard tests.

2.2 Explanatory notes, symbols and abbreviations

2.2.1 Symbols used in the tables implemented in Section 2 have the following meaning:

"C" indicates that a BV product certificate is required with invitation of the Surveyor to attend the tests unless otherwise agreed, in addition to the manufacturer's document stating the results of the tests performed and/or compliance with the approved type as applicable.

"W" indicates that a manufacturer's document is required, stating the results of the tests performed and/or stating compliance with the approved type (as applicable).

"X" indicates that examinations and tests are required.

Where fitted, each additional index (h, ndt) indicates a specific type of test:

h : Hydraulic pressure test (or equivalent)

ndt : Non destructive tests as per Rules.

2.2.2 Column 1 (item code)

Column 1 contains an alpha-numeric code for ease of reference equipment or component.

2.2.3 Column 2 (item name)

Column 2 contains the name of the equipment or component with, eventually, its sub-systems.

2.2.4 Column 3 (design assessment / approval index)

Column 3 contains the design assessment / approval index. The meaning of the letters TA and DA is the following:

TA : Type Approval is required

TA (HBV): Type Approval is required with work's recognition (HBV scheme as per NR320)

DA : Design assessment/Appraisal of the product is required; this one may be carried out as applicable:

- either for a specific unit, or
- using the Type Approval procedure.

Note 1: Where nothing is mentioned in column 3, a design assessment/approval of the specific unit is not required.

2.2.5 Column 4 (raw material certificate)

Column 4 indicates the nature of the document that is to be submitted by the manufacturer or supplier of the concerned raw material. Consistently with the Rules or agreed specifications, this document includes data such as material tests (chemical composition and mechanical properties), non-destructive tests and surface hardness (if hardened).

2.2.6 Columns 5 (examination and testing)

Column 5 indicates that examination and/or testing are required, and are to be carried out by the manufacturer. For the type of examination and/or testing required, reference is to be made to the relevant provisions of the Rules for the Classification of Steel Ships (NR467) and Naval Submarines (NR535).

Note 1: As a general rule, even if a cross "X" is not fitted in a cell under column 5, examination and tests during fabrication may be required with invitation/attendance of the Society's Surveyor.

2.2.7 Column 6 (product certificate)

Column 6 indicates the nature of the document to be supplied by the manufacturer of the concerned product.

2.2.8 Column 7 (remarks)

Column 7 indicates the remarks (if any) associated to the concerned equipment or component.

2.3 Notice regarding columns 3 to 7 (product certification)

2.3.1 Column 3, column 4, column 5 column 6 and column 7 summarize the product certification process or steps to be completed by the manufacturer within the scope of Survey of Materials and Equipment at Works by the Society.

SECTION 2 EQUIPMENT AND MATERIALS CERTIFICATION REQUIREMENTS FOR THE CLASSIFICATION OF NAVAL SUBMARINES

1 Summary (tables)

1.1 Foreword

1.1.1 The materials and equipment are organized in different families labelled "Items" followed by letters (XA to XR), and a number for its sub-items where applicable; this constitutes an alpha-numeric code for ease of reference equipment or component as specified in Sec 1 of this NR562.

For each "Item" (and its sub-items where applicable), the certification requirements are summarized in a corresponding table. These tables are not to be considered as an alternative to or a substitute to the applicable Classification Rule requirements. Materials or equipment which are not considered in these tables are to be dealt with as per relevant provisions of applicable Classification Rules and/or as per criteria set up in agreement with the Society.

Item	Title
Item XA	Diving Safety
Item XB	General Safety
Item XC	Hull and Structure
Item XD	Manoeuvre System
Item XE	Diving System
Item XF	Propulsion System
Item XG	Energy Plant
Item XH	Steering Gear System
Item XJ	Electrical Networks
Item XK	Fluidic Utilities
Item XL	Bilge and Water Systems
Item XM	Refrigeration and HVAC Systems
Item XN	HP Gas and Fluid Systems
Item XO	Habitability Systems - Cold Rooms, Sewage & Waste Processing (Additional Class Notation **REF-STORE**)
Item XP	Control and Monitoring - SMS, COMM, Internal Communication Systems
Item XQ	Combat System
Item XR	AIP Systems - Installations covered by Additional Class Notation **AIP** (Air Independent Propulsion)

Table 1: Diving Safety - item XA

DIVING SAFETY - ITEM XA						
No.	Item	Product certification				Remarks
		Design assessment / Approval	Raw material certificate	Examination and testing	Product certificate	
XA1	Flooding detection					(1) TA (HBV product). Non-specific for naval submarines, See NR266 item **N5** / **D** / **K** (2) Design requirements: NR535, Pt E, Ch 3, Sec 1 / Qualification requirements: NR535, Pt D, Ch 5 (3) As per conditions set in the TA
	1- Incident bilge level detectors	TA (1) (2)		X	W (3)	
	2- Fault bilge level detector	TA (1) (2)		X	W (3)	
XA2	Emergency shut-off					(1) Non-specific for naval submarines, See NR266 item **G26** (2) Design requirements: NR535, Pt A, Ch 1, Sec 2, [3.3]; NR535, Pt E, Ch 3, Sec 1, [3]; NR535, Pt D, Ch 3, Sec 5, [10]; NR535, Pt D, Ch 3, Sec 5, [6] (3) Fabrication requirements: NR535, Pt D, Ch 3, Sec 3, Tab 2 and Tab 6; NR535, Pt D, Ch 3, Sec 5, Tab 32 (4) Specific for naval submarines / Design requirements: NR535, Pt A, Ch 1, Sec 2, [3.3]; NR535, Pt D, Ch 3, Sec 5 [6] (5) Fabrication requirements: NR535, Pt D, Ch 3, Sec 5, Tab 32 (6) Non-specific for naval submarines, See NR266 item **G30** (Pressure vessels) (7) Non-specific for naval submarines, See NR266 (depending on the case)
	1- Hull valve actuator (hydraulic)	DA or TA (1) (2)	C	X h ndt (3)	C	
	2- Seawater hull valve	DA (4)	C	X h ndt (5)	C	
	3- HP hydraulic bladder accumulators	DA (6)	W / C (6)	X h ndt (6)	W / C (6)	
	4- Non hydraulic actuators (as a reminder)	DA or TA (7) (8)	(7) (8)	X h (7) (8)	W / C (7)	
XA3	Emergency HP air blowing					(1) Non-specific for naval submarines, See NR266 item **G30** (Pressure vessels) (2) Design requirements: NR535, Pt E, Ch 3, Sec 2 (3) Specific for naval submarines / Design requirements: NR535, Pt A, Ch 1, Sec 2, [3.3]; NR535, Pt E, Ch 3, Sec 2, [2.2]
	1- HP air cylinders (without safety valve)	DA (1) (2)	C (1)	X h ndt (1)	C (1)	
	2- Emergency HP air blowing valves	TA (3)	C	X h ndt (3)	C	
	3- Air cylinders for the air blowing valves control	DA (1) (2)	C (1)	X h ndt (1)	C (1)	
XA4	Depth, trim and list measurement					(1) TA (HBV product). Non-specific for naval submarines, See NR266 items **N5** / **D** / **K** (2) Design requirements: NR535, Pt D, Ch 6, Sec 2, [3.4] (3) As per conditions set in the TA (4) Class certificate not required
	1- Pressure sensor	TA (1) (2)		X	W (3)	
	2- Spirit levels and clinometers				(4)	

Table 2: General Safety - item XB

GENERAL SAFETY - ITEM XB						
No.	Item	Product certification				Remarks
		Design assessment / Approval	Raw material certificate	Examination and testing	Product certificate	
XB1	Breathing air (1)	DA				(1) Non-specific for naval submarines, See NR266 item **G26** / **G27**, Design requirements: NR535, Pt E, Ch 2, Sec 4 (2) See NR266 item **G27** (piping accessories) (3) See NR266 item **G30** (pressure vessels)
	1- Breathing air filtration unit		C / W (2)	X h ndt (2)	C / W (2)	
	2- Breathing air intakes/cocks		C / W (2)	X h ndt (2)	C / W (2)	
	3- Air pressure reducers		C / W (2)	X h ndt (2)	C / W (2)	
	4- Portable air receivers		C / W (3)	X h ndt (3)	C / W (3)	
XB2	Fire detection and fire fighting					(1) Specific for naval submarines / Design requirements: NR535, Pt E, Ch 1, Sec 6 [7.3.2] (2) Qualification requirements: MSC 1165 § 12 adapted to specific requirements of naval submarines as per NR535, Pt E, Ch 1, Sec 6 [7.3.2] (3) Fabrication requirements (BV): As per conditions set in the TA (4) Fabrication requirements (BV): As per conditions set in the TA, works recognition, Audit (HBV) (5) Non-specific for naval submarines, See NR266 items **N4** / **K** (6) In the case of a discrepancy between the provisions of the applicable international and national regulations and those of the BV Classification Rules, normally the former take precedence. A valid certification to MED 2014/90/EU (or MED96/98/EC as amended for its Annex A1 items) is to be recognised for Classification purpose (7) Fabrication requirements (BV): As per conditions set in the TA (8) Non-specific for naval submarines, See NR266 item **C16** (9) Design requirements: NR535, Pt E, Ch 1, Sec 6, [7.2]; NR535, Pt E, Ch 1, Sec 1 (10) Design requirements: NR535, Pt E, Ch 1, Sec 6 [7.2]; NR535, Pt E, Ch 1, Sec 2 (11) Non-specific for naval submarines, See NR266 item **C24** (12) Statutory (13) See item **XM6** (Fire dampers, ventilation isolating valve) (14) Fabrication requirements (BV): As per conditions set in the TA
	1- Water mist electric pump module	TA (1)		X h ndt (2)	W / C (3)	
	2- Water mist nozzles	TA (1)		X h ndt (2)	W (4)	
	3- Fire detectors	TA (5) (6) (9)		X	C / W (7)	
	4- Detection unit	TA (6) (8) (10)		X	C / W (7)	
	5- CO2 extinguishing cylinders	TA (6) (9) (11)		X	C / W (7)	
	6- N2 extinguishing cylinders	TA (6) (10) (11)		X	C / W (7)	
	7- Fire-fighter's outfits	(12)			(12)	
	8- Fire dampers	TA (13)		X	W / C (14)	

GENERAL SAFETY - ITEM XB						
No.	Item	Product certification				Remarks
		Design assessment / Approval	Raw material certificate	Examination and testing	Product certificate	
XB3	Atmosphere monitoring					(1) Non-specific for naval submarines, See NR266 items **N4** / **K** + Statutory, on a case-by-case basis (detection capacity, MED for Europe for example, to be validated by the final Client) (2) Design requirements: NR535, Pt E, Ch 2, Sec 1 (3) In the case of a discrepancy between the provisions of the applicable international and national regulations and those of the BV Classification Rules, normally the former take precedence. A valid certification to MED 2014/90/EU (or MED96/98/EC as amended for its Annex A1 items) is to be recognised for Classification purpose (4) Fabrication requirements (BV): As per conditions set in the TA
	1- Hydrogen, CO2, CO, O2 and H2S analysers	TA (1) (2) (3)		X	C / W (4)	
	2- Atmosphere control unit	TA (1) (2) (3)		X	C / W (4)	
	3- CO2, CO and H2 portable analysers and processing case	TA (1) (3)		X	C / W (4)	

Table 3: Hull and Structure - item XC

HULL AND STRUCTURE - ITEM XC						
No.	Item	Product certification				Remarks
		Design assessment / Approval	Raw material certificate	Examination and testing	Product certificate	
XC1	Pressure hull					(1) Certification by Class Society (BV): not required if the equipment is already covered by the BV Certificate within the scope of construction survey at Shipyard (i.e. Shipyard holder of the BV Classification contract for the naval submarine) (2) Specific for naval submarines (3) Specific for naval submarines (Yes, for the Pressure hull) (4) Design requirements: NR535, Part C, Chapter 3 (5) Design requirements: NR535, Pt C, Ch 6, Sec 3 (6) Design requirements: NR535, Pt C, Ch 6, Sec 4 (7) Fabrication requirements: as per agreed survey program (8) Design requirements: NR535, Pt C, Ch 1, Sec 2 / Qualification requirements: NR216 and NR480; NR535, Pt C, Ch 1, Sec 2; Supplier to be recognized by BV
	1- Common frame space of the pressure hull	DA (1) (2) (4)	C	X (7)	C (7)	
	2- Pressure hull connecting part	DA (1) (2) (4)	C	X (7)	C (7)	
	3- Resistant structures (weapons tube and sewage tank excluded)	DA (1) (2) (4)	C	X (7)	C (7)	
	4- Integrated hull penetrations (Sleeves and mobile part)	DA (1) (2) (4)	C	X (7)	C (7)	
	5- Non integrated hull penetrations (Sleeves and mobile part)	DA (1) (2) (4)	C	X (7)	C (7)	
	6- Pressure hull bolted hatches	DA (1) (2) (4) (5)	C	X (7)	C (7)	
	7- Pressure hull manoeuvrable hatches	DA (1) (2) (4) (6)	C	X (7)	C (7)	
	8- Strength door	DA (1) (2) (4)	C	X (7)	C (7)	
	9- Resistant bulkhead	DA (1) (2) (4)	C	X (7)	C (7)	
	10- Cofferdam	DA (1) (2) (4)	C	X (7)	C (7)	
	11- Rolled products (plates, bars, sections, etc.)	DA (2) (8)	C (8)			
	12- Forged parts	DA (2) (8)	C (8)			
	13- Moulded parts	DA (2) (8)	C (8)			
	14- Welding consumables	TA (3) (8)	C (8)			

HULL AND STRUCTURE - ITEM XC						
No.	Item	Product certification				Remarks
		Design assessment / Approval	Raw material certificate	Examination and testing	Product certificate	
XC2	Non-resisting external structures					(1) Certification by Class Society (BV): not required if the equipment is already covered by the BV Certificate within the scope of construction survey at Shipyard (i.e. Shipyard holder of the BV Classification contract for the naval submarine) (2) Specific for naval submarines (3) Design requirements: NR535, Part C, Chapter 4 (4) Fabrication requirements: as per agreed survey program (5) Non-specific for naval submarines, See NR266 item **A1** (6) Non-specific for naval submarines, See NR266 item **A11** (7) Non-specific for naval submarines, See NR266 item **A10** (8) Non-specific for naval submarines, See NR266 item **A3** (9) Design requirements: NR535, Pt C, Ch 1, Sec 2
	1- Non-resisting structure penetration	DA (1) (2) (3)	C	X (4)	C (4)	
	2- Ballast tank structure	DA (1) (2) (3)	C	X (4)	C (4)	
	3- Fuel oil tank structure	DA (1) (2) (3)	C	X (4)	C (4)	
	4- Keel structure	DA (1) (2) (3)	C	X (4)	C (4)	
	5- Bridge fin	DA (1) (2) (3)	C	X (4)	C (4)	
	6- Framework Forward and aft fins	DA (1) (2) (3)	C	X (4)	C (4)	
	7- Forward and aft rudder holes	DA (1) (2) (3)	C	X (4)	C (4)	
	8- Forward and aft gudgeons	DA (1) (2) (3)	C	X (4)	C (4)	
	9- Closings of external non-resistant structures (fairing, etc.)	DA (1) (2) (3)	C	X (4)	C (4)	
	10- Removable external framework components (bridge)	DA (1) (2) (3)	C	X (4)	C (4)	
	11- Bridge fin, bridge, framework hatches	DA (1) (2) (3)	C	X (4)	C (4)	
	12- Rolled products (plates, bars, sections, etc.)	DA (5) (9)	C (9)			
	13- Forged parts	DA (6) (9)	C (9)			
	14- Moulded parts	DA (7) (9)	C (9)			
	15- Welding consumables	DA (8) (9)	C (9)			

HULL AND STRUCTURE - ITEM XC						
No.	Item	Product certification				Remarks
		Design assessment / Approval	Raw material certificate	Examination and testing	Product certificate	
XC3	Non-resisting internal structures					(1) Certification by Class Society (BV): not required if the equipment is already couvered by the BV Certificate within the scope of construction survey at Shipyard (i.e. Shipyard holder of the BV Classification contract for the naval submarine) (2) Non-specific for naval submarines, See NR266 item **C3**, **C5** (3) Non-specific for naval submarines (4) Design requirements: Limited to structural Seatings (5) Fabrication requirements: as per agreed survey program (6) Non-specific for naval submarines, See NR266 item **C1** (7) Non-specific for naval submarines, See NR266 item **A1** (8) Non-specific for naval submarines, See NR266 item **A11** (9) Non-specific for naval submarines, See NR266 item **A10** (10) Non-specific for naval submarines, See NR266 item **A3** (11) Design requirements: NR535, Pt C, Ch 1, Sec 2
	1- Bulkhead, deck and internal tank penetrations	DA (1) (2)	C	X (5)	C (5)	
	2- Internal tanks	DA (1) (3)	C	X (5)	C (5)	
	3- Fixed elements of the non-resisting internal structure (bulkheads, decks)	DA (1) (3) (6)	C	X (5)	C (5)	
	4- Internal doors, hatches and ladders	DA (1) (6)	C	X (5)	C (5)	
	5- Seatings	DA (1) (3) (4)	C	X (5)	C (5)	
	6- Non-resisting internal structures closings (including accommodation doors)	DA (1) (3)	C	X (5)	C (5)	
	7- Removable internal framework components	DA (1) (3)	C	X (5)	C (5)	
	8- Rolled products (plates, bars, sections, etc.)	DA (7) (11)	C (11)			
	9- Forged parts	DA (8) (11)	C (11)			
	10- Moulded parts	DA (9) (11)	C (11)			
	11- Welding consumables	DA (10) (11)	C (11)			
XC4	Modules assemblies					(1) Certification by Class Society (BV): not required if the equipment is already covered by the BV Certificate within the scope of construction survey at Shipyard (i.e. Shipyard holder of the BV Classification contract for the naval submarine) (2) Specific for naval submarines (3) Design requirements: NR535, Pt C, Ch 5, Sec 2 (4) Fabrication requirements: as per agreed survey program (5) Non-specific for naval submarines, See NR266 item **A1** (6) Non-specific for naval submarines, See NR266 item **A11** (7) Non-specific for naval submarines, See NR266 item **A10** (8) Non-specific for naval submarines, See NR266 item **A3** (9) Design requirements: NR535, Pt C, Ch 1, Sec 2
	1- Cradles suspension systems and structures	DA (1) (2)	C	X (4)	C (4)	
	2- Cradles and ship modules structures	DA (1) (2) (3)	C	X (4)	C (4)	
	3- Rolled products (plates, bars, sections, etc.)	DA (5) (9)	C (9)		(10)	
	4- Forged parts	DA (6) (9)	C (9)		(10)	
	5- Moulded parts	DA (7) (9)	C (9)		(10)	
	6- Welding consumables	DA (8) (9)	C (9)			

HULL AND STRUCTURE - ITEM XC						
No.	Item	Product certification				Remarks
		Design assessment / Approval	Raw material certificate	Examination and testing	Product certificate	
XC5	Miscellaneous coatings, insulations and materials					(1) Non-specific for naval submarines, See NR266 item **C1** (2) Design requirements: NR535, Pt E, Ch 1, Sec 2 (3) Qualification requirements: FTP Code (4) Fabrication requirements: works recognition, Audit (HBV); As per conditions set in the TA (5) Non-specific for naval submarines, See NR266 item **C6** (6) Fabrication requirements: As per conditions set in the TA (7) Design requirements: NR535, Pt C, Ch 1, Sec 4; NR535, Pt E, Ch 1, Sec 1 (8) Non-specific for naval submarines, See NR266 item **L4** (9) Design requirements: NR535, Pt C, Ch 1, Sec 4, [2.2] (10) Specific for naval submarines (not covered by Class Society) (11) Statutory / In the case of a discrepancy between the provisions of the applicable international and national regulations and those of the BV Classification Rules, normally the former take precedence. A valid certification to MED 2014/90/EU (or MED96/98/EC as amended for its Annex A1 items) is to be recognised for Classification purpose (12) Corrosion protective coating (epoxy or equivalent): see NR266 item **B23** (information)
	1- Miscellaneous insulations - Fire protection	TA (1) (2) (3)		X	W (4) (11)	
	2- Ceilings	TA (5)		X	C / W (6) (11)	
	3- Internal coatings	TA (5)		X	C / W (6) (11)	
	4- Ship inside painting (12)	TA (5) (7)		X	C / W (6) (11)	
	5- Anti-corrosion protection through galvanic anodes	DA (8) (9)	C (9)	X	C	
	6- Buoyancy material	(10)				

Table 4: Manoeuvre System - item XD

MANOEUVRE SYSTEM - ITEM XD						
No.	Item	Product certification				Remarks
		Design assessment / Approval	Raw material certificate	Examination and testing	Product certificate	
XD1	Anchoring, mooring and towing, Boat, gangway, deck accessories					(1) Additional Class Notation **ANCHORING** (2) Non-specific for naval submarines, See NR266 item **B3**, **B4** and **B5** (3) Design requirements: NR535, Pt C, Ch 6, Sec 2 (4) Approval as per NR216 and NR480 (5) Additionally the approval of manufacturing process is required for round bars in grades **Q2** or **Q3** (6) DA for ordinary anchors (7) TA for High holding power (HHP) and very high holding power (VHHP) anchors - ref. NR467, Pt B, Ch 9, Sec 4, [3] and NR216
	1- Anchor line, Anchor chain cable	DA (1) (2) (3) (4)	C (5)	X	C	
	2- Anchors	DA (6) or TA (7) (1) (2) (3)	C	X	C	
	3- Anchor chain cable accessories (shackles, kenter shackles and swivels)	DA (1) (2) (3) (4)	C	X	C	

Table 5: Diving System - item XE

DIVING SYSTEM - ITEM XE						
No.	Item	Product certification				Remarks
		Design assessment / Approval	Raw material certificate	Examination and testing	Product certificate	
XE1	Lightening					(1) Specific for naval submarines, Certification by Class Society (BV) as per NR535, Pt A, Ch 1, Sec 2, [3.3] / Design requirements: NR535, Pt D, Ch 3, Sec 5, [7] / Qualification requirements: as per agreed program (2) Specific for naval submarines, also see NR266 item **G26** (3) Design requirements: NR535, Pt D, Ch 3, Sec 5, [7] (4) Non-specific for naval submarines, See NR266 item **G30**
	1- Ballast tank vent valve	(1)	(1)	(1)	(1)	
	2- Blowing NRV	DA (2) (3)	C / W (2)	X	C / W (2)	
	3- HP air cylinders (without safety valve)	DA (4) (3)	C / W (4) (3)	X	C (4)	

DIVING SYSTEM - ITEM XE						
No.	Item	Product certification				Remarks
		Design assessment / Approval	Raw material certificate	Examination and testing	Product certificate	
XE2	Regulating and trim control systems					(1) Certification by Class Society (BV): not required if the equipment is already covered by the BV Certificate within the scope of construction survey at Shipyard (i.e. Shipyard holder of the BV Classification contract for the naval submarine); Specific for naval submarines (2) Design requirements: NR535, Part C, Chapter 3 (3) Fabrication requirements: as per agreed survey program (4) Certification by Class Society (BV): NO (5) Specific for naval submarines (6) Design requirements: NR535, Pt D, Ch 3, Sec 5, [9] (7) Qualification requirements: NR535, Pt D, Ch 3, Sec 5, [9] and [19] (8) As per conditions set in the TA (9) Design requirements: NR535, Pt D, Ch 3, Sec 5, [6] (10) Qualification requirements: NR535, Pt D, Ch 3, Sec 5, [19] and Tab 32 (11) Fabrication requirements: NR535, Pt D, Ch 3, Sec 5, [19] and Tab 32 (12) Non-specific for naval submarines, See NR266 item **G26** (13) Design requirements: NR535, Pt E, Ch 3, Sec 1, [3]; NR535, Pt D, Ch 3, Sec 5, [10]; NR535, Pt D, Ch 3, Sec 5 [6] (14) Fabrication requirements: NR535, Pt D, Ch 3, Sec 3, Tab 2 and Tab 6; NR535, Pt D, Ch 3, Sec 5, Tab32 (15) Non-specific for naval submarines, See NR266 item **G28** (16) Design requirements: NR535, Pt D, Ch 3, Sec 5, [2.6], [19] and [6.3.2], item b) (17) Qualification requirements: NR535, Pt D, Ch 3, Sec 5, [19], Tab 31 and [19.4.7] (18) Fabrication requirements: NR535, Pt D, Ch 3, Sec 5, [19], Tab 31 (19) Requirements regarding pumps of class III (P ≤ 10 bar), see NR266 item **G31**
	1- Resistant regulating tanks	DA (1) (2)	C (3)	X (3)	C (3)	
	2- Non-resistant regulating tanks	(4)				
	3- Compensating tanks	(4)				
	4- Trim electric pump	(19)	(19)	X	W / C (19)	
	5- Trim electric pump starting unit	(4)				
	6- Transfer electric pump	(19)	(19)	X	W / C (19)	
	7- Transfer pump starting unit	(4)				
	8- Regulating electric pump (connected to the sea)	TA (6) (7)	C (8)	X (8)	C (8)	
	9- Stripping electric pump (connected to the sea)	TA (6) (7)	C (8)	X (8)	C (8)	
	10- Regulating pump starting unit	(4)				
	11- External hull valve	DA (5) (9) (10)	C (11)	X (11)	C (11)	
	12- Internal hull valve	DA (5) (9) (10)	C (11)	X (11)	C (11)	
	13- Internal hull valve actuator (if pressurized piping technology)	DA or TA (12) (13)	C (12) (14)	X (14)	C (12) (14)	
	14- Internal hull valve actuator (if non pressurized piping technology)	(4)				
	15- HP seawater flexible hose	TA (15) (16) (17)	W	X (18)	C (18)	

Table 6: Propulsion System - item XF

PROPULSION SYSTEM - ITEM XF						
No.	Item	Product certification				Remarks
		Design assessment / Approval	Raw material certificate	Examination and testing	Product certificate	
XF1	Shaft line stern sealing gland					(1) Certification by Class Society (BV): as per NR535, Pt A, Ch 1, Sec 2, [3.3]
	1- Shaft line stern sealing gland	(1)				
XF2	Shaft line Installation					(1) Non-specific for naval submarines, See NR266 item **G9** (2) Design requirements: NR535, Pt D, Ch 2, Sec 1 (3) Non-specific for naval submarines, See NR266 item **G5** (4) Design requirements: NR535, Pt D, Ch 2, Sec 2, [2.4] (5) Qualification requirements: NR535, Pt D, Ch 2, Sec 2, [5] (6) Design requirements: NR535, Pt D, Ch 2, Sec 2, [2.2] (7) Non-specific for naval submarines, See NR266 item **G5-11** (8) Design requirements: NR535, Pt D, Ch 2, Sec 2, [2.5] (9) Non-specific for naval submarines, See NR266 item **G5-10** (10) Design requirements: NR535, Pt D, Ch 2, Sec 2, [2.7]
	1- Propeller	DA or TA (1) (2)	C	X	C	
	2- Submerged aft bearing support	DA (3) (4) (5)	W	X	W	
	3- Submerged aft bearing	DA (3) (4) (5)	W	X	W	
	4- Propeller shaft	DA (3) (6) (5)	C	X	C	
	5- Removable section	DA (3) (6) (5)	C	X	C	
	6- Radial thrust block	DA (3) (4) (5)	W	X	W	
	7- Main thrust block	DA (7) (8) (5)	W	X	W	
	8- Elastic coupling	DA (9) (10) (5)	C / W	X	C / W	
XF3	Greasing of the turbo-gearbox unit and the EPM					(1) Non-specific for naval submarines, See NR266 item **G26** (2) Design requirements: NR535, Pt D, Ch 3, Sec 5, [17]
	1- Greasing of the turbo-gearbox unit and the EPM	DA (1) (2)	C / W	X	C / W	
XF4	Greasing of the shaft line					(1) Non-specific for naval submarines, See NR266 item **G26** (2) Design requirements: NR535, Pt D, Ch 3, Sec 5, [17]
	1- Greasing of the shaft line	DA (1) (2)	C / W	X	C / W	
XF5	Electric propulsion motors					(1) Non-specific for naval submarines, See NR266 item **K1** (2) Design requirements: NR535, Pt D, Ch 4, Sec 13 (3) Non-specific for naval submarines, See NR266 item **K7** (4) Fabrication requirements: As per conditions set in the TA
	1- Electric Propulsion Motor	DA or TA (1) (2)	C / W (4)	X	C / W (4)	
	2- Converter cabinets	DA or TA (3) (2)		X	C / W (4)	
XF6	Emergency electric motor					(1) Non-specific for naval submarines, See NR266 item **K1** (2) Design requirements: NR535, Pt D, Ch 4, Sec 13 (3) Fabrication requirements: As per conditions set in the TA
	1- Emergency electric motor	DA or TA (1) (2)	C / W (3)	X	C / W (3)	
XF7	Auxiliary propulsion					(1) Certification by Class Society (BV): NO
	1- Auxiliary propulsion	(1)				

Table 7: Energy Plant - item XG

ENERGY PLANT - ITEM XG						
No.	Item	Product certification				Remarks
		Design assessment / Approval	Raw material certificate	Examination and testing	Product certificate	
XG1	Electrical energy storage					(1) Specific for naval submarines, see NR535, Pt A, Ch 1, Sec 2, [3.3] (2) Design requirements: NR535, Pt D, Ch 4, Sec 11 (3) Non-specific for naval submarines, See NR266 item **K8** / **K9** / **K24** (4) Design requirements: NR535, Pt D, Ch 4, Sec 8
	1- Forward & Aft main batteries and connections	DA (1) (2)		X	C	
	2- FWD & AFT battery head	DA (3) (4)		X	C	
XG2	Diesel generators installation					(1) Specific for naval submarines (2) Design requirements: NR535, Pt D, Ch 3, Sec 2; NR535 Pt D, Ch 4, Sec 4 (3) Qualification requirements: NR535, Pt D, Ch 3, Sec 2, [4]; NR535, Pt D, Ch 4, Sec 4, [3] and [4] (4) As per conditions set in the TA (5) Non-specific for naval submarines, See NR266 items **N3** / **K** (6) Fabrication requirements: as per agreed survey program
	1- Diesel Alternator Rectifier unit	TA (1) (2) (3)		X	C (4)	
	2- Diesel generators control and monitoring	DA (5)		X (6)	C (6)	
XG3	Diesel oil service					(1) Non-specific for naval submarines, See NR266 item **G26** (2) Design requirements: NR535, Pt D, Ch 3, Sec 5, [16] (3) Certification by Class Society (BV): not required if the equipment is already covered by the BV Certificate within the scope of construction survey at Shipyard (i.e. Shipyard holder of the BV Classification contract for the naval submarine). Specific for naval submarines (4) Design requirements: Pt C, Ch 3, Sec 2 (5) Fabrication requirements: as per agreed survey program
	1- Diesel oil service	DA (1) (2)	C / W	X	C / W	
	2- Feed or daily tank	DA (3) (4)	C	X (5)	C (5)	
XG4	Diesel generators (DG) cooling seawater / fresh water					(1) Non-specific for naval submarines, See NR266 item **G26** (2) Design requirements: NR535, Pt D, Ch 3, Sec 5, [12]
	1- DG cooling seawater / fresh water	DA (1) (2)	C / W	X	C / W	

ENERGY PLANT - ITEM XG						
No.	Item	Product certification				Remarks
		Design assessment / Approval	Raw material certificate	Examination and testing	Product certificate	
XG5	Diesel generators (DG) auxiliary fluid circuits					(1) Non-specific for naval submarines, See NR266 item **G26** (2) Design requirements: NR535, Pt D, Ch 3, Sec 5 (3) Non-specific for naval submarines, See NR266 item **G30** (Pressure vessels) (4) Design requirements: NR535, Pt D, Ch 3, Sec 5, [12.3] and [6.3.1] (5) Non-specific for naval submarines, See NR266 item **G26** and **G27** (6) Design requirements: NR535, Pt D, Ch 3, Sec 2, [3]
	1- DG auxiliary fluid circuits	DA (1) (2)	C / W	X	C / W	
	2- Fresh water / seawater exchanger	DA (3) (4)	C / W	X	C / W	
	3- DG starting air	DA (5) (6)	C / W	X	C / W	
XG6	Air inlet system – snorkel mast installation					(1) Design requirements: NR535, Pt D, Ch 3, Sec 5, [14] (2) Certification by Class Society (BV): not required if the equipment is already covered by the BV Certificate within the scope of construction survey at Shipyard (i.e. Shipyard holder of the BV Classification contract for the naval submarine). Specific for naval submarines (3) Design requirements: NR535, Part C, Chapter 3 (4) Fabrication requirements: as per agreed survey program (5) Design requirements: NR535, Pt D, Ch 3, Sec 4
	1- Air inlet valve and actuator	DA (1)				
	2- Snorkel mast cupola access hatch	DA (2) (3)		X (4)	C (4)	
	3- Snorkel air mast (if resistant to immersion pressure)	DA (2) (5)		X	C	
XG7	Diesel Generator exhaust					(1) Specific for naval submarines (2) Design requirements: NR535, Pt D, Ch 3, Sec 5 and Sec 6 (3) Fabrication requirements: NR535, Pt D, Ch 3, Sec 5, Tab 32 (4) Non-specific for naval submarines, See NR266 item **G26** (5) Design requirements: NR535, Pt D, Ch 3, Sec 5, [15]
	1- Hull valves	DA (1) (2)	C	X (3)	C (3)	
	2- Exhaust line and in-line accessories	DA (4) (5)	C / W	X	C / W	

Table 8: Steering Gear System - item XH

STEERING GEAR SYSTEM - ITEM XH						
No.	Item	Product certification				Remarks
		Design assessment / Approval	Raw material certificate	Examination and testing	Product certificate	
XH1	Steering gear					(1) Specific for naval submarines (2) Design requirements: NR535, Pt D, Ch 3, Sec 7 (3) Qualification requirements: NR535, Pt D, Ch 3, Sec 7, [5] (4) Fabrication requirements: NR535, Pt D, Ch 3, Sec 7, [5] (5) Non-specific for naval submarines, See NR266 items **N** / **K** (6) Specific for naval submarines, if outside of the SM (7) Design requirements: NR535, Pt D, Ch 3, Sec 5, [10] (8) Qualification requirements: NR535, Pt D, Ch 3, Sec 5, [19] (9) Fabrication requirements: NR535, Pt D, Ch 3, Sec 5, [19] (10) Design requirements: NR535, Pt D, Ch 3, Sec 7, [4.3] (11) Certification by Class Society (BV): NO
	1- Rudder blades + stocks	DA (1) (2) (3)	C	X (4)	C (4)	
	2- Rudder blade actuators	DA (1) (2) (3)	C	X (4)	C (4)	
	3- Rudder blade position control	DA (5) (2) (3)	C	X (4)	C (4)	
	4- Rudder blade position sensor	DA (5) (2) (3)	C / W	X (4)	C (4)	
	5- Hydraulic system (if applicable)	DA (6) (7) (8)	C / W	X (9)	C (9)	
	6- Thrust blocks and angle limiters	DA (1) (10) (3)	C / W	X (4)	C (4)	
	7- Autopilot	(11)				

Table 9: Electrical Networks - item XJ

ELECTRICAL NETWORKS - ITEM XJ						
No.	Item	Product certification				Remarks
		Design assessment / Approval	Raw material certificate	Examination and testing	Product certificate	
XJ1	Main power supply network					(1) Non-specific for naval submarines, See NR266 item **K13** (2) Design requirements: NR535, Pt D, Ch 4, Sec 2 and NR535, Pt D, Ch 4, Sec 3; NR535, Pt D, Ch 4, Sec 8 (3) Fabrication requirements: see NR266 item **K13** (4) Non-specific for naval submarines, See NR266 item **K14** (5) Design requirements: NR535, Pt D, Ch 4, Sec 2 and NR535, Pt D, Ch 4, Sec 3; NR535, Pt D, Ch 4, Sec 8 (6) Fabrication requirements: see NR266 item **K14**
	1- Direct Current Main Switchboard	DA (1) (2)		X (3)	C / W (3)	
	2- Direct Current Secondary Switchboard	DA (4) (5)		X (6)	C / W (6)	
XJ2	Lighting					(1) Non-specific for naval submarines, See NR266 item **K13** (2) Design requirements: NR535, Pt D, Ch 4, Sec 3, [3.8]; NR535, Pt D, Ch 4, Sec 8 (3) Fabrication requirements: see NR266 item **K13**
	1- Emergency Lighting Distribution Switchboard	DA (1) (2)		X (3)	C / W (3)	
XJ3	400 Hz Network (if distributed)					(1) Non-specific for naval submarines, See NR266 item **K14** (2) Fabrication requirements: see NR266 item **K14** (3) Non-specific for naval submarines, See NR266 item **K7** (4) Fabrication requirements: see NR266 item **K7**
	1- Network	DA (1)		X (2)	C / W (2)	
	2- Converter	DA or TA (3)		X (4)	C / W (4)	
XJ4	Low power network					(1) Non-specific for naval submarines, See NR266 item **K7** (2) Design requirements: NR535, Pt D, Ch 4, Sec 6 (3) Fabrication requirements: see NR266 item **K7** (4) Non-specific for naval submarines, See NR266 item **K14** (5) Design requirements: NR535, Pt D, Ch 4, Sec 6 (6) Fabrication requirements: see NR266 item **K14**
	1- DC/AC converter	DA or TA (1) (2)		X (3)	C / W (3)	
	2- Overriding AC Secondary Switchboard	DA (4) (5)		X (6)	C / W (6)	
	3- Non-overriding AC Secondary Switchboard	DA (4) (5)		X (6)	C / W (6)	
XJ5	Low power UPS network					(1) Non-specific for naval submarines, See NR266 item **K8** (2) Design requirements: NR535, Part D, Chapter 4 (3) Fabrication requirements: see NR266 item **K8** (4) Non-specific for naval submarines, See NR266 item **K13** (5) Design requirements: NR535, Part D, Chapter 4 (6) Fabrication requirements: see NR266 item **K13**
	1- Uninterruptible Power System (UPS)	DA (1) (2)		X (3)	C (3)	
	2- Emergency Distribution Switchboard	DA (4) (5)		X (6)	C / W (6)	

ELECTRICAL NETWORKS - ITEM XJ						
No.	Item	Product certification				Remarks
		Design assessment / Approval	Raw material certificate	Examination and testing	Product certificate	
XJ6	Navigation lights installation					(1) Non-specific for naval submarines, See NR266 item **K14** (2) Design requirements: NR535, Pt D, Ch 4, Sec 3, [3.9] (3) Fabrication requirements: see NR266 item **K14** (4) Statutory / Design requirements: NR535, Pt D, Ch 6, Sec 3 (5) In the case of a discrepancy between the provisions of the applicable international and national regulations and those of the BV Classification Rules, normally the former take precedence. A valid certification to MED 2014/90/EU (or MED96/98/EC as amended for its Annex A1 items) is to be recognised for Classification purpose (6) Fabrication requirements: As per conditions set in the TA
	1- Navigation lights control panel	DA (1) (2)		X (3)	C / W (3)	
	2- Navigation lights	TA (4) (5)		X (6)	C / W (6)	

Table 10: Fluidic Utilities - item XK

FLUIDIC UTILITIES - ITEM XK						
No.	Item	Product certification				Remarks
		Design assessment / Approval	Raw material certificate	Examination and testing	Product certificate	
XK1	Fluidic utilities					(1) Non-specific for naval submarines, See NR266 item **G26** (2) Fabrication requirements: see NR266 item **G26**
	1- Greasing oil	DA (1)	C / W (2)	X (2)	C / W (2)	

Table 11: Bilge and Water Systems - item XL

BILGE AND WATER SYSTEMS - ITEM XL						
No.	Item	Product certification				Remarks
		Design assessment / Approval	Raw material certificate	Examination and testing	Product certificate	
XL1	Bilge system					(1) Non-specific for naval submarines, See NR266 item **G26** (2) Design requirements: NR535, Pt D, Ch 3, Sec 5, [8] (3) Fabrication requirements: see NR266 item **G26**
	1- Bilge system	DA (1) (2)	W / C (3)	X (3)	W / C (3)	
XL2	Production and distribution of industrial and demineralised water					(1) Non-specific for naval submarines, See NR266 item **G26** (2) Fabrication requirements: see NR266 item **G26**
	1- Production and distribution of industrial and demineralised water	DA (1)	W / C (2)	X (2)	W / C (2)	
XL3	Utilities seawater					(1) Non-specific for naval submarines, See NR266 item **G26** (2) Fabrication requirements: see NR266 item **G26**
	1- Utilities seawater	DA (1)	W / C (2)	X (2)	W / C (2)	

Table 12: Refrigeration and HVAC Systems - item XM

REFRIGERATION AND HVAC SYSTEMS - ITEM XM						
No.	Item	Product certification				Remarks
		Design assessment / Approval	Raw material certificate	Examination and testing	Product certificate	
XM1	Forward and aft regulated water circuit (if concerned by essential services)					(1) Non-specific for naval submarines, See NR266 item **G26** (2) Fabrication requirements: see NR266 item **G26**
	1- Regulated water circuit (if concerned by essential services)	DA (1)	W / C (2)	X (2)	W / C (2)	
XM2	Production of chilled water (if concerned by essential services)					(1) Non-specific for naval submarines, See NR266 item **G26** (2) Fabrication requirements: see NR266 item **G26**
	1- Production of chilled water (if concerned by essential services)	DA (1)	W / C (2)	X (2)	W / C (2)	
XM3	FWD and AFT seawater cooling					(1) Non-specific for naval submarines, See NR266 item **G26** and **G30** (2) Non-specific for naval submarines, See NR266 item **G26** and **G31** (3) Specific for naval submarines (4) Design requirements: NR535, Pt D, Ch 3, Sec 5 and NR535, Pt D, Ch 3, Sec 6 (5) Fabrication requirements: NR535, Pt D, Ch 3, Sec 5, Tab 32
	1- Seawater exchanger	DA (1)	W / C (1)	X (1)	W / C (1)	
	2- Seawater electric pump	DA (2)	W / C (2)	X (2)	W / C (2)	
	3- Hull valve (internal and external, suction and discharge)	DA (3)(4)	C (5)	X (5)	C (5)	
XM4	FWD and AFT power extraction system (if concerned by essential services)					(1) Non-specific for naval submarines, See NR266 item **G26** and **G31**
	1- Cooling fresh water electric pump	DA (1)	W / C (1)	X (1)	W / C (1)	
	2- Battery cooling electric pump	DA (1)	W / C (1)	X (1)	W / C (1)	
XM5	Air conditioning					(1) Non-specific for naval submarines, See NR266 item **M** (2) Design requirements: NR535, Pt D, Ch 3, Sec 6
	1- Air conditioning	DA (1)(2)	W / C (1)	X (1)	W / C (1)	

REFRIGERATION AND HVAC SYSTEMS - ITEM XM						
No.	Item	Product certification				Remarks
		Design assessment / Approval	Raw material certificate	Examination and testing	Product certificate	
XM6	Centralized ventilation					(1) Non-specific for naval submarines, See NR266 item **K6** (2) Design requirements: NR535, Pt D, Ch 3, Sec 5, [13]; NR535, Pt E, Ch 1, Sec 2 and Sec 5, [4] (3) Non-specific for naval submarines, See NR266 item **K7** (4) Non-specific for naval submarines, See NR266 item **C21** / Design requirements: NR535, Pt E, Ch 1, Sec 5, [4] (5) Fabrication requirements (BV): As per conditions set in the TA (6) In the case of a discrepancy between the provisions of the applicable international and national regulations and those of the BV Classification Rules, normally the former take precedence. A valid certification to MED 2014/90/EU (or MED96/98/EC as amended for its Annex A1 items) is to be recognised for Classification purpose
	1- Ventilation, Air Conditioning module (motorization)	DA or TA (1) (2)		X (1)	C / W (1)	
	2- Fresh air - foul air fan converter unit	DA or TA (3)(2)		X (3)	C / W (3)	
	3- Fire dampers, fresh air - foul air ventilation isolating valve & battery ventilation isolating valve	TA (4) (6)		X (5)	W / C (5)	

Table 13: HP Gas and Fluid Systems - item XN

HP GAS AND FLUID SYSTEMS - ITEM XN						
No.	Item	Product certification				Remarks
		Design assessment / Approval	Raw material certificate	Examination and testing	Product certificate	
XN1	Power hydraulic fluid production, storage and distribution - (external and internal units)	(5)				(1) Non-specific for naval submarines, See NR266 item **G26** and **G31** (2) Non-specific for naval submarines, See NR266 item **G30** (3) Non-specific for naval submarines, See NR266 item **K14** (4) Non-specific for naval submarines, See NR266 items **G26** and **G27** (5) Design requirements: NR535, Pt D, Ch 3, Sec 5, [10]
	1- Hydraulic electric pump	DA (1)	C / W (1)	X (1)	C / W (1)	
	2- Bladder hydraulic accumulator	DA (2)	C / W (2)	X (2)	C / W (2)	
	4- Hydraulic electric pump starter cabinet	DA (3)		X (3)	C / W (3)	
	5- Distribution manifolds and accessories	DA (4)	W / C (4)	X (4)	W / C (4)	
XN2	HP air production, storage and distribution	(4)				(1) Non-specific for naval submarines, See NR266 item **G30** (2) Non-specific for naval submarines, See NR266 items **G26** and **G27** (3) Non-specific for naval submarines, See NR266 item **G31** (4) Design requirements: NR535, Pt D, Ch 3, Sec 5, [11]
	1- HP air cylinder	DA (1)	C / W (1)	X (1)	C / W (1)	
	2- Distribution and charging manifold and accessories	DA (2)	C / W (2)	X (2)	C / W (2)	
	3- HP air compressor	DA (3)	W / C (3)	X (3)	W / C (3)	
XN3	Shared lubrication systems - Centralized greasing					(1) Non-specific for naval submarines, See NR266 item **G26** (2) Design requirements: NR535, Pt D, Ch 3, Sec 5, [17]
	1- Shared lubrication systems - Centralized greasing	DA (1)(2)	W / C (1)	X (1)	W / C (1)	
XN4	Nitrogen storage and distribution					(1) Non-specific for naval submarines, See NR266 item **G30** (2) Non-specific for naval submarines, See NR266 item **G26**
	1- HP vessel	DA (1)	W / C (1)	X (1)	W / C (1)	
	2- Distribution and charging manifold and accessories	DA (2)	W / C (2)	X (2)	W / C (2)	

Table 14: Habitability Systems - Cold Rooms, Sewage & Waste Processing (Additional Class Notation REF-STORE) - item XO

HABITABILITY SYSTEMS - COLD ROOMS, SEWAGE & WASTE PROCESSING (Additional Class Notation REF-STORE) - ITEM XO						
No.	Item	Product certification				Remarks
		Design assessment / Approval	Raw material certificate	Examination and testing	Product certificate	
XO1	Sewage tank water discharge					(1) Certification by Class Society (BV): not required if the equipment is already covered by the BV Certificate within the scope of construction survey at Shipyard (i.e. Shipyard holder of the BV Classification contract for the naval submarine) (2) Fabrication requirements: as per agreed survey program
	1- Sewage tank	DA (1)	(2)	X (2)	C (2)	
XO2	Provisions					(1) Non-specific for naval submarines, See NR266 items **M** (2) Design requirements: NR535, Pt D, Ch 3, Sec 6 (3) Design requirements: Additional Class Notation **REF-STORE** (4) Design requirements: NR535, Pt F, Ch 1, Sec 2
	1- Food refrigeration	DA (1) (2)	C / W (1)	X (1)	C / W (1)	
	2- Cold rooms	DA (3)(4)	W / C (3)	X (3)	W / C (3)	
XO3	Waste processing					(1) Certification by Class Society (BV): not required if the equipment is already covered by the BV Certificate within the scope of construction survey at Shipyard (i.e. Shipyard holder of the BV Classification contract for the naval submarine) (2) Fabrication requirements: as per agreed survey program
	1- Garbage ejector	DA (1)	(2)	X (2)	C (2)	

Table 15: Control and Monitoring - SMS, COMM, Internal Communication Systems - item XP

CONTROL AND MONITORING - SMS, COMM, INTERNAL COMMUNICATION SYSTEMS - ITEM XP						
No.	Item	Product certification				Remarks
		Design assessment / Approval	Raw material certificate	Examination and testing	Product certificate	
XP1	Control installation					(1) Non-specific for naval submarines, See NR266 items **N** / **K** (2) Design requirements: NR535, Pt D, Ch 6, Sec 2
	1- Remote control console	DA (1) (2)		X (1)	C (1)	
	2- Local PLC unit (to be implemented in the other installations if low layer is transferred in these installations)	DA or TA (1)		X (1)	C (1)	
XP2	General broadcasting by loudspeaker					(1) Non-specific for naval submarines, See NR266 items **N** / **K** (2) Design requirements: NR535, Pt D, Ch 4, Sec 3, [3.14] (3) Fabrication requirements: As per conditions set in the TA (HBV) (4) Not covered by Class Society (BV): ref. NR535, Pt D, Ch 4, Sec 3, [3.10.6]
	1- Broadcasting cabinet	TA (1) (2)		X	W (3)	
	2- Loudspeaker	(4)		(4)	(4)	

Table 16: Combat System - item XQ

COMBAT SYSTEM - ITEM XQ						
No.	Item	Product certification				Remarks
		Design assessment / Approval	Raw material certificate	Examination and testing	Product certificate	
XQ1	Combat system					(1) Certification by Class Society (BV): not required if the equipment is already covered by the BV Certificate within the scope of construction survey at Shipyard (i.e. Shipyard holder of the BV Classification contract for the naval submarine) (2) Design requirements: NR535, Pt C, Ch 3, Sec 2 (3) As per agreed survey program
	1- Resistant weapon launching tube	DA (1) (2)	C (3)	X (3)	C (3)	
	2- Multipurpose probes launching trunk	DA (1) (2)	C (3)	X (3)	C (3)	

Table 17: AIP Systems - Installations covered by Additional Class Notation AIP (Air Independent Propulsion) - item XR

AIP SYSTEMS - Installations covered by Additional Class Notation AIP (Air Independent Propulsion) - ITEM XR						
No.	Item	Product certification				Remarks
		Design assessment / Approval	Raw material certificate	Examination and testing	Product certificate	
XR1	Electrical energy storage	DA (1)	(2)	X (2)	C (2)	(1) Design requirements: NR535, Part F, Ch 1, Sec 4 (2) Fabrication requirements: as per agreed survey program - The certified equipment is at least that defined in: NR535, Pt D, Ch 3, Sec 3 and NR535, Pt D, Ch 3, Sec 5 for class 1 equipment (for Pressure vessels & Piping systems); NR535, Pt D, Ch 4, Sec 14 (for Power supply) Note: Quay and sea trials - as per NR535, Part F, Ch 1, Sec 4, [4.2]
XR2	Equipment dedicated to the control of the AIP	DA (1)	(2)	X (2)	C (2)	(1) Design requirements: NR535, Part F, Ch 1, Sec 4 (2) Fabrication requirements: as per agreed survey program - The certified equipment is at least that defined in: NR535, Pt D, Ch 3, Sec 3 and NR535, Pt D, Ch 3, Sec 5 for class 1 equipment (for Pressure vessels & Piping systems); NR535, Pt D, Ch 4, Sec 14 (for Power supply) Note: Quay and sea trials - as per NR535, Pt F, Ch 1, Sec 4, [4.2]
XR3	Discharge system	DA (1)	(2)	X (2)	C (2)	(1) Design requirements: NR535, Part F, Ch 1, Sec 4 (2) Fabrication requirements: as per agreed survey program - The certified equipment is at least that defined in: NR535, Pt D, Ch 3, Sec 3 and NR535, Pt D, Ch 3, Sec 5 for class 1 equipment (for Pressure vessels & Piping systems); NR535, Pt D, Ch 4, Sec 14 (for Power supply) Note: Quay and sea trials - as per NR535, Part F, Ch 1, Sec 4, [4.2]
XR4	Heat production loop (or hydrogen production system)	DA (1)	(2)	X (2)	C (2)	(1) Design requirements: NR535, Part F, Ch 1, Sec 4 (2) Fabrication requirements: as per agreed survey program - The certified equipment is at least that defined in: NR535, Pt D, Ch 3, Sec 3 and NR535, Pt D, Ch 3, Sec 5 for class 1 equipment (for Pressure vessels & Piping systems) ; NR535, Pt D, Ch 4, Sec 14 (for Power supply) Note: Quay and sea trials - as per NR535, Part F, Ch 1, Sec 4, [4.2]

AIP SYSTEMS - Installations covered by Additional Class Notation AIP (Air Independent Propulsion) - ITEM XR						
No.	Item	Product certification				Remarks
		Design assessment / Approval	Raw material certificate	Examination and testing	Product certificate	
XR5	Seawater cooling	DA (1)	(2)	X (2)	C (2)	(1) Design requirements: NR535, Pt F, Ch 1, Sec 4 (2) Fabrication requirements: as per agreed survey program - The certified equipment is at least that defined in: NR535, Pt D, Ch 3, Sec 3 and NR535, Pt D, Ch 3, Sec 5 for class 1 equipment (for Pressure vessels & Piping systems); NR535, Pt D, Ch 4, Sec 14 (for Power supply) Note: Quay and sea trials - as per NR535, Pt F, Ch 1, Sec 4, [4.2]
XR6	Structures	DA (1)	(2)	X (2)	C (2)	(1) Design requirements: NR535, Pt F, Ch 1, Sec 4 (2) Fabrication requirements: as per agreed survey program - The certified equipment is at least that defined in: NR535, Pt D, Ch 3, Sec 3 and NR535, Pt D, Ch 3, Sec 5 for class 1 equipment (for Pressure vessels & Piping systems); NR535, Pt D, Ch 4, Sec 14 (for Power supply) Note: Quay and sea trials - as per NR535, Pt F, Ch 1, Sec 4, [4.2]
XR7	AIP section air conditioning system	DA (1)	(2)	X (2)	C (2)	(1) Design requirements: NR535, Pt F, Ch 1, Sec 4 (2) Fabrication requirements: as per agreed survey program - The certified equipment is at least that defined in: NR535, Pt D, Ch 3, Sec 3 and NR535, Pt D, Ch 3, Sec 5 for class 1 equipment (for Pressure vessels & Piping systems); NR535, Pt D, Ch 4, Sec 14 (for Power supply) Note: Quay and sea trials - as per NR535, Pt F, Ch 1, Sec 4, [4.2]
XR8	Electrical networks	DA or TA (1)	(2)	X (2)	C / W (2) (3)	(1) Design requirements: NR535, Pt F, Ch 1, Sec 4 (2) Fabrication requirements: as per agreed survey program - The certified equipment is at least that defined in: NR535, Pt D, Ch 3, Sec 3 and NR535, Pt D, Ch 3, Sec 5 for class 1 equipment (for Pressure vessels & Piping systems); NR535, Pt D, Ch 4, Sec 14 (for Power supply) (3) As per conditions set in the TA Note: Quay and sea trials - as per NR535, Pt F, Ch 1, Sec 4, [4.2]

AIP SYSTEMS - Installations covered by Additional Class Notation AIP (Air Independent Propulsion) - ITEM XR						
No.	Item	Product certification				Remarks
		Design assessment / Approval	Raw material certificate	Examination and testing	Product certificate	
XR9	Power extraction system fresh water cooling	DA (1)	(2)	X (2)	C (2)	(1) Design requirements: NR535, Pt F, Ch 1, Sec 4 (2) Fabrication requirements: as per agreed survey program - The certified equipment is at least that defined in: NR535, Pt D, Ch 3, Sec 3 and NR535, Pt D, Ch 3, Sec 5 for class 1 equipment (for Pressure vessels & Piping systems); NR535, Pt D, Ch 4, Sec 14 (for Power supply) Note: Quay and sea trials - as per NR535, Pt F, Ch 1, Sec 4, [4.2]
XR10	Luboil system, Lube oil system	DA (1)	(2)	X (2)	C (2)	(1) Design requirements: NR535, Pt F, Ch 1, Sec 4 (2) Fabrication requirements: as per agreed survey program - The certified equipment is at least that defined in: NR535, Pt D, Ch 3, Sec 3 and NR535, Pt D, Ch 3, Sec 5 for class 1 equipment (for Pressure vessels & Piping systems); NR535, Pt D, Ch 4, Sec 14 (for Power supply) Note: Quay and sea trials - as per NR535, Pt F, Ch 1, Sec 4, [4.2]
XR11	O2 supply and storage system	DA (1)	(2)	X (2)	C (2)	(1) Design requirements: NR535, Pt F, Ch 1, Sec 4 (2) Fabrication requirements: as per agreed survey program - The certified equipment is at least that defined in: NR535, Pt D, Ch 3, Sec 3 and NR535, Pt D, Ch 3, Sec 5 for class 1 equipment (for Pressure vessels & Piping systems) ; NR535, Pt D, Ch 4, Sec 14 (for power supply) Note: Quay and sea trials - as per NR535, Pt F, Ch 1, Sec 4 [4.2]
XR12	Diesel oil or ethanol supply and storage system	DA (1)	(2)	X (2)	C (2)	(1) Design requirements: NR535, Pt F, Ch 1, Sec 4 (2) Fabrication requirements: as per agreed survey program - The certified equipment is at least that defined in: NR535, Pt D, Ch 3, Sec 3 and NR535, Pt D, Ch 3, Sec 5 for class 1 equipment (for Pressure vessels and Piping systems) ; NR535, Pt D, Ch 4, Sec 14 (for Power supply) Note: Quay and sea trials - as per NR535, Pt F, Ch 1, Sec 4, [4.2]

AIP SYSTEMS - Installations covered by Additional Class Notation AIP (Air Independent Propulsion) - ITEM XR						
No.	Item	Product certification				Remarks
		Design assessment / Approval	Raw material certificate	Examination and testing	Product certificate	
XR13	Turbo-Generator (or Fuel cell)	DA or TA (1)	(2)	X (2)	C / W (2) (3)	(1) Design requirements: NR535, Pt F, Ch 1, Sec 4 (2) Fabrication requirements: as per agreed survey program - The certified equipment is at least that defined in: NR535, Pt D, Ch 3, Sec 3 and NR535, Pt D, Ch 3, Sec 5 for class 1 equipment (for Pressure vessels and Piping systems) ; NR535, Pt D, Ch 4, Sec 14 (for Power supply) (3) As per conditions set in the TA Note: Quay and sea trials - as per NR535, Pt F, Ch 1, Sec 4, [4.2]
XR14	Secondary loop	DA (1)	(2)	X (2)	C (2)	(1) Design requirements: NR535, Pt F, Ch 1, Sec 4 (2) Fabrication requirements: as per agreed survey program - The certified equipment is at least that defined in: NR535, Pt D, Ch 3, Sec 3 and NR535, Pt D, Ch 3, Sec 5 for class 1 equipment (for Pressure vessels & Piping systems); NR535, Pt D, Ch 4, Sec 14 (for Power supply) Note: Quay and sea trials - as per NR535, Pt F, Ch 1, Sec 4,[4.2]

SECTION 3 GENERAL INDEX

1 Key-words and labels (from A to Z)

1.1 Index

1.1.1

Table 1 : General index

Key-words and labels (from A to Z)	Item ref. No.
400 Hz Network (if distributed) - Converter	**XJ3**
400 Hz Network (if distributed) - Network	**XJ3**
AC Secondary Switchboard (Non-overriding AC Secondary Switchboard) - Low power network	**XJ4**
AC Secondary Switchboard (Overriding AC Secondary Switchboard) - Low power network	**XJ4**
AC/DC converter - Low power network	**XJ4**
Access, Snorkel mast cupola access hatch - Air inlet system – snorkel mast installation	**XG6**
Accessories (Distribution and charging manifold and accessories) - HP air production, storage and distribution	**XN2**
Accessories (Distribution and charging manifold and accessories) - Nitrogen storage and distribution	**XN4**
Accessories (Distribution manifolds and accessories) - Power hydraulic fluid production, storage and distribution - (external and internal units)	**XN1**
Accessories, Anchor chain cable accessories (shackles, kenter shackles and swivels)	**XD1**
Accessories, Exhaust line and in-line accessories - Diesel Generator exhaust	**XG7**
Accommodation doors, Closings (including accommodation doors) - Non-resisting internal structures	**XC3**
Accumulator (Bladder hydraulic accumulator) - Power hydraulic fluid production, storage and distribution - (external and internal units)	**XN1**
Accumulators, HP hydraulic bladder accumulators - Emergency shut-off	**XA2**
Actuator, Air inlet valve and actuator - Air inlet system – snorkel mast installation	**XG6**
Actuator, Hull valve actuator (hydraulic) - Emergency shut-off	**XA2**
Actuator, Internal hull valve actuator (if non pressurized piping technology) - Regulating and trim control systems	**XE2**
Actuator, Internal hull valve actuator (if pressurized piping technology) - Regulating and trim control systems	**XE2**
Actuators (Rudder blade actuators) - Steering gear	**XH1**
Actuators, Non hydraulic actuators (as a reminder) - Emergency shut-off	**XA2**
Additional Class Notation **AIP** (Air Independent Propulsion) - Installations covered - AIP Systems	**XR**
Additional Class Notation **ANCHORING** - Manoeuvre System	**XD**
Additional Class Notation **REF-STORE** - Habitability Systems - Cold Rooms, Sewage & Waste Processing	**XO**
Aft & Forward main batteries and connections - Electrical energy storage	**XG1**
AFT & FWD battery head - Electrical energy storage	**XG1**
Aft bearing (submerged aft bearing) - Shaft line Installation	**XF2**
Aft bearing support (submerged aft bearing support) - Shaft line Installation	**XF2**
Aft fins, Framework Forward and aft fins - Non-resisting external structures	**XC2**
Aft gudgeons, Forward and aft gudgeons - Non-resisting external structures	**XC2**
Aft rudder holes, Forward and aft rudder holes - Non-resisting external structures	**XC2**
AFT, Forward and aft regulated water circuit (if concerned by essential services) - Regulated water circuit (if concerned by essential services)	**XM1**
AFT, FWD and AFT power extraction system (if concerned by essential services) - Battery cooling electric pump	**XM4**

Key-words and labels (from A to Z)	Item ref. No.
AFT, FWD and AFT power extraction system (if concerned by essential services) - Cooling fresh water electric pump	**XM4**
AFT, FWD and AFT seawater cooling - Hull valve (internal and external, suction and discharge)	**XM3**
AFT, FWD and AFT seawater cooling -Seawater electric pump	**XM3**
AFT, FWD and AFT seawater cooling -Seawater exchanger	**XM3**
AIP - Additional Class Notation **AIP** (Air Independent Propulsion) - Installations covered - AIP Systems	**XR**
AIP - AIP section air conditioning system	**XR7**
AIP - Diesel oil or ethanol supply and storage system	**XR12**
AIP - Discharge system	**XR3**
AIP - Electrical energy storage	**XR1**
AIP - Electrical networks	**XR8**
AIP - Equipment dedicated to the control of the AIP	**XR2**
AIP - Heat production loop (or hydrogen production system)	**XR4**
AIP - Luboil system, Lube oil system	**XR10**
AIP - O2 supply and storage system	**XR11**
AIP - Power extraction system fresh water cooling	**XR9**
AIP - Seawater cooling	**XR5**
AIP - Secondary loop	**XR14**
AIP - Structures	**XR6**
AIP - Turbo-Generator (or Fuel cell)	**XR13**
AIP Systems - Installations covered by Additional Class Notation **AIP** (Air Independent Propulsion)	**XR**
Air (HP air production, storage and distribution) - Distribution and charging manifold and accessories	**XN2**
Air (HP air production, storage and distribution) - HP air compressor	**XN2**
Air (HP air production, storage and distribution) - HP air cylinder	**XN2**
Air blowing valve, Emergency HP air blowing valves - Emergency HP air blowing	**XA3**
Air blowing valves control, Air cylinders - Emergency HP air blowing	**XA3**
Air compressor (HP air compressor) - HP air production, storage and distribution	**XN2**
Air conditioning	**XM5**
Air Conditioning module, Ventilation (motorization) - Centralized ventilation	**XM6**
Air conditioning system (AIP section air conditioning system) - AIP	**XR7**
Air cylinder (HP air cylinder) - HP air production, storage and distribution	**XN2**
Air cylinders for the air blowing valves control - Emergency HP air blowing	**XA3**
Air cylinders HP (without safety valve) - Lightening	**XE1**
Air Independent Propulsion, AIP Systems - Installations covered by Additional Class Notation **AIP** (Air Independent Propulsion)	**XR**
Air inlet system – snorkel mast installation - Air inlet valve and actuator	**XG6**
Air inlet system – snorkel mast installation - Snorkel air mast (if resistant to immersion pressure)	**XG6**
Air inlet system – snorkel mast installation - Snorkel mast cupola access hatch	**XG6**
Air inlet valve and actuator - Air inlet system – snorkel mast installation	**XG6**
Air intakes/cocks - Breathing air	**XB1**
Air pressure reducers - Breathing air	**XB1**
Air receivers, Portable air receivers - Breathing air	**XB1**
Air, breathing air - Breathing air filtration unit	**XB1**
Air, Fresh air - foul air fan converter unit - Centralized ventilation	**XM6**
Air, HP air cylinders (without safety valve) - Emergency HP air blowing	**XA3**
Air, Snorkel air mast (if resistant to immersion pressure) - Air inlet system – snorkel mast installation	**XG6**

Key-words and labels (from A to Z)	Item ref. No.
Air, Starting air - Diesel generators (DG) auxiliary fluid circuits	**XG5**
Alternator Rectifier unit (Diesel Alternator Rectifier unit) - Diesel generators installation	**XG2**
Analysers, CO2, CO and H2 portable analysers and processing case - Atmosphere monitoring	**XB3**
Analysers, Hydrogen, CO2, CO, O2 and H2S analysers - Atmosphere monitoring	**XB3**
Anchor chain cable accessories (shackles, kenter shackles and swivels)	**XD1**
Anchor chain cable, Anchor line	**XD1**
Anchor line, Anchor chain cable	**XD1**
ANCHORING - Additional Class Notation **ANCHORING** - Manoeuvre System	**XD**
Anchoring, mooring and towing, Boat, gangway, deck accessories	**XD1**
Anchors	**XD1**
Angle limiters (Thrust blocks and angle limiters) - Steering gear	**XH1**
Anodes (galvanic), Anti-corrosion protection through galvanic anodes - Miscellaneous coatings, insulations and materials	**XC5**
Anti-corrosion protection through galvanic anodes - Miscellaneous coatings, insulations and materials	**XC5**
Assemblies, Modules assemblies - Cradles suspension systems and structures	**XC4**
Atmosphere control unit - Atmosphere monitoring	**XB3**
Atmosphere monitoring - Atmosphere control unit	**XB3**
Atmosphere monitoring - CO2, CO and H2 portable analysers and processing case	**XB3**
Atmosphere monitoring - Hydrogen, CO2, CO, O2 and H2S analysers	**XB3**
Autopilot - Steering gear	**XH1**
Auxiliary fluid circuits - Diesel generators (DG) auxiliary fluid circuits	**XG5**
Auxiliary propulsion	**XF7**
Ballast tank structure - Non-resisting external structures	**XC2**
Ballast tank vent valve - Lightening	**XE1**
Bars, Rolled products (plates, bars, sections, etc.) - Modules assemblies	**XC4**
Bars, Rolled products (plates, bars, sections, etc.) - Non-resisting external structures	**XC2**
Bars, Rolled products (plates, bars, sections, etc.) - Non-resisting internal structures	**XC3**
Bars, Rolled products (plates, bars, sections, etc.) - Pressure hull	**XC1**
Batteries and connections (main batteries and connections), Forward & Aft - Electrical energy storage	**XG1**
Battery cooling electric pump - FWD and AFT power extraction system (if concerned by essential services)	**XM4**
Battery head, FWD & AFT battery head - Electrical energy storage	**XG1**
Battery ventilation & Fire dampers, fresh air - foul air ventilation (isolating valve) - Centralized ventilation	**XM6**
Bearing (submerged aft bearing) - Shaft line Installation	**XF2**
Bearing support (submerged aft bearing support) - Shaft line Installation	**XF2**
Bilge and Water Systems	**XL**
Bilge level detector, Fault bilge level detector - Flooding detection	**XA1**
Bilge level detectors, Incident bilge level detectors - Flooding detection	**XA1**
Bilge system	**XL1**
Bladder accumulators, HP hydraulic bladder accumulators - Emergency shut-off	**XA2**
Bladder hydraulic accumulator - Power hydraulic fluid production, storage and distribution - (external and internal units)	**XN1**
Blade (Rudder blade actuators) - Steering gear	**XH1**
Blade (Rudder blade position control) - Steering gear	**XH1**
Blade (Rudder blade position sensor) - Steering gear	**XH1**
Blades (Rudder blades + stocks) - Steering gear	**XH1**
Block (main thrust block) - Shaft line Installation	**XF2**

Key-words and labels (from A to Z)	Item ref. No.
Block (radial thrust block) - Shaft line Installation	**XF2**
Blocks (Thrust blocks and angle limiters) - Steering gear	**XH1**
Blowing NRV (CNR) - Lightening	**XE1**
Blowing valves control, Air cylinders for the air blowing valves control - Emergency HP air blowing	**XA3**
Blowing valves, Emergency HP air blowing valves - Emergency HP air blowing	**XA3**
Boat (Anchoring, mooring and towing, Boat, gangway, deck accessories)	**XD1**
Bolted hatches, Pressure hull bolted hatches	**XC1**
Breathing air - Air pressure reducers	**XB1**
Breathing air - Breathing air filtration unit	**XB1**
Breathing air - Breathing air intakes/cocks	**XB1**
Breathing air - Portable air receivers	**XB1**
Bridge fin - Non-resisting external structures	**XC2**
Bridge fin, bridge, framework hatches - Non-resisting external structures	**XC2**
Bridge, Removable external framework components (bridge) - Non-resisting external structures	**XC2**
Broadcasting by loudspeaker (General) - Loudspeaker	**XP2**
Broadcasting cabinet - General broadcasting by loudspeaker	**XP2**
Bulkhead, deck and internal tank penetrations - Non-resisting internal structures	**XC3**
Bulkhead, Resistant bulkhead - Pressure hull	**XC1**
Bulkheads, Fixed elements of the non-resisting internal structure (bulkheads, decks)	**XC3**
Buoyancy material - Miscellaneous coatings, insulations and materials	**XC5**
Cabinet (Broadcasting cabinet) - General broadcasting by loudspeaker	**XP2**
Cabinet (Hydraulic Electric Pump Starter cabinet) - Power hydraulic fluid production, storage and distribution - (external and internal units)	**XN1**
Cabinets (converter cabinets) - Electric Propulsion Motor	**XF5**
Cable (anchor line, anchor chain cable)	**XD1**
Case (processing case), CO2, CO and H2 portable analysers and processing case - Atmosphere monitoring	**XB3**
Ceilings - Miscellaneous coatings, insulations and materials	**XC5**
Cell (Fuel), Turbo-Generator (or Fuel cell) - AIP	**XR13**
Centralized greasing - Shared lubrication systems	**XN3**
Centralized ventilation - Fire dampers, fresh air - foul air ventilation isolating valve & battery ventilation isolating valve	**XM6**
Centralized ventilation - Fresh air - foul air fan converter unit	**XM6**
Centralized ventilation - Ventilation, Air Conditioning module (motorization)	**XM6**
Chain cable (anchor chain cable), Anchor line	**XD1**
Charging manifold (Distribution and charging manifold and accessories) - HP air production, storage and distribution	**XN2**
Charging manifold (Distribution and charging manifold and accessories) - Nitrogen storage and distribution	**XN4**
Chilled water, Production of chilled water (if concerned by essential services)	**XM2**
Circuit, Regulated water circuit (if concerned by essential services), Forward and aft - Regulated water circuit (if concerned by essential services)	**XM1**
Circuits, DG auxiliary fluid circuits - Diesel generators (DG) auxiliary fluid circuits	**XG5**
Class Notation, Additional Class Notation **AIP** (Air Independent Propulsion) - Installations covered - AIP Systems	**XR**
Class Notation, Additional Class Notation **ANCHORING** - Manoeuvre System	**XD**
Class Notation, Additional Class Notation **REF-STORE** - Habitability Systems - Cold Rooms, Sewage & Waste Processing	**XO**
Clinometers and spirit levels - Depth, trim and list measurement	**XA4**
Closings (including accommodation doors) - Non-resisting internal structures	**XC3**

Key-words and labels (from A to Z)	Item ref. No.
Closings of external non-resistant structures (fairing, etc.) - Non-resisting external structures	**XC2**
CNR, Blowing NRV (CNR) - Lightening	**XE1**
CO, CO2, CO and H2 portable analysers and processing case - Atmosphere monitoring	**XB3**
CO, Hydrogen, CO2, CO, O2 and H2S analysers - Atmosphere monitoring	**XB3**
CO2 extinguishing cylinders - Fire detection and fire fighting	**XB2**
CO2, CO and H2 portable analysers and processing case - Atmosphere monitoring	**XB3**
CO2, Hydrogen, CO2, CO, O2 and H2S analysers - Atmosphere monitoring	**XB3**
Coatings (internal coatings) - Miscellaneous coatings, insulations and materials	**XC5**
Coatings, Miscellaneous coatings, insulations and materials - Miscellaneous insulations - Fire protection	**XC5**
Cocks/intakes (air) - Breathing air	**XB1**
Cofferdam - Pressure hull	**XC1**
Cold rooms - Provisions	**XO2**
Combat System	**XQ**
Combat system - Multipurpose probes launching trunk	**XQ1**
Combat system - Resistant weapon launching tube	**XQ1**
COMM, SMS, Internal Communication Systems - Control and Monitoring	**XP**
Common frame space of the pressure hull	**XC1**
Communication Systems (Internal Communication Systems, SMS, COMM) - Control and Monitoring	**XP**
Compensating tanks - Regulating and trim control systems	**XE2**
Components (bridge), Removable external framework components (bridge) - Non-resisting external structures	**XC2**
Components, Removable internal framework components - Non-resisting internal structures	**XC3**
Compressor (HP air compressor) - HP air production, storage and distribution	**XN2**
Conditioning (Air conditioning)	**XM5**
Conditioning system (AIP section air conditioning system) - AIP	**XR7**
Conditioning, Ventilation, Air Conditioning module (motorization) - Centralized ventilation	**XM6**
Connecting part - Pressure hull	**XC1**
Connections (main batteries and connections), Forward & Aft - Electrical energy storage	**XG1**
Console (Remote control console) - Control installation	**XP1**
Consumables, Welding consumables - Modules assemblies	**XC4**
Consumables, Welding consumables - Non-resisting external structures	**XC2**
Consumables, Welding consumables - Non-resisting internal structures	**XC3**
Consumables, Welding consumables - Pressure hull	**XC1**
Control (Rudder blade position control) - Steering gear	**XH1**
Control and Monitoring - SMS, COMM, Internal Communication Systems	**XP**
Control and monitoring (Diesel generators control and monitoring) - Diesel generators installation	**XG2**
Control console (Remote control console) - Control installation	**XP1**
Control installation - Local PLC unit (to be implemented in the other installations if low layer is transferred in these installations)	**XP1**
Control installation - Remote control console	**XP1**
Control of the AIP (Equipment dedicated to the control of the AIP)	**XR2**
Control panel (Navigation lights control panel)	**XJ6**
Control systems, Regulating and trim - Resistant regulating tanks	**XE2**
Control unit, Atmosphere control unit - Atmosphere monitoring	**XB3**
Converter (DC/AC converter) - Low power network	**XJ4**
Converter cabinets - Electric Propulsion Motor	**XF5**
Converter unit (Fresh air - foul air fan converter unit) - Centralized ventilation	**XM6**

Key-words and labels (from A to Z)	Item ref. No.
Converter, 400 Hz Network (if distributed)	**XJ3**
Cooling (FWD and AFT seawater cooling) -Seawater electric pump	**XM3**
Cooling (FWD and AFT seawater cooling) -Seawater exchanger	**XM3**
Cooling (Power extraction system fresh water cooling) - AIP	**XR9**
Cooling (Seawater cooling) - AIP	**XR5**
Cooling fresh water electric pump - FWD and AFT power extraction system (if concerned by essential services)	**XM4**
Cooling fresh water electric pump - FWD and AFT power extraction system (if concerned by essential services)	**XM4**
Cooling seawater / fresh water - Diesel generators (DG)	**XG4**
Cooling, Battery cooling electric pump - FWD and AFT power extraction system (if concerned by essential services)	**XM4**
Coupling (elastic coupling) - Shaft line Installation	**XF2**
Cradles and ship modules structures - Modules assemblies	**XC4**
Cradles suspension systems and structures - Modules assemblies	**XC4**
Cupola, Snorkel mast cupola access hatch - Air inlet system – snorkel mast installation	**XG6**
Current (Direct Current Main Switchboard) - Main power supply network	**XJ1**
Current (Direct Current Secondary Switchboard) - Main power supply network	**XJ1**
Cylinder (HP air cylinder) - HP air production, storage and distribution	**XN2**
Cylinders for the air blowing valves control, Air cylinders - Emergency HP air blowing	**XA3**
Cylinders, CO2 extinguishing cylinders - Fire detection and fire fighting	**XB2**
Cylinders, HP air cylinders (without safety valve) - Emergency HP air blowing	**XA3**
Cylinders, HP air cylinders (without safety valve) - Lightening	**XE1**
Cylinders, N2 extinguishing cylinders - Fire detection and fire fighting	**XB2**
Daily tank, Feed or daily tank - Diesel oil service	**XG3**
Dampers (Fire dampers), fresh air - foul air ventilation isolating valve & battery ventilation isolating valve - Centralized ventilation	**XM6**
Dampers, Fire dampers - Fire detection and fire fighting	**XB2**
DC/AC converter - Low power network	**XJ4**
Deck accessories (Anchoring, mooring and towing, Boat, gangway, deck accessories)	**XD1**
Deck and Bulkhead internal tank penetrations - Non-resisting internal structures	**XC3**
Decks, Fixed elements of the non-resisting internal structure (bulkheads, decks)	**XC3**
Demineralised water (Production and distribution of industrial and demineralised water)	**XL2**
Depth, trim and list measurement - Pressure sensor	**XA4**
Depth, trim and list measurement - Spirit levels and clinometers	**XA4**
Detection (flooding detection) - Incident bilge level detectors	**XA1**
Detection unit - Fire detection and fire fighting	**XB2**
Detection, Fire detection and fire fighting - Water mist electric pump module	**XB2**
Detector, Fault bilge level detector - Flooding detection	**XA1**
Detectors, Fire detectors - Fire detection and fire fighting	**XB2**
Detectors, Incident bilge level detectors - Flooding detection	**XA1**
DG auxiliary fluid circuits - Diesel generators (DG) auxiliary fluid circuits	**XG5**
DG starting air - Diesel generators (DG) auxiliary fluid circuits	**XG5**
DG, Diesel generators (DG) cooling seawater / fresh water	**XG4**
Diesel Alternator Rectifier unit - Diesel generators installation	**XG2**
Diesel Generator exhaust - Exhaust line and in-line accessories	**XG7**
Diesel Generator exhaust - Hull valves	**XG7**
Diesel generators (DG) auxiliary fluid circuits - DG auxiliary fluid circuits	**XG5**

Key-words and labels (from A to Z)	Item ref. No.
Diesel generators (DG) auxiliary fluid circuits - DG starting air	**XG5**
Diesel generators (DG) auxiliary fluid circuits - Fresh water / seawater exchanger	**XG5**
Diesel generators (DG) cooling seawater / fresh water	**XG4**
Diesel generators control and monitoring - Diesel generators installation	**XG2**
Diesel generators installation - Diesel Alternator Rectifier unit	**XG2**
Diesel generators installation - Diesel generators control and monitoring	**XG2**
Diesel oil or ethanol supply and storage system - AIP	**XR12**
Diesel oil service	**XG3**
Diesel oil service - Feed or daily tank	**XG3**
Direct Current Main Switchboard - Main power supply network	**XJ1**
Direct Current Secondary Switchboard - Main power supply network	**XJ1**
Discharge (Sewage tank water discharge)	**XO1**
Discharge system - AIP	**XR3**
Discharge, Hull valve (internal and external, suction and discharge) - FWD and AFT seawater cooling	**XM3**
Distribution (Production and distribution of industrial and demineralised water)	**XL2**
Distribution and charging manifold and accessories - HP air production, storage and distribution	**XN2**
Distribution and charging manifold and accessories - Nitrogen storage and distribution	**XN4**
Distribution manifolds and accessories - Power hydraulic fluid production, storage and distribution - (external and internal units)	**XN1**
Distribution Switchboard (Emergency Distribution Switchboard) - Low power UPS network	**XJ5**
Distribution Switchboard (Emergency Lighting Distribution Switchboard) - Lighting	**XJ2**
Distribution, HP air production, storage and distribution - HP air cylinder	**XN2**
Distribution, Nitrogen storage and distribution - HP vessel	**XN4**
Distribution, Power hydraulic fluid production, storage and distribution - (external and internal units) - Hydraulic electric pump	**XN1**
Diving Safety	**XA**
Diving System	**XE**
Door, Strength door - Pressure hull	**XC1**
Doors, Closings (including accommodation doors) - Non-resisting internal structures	**XC3**
Doors, Internal doors, hatches and ladders - Non-resisting internal structures	**XC3**
Ejector (Garbage ejector) - Waste processing	**XO3**
Elastic coupling - Shaft line Installation	**XF2**
Electric Motor (Electric Propulsion Motor)	**XF5**
Electric motor (Emergency electric motor)	**XF6**
Electric Propulsion Motor	**XF5**
Electric Propulsion Motor - Converter cabinets	**XF5**
Electric pump (Cooling fresh water electric pump) - FWD and AFT power extraction system (if concerned by essential services)	**XM4**
Electric pump (Hydraulic electric pump) - Power hydraulic fluid production, storage and distribution - (external and internal units)	**XN1**
Electric pump (Seawater electric pump) - FWD and AFT seawater cooling	**XM3**
Electric pump (transfer electric pump) - Regulating and trim control systems	**XE2**
Electric pump (trim electric pump) - Regulating and trim control systems	**XE2**
Electric pump module, Water mist electric pump module - Fire detection and fire fighting	**XB2**
Electric pump starter cabinet (Hydraulic Electric) - Power hydraulic fluid production, storage and distribution - (external and internal units)	**XN1**

Key-words and labels (from A to Z)	Item ref. No.
Electric pump, Battery cooling electric pump - FWD and AFT power extraction system (if concerned by essential services)	**XM4**
Electric pump, Regulating electric pump (connected to the sea) - Regulating and trim control systems	**XE2**
Electric pump, Stripping electric pump (connected to the sea) - Regulating and trim control systems	**XE2**
Electrical (Low power network) - DC/AC converter	**XJ4**
Electrical (Low power network) - Non-overriding AC Secondary Switchboard	**XJ4**
Electrical (Low power network) - Overriding AC Secondary Switchboard	**XJ4**
Electrical (Low power UPS network) - Emergency Distribution Switchboard	**XJ5**
Electrical (Low power UPS network) - Uninterruptible Power System (UPS)	**XJ5**
Electrical energy storage - AIP	**XR1**
Electrical energy storage - Forward & Aft main batteries and connections	**XG1**
Electrical energy storage - FWD & AFT battery head	**XG1**
Electrical Networks	**XJ**
Electrical networks - AIP	**XR8**
Electrical, 400 Hz Network (if distributed) - Converter	**XJ3**
Electrical, 400 Hz Network (if distributed) - Network	**XJ3**
Emergency Distribution Switchboard - Low power UPS network	**XJ5**
Emergency electric motor	**XF6**
Emergency HP air blowing - Air cylinders for the air blowing valves control	**XA3**
Emergency HP air blowing - Emergency HP air blowing valves	**XA3**
Emergency HP air blowing - HP air cylinders (without safety valve)	**XA3**
Emergency HP air blowing valves - Emergency HP air blowing	**XA3**
Emergency Lighting Distribution Switchboard - Lighting	**XJ2**
Emergency shut-off - HP hydraulic bladder accumulators	**XA2**
Emergency shut-off - Hull valve actuator (hydraulic)	**XA2**
Emergency shut-off - Non hydraulic actuators (as a reminder)	**XA2**
Emergency shut-off - Seawater hull valve	**XA2**
Energy Plant	**XG**
Energy storage (Electrical energy storage) - AIP	**XR1**
Energy storage, Electrical energy storage - Forward & Aft main batteries and connections	**XG1**
EPM (MEP), Greasing of the turbo-gearbox unit and the EPM (MEP)	**XF3**
Equipment dedicated to the control of the AIP	**XR2**
Ethanol or Diesel oil supply and storage system - AIP	**XR12**
Exchanger (Seawater exchanger) - FWD and AFT seawater cooling	**XM3**
Exchanger, Fresh water / seawater exchanger - Diesel generators (DG) auxiliary fluid circuits	**XG5**
Exhaust line and in-line accessories - Diesel Generator exhaust	**XG7**
Exhaust, Diesel Generator exhaust - Exhaust line and in-line accessories	**XG7**
Exhaust, Diesel Generator exhaust - Hull valves	**XG7**
External framework, Removable external framework components (bridge) - Non-resisting external structures	**XC2**
External hull valve - Regulating and trim control systems	**XE2**
External structures (non-resisting), Non-resisting external structures	**XC2**
External structures, Non-resisting external structures - Non-resisting structure penetration	**XC2**
Extinguishing cylinders, CO2 extinguishing cylinders - Fire detection and fire fighting	**XB2**
Extinguishing cylinders, N2 extinguishing cylinders - Fire detection and fire fighting	**XB2**
Extraction system fresh water cooling (Power extraction system fresh water cooling) - AIP	**XR9**

Key-words and labels (from A to Z)	Item ref. No.
Extraction system, FWD and AFT power extraction system (if concerned by essential services) - Battery cooling electric pump	**XM4**
Extraction system, FWD and AFT power extraction system (if concerned by essential services) - Cooling fresh water electric pump	**XM4**
Fairing, Closings of external non-resistant structures (fairing, etc.) - Non-resisting external structures	**XC2**
Fan converter unit (Fresh air - foul air fan converter unit) - Centralized ventilation	**XM6**
Fault bilge level detector - Flooding detection	**XA1**
Feed or daily tank - Diesel oil service	**XG3**
Fexible hose HP seawater - Regulating and trim control systems	**XE2**
Fighter's outfits, Fire-fighter's outfits - Fire detection and fire fighting	**XB2**
Fighting, Fire detection and fire fighting	**XB2**
Fighting, Fire detection and fire fighting - Water mist electric pump module	**XB2**
Filtration unit (breathing air filtration unit) - Breathing air	**XB1**
Fin, Bridge fin - Non-resisting external structures	**XC2**
Fins, Bridge fin, bridge, framework hatches - Non-resisting external structures	**XC2**
Fins, Framework Forward and aft fins - Non-resisting external structures	**XC2**
Fire dampers - Fire detection and fire fighting	**XB2**
Fire dampers, fresh air - foul air ventilation isolating valve & battery ventilation isolating valve - Centralized ventilation	**XM6**
Fire detection and fire fighting - CO2 extinguishing cylinders	**XB2**
Fire detection and fire fighting - Detection unit	**XB2**
Fire detection and fire fighting - Fire dampers	**XB2**
Fire detection and fire fighting - Fire detectors	**XB2**
Fire detection and fire fighting - Fire-fighter's outfits	**XB2**
Fire detection and fire fighting - N2 extinguishing cylinders	**XB2**
Fire detection and fire fighting - Water mist electric pump module	**XB2**
Fire detection and fire fighting - Water mist nozzles	**XB2**
Fire detectors - Fire detection and fire fighting	**XB2**
Fire fighting and fire detection - Water mist electric pump module	**XB2**
Fire fighting, Fire detection and fire fighting	**XB2**
Fire protection - Miscellaneous insulations - Miscellaneous coatings, insulations and materials	**XC5**
Fire-fighter's outfits - Fire detection and fire fighting	**XB2**
Fixed elements of the non-resisting internal structure (bulkheads, decks)	**XC3**
Flooding detection - Fault bilge level detector	**XA1**
Flooding detection - Incident bilge level detectors	**XA1**
Fluid circuits, Auxiliary - Diesel generators (DG) auxiliary fluid circuits	**XG5**
Fluid Systems, Gas and Fluid Systems (HP)	**XN**
Fluid, Power hydraulic fluid production, storage and distribution - (external and internal units) - Bladder hydraulic accumulator	**XN1**
Fluid, Power hydraulic fluid production, storage and distribution - (external and internal units) - Distribution manifolds and accessories	**XN1**
Fluid, Power hydraulic fluid production, storage and distribution - (external and internal units) - Hydraulic electric pump	**XN1**
Fluid, Power hydraulic fluid production, storage and distribution - (external and internal units) - Hydraulic electric pump starter cabinet	**XN1**
Fluidic Utilities	**XK**
Fluidic utilities - Greasing oil	**XK1**
Food refrigeration - Provisions	**XO2**

Key-words and labels (from A to Z)	Item ref. No.
Forged parts - Modules assemblies	**XC4**
Forged parts - Non-resisting external structures	**XC2**
Forged parts - Non-resisting internal structures	**XC3**
Forged parts - Pressure hull	**XC1**
Forward (FWD) & AFT battery head - Electrical energy storage	**XG1**
Forward & Aft main batteries and connections - Electrical energy storage	**XG1**
Forward and aft gudgeons - Non-resisting external structures	**XC2**
Forward and aft regulated water circuit (if concerned by essential services) - Regulated water circuit (if concerned by essential services)	**XM1**
Forward and aft rudder holes - Non-resisting external structures	**XC2**
Forward, Framework Forward and aft fins - Non-resisting external structures	**XC2**
Foul air - fresh air fan converter unit - Centralized ventilation	**XM6**
Frame space, Common frame space of the pressure hull	**XC1**
Framework components, Removable external framework components (bridge) - Non-resisting external structures	**XC2**
Framework components, Removable internal framework components - Non-resisting internal structures	**XC3**
Framework Forward and aft fins - Non-resisting external structures	**XC2**
Framework, Bridge fin, bridge, framework hatches - Non-resisting external structures	**XC2**
Fresh air - foul air fan converter unit - Centralized ventilation	**XM6**
Fresh air - foul air ventilation, Fire dampers, isolating valve & battery ventilation isolating valve - Centralized ventilation	**XM6**
Fresh water / seawater exchanger - Diesel generators (DG) auxiliary fluid circuits	**XG5**
Fresh water / seawater, Cooling - Diesel generators (DG)	**XG4**
Fresh water cooling (Power extraction system fresh water cooling) - AIP	**XR9**
Fresh water electric pump, Cooling - FWD and AFT power extraction system (if concerned by essential services)	**XM4**
Fuel cell, Turbo-Generator (or Fuel cell) - AIP	**XR13**
Fuel oil tank structure - Non-resisting external structures	**XC2**
FWD (forward) & Aft main batteries and connections - Electrical energy storage	**XG1**
FWD & AFT battery head - Electrical energy storage	**XG1**
FWD and AFT power extraction system (if concerned by essential services) - Battery cooling electric pump	**XM4**
FWD and AFT power extraction system (if concerned by essential services) - Cooling fresh water electric pump	**XM4**
FWD and AFT seawater cooling - Hull valve (internal and external, suction and discharge)	**XM3**
FWD and AFT seawater cooling - Seawater electric pump	**XM3**
FWD and AFT seawater cooling -Seawater exchanger	**XM3**
FWD, Forward and aft regulated water circuit (if concerned by essential services) - Regulated water circuit (if concerned by essential services)	**XM1**
Galvanic anodes, Anti-corrosion protection through galvanic anodes - Miscellaneous coatings, insulations and materials	**XC5**
Gangway (Anchoring, mooring and towing, Boat, gangway, deck accessories)	**XD1**
Garbage ejector - Waste processing	**XO3**
Gas and Fluid Systems (HP)	**XN**
Gear, Steering gear - Autopilot	**XH1**
Gear, Steering gear - Hydraulic system (if applicable)	**XH1**
Gear, Steering gear - Rudder blade actuators	**XH1**
Gear, Steering gear - Rudder blade position control	**XH1**
Gear, Steering gear - Rudder blade position sensor	**XH1**
Gear, Steering gear - Rudder blades + stocks	**XH1**
Gear, Steering gear - Thrust blocks and angle limiters	**XH1**

Key-words and labels (from A to Z)	Item ref. No.
Gearbox unit, Greasing of the turbo-gearbox unit and the EPM (MEP)	**XF3**
General broadcasting by loudspeaker - Broadcasting cabinet	**XP2**
General broadcasting by loudspeaker - Loudspeaker	**XP2**
General Safety	**XB**
Generator (DG) exhaust, Diesel Generator exhaust - Exhaust line and in-line accessories	**XG7**
Generator exhaust, Diesel Generator exhaust - Hull valves	**XG7**
Generator, Turbo-Generator (or Fuel cell) - AIP	**XR13**
Generators (DG), Diesel generators (DG) auxiliary fluid circuits - DG auxiliary fluid circuits	**XG5**
Generators (DG), Diesel generators (DG) cooling seawater / fresh water	**XG4**
Generators (DG), Diesel generators installation - Diesel Alternator Rectifier unit	**XG2**
Generators control and monitoring (Diesel generators control and monitoring) - Diesel generators installation	**XG2**
Greasing (Centralized greasing) - Shared lubrication systems	**XN3**
Greasing of the shaft line	**XF4**
Greasing of the turbo-gearbox unit and the EPM (MEP)	**XF3**
Greasing oil - Fluidic utilities	**XK1**
Gudgeons, Forward and aft gudgeons - Non-resisting external structures	**XC2**
H2, CO2, CO and H2 portable analysers and processing case - Atmosphere monitoring	**XB3**
H2, Hydrogen production system (Heat production loop) - AIP	**XR4**
H2S, Hydrogen, CO2, CO, O2 and H2S analysers - Atmosphere monitoring	**XB3**
Habitability Systems - Cold Rooms, Sewage & Waste Processing (Additional Class Notation **REF-STORE**)	**XO**
Hatch, Snorkel mast cupola access hatch - Air inlet system – snorkel mast installation	**XG6**
Hatches, Bridge fin, bridge, framework hatches - Non-resisting external structures	**XC2**
Hatches, Internal doors, hatches and ladders - Non-resisting internal structures	**XC3**
Hatches, Pressure hull bolted hatches	**XC1**
Hatches, Pressure hull manoeuvrable hatches	**XC1**
Heat production loop (or hydrogen production system) - AIP	**XR4**
Holes, Forward and aft rudder holes - Non-resisting external structures	**XC2**
Hose, HP seawater flexible hose - Regulating and trim control systems	**XE2**
HP air blowing valve, Emergency HP air blowing valves - Emergency HP air blowing	**XA3**
HP air compressor - HP air production, storage and distribution	**XN2**
HP air cylinder - HP air production, storage and distribution	**XN2**
HP air cylinders (without safety valve) - Emergency HP air blowing	**XA3**
HP air cylinders (without safety valve) - Lightening	**XE1**
HP air production, storage and distribution - Distribution and charging manifold and accessories	**XN2**
HP air production, storage and distribution - HP air compressor	**XN2**
HP air production, storage and distribution - HP air cylinder	**XN2**
HP flexible hose seawater - Regulating and trim control systems	**XE2**
HP Gas and Fluid Systems	**XN**
HP hydraulic bladder accumulators - Emergency shut-off	**XA2**
HP seawater flexible hose - Regulating and trim control systems	**XE2**
HP vessel - Nitrogen storage and distribution	**XN4**
Hull and Structure	**XC**
Hull penetrations, Integrated hull penetrations (Sleeves and mobile part) - Pressure hull	**XC1**
Hull penetrations, Non integrated hull penetrations (Sleeves and mobile part) - Pressure hull	**XC1**
Hull valve (external hull valve) - Regulating and trim control systems	**XE2**
Hull valve (internal and external, suction and discharge) - FWD and AFT seawater cooling	**XM3**

Key-words and labels (from A to Z)	Item ref. No.
Hull valve (internal hull valve) - Regulating and trim control systems	**XE2**
Hull valve actuator, Hull valve actuator (hydraulic) - Emergency shut-off	**XA2**
Hull valve, Internal hull valve actuator (if non pressurized piping technology) - Regulating and trim control systems	**XE2**
Hull valve, Internal hull valve actuator (if pressurized piping technology) - Regulating and trim control systems	**XE2**
Hull valve, Seawater hull valve - Emergency shut-off	**XA2**
Hull valves - Diesel Generator exhaust	**XG7**
Hull, Pressure hull	**XC1**
HVAC Systems, Refrigeration and HVAC Systems	**XM**
Hydraulic accumulator (Bladder) - Power hydraulic fluid production, storage and distribution - (external and internal units)	**XN1**
Hydraulic bladder accumulators (HP) - Emergency shut-off	**XA2**
Hydraulic electric pump - Power hydraulic fluid production, storage and distribution - (external and internal units)	**XN1**
Hydraulic electric pump starter cabinet - Power hydraulic fluid production, storage and distribution - (external and internal units)	**XN1**
Hydraulic fluid, Power hydraulic fluid production, storage and distribution - (external and internal units) - Hydraulic electric pump	**XN1**
Hydraulic system (if applicable) - Steering gear	**XH1**
Hydraulic, Non hydraulic actuators (as a reminder) - Emergency shut-off	**XA2**
Hydrogen production system (Heat production loop) - AIP	**XR4**
Hydrogen, CO2, CO, O2 and H2S analysers - Atmosphere monitoring	**XB3**
In-line accessories, Exhaust line and in-line accessories - Diesel Generator exhaust	**XG7**
Incident bilge level detectors - Flooding detection	**XA1**
Independent Propulsion, AIP Systems - Installations covered by Additional Class Notation **AIP** (Air Independent Propulsion)	**XR**
Industrial and demineralised water (Production and distribution of industrial and demineralised water)	**XL2**
Inlet system (Air inlet system) – snorkel mast installation - Air inlet valve and actuator	**XG6**
Inside painting (ship inside painting) - Miscellaneous coatings, insulations and materials	**XC5**
Insulations, Miscellaneous coatings, insulations and materials - Miscellaneous insulations - Fire protection	**XC5**
Intakes/cocks (air) - Breathing air	**XB1**
Integrated hull penetrations (Sleeves and mobile part) - Pressure hull	**XC1**
Internal coatings - Miscellaneous coatings, insulations and materials	**XC5**
Internal Communication Systems, SMS, COMM - Control and Monitoring	**XP**
Internal doors, hatches and ladders - Non-resisting internal structures	**XC3**
Internal framework components, Removable internal framework components - Non-resisting internal structures	**XC3**
Internal hull valve - Regulating and trim control systems	**XE2**
Internal hull valve actuator (if non pressurized piping technology) - Regulating and trim control systems	**XE2**
Internal hull valve actuator (if pressurized piping technology) - Regulating and trim control systems	**XE2**
Internal structures, Non-resisting internal structures - Bulkhead, deck and internal tank penetrations	**XC3**
Internal tank, Bulkhead, deck and internal tank penetrations - Non-resisting internal structures	**XC3**
Internal tanks - Non-resisting internal structures	**XC3**
Isolating valve (Fire dampers, fresh air - foul air ventilation & battery ventilation) - Centralized ventilation	**XM6**
Keel structure - Non-resisting external structures	**XC2**
Kenter shackles, Anchor chain cable accessories (shackles, kenter shackles and swivels)	**XD1**
Ladders, Internal doors, hatches and ladders - Non-resisting internal structures	**XC3**
Launching trunk (Multipurpose probes launching trunk) - Combat system	**XQ1**
Launching tube (Resistant weapon launching tube) - Combat system	**XQ1**
Level detector, Fault bilge level detector - Flooding detection	**XA1**

Key-words and labels (from A to Z)	Item ref. No.
Level detectors, Incident bilge level detectors - Flooding detection	**XA1**
Levels (spirit levels) and clinometers - Depth, trim and list measurement	**XA4**
Lightening - Ballast tank vent valve	**XE1**
Lightening - Blowing NRV (CNR)	**XE1**
Lightening - HP air cylinders (without safety valve)	**XE1**
Lighting - Emergency Lighting Distribution Switchboard	**XJ2**
Lights (Navigation lights)	**XJ6**
Lights, Navigation lights installation	**XJ6**
Limiters (Thrust blocks and angle limiters) - Steering gear	**XH1**
Line (anchor line, anchor chain cable)	**XD1**
List, depth and trim measurement - Pressure sensor	**XA4**
List, depth and trim measurement - Spirit levels and clinometers	**XA4**
Local PLC unit (to be implemented in the other installations if low layer is transferred in these installations) - Control installation	**XP1**
Loop (Secondary loop) - AIP	**XR14**
Loudspeaker - General broadcasting by loudspeaker	**XP2**
Low power network - DC/AC converter	**XJ4**
Low power network - Non-overriding AC Secondary Switchboard	**XJ4**
Low power network - Overriding AC Secondary Switchboard	**XJ4**
Low power UPS network - Emergency Distribution Switchboard	**XJ5**
Low power UPS network - Uninterruptible Power System (UPS)	**XJ5**
Lube oil system, Luboil system - AIP	**XR10**
Luboil system, Lube oil system - AIP	**XR10**
Lubrication systems (Shared lubrication) - Centralized greasing	**XN3**
Main batteries and connections, Forward & Aft - Electrical energy storage	**XG1**
Main power supply network - Direct Current Main Switchboard	**XJ1**
Main power supply network - Direct Current Secondary Switchboard	**XJ1**
Main Switchboard (Direct Current Main Switchboard) - Main power supply network	**XJ1**
Main thrust block - Shaft line Installation	**XF2**
Manifold and accessories (Distribution and charging manifold and accessories) - HP air production, storage and distribution	**XN2**
Manifold and accessories (Distribution and charging manifold and accessories) - Nitrogen storage and distribution	**XN4**
Manifolds (Distribution manifolds and accessories) - Power hydraulic fluid production, storage and distribution - (external and internal units)	**XN1**
Manoeuvrable hatches, Pressure hull manoeuvrable hatches	**XC1**
Manoeuvre System - Additional Class Notation **ANCHORING**	**XD**
Mast, Snorkel air mast (if resistant to immersion pressure) - Air inlet system – snorkel mast installation	**XG6**
Mast, Snorkel mast cupola access hatch - Air inlet system – snorkel mast installation	**XG6**
Material (buoyancy material) - Miscellaneous coatings, insulations and materials	**XC5**
Materials, Miscellaneous coatings, insulations and materials - Miscellaneous insulations - Fire protection	**XC5**
Measurement (Depth, trim and list measurement) - Pressure sensor	**XA4**
MEP (EPM), Greasing of the turbo-gearbox unit and the EPM (MEP)	**XF3**
Miscellaneous coatings, insulations and materials - Anti-corrosion protection through galvanic anodes	**XC5**
Miscellaneous coatings, insulations and materials - Buoyancy material	**XC5**
Miscellaneous coatings, insulations and materials - Ceilings	**XC5**
Miscellaneous coatings, insulations and materials - Internal coatings	**XC5**
Miscellaneous coatings, insulations and materials - Miscellaneous insulations - Fire protection	**XC5**

Key-words and labels (from A to Z)	Item ref. No.
Miscellaneous coatings, insulations and materials - Ship inside painting	**XC5**
Miscellaneous insulations - Fire protection - Miscellaneous coatings, insulations and materials	**XC5**
Mist, Water mist electric pump module - Fire detection and fire fighting	**XB2**
Mist, Water mist nozzles - Fire detection and fire fighting	**XB2**
Module, Water mist electric pump module - Fire detection and fire fighting	**XB2**
Modules assemblies - Cradles and ship modules structures	**XC4**
Modules assemblies - Cradles suspension systems and structures	**XC4**
Modules assemblies - Forged parts	**XC4**
Modules assemblies - Moulded parts	**XC4**
Modules assemblies - Rolled products (plates, bars, sections, etc.)	**XC4**
Modules assemblies - Welding consumables	**XC4**
Modules structures, Cradles and ship modules structures - Modules assemblies	**XC4**
Monitoring (Diesel generators control and monitoring) - Diesel generators installation	**XG2**
Monitoring, Atmosphere monitoring - Hydrogen, CO2, CO, O2 and H2S analysers	**XB3**
Monitoring, Control and Monitoring - SMS, COMM, Internal Communication Systems	**XP**
Mooring (Anchoring, mooring and towing, Boat, gangway, deck accessories)	**XD1**
Motor (Emergency electric motor)	**XF6**
Motor, Electric Propulsion Motor	**XF5**
Motorization, Ventilation, Air Conditioning module (motorization) - Centralized ventilation	**XM6**
Moulded parts - Modules assemblies	**XC4**
Moulded parts - Non-resisting external structures	**XC2**
Moulded parts - Non-resisting internal structures	**XC3**
Moulded parts - Pressure hull	**XC1**
Multipurpose probes launching trunk - Combat system	**XQ1**
N2 extinguishing cylinders - Fire detection and fire fighting	**XB2**
N2, Nitrogen storage and distribution - Distribution and charging manifold and accessories	**XN4**
N2, Nitrogen storage and distribution - HP vessel	**XN4**
Navigation lights	**XJ6**
Navigation lights control panel	**XJ6**
Navigation lights installation	**XJ6**
Network (Low power network) - DC/AC converter	**XJ4**
Network (Low power network) - Non-overriding AC Secondary Switchboard	**XJ4**
Network (Low power network) - Overriding AC Secondary Switchboard	**XJ4**
Network (Low power UPS network) - Emergency Distribution Switchboard	**XJ5**
Network (Low power UPS network) - Uninterruptible Power System (UPS)	**XJ5**
Network (Main power supply network) - Direct Current Main Switchboard	**XJ1**
Network, 400 Hz Network (if distributed)	**XJ3**
Network, 400 Hz Network (if distributed) - Converter	**XJ3**
Networks (Electrical networks) - AIP	**XR8**
Nitrogen storage and distribution - Distribution and charging manifold and accessories	**XN4**
Nitrogen storage and distribution - HP vessel	**XN4**
Non hydraulic actuators (as a reminder) - Emergency shut-off	**XA2**
Non integrated hull penetrations (Sleeves and mobile part) - Pressure hull	**XC1**
Non-overriding AC Secondary Switchboard - Low power network	**XJ4**
Non-resistant regulating tanks - Regulating and trim control systems	**XE2**
Non-resisting external structures - Non-resisting structure penetration	**XC2**

Key-words and labels (from A to Z)	Item ref. No.
Non-resisting external structures - Ballast tank structure	**XC2**
Non-resisting external structures - Bridge fin	**XC2**
Non-resisting external structures - Bridge fin, bridge, framework hatches	**XC2**
Non-resisting external structures - Closings of external non-resistant structures (fairing, etc.)	**XC2**
Non-resisting external structures - Forged parts	**XC2**
Non-resisting external structures - Forward and aft gudgeons	**XC2**
Non-resisting external structures - Forward and aft rudder holes	**XC2**
Non-resisting external structures - Framework Forward and aft fins	**XC2**
Non-resisting external structures - Fuel oil tank structure	**XC2**
Non-resisting external structures - Keel structure	**XC2**
Non-resisting external structures - Moulded parts	**XC2**
Non-resisting external structures - Removable external framework components (bridge)	**XC2**
Non-resisting external structures - Rolled products (plates, bars, sections, etc.)	**XC2**
Non-resisting external structures - Welding consumables	**XC2**
Non-resisting internal structures - Bulkhead, deck and internal tank penetrations	**XC3**
Non-resisting internal structures - Fixed elements of the non-resisting internal structure (bulkheads, decks)	**XC3**
Non-resisting internal structures - Forged parts	**XC3**
Non-resisting internal structures - Internal doors, hatches and ladders	**XC3**
Non-resisting internal structures - Internal tanks	**XC3**
Non-resisting internal structures - Moulded parts	**XC3**
Non-resisting internal structures - Removable internal framework components	**XC3**
Non-resisting internal structures - Rolled products (plates, bars, sections, etc.)	**XC3**
Non-resisting internal structures - Seatings	**XC3**
Non-resisting internal structures - Welding consumables	**XC3**
Non-resisting internal structures closings (including accommodation doors)	**XC3**
Non-resisting structure penetration - Non-resisting external structures	**XC2**
Notation, Additional Class Notation **AIP** (Air Independent Propulsion) - Installations covered - AIP Systems	**XR**
Notation, Additional Class Notation **ANCHORING** - Manoeuvre System	**XD**
Notation, Additional Class Notation **REF-STORE** - Habitability Systems - Cold Rooms, Sewage & Waste Processing	**XO**
Nozzles, Water mist nozzles - Fire detection and fire fighting	**XB2**
NRV, Blowing NRV (CNR) - Lightening	**XE1**
O2 supply and storage system - AIP	**XR11**
O2, Hydrogen, CO2, CO, O2 and H2S analysers - Atmosphere monitoring	**XB3**
Oil (Diesel oil) or ethanol supply and storage system - AIP	**XR12**
Oil (Greasing oil) - Fluidic utilities	**XK1**
Oil (Lube oil system), Luboil system - AIP	**XR10**
Oil service (Diesel) - Diesel oil service	**XG3**
Oil, Fuel oil tank structure - Non-resisting external structures	**XC2**
Outfits, Fire-fighter's outfits - Fire detection and fire fighting	**XB2**
Overriding AC Secondary Switchboard - Low power network	**XJ4**
Oxygen, O2 supply and storage system - AIP	**XR11**
Painting (ship inside painting) - Miscellaneous coatings, insulations and materials	**XC5**
Panel (Navigation lights control panel)	**XJ6**
Parts, Forged parts - Modules assemblies	**XC4**
Parts, Forged parts - Non-resisting external structures	**XC2**
Parts, Forged parts - Non-resisting internal structures	**XC3**

Key-words and labels (from A to Z)	Item ref. No.
Parts, Forged parts - Pressure hull	**XC1**
Parts, Moulded parts - Modules assemblies	**XC4**
Parts, Moulded parts - Non-resisting external structures	**XC2**
Parts, Moulded parts - Non-resisting internal structures	**XC3**
Parts, Moulded parts - Pressure hull	**XC1**
Penetration, Non-resisting structure penetration - Non-resisting external structures	**XC2**
Penetrations, Bulkhead, deck and internal tank penetrations - Non-resisting internal structures	**XC3**
Penetrations, Integrated hull penetrations (Sleeves and mobile part) - Pressure hull	**XC1**
Penetrations, Non integrated hull penetrations (Sleeves and mobile part) - Pressure hull	**XC1**
Plant, Energy Plant	**XG**
Plates, Rolled products (plates, bars, sections, etc.) - Modules assemblies	**XC4**
Plates, Rolled products (plates, bars, sections, etc.) - Non-resisting external structures	**XC2**
Plates, Rolled products (plates, bars, sections, etc.) - Non-resisting internal structures	**XC3**
Plates, Rolled products (plates, bars, sections, etc.) - Pressure hull	**XC1**
PLC, Local PLC unit (to be implemented in the other installations if low layer is transferred in these installations) - Control installation	**XP1**
Portable air receivers - Breathing air	**XB1**
Portable analysers, CO2, CO and H2 portable analysers and processing case - Atmosphere monitoring	**XB3**
Position control (Rudder blade position control) - Steering gear	**XH1**
position sensor (Rudder blade position sensor) - Steering gear	**XH1**
Power (Low power network) - DC/AC converter	**XJ4**
Power (Low power network) - Non-overriding AC Secondary Switchboard	**XJ4**
Power (Low power network) - Overriding AC Secondary Switchboard	**XJ4**
Power (Low power UPS network) - Emergency Distribution Switchboard	**XJ5**
Power (Low power UPS network) - Uninterruptible Power System (UPS)	**XJ5**
Power extraction system fresh water cooling - AIP	**XR9**
Power extraction system, FWD and AFT power extraction system (if concerned by essential services) - Battery cooling electric pump	**XM4**
Power extraction system, FWD and AFT power extraction system (if concerned by essential services) - Cooling fresh water electric pump	**XM4**
Power hydraulic fluid production, storage and distribution - (external and internal units) - Bladder hydraulic accumulator	**XN1**
Power hydraulic fluid production, storage and distribution - (external and internal units) - Distribution manifolds and accessories	**XN1**
Power hydraulic fluid production, storage and distribution - (external and internal units) - Hydraulic electric pump	**XN1**
Power hydraulic fluid production, storage and distribution - (external and internal units) - Hydraulic electric pump starter cabinet	**XN1**
Power supply (Main power supply network) - Direct Current Main Switchboard	**XJ1**
Power supply (Main power supply network) - Direct Current Secondary Switchboard	**XJ1**
Pressure hull - Common frame space of the pressure hull	**XC1**
Pressure hull - Resistant bulkhead	**XC1**
Pressure hull - Cofferdam	**XC1**
Pressure hull - Forged parts	**XC1**
Pressure hull - Integrated hull penetrations (Sleeves and mobile part)	**XC1**
Pressure hull - Moulded parts	**XC1**
Pressure hull - Non integrated hull penetrations (Sleeves and mobile part)	**XC1**
Pressure hull - Resistant structures (weapons tube and sewage tank excluded)	**XC1**

Key-words and labels (from A to Z)	Item ref. No.
Pressure hull - Rolled products (plates, bars, sections, etc.)	**XC1**
Pressure hull - Strength door	**XC1**
Pressure hull - Welding consumables	**XC1**
Pressure hull bolted hatches	**XC1**
Pressure hull connecting part	**XC1**
Pressure hull manoeuvrable hatches	**XC1**
Pressure reducers, Air pressure reducers - Breathing air	**XB1**
Pressure sensor - Depth, trim and list measurement	**XA4**
Probes launching trunk (Multipurpose probes launching trunk) - Combat system	**XQ1**
Processing (Waste processing) - Garbage ejector	**XO3**
Processing case, CO2, CO and H2 portable analysers and processing case - Atmosphere monitoring	**XB3**
Production and distribution of industrial and demineralised water	**XL2**
Production of chilled water (if concerned by essential services)	**XM2**
Production, HP air production, storage and distribution - HP air cylinder	**XN2**
Production, Hydrogen production system (Heat production loop) - AIP	**XR4**
Production, Power hydraulic fluid production, storage and distribution - (external and internal units) - Hydraulic electric pump	**XN1**
Products, Rolled products (plates, bars, sections, etc.) - Modules assemblies	**XC4**
Products, Rolled products (plates, bars, sections, etc.) - Non-resisting external structures	**XC2**
Products, Rolled products (plates, bars, sections, etc.) - Non-resisting internal structures	**XC3**
Products, Rolled products (plates, bars, sections, etc.) - Pressure hull	**XC1**
Programmable logic controller (PLC), Local PLC unit (to be implemented in the other installations if low layer is transferred in these installations) - Control installation	**XP1**
Propeller - Shaft line Installation	**XF2**
Propeller shaft - Shaft line Installation	**XF2**
Propulsion (auxiliary propulsion)	**XF7**
Propulsion Motor, Electric Propulsion Motor	**XF5**
Propulsion System	**XF**
Propulsion, Air Independent Propulsion, AIP Systems - Installations covered by Additional Class Notation **AIP** (Air Independent Propulsion)	**XR**
Protection (fire protection) - Miscellaneous insulations - Miscellaneous coatings, insulations and materials	**XC5**
Protection, Anti-corrosion protection through galvanic anodes - Miscellaneous coatings, insulations and materials	**XC5**
Provisions - Cold rooms	**XO2**
Provisions - Food refrigeration	**XO2**
Pump (Cooling fresh water electric pump) - FWD and AFT power extraction system (if concerned by essential services)	**XM4**
Pump (Hydraulic electric pump) - Power hydraulic fluid production, storage and distribution - (external and internal units)	**XN1**
Pump (Seawater electric pump) - FWD and AFT seawater cooling	**XM3**
Pump (transfer electric pump) - Regulating and trim control systems	**XE2**
Pump (trim electric pump) - Regulating and trim control systems	**XE2**
Pump module, Water mist electric pump module - Fire detection and fire fighting	**XB2**
Pump starter cabinet (Hydraulic Electric) - Power hydraulic fluid production, storage and distribution - (external and internal units)	**XN1**
Pump, Battery cooling electric pump - FWD and AFT power extraction system (if concerned by essential services)	**XM4**
Pump, Regulating electric pump (connected to the sea) - Regulating and trim control systems	**XE2**
Pump, Stripping electric pump (connected to the sea) - Regulating and trim control systems	**XE2**

Key-words and labels (from A to Z)	Item ref. No.
Radial thrust block - Shaft line Installation	**XF2**
Receivers, Portable air receivers - Breathing air	**XB1**
Rectifier unit (Diesel Alternator Rectifier unit) - Diesel generators installation	**XG2**
Reducers, Air pressure reducers - Breathing air	**XB1**
REF-STORE - Additional Class Notation **REF-STORE** - Habitability Systems - Cold Rooms, Sewage & Waste Processing	**XO**
Refrigeration (Food refrigeration) - Provisions	**XO2**
Refrigeration and HVAC Systems	**XM**
Regulated water circuit (if concerned by essential services), Forward and aft - Regulated water circuit (if concerned by essential services)	**XM1**
Regulating and trim control systems - Compensating tanks	**XE2**
Regulating and trim control systems - External hull valve	**XE2**
Regulating and trim control systems - HP seawater flexible hose	**XE2**
Regulating and trim control systems - Internal hull valve	**XE2**
Regulating and trim control systems - Internal hull valve actuator (if non pressurized piping technology)	**XE2**
Regulating and trim control systems - Internal hull valve actuator (if pressurized piping technology)	**XE2**
Regulating and trim control systems - Non-resistant regulating tanks	**XE2**
Regulating and trim control systems - Regulating electric pump (connected to the sea)	**XE2**
Regulating and trim control systems - Regulating pump starting unit	**XE2**
Regulating and trim control systems - Resistant regulating tanks	**XE2**
Regulating and trim control systems - Stripping electric pump (connected to the sea)	**XE2**
Regulating and trim control systems - Transfer electric pump	**XE2**
Regulating and trim control systems - Transfer pump starting unit	**XE2**
Regulating and trim control systems - Trim electric pump	**XE2**
Regulating and trim control systems - Trim electric pump starting unit	**XE2**
Regulating electric pump (connected to the sea) - Regulating and trim control systems	**XE2**
Regulating pump starting unit - Regulating and trim control systems	**XE2**
Regulating pump, Regulating electric pump (connected to the sea) - Regulating and trim control systems	**XE2**
Regulating tanks (non-resistant regulating tanks) - Regulating and trim control systems	**XE2**
Regulating tanks (resistant regulating tanks) - Regulating and trim control systems	**XE2**
Remote control console - Control installation	**XP1**
Removable external framework components (bridge) - Non-resisting external structures	**XC2**
Removable internal framework components - Non-resisting internal structures	**XC3**
Removable section - Shaft line Installation	**XF2**
Resistant bulkhead - Pressure hull	**XC1**
Resistant regulating tanks - Regulating and trim control systems	**XE2**
Resistant structures (weapons tube and sewage tank excluded) - Pressure hull	**XC1**
Resistant weapon launching tube - Combat system	**XQ1**
Rolled products (plates, bars, sections, etc.) - Modules assemblies	**XC4**
Rolled products (plates, bars, sections, etc.) - Non-resisting external structures	**XC2**
Rolled products (plates, bars, sections, etc.) - Non-resisting internal structures	**XC3**
Rolled products (plates, bars, sections, etc.) - Pressure hull	**XC1**
Rooms (Cold rooms) - Provisions	**XO2**
Rudder blade actuators - Steering gear	**XH1**
Rudder blade position control - Steering gear	**XH1**
Rudder blade position sensor - Steering gear	**XH1**

Key-words and labels (from A to Z)	Item ref. No.
Rudder blades + stocks - Steering gear	**XH1**
Rudder holes, Forward and aft rudder holes - Non-resisting external structures	**XC2**
Safety, Diving Safety	**XA**
Safety, General Safety	**XB**
Sealing gland (stern sealing gland) - Shaft line	**XF1**
Seatings - Non-resisting internal structures	**XC3**
Seawater (Utilities seawater)	**XL3**
Seawater / fresh water exchanger - Diesel generators (DG) auxiliary fluid circuits	**XG5**
Seawater / fresh water, Cooling - Diesel generators (DG)	**XG4**
Seawater cooling - AIP	**XR5**
Seawater cooling (FWD and AFT seawater cooling) - Hull valve (internal and external, suction and discharge)	**XM3**
Seawater cooling (FWD and AFT seawater cooling) -Seawater electric pump	**XM3**
Seawater cooling (FWD and AFT seawater cooling) -Seawater exchanger	**XM3**
Seawater electric pump - FWD and AFT seawater cooling	**XM3**
Seawater exchanger - FWD and AFT seawater cooling	**XM3**
Seawater HP flexible hose - Regulating and trim control systems	**XE2**
Seawater hull valve - Emergency shut-off	**XA2**
Secondary loop - AIP	**XR14**
Secondary Switchboard (Direct Current Secondary Switchboard) - Main power supply network	**XJ1**
Secondary Switchboard (Non-overriding AC Secondary Switchboard) - Low power network	**XJ4**
Secondary Switchboard (Overriding AC Secondary Switchboard) - Low power network	**XJ4**
Section (removable section) - Shaft line Installation	**XF2**
Section air conditioning system - AIP	**XR7**
Sections, Rolled products (plates, bars, sections, etc.) - Modules assemblies	**XC4**
Sections, Rolled products (plates, bars, sections, etc.) - Non-resisting external structures	**XC2**
Sections, Rolled products (plates, bars, sections, etc.) - Non-resisting internal structures	**XC3**
Sections, Rolled products (plates, bars, sections, etc.) - Pressure hull	**XC1**
Sensor (Pressure sensor) - Depth, trim and list measurement	**XA4**
Sensor (Rudder blade position sensor) - Steering gear	**XH1**
Sewage tank water discharge	**XO1**
Shackles, Anchor chain cable accessories (shackles, kenter shackles and swivels)	**XD1**
Shaft (propeller shaft) - Shaft line Installation	**XF2**
Shaft line Installation - Elastic coupling	**XF2**
Shaft line Installation - Main thrust block	**XF2**
Shaft line Installation - Propeller	**XF2**
Shaft line Installation - Propeller shaft	**XF2**
Shaft line Installation - Radial thrust block	**XF2**
Shaft line Installation - Removable section	**XF2**
Shaft line Installation - Submerged aft bearing	**XF2**
Shaft line Installation - Submerged aft bearing support	**XF2**
Shaft line stern sealing gland	**XF1**
Shaft line, Greasing of the shaft line	**XF4**
Shared lubrication systems - Centralized greasing	**XN3**
Ship inside painting - Miscellaneous coatings, insulations and materials	**XC5**
Ship, Cradles and ship modules structures - Modules assemblies	**XC4**
Shut-off, Emergency shut-off - Hull valve actuator (hydraulic)	**XA2**

Key-words and labels (from A to Z)	Item ref. No.
Shut-off, Emergency shut-off - Seawater hull valve	**XA2**
SMS, COMM, Internal Communication Systems - Control and Monitoring	**XP**
Snorkel air mast (if resistant to immersion pressure) - Air inlet system – snorkel mast installation	**XG6**
Snorkel mast cupola access hatch - Air inlet system – snorkel mast installation	**XG6**
Snorkel, Air inlet system – snorkel mast installation - Air inlet valve and actuator	**XG6**
Space, Common frame space of the pressure hull	**XC1**
Spirit levels and clinometers - Depth, trim and list measurement	**XA4**
Starter cabinet (Hydraulic Electric Pump) - Power hydraulic fluid production, storage and distribution - (external and internal units)	**XN1**
Starting air - Diesel generators (DG) auxiliary fluid circuits	**XG5**
Starting unit (regulating pump) - Regulating and trim control systems	**XE2**
Starting unit (transfer pump) - Regulating and trim control systems	**XE2**
Starting unit (trim electric pump) - Regulating and trim control systems	**XE2**
Steering gear - Autopilot	**XH1**
Steering gear - Hydraulic system (if applicable)	**XH1**
Steering gear - Rudder blade actuators	**XH1**
Steering gear - Rudder blade position control	**XH1**
Steering gear - Rudder blade position sensor	**XH1**
Steering gear - Rudder blades + stocks	**XH1**
Steering gear - Thrust blocks and angle limiters	**XH1**
Steering Gear System	**XH**
Stern sealing gland - Shaft line	**XF1**
Stocks (Rudder blades + stocks) - Steering gear	**XH1**
Storage (Electrical energy storage) - AIP	**XR1**
Storage system (O2 supply and storage system) - AIP	**XR11**
Storage, Electrical energy storage - Forward & Aft main batteries and connections	**XG1**
Storage, HP air production, storage and distribution - HP air cylinder	**XN2**
Storage, Nitrogen storage and distribution - HP vessel	**XN4**
Storage, Power hydraulic fluid production, storage and distribution - (external and internal units) - Hydraulic electric pump	**XN1**
Storage, Supply and storage system (Diesel oil or ethanol) - AIP	**XR12**
Strength door - Pressure hull	**XC1**
Stripping electric pump (connected to the sea) - Regulating and trim control systems	**XE2**
Structure, Ballast tank structure - Non-resisting external structures	**XC2**
Structure, Fuel oil tank structure - Non-resisting external structures	**XC2**
Structure, Hull and Structure	**XC**
Structure, Keel structure - Non-resisting external structures	**XC2**
Structures - AIP	**XR6**
Structures, Cradles and ship modules structures - Modules assemblies	**XC4**
Structures, Cradles suspension systems and structures - Modules assemblies	**XC4**
Structures, Non-resisting external structures - Non-resisting structure penetration	**XC2**
Structures, Non-resisting internal structures - Bulkhead, deck and internal tank penetrations	**XC3**
Structures, Resistant structures (weapons tube and sewage tank excluded) - Pressure hull	**XC1**
Submerged aft bearing - Shaft line Installation	**XF2**
Submerged aft bearing support - Shaft line Installation	**XF2**
Suction and discharge, Hull valve (internal and external, suction and discharge) - FWD and AFT seawater cooling	**XM3**

Key-words and labels (from A to Z)	Item ref. No.
Supply and storage system (Diesel oil or ethanol) - AIP	**XR12**
Supply network (Main power supply network) - Direct Current Main Switchboard	**XJ1**
Support (submerged aft bearing support) - Shaft line Installation	**XF2**
Suspension systems, Cradles suspension systems and structures - Modules assemblies	**XC4**
Switchboard (Direct Current Main Switchboard) - Main power supply network	**XJ1**
Switchboard (Direct Current Secondary Switchboard) - Main power supply network	**XJ1**
Switchboard (Emergency Distribution Switchboard) - Low power UPS network	**XJ5**
Switchboard (Emergency Lighting Distribution Switchboard) - Lighting	**XJ2**
Switchboard (Non-overriding AC Secondary Switchboard) - Low power network	**XJ4**
Switchboard (Overriding AC Secondary Switchboard) - Low power network	**XJ4**
Swivels, Anchor chain cable accessories (shackles, kenter shackles and swivels)	**XD1**
System (Bilge system)	**XL1**
Systems, Cradles suspension systems and structures - Modules assemblies	**XC4**
Tank (ballast tank) vent valve - Lightening	**XE1**
Tank (Sewage tank water discharge)	**XO1**
Tank penetrations, Bulkhead, deck and internal tank penetrations - Non-resisting internal structures	**XC3**
Tank structure, Ballast tank structure - Non-resisting external structures	**XC2**
Tank structure, Fuel oil tank structure - Non-resisting external structures	**XC2**
Tank, Feed or daily tank - Diesel oil service	**XG3**
Tanks (compensating tanks) - Regulating and trim control systems	**XE2**
Tanks (non-resistant regulating tanks) - Regulating and trim control systems	**XE2**
Tanks (resistant regulating tanks) - Regulating and trim control systems	**XE2**
Tanks, Internal tanks - Non-resisting internal structures	**XC3**
Thrust block (main thrust block) - Shaft line Installation	**XF2**
Thrust block (radial thrust block) - Shaft line Installation	**XF2**
Thrust blocks and angle limiters - Steering gear	**XH1**
Towing (Anchoring, mooring and towing, Boat, gangway, deck accessories)	**XD1**
Transfer electric pump - Regulating and trim control systems	**XE2**
Transfer pump starting unit - Regulating and trim control systems	**XE2**
Trim electric pump - Regulating and trim control systems	**XE2**
Trim electric pump starting unit - Regulating and trim control systems	**XE2**
Trim, depth and list measurement - Pressure sensor	**XA4**
Trim, depth and list measurement - Spirit levels and clinometers	**XA4**
Trim, Regulating and trim control systems - Resistant regulating tanks	**XE2**
Trunk (Multipurpose probes launching trunk) - Combat system	**XQ1**
Tube (Resistant weapon launching tube) - Combat system	**XQ1**
Turbo-gearbox unit and the EPM (MEP), Greasing of the turbo-gearbox unit and the EPM (MEP)	**XF3**
Turbo-Generator (or Fuel cell) - AIP	**XR13**
Uninterruptible Power System (UPS) - Low power UPS network	**XJ5**
Unit, Atmosphere control unit - Atmosphere monitoring	**XB3**
Unit, Detection unit - Fire detection and fire fighting	**XB2**
Unit, Starting unit (regulating pump) - Regulating and trim control systems	**XE2**
Unit, Starting unit (transfer pump) - Regulating and trim control systems	**XE2**
Unit, Starting unit (trim electric pump) - Regulating and trim control systems	**XE2**
UPS (Low power UPS network) - Emergency Distribution Switchboard	**XJ5**
UPS (Low power UPS network) - Uninterruptible Power System (UPS)	**XJ5**

Key-words and labels (from A to Z)	Item ref. No.
Utilities (Fluidic utilities) - Greasing oil	**XK1**
Utilities seawater	**XL3**
Valve (ballast tank vent valve) - Lightening	**XE1**
Valve (external hull valve) - Regulating and trim control systems	**XE2**
Valve (internal hull valve) - Regulating and trim control systems	**XE2**
Valve actuator, Hull valve actuator (hydraulic) - Emergency shut-off	**XA2**
Valve and actuator, Air inlet valve and actuator - Air inlet system – snorkel mast installation	**XG6**
Valve, Hull valve (internal and external, suction and discharge) - FWD and AFT seawater cooling	**XM3**
Valve, Internal hull valve actuator (if non pressurized piping technology) - Regulating and trim control systems	**XE2**
Valve, Internal hull valve actuator (if pressurized piping technology) - Regulating and trim control systems	**XE2**
Valve, Seawater hull valve - Emergency shut-off	**XA2**
Valves control, Air cylinders for the air blowing valves control - Emergency HP air blowing	**XA3**
Valves, Emergency HP air blowing valves - Emergency HP air blowing	**XA3**
Valves, Hull valves - Diesel Generator exhaust	**XG7**
Valves, Isolating valve (Fire dampers, fresh air - foul air ventilation & battery ventilation) - Centralized ventilation	**XM6**
Vent valve (ballast tank vent valve) - Lightening	**XE1**
Ventilation (Centralized ventilation) - Fire dampers, fresh air - foul air ventilation isolating valve & battery ventilation isolating valve	**XM6**
Ventilation (Centralized ventilation) - Fresh air - foul air fan converter unit	**XM6**
Ventilation (Centralized ventilation) - Ventilation, Air Conditioning module (motorization)	**XM6**
Ventilation, Air Conditioning module (motorization) - Centralized ventilation	**XM6**
Vessel (HP vessel) - Nitrogen storage and distribution	**XN4**
Waste processing - Garbage ejector	**XO3**
Water (Production and distribution of industrial and demineralised water)	**XL2**
Water circuit, Regulated (if concerned by essential services) - Forward and aft regulated water circuit (if concerned by essential services)	**XM1**
Water cooling (Power extraction system fresh water cooling) - AIP	**XR9**
Water discharge (Sewage tank water discharge)	**XO1**
Water mist electric pump module - Fire detection and fire fighting	**XB2**
Water mist nozzles - Fire detection and fire fighting	**XB2**
Water Systems, Bilge and Water Systems	**XL**
Water, Fresh water / seawater exchanger - Diesel generators (DG) auxiliary fluid circuits	**XG5**
Water, Production of chilled water (if concerned by essential services)	**XM2**
Water, Seawater / fresh water, Cooling - Diesel generators (DG)	**XG4**
Weapon launching tube (Resistant weapon launching tube) - Combat system	**XQ1**
Welding consumables - Modules assemblies	**XC4**
Welding consumables - Non-resisting external structures	**XC2**
Welding consumables - Non-resisting internal structures	**XC3**
Welding consumables - Pressure hull	**XC1**