

Rules for the Type Approval of Flexible Hoses and Expansion Joints

Effective from 1 July 2022



GENERAL CONDITIONS

Definitions:

Administration means the Government of the State whose flag the ship is entitled to fly or under whose authority the ship is authorized to operate in the specific case.

"IACS" means the International Association of Classification Societies.

"Interested Party" means the party, other than the Society, having an interest in or responsibility for the Ship, product, plant or system subject to classification or certification (such as the owner of the Ship and his representatives, the shipbuilder, the engine builder or the supplier of parts to be tested) who requests the Services or on whose behalf the Services are requested.

"Owner" means the registered owner, the shipowner, the manager or any other party with the responsibility, legally or contractually, to keep the ship seaworthy or in service, having particular regard to the provisions relating to the maintenance of class laid down in Part A, Chapter 2 of the Rules for the Classification of Ships or in the corresponding rules indicated in the Specific Rules.

"Rules" in these General Conditions means the documents below issued by the Society:

- (i) Rules for the Classification of Ships or other special units.
- (ii) Complementary Rules containing the requirements for product, plant, system and other certification or containing the requirements for the assignment of additional class notations;
- (iii) Rules for the application of statutory rules, containing the rules to perform the duties delegated by Administrations.
- (iv) Guides to carry out particular activities connected with Services;
- (v) Any other technical document, for example, rule variations or interpretations.

"Services" means the activities described in paragraph 1 below, rendered by the Society upon request made by or on behalf of the Interested Party.

"Ship" means ships, boats, craft and other special units, for example, offshore structures, floating units and underwater craft.

"Society" or **"TASNEEF"** means TASNEEF Maritime

"Surveyor" means technical staff acting on behalf of the Society in performing the Services.

"Force Majeure" means damage to the ship; unforeseen inability of the Society to attend the ship due to government restrictions on right of access or movement of personnel; unforeseeable delays in port or inability to discharge cargo due to unusually lengthy periods of severe weather, strikes or civil strife; acts of war; or other force majeure.

1. Society Roles

1.1. The purpose of the Society is, among others, the classification and certification of ships and the certification of their parts and components. In particular, the Society:

- (i) sets forth and develops Rules.
- (ii) publishes the Register of Ships.
- (iii) Issues certificates, statements and reports based on its survey activities.

1.2. The Society also takes part in the implementation of national and international rules and standards as delegated by various Governments.

1.3. The Society carries out technical assistance activities on request and provides special services outside the scope of classification, which is regulated by these general conditions unless expressly excluded in the particular contract.





2. Rule Development, Implementation and Selection of Surveyor

2.1. The Rules developed by the Society reflect the level of its technical knowledge at the time they are published therefore, the Society, although also committed through its research and development services to continuous updating of the Rules, does not guarantee the Rules meet state-of-the-art science and technology at the time of publication or that they meet the Society's or others' subsequent technical developments.

2.2. The Interested Party is required to know the Rules based on which the Services are provided. With particular reference to Classification Services, special attention is to be given to the Rules concerning class suspension, withdrawal and reinstatement. In case of doubt or inaccuracy, the Interested Party is to promptly contact the Society for clarification. The Rules for Classification of Ships are published on the Society's website: www.tasneef.ae.

2.3. Society exercises due care and skill:

(i) In the selection of its Surveyors

(ii) In the performance of its Services, taking into account the level of its technical knowledge at the time the Services are performed.

2.4. Surveys conducted by the Society include, but are not limited to, visual inspection and non-destructive testing. Unless otherwise required, surveys are conducted through sampling techniques and do not consist of comprehensive verification or monitoring of the Ship or the items subject to certification. The surveys and checks made by the Society on board ship do not necessarily require the constant and continuous presence of the Surveyor. The Society may also commission laboratory testing, underwater inspection and other checks carried out by and under the responsibility of qualified service suppliers. Survey practices and procedures are selected by the Society based on its experience and knowledge and according to generally accepted technical standards in the sector.

3. Class Report & Interested Parties Obligation

3.1. The class assigned to a Ship, like the reports, statements, certificates or any other document or information issued by the Society, reflects the opinion of the Society concerning compliance, at the time the Service is provided, of the Ship or product subject to certification, with the applicable Rules (given the intended use and within the relevant time frame). The Society is under no obligation to make statements or provide information about elements or facts which are not part of the specific scope of the Service requested by the Interested Party or on its behalf.

3.2. No report, statement, notation on a plan, review, Certificate of Classification, document or information issued or given as part of the Services provided by the Society shall have any legal effect or implication other than a representation that, on the basis of the checks made by the Society, the Ship, structure, materials, equipment, machinery or any other item covered by such document or information meet the Rules. Any such document is issued solely for the use of the Society, its committees and clients or other duly authorized bodies and no other purpose. Therefore, the Society cannot be held liable for any act made or document issued by other parties based on the statements or information given by the Society. The validity, application, meaning and interpretation of a Certificate of Classification, or any other document or information issued by the Society in connection with its Services, is governed by the Rules of the Society, which is the sole subject entitled to make such interpretation. Any disagreement on technical matters between the Interested Party and the Surveyor in the carrying out of his functions shall be raised in writing as soon as possible with the Society, which will settle any divergence of opinion or dispute.

3.3. The classification of a Ship or the issuance of a certificate or other document connected with classification or certification and in general with the performance of Services by the Society shall have the validity conferred upon it by the Rules of the Society at the time of the assignment of class or issuance of the certificate; in no case shall it amount to a statement or warranty of seaworthiness, structural integrity, quality or fitness for a particular purpose or service of any Ship, structure, material, equipment or machinery inspected or tested by the Society.

3.4. Any document issued by the Society about its activities reflects the condition of the Ship or the subject of certification or other activity at the time of the check.

3.5. The Rules, surveys and activities performed by the Society, reports, certificates and other documents issued by the Society are in no way intended to replace the duties and responsibilities of other parties such as Governments, designers, shipbuilders, manufacturers, repairers, suppliers, contractors or sub-contractors, Owners, operators, charterers, underwriters, sellers or intended buyers of a Ship or other product or system surveyed.





These documents and activities do not relieve such parties from any fulfilment, warranty, responsibility, duty or obligation (also of a contractual nature) expressed or implied or in any case incumbent on them, nor do they confer on such parties any right, claim or cause of action against the Society. With particular regard to the duties of the ship Owner, the Services undertaken by the Society do not relieve the Owner of his duty to ensure proper maintenance of the Ship and ensure seaworthiness at all times. Likewise, the Rules, surveys performed, reports, certificates and other documents issued by the Society are intended neither to guarantee the buyers of the Ship, its components or any other surveyed or certified item, nor to relieve the seller of the duties arising out of the law or the contract, regarding the quality, commercial value or characteristics of the item which is the subject of transaction.

In no case, therefore, shall the Society assume the obligations incumbent upon the above-mentioned parties, even when it is consulted in connection with matters not covered by its Rules or other documents.

In consideration of the above, the Interested Party undertakes to relieve and hold harmless the Society from any third-party claim, as well as from any liability about the latter concerning the Services rendered.

Insofar as they are not expressly provided for in these General Conditions, the duties and responsibilities of the Owner and Interested Parties concerning the services rendered by the Society are described in the Rules applicable to the specific service rendered.

4. Service Request & Contract Management

4.1. Any request for the Society's Services shall be submitted in writing and signed by or on behalf of the Interested Party. Such a request will be considered irrevocable as soon as received by the Society and shall entail acceptance by the applicant of all relevant requirements of the Rules, including these General Conditions. Upon acceptance of the written request by the Society, a contract between the Society and the Interested Party is entered into, which is regulated by the present General Conditions.

4.2 In consideration of the Services rendered by the Society, the Interested Party and the person requesting the service shall be jointly liable for the payment of the relevant fees, even if the service is not concluded for any cause not pertaining to the Society. In the latter case, the Society shall not be held liable for non-fulfilment or partial fulfilment of the Services requested.

4.3 The contractor for the classification of a ship or for the services may be terminated and any certificates revoked at the request of one of the parties, subject to at least 30/60/90 days' notice, to be given in writing. Failure to pay, even in part, the fees due for services carried out by the society will entitle the society to immediately terminate the contract and suspend the service.

For every termination of the contract, the fees for the activities performed until the time of the termination shall be owned to the society as well as the expenses incurred in view of activities already programmed, this is without prejudice to the right to compensation due to the society as a consequence of the termination.

With particular reference to ship classification and certification, unless decided otherwise by the society, termination of the contract implies that the assignment of class to a ship is withheld or, if already assigned, that it is suspended or withdrawn, any statutory certificates issued by society will be withdrawn in those cases where provided for by agreements between the society and the flag state.

5. Service Accuracy

5.1. In providing the Services, as well as other correlated information or advice, the Society, its Surveyors, servants or agents operate with due diligence for the proper execution of the activity. However, considering the nature of the activities performed (see **Rule Development, Implementation and Selection of Surveyor 2.4**), it is not possible to guarantee absolute accuracy, correctness and completeness of any information or advice supplied. Express and implied warranties are specifically disclaimed.





6. Confidentiality & Document sharing

6.1. All plans, specifications, documents and information provided by, issued by, or made known to the Society, in connection with the performance of its Services, will be treated as confidential and will not be made available to any other party other than the Owner without authorization of the Interested Party, except as provided for or required by any applicable international, European or domestic legislation, Charter or other IACS resolutions, or order from a competent authority. Information about the status and validity of class and statutory certificates, including transfers, changes, suspensions, withdrawals of class, recommendations/conditions of class, operating conditions or restrictions issued against classed ships and other related information, as may be required, may be published on the website or released by other means, without the prior consent of the Interested Party.

Information about the status and validity of other certificates and statements may also be published on the website or released by other means, without the prior consent of the Interested Party.

6.2. Notwithstanding the general duty of confidentiality owed by the Society to its clients in clause 7.1 below, the Society's clients hereby accept that the Society may participate in the IACS Early Warning System which requires each Classification Society to provide other involved Classification Societies with relevant technical information on serious hull structural and engineering systems failures, as defined in the IACS Early Warning System (but not including any drawings relating to the ship which may be the specific property of another party), to enable such useful information to be shared and used to facilitate the proper working of the IACS Early Warning System. The Society will provide its clients with written details of such information sent to the involved Classification Societies.

6.3. In the event of transfer of class, addition of a second class or withdrawal from a double/dual-class, the Interested Party undertakes to provide or to permit the Society to provide the other Classification Society with all building plans and drawings, certificates, documents and information relevant to the classed unit, including its history file, as the other Classification Society may require for classification in compliance with the applicable legislation and relative IACS Procedure. It is the Owner's duty to ensure that, whenever required, the consent of the builder is obtained about the provision of plans and drawings to the new Society, either by way of the appropriate stipulation in the building contract or by other agreement.

In the event that the ownership of the ship, product or system subject to certification is transferred to a new subject, the latter shall have the right to access all pertinent drawings, specifications, documents or information issued by the Society or which has come to the knowledge of the Society while carrying out its Services, even if related to a period prior to transfer of ownership.

7. Health, Safety & Environment

7.1. The clients such as the designers, shipbuilders, manufacturers, repairers, suppliers, contractors or sub-contractors, or other product or system surveyed who have a registered office in ABU Dhabi; should have an approved OSHAD as per Abu Dhabi OHS Centre, or, if they do not need to have an approved OSHAD, they shall comply with TASNEEF standards and have procedures in place to manage the risks from their undertakings.

7.2. For the survey, audit and inspection activities onboard the ship, the ship's owner, the owner representative or the shipyard must follow TASNEEF rules regarding the safety aspects.

8. Validity of General Conditions

8.1. Should any part of these General Conditions be declared invalid, this will not affect the validity of the remaining provisions.



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9. Force Majeure

9.1 Neither Party shall be responsible to the other party for any delay or failure to carry out their respective obligations insofar as such delay and failure derives, directly or indirectly, and at any time, from force majeure of any type whatsoever that lies outside the control of either Party.

9.2 The Party that is unable to fulfil the agreement due to Force Majeure shall inform the other party without delay and in all cases within 7 days from when such force majeure arose.

9.3 It is understood that if such force majeure continues for more than 30 days, the Party not affected by the event may terminate this agreement by registered letter. The rights matured until the day in which the force majeure occurred remain unaffected.

10. Governing Law and Jurisdiction

This Agreement shall be governed by and construed in accordance with the laws of Abu Dhabi and the applicable Federal Laws of the UAE.

Any dispute arising out of or in accordance with this Agreement shall be subject to the exclusive jurisdiction of the Abu Dhabi courts.

11. Code of Business conduct

The **CLIENT** declares to be aware of the laws in force about the responsibility of the legal persons for crimes committed in their interest or to their own advantage by persons who act on their behalf or cooperate with them, such as directors, employees or agents.

In this respect, the **CLIENT** declares to have read and fully understood the “**Ethical Code**” published by **TASNEEF** and available in the **TASNEEF** Web site.

The **CLIENT**, in the relationships with **TASNEEF**, guarantees to refrain from any behaviour that may incur risk of entry in legal proceedings for crimes or offences, whose commission may lead to the enforcement of the laws above.

The **CLIENT** also acknowledges, in case of non-fulfilment of the previous, the right of **TASNEEF** to unilaterally withdraw from the contract/agreement even if there would be a work in progress situation or too early terminate the contract/agreement. It's up to **TASNEEF** to choose between the two above mentioned alternatives, and in both cases a registered letter will be sent with a brief sum-up of the circumstances or of the legal procedures proving the failure in following the requirements of the above-mentioned legislation.

In light of the above, it is forbidden to all employees and co-operators to:

- receive any commission, percentage or benefits of any possible kind;
- Start and maintaining any business relationship with **Clients** that could cause conflict of interests with their task and function covered on behalf of **TASNEEF**.
- Receive gifts, travel tickets or any other kind of benefits different from monetary compensation, that could exceed the ordinary business politeness.

Violation of the above-mentioned principles allows **TASNEEF** to early terminate the contract and to be entitled to claim compensation for losses if any.



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1 PREMISE

In the Tasneef Rules for the Classification of Ships and in the Tasneef Rules for the Classification of High Speed Craft as well as in the Tasneef Rules for Fire Protection, Detection and Extinction for the Issue of SOLAS Safety Certificates and Rules for Fire Protection, Detection and Extinction for the Issue of Statutory Certificates other than SOLAS Certificates, use is foreseen of flexible hoses and of expansion joints, both in metallic and in non-metallic material, type approved by Tasneef.

The list of type tests to be carried out is indicated in Pt C, Ch 1, Sec 10, [20] of the Rules for the Classification of Ships as well as in the Tasneef Rules for Fire Protection, Detection and Extinction for the Issue of SOLAS Safety Certificates and Rules for Fire Protection, Detection and Extinction for the Issue of Statutory Certificates other than SOLAS Certificates.

2 FIELD OF APPLICATION

These Rules apply, for the purpose of type approval, to flexible hoses and expansion joints, both in metallic and non-metallic material, where their use is foreseen by the Tasneef Rules.

For flexible hoses and expansion joints foreseen on board chemical carriers or liquefied gas carriers, see Pt E Ch 8 and 9 of the Rules for the Classification of Ships and the relevant IMO, IBC and IGC Codes.

3 DOCUMENTATION

The request for type approval is to be submitted to Tasneef by the Manufacturer, or by the Applicant if authorised by the Manufacturer, and is to include the following:

- details of the Manufacturer
- the designation of the product
- fields of application (with indication of the maximum design pressures, the maximum and minimum design temperatures and of the conveyed media)
- constructional drawings (with indication of the materials employed and details relevant to any welding or systems of matching fittings and hoses)
- documentation relevant to previous approvals issued by recognised bodies and associated test reports, if any
- prototype test program, for flexible hose assemblies, sufficiently detailed to demonstrate performance in accordance with the specified standards.

4 CHECKS AND TESTS

4.1 General

The tests are, as applicable, to be carried out on different nominal diameters in accordance with the requirements of the relevant standard indicated in this item [4]. Where non specified at least three samples of each type and dimension of flexible hose complete with end fittings and expansion joints are to be tested; where type approval certification of a number of different diameters of the same

type of flexible hoses or expansion joints is required, Tasneef may require type tests on diameters which are representative of the entire range, at Tasneef judgement.

4.2 Flexible hoses

4.2.1 General

Prototype tests are to be carried out on flexible hoses complete with end fittings and for each size of hose assembly. However, for ranges with more than 3 different diameters, the prototype tests are to be carried out for at least:

- the smallest diameter
- the largest diameter
- Intermediate diameters selected based on the principle that prototype tests carried out for a hose assembly with a diameter D are considered valid only for the diameters ranging between 0,5 D and 2 D.

For fire resistance tests the specimens shall be selected in accordance with ISO 15540:2016.

4.2.2 Burst pressure tests of metallic and non-metallic flexible hoses

All flexible hoses are to be satisfactorily prototype burst tested to an international standard (see Note 1) to demonstrate they are able to withstand a pressure not less than four times their design pressure without indication of failure or leakage.

For metallic hoses the standard ISO 10380:2012 – Pipework – Corrugated metal hoses and hose assemblies is to be used as applicable.

Note 1: The international standards, e.g. EN or SAE for burst testing of non-metallic hoses, require the pressure to be increased until bursting without any holding period at four times the maximum design pressure.

4.2.3 Impulse pressure tests non-metallic flexible hoses

The following standards are to be used as applicable:

- ISO 6802:2018 – Rubber and plastics hoses and hose assemblies with wire reinforcements – Hydraulic impulse test with flexing.
- ISO 6803:2017 - Rubber or plastics hoses and hose assemblies – Hydraulic-pressure impulse test without flexing.

Other standards may be accepted where agreed by Tasneef.

4.2.4 Fire endurance tests of non-metallic hoses

Where flexible hoses are required to be of the fire-resistant type under Pt C, Ch 1, Sec 10 of the Rules for the Classification of Ships, the following standards are to be used as applicable:

- ISO 15540:2016 – Ships and marine technology – Fire resistance of hose assemblies – Test methods.
- ISO 15541:2016 - Ships and marine technology – Fire resistance of hose assemblies -Requirements for test bench.

The proof pressure test is to be carried out at twice the maximum design pressure.

Where flexible hoses are required to be of the fire-

resistant type under the Rules for Fire Protection, Detection and Extinction for the Issue of SOLAS Safety Certificates and under the Rules for Fire Protection, Detection and Extinction for the Issue of Statutory Certificates other than SOLAS Certificates, the following is to be complied with:

- L1 level: a 60 min fire endurance test in dry conditions according to Appendix 1 of IMO Res. A.753(18),
- L3 level: a 30 min fire endurance test in wet conditions according to Appendix 2 of IMO Res. A.753(18).

Other standards may be accepted where agreed by the Society.

4.2.5 Low temperature flexibility test for non-metallic hoses

The samples are to be exposed for at least 24 hours to the minimum design temperature, and in any case to a temperature not higher than -40 °C. Such samples are subsequently to be bent on a mandrel having radius equal to the minimum bending radius of the tested hose foreseen by the Manufacturer, through 90° and 180°. The hose assembly is then to be subjected to a pressure test at twice the maximum design pressure without any leakage or defect. Subsequently, the outer layer of the hose will be inspected in order to check its integrity.

4.2.6 Vibration tests for metallic and non-metallic hoses

Tasneef reserves the right to require vibration tests to be carried out on samples complete with all the accessories. The test procedures will be agreed on a case-by-case basis taking into account the actual operating conditions of the flexible hoses and expansion joints.

Tasneef may waive such tests where the Manufacturer provides documentation showing the suitability in the foreseen operating conditions of the hoses and expansion joints to be type approved.

4.2.7 Elastic deformation tests of metallic flexible hoses

The samples, complete with all the accessories as in the operating conditions, are to be hydrostatically tested at a pressure twice the maximum design pressure, and no appreciable permanent deformation is to occur.

4.3 Expansion joints

4.3.1 Burst pressure tests of non-metallic expansion joints

The samples complete with end fittings are to be tested at ambient temperature at a burst pressure not lower than four times the maximum design pressure, but in any case not lower than 0,5 MPa for maximum design pressure lower than 0,1 MPa and not lower than 1 MPa for maximum design pressure higher than 0,1 MPa. The pressure is to be applied in such a way that the burst pressure is not reached in less than 5 minutes.

4.3.2 Burst pressure tests of metallic expansion joints

The samples, which are not pre-compressed, are to be submitted to a hydrostatic test in order to determine the burst pressure. The pressure is to be applied in such a way that the burst pressure is not reached in less than 5 minutes.

The burst pressure is to be not lower than four times the maximum design pressure.

The hydrostatic tests carried out on a sample may be considered valid, for the same maximum design pressure, for expansion joints having:

- internal diameter at the bottom of convolution pitch and convolution height not greater than the corresponding values of the tested sample;
- thickness not lower than the tested sample;
- the same material as the tested sample.

Tasneef may waive the burst test requirements where, by means of calculations carried out in compliance with recognised standards and supported by tests carried out on other expansion joints, the Manufacturer shows that the burst pressure is not lower than four times the maximum design pressure.

4.3.3 Fire endurance test of non-metallic expansion joints

Where expansion joints are required to be of the fire resistant type under Pt C, Ch 1 Sec 10 of the Rules for the Classification of Ships, the following standards are to be used as applicable:

- ISO 15540:2016 – Ships and marine technology – Fire resistance of hose assemblies – Test methods.
- ISO 15541:2016 – Ships and marine technology – Fire resistance of hose assemblies – Requirements for test bench.

The proof pressure test is to be carried out at twice the maximum design pressure.

Where expansion joints are required to be of the fire-resistant type under the Rules for Fire Protection, Detection and Extinction for the Issue of SOLAS Safety Certificates and under the Rules for Fire Protection, Detection and Extinction for the Issue of Statutory Certificates other than SOLAS Certificates, the following is to be complied with:

- L1 level: a 60 min fire endurance test in dry conditions according to Appendix 1 of IMO Res. A.753(18)
- L3 level: a 30 min fire endurance test in wet conditions according to Appendix 2 of IMO Res. A.753(18).

Other standards may be accepted where agreed by Tasneef.

4.3.4 Elastic deformation tests of metallic expansion joints

The samples, complete with all the accessories as in the operating conditions, are to be hydrostatically tested at a pressure twice the maximum design pressure, and no appreciable permanent deformation is to occur.

4.3.5 Cyclic expansion tests of metallic expansion joints

Tasneef reserves the right to require cyclic expansion tests to be carried out on samples complete with all the accessories. The test procedures will be agreed on a case-by-case basis taking into account the actual operating conditions of expansion joints.

Tasneef may waive the request for such tests where the Manufacturer provides documentation showing the suitability in the foreseen operating conditions of the expansion joints to be type approved.

4.3.6 Vibration tests of metallic and non-metallic expansion joints

Tasneef reserves the right to require vibration tests to be carried out on samples complete with all the accessories. The test procedures will be agreed on a case-by-case basis taking into account the actual operating condition of the expansion joints.

Tasneef may waive the request for such tests where the Manufacturer provides documentation showing the suitability in the foreseen operating conditions of the expansion joints to be type approved.

5 ISSUE AND VALIDITY OF THE TYPE APPROVAL CERTIFICATE

Subject to the satisfactory outcome of the required checks and tests, Tasneef will issue a Type Approval Certificate valid for all flexible hoses and expansion joints of the same type, in terms of dimensions, materials etc., as the one subjected to the type tests.

The Type Approval Certificate is valid for five years from the date of issue.

6 RENEWAL OF THE TYPE APPROVAL CERTIFICATE

In order to renew the Type Approval Certificate, the documentation required under item 3 is to be submitted to Tasneef with indication of any modifications in respect of the previous approval.

On the basis of the examination of such documentation, Tasneef will establish the checks and tests to be carried out in order to renew the Type Approval Certificate.

7 MARKING

7.1 Flexible hoses

The flexible hoses are to be permanently marked by the Manufacturer with the following details:

- hose Manufacturer's name or trademark
- date of manufacture (month/year)
- designation type reference
- nominal diameter
- maximum design pressure
- maximum and minimum design temperatures.

Where a flexible hose assembly is made up of items from different manufacturers, the components are to be clearly identified and traceable to evidence of prototype testing.

7.2 Expansion joints

Expansion joints are to be permanently marked by the manufacturer according to 7.1, as applicable.

8 REPETITION OF THE TESTS

Tasneef reserves the right to require the repetition of the type tests, wholly or in part, in the case of changes to the Rules on the basis of which the type approval was issued or in the event of doubts or complaints.