Identification code:
TCVT W2-01E/2021

CERTIFICATION SCHEME

(not compulsory by law, but a voluntary certification scheme)

for the
TCVT Certificate of Periodic Approval
E&T of Offshore Cranes

Drawn up by:
Study group 2 Periodic Inspection of Offshore Cranes date 15-2-2021

Approved by:
CCvD-VT date 26-02-2021

Adopted by:
Executive Board, Stichting TCVT, date 12-03-2021

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CONTENTS

ANNEXES

Document code	Expired version	Current version	Drawn up by study group 2	Approved by CCvD-VT	Adopted by Executive Board, Stichting TCVT
W2-01E	15-050	21-001	15-2-2021	26-02-2021	12-03-2021

1. INTRODUCTION

1.1 General

For the purposes of supervising certification, the Foundation for the Supervision of Certification of Vertical Transport ("Stichting Toezicht Certificatie Verticaal Transport - Stichting TCVT") was created by the parties concerned. The Foundation supports the Central Board of Experts in Vertical Transport ("Centraal College van Deskundigen Verticaal Transport - CCvD-VT"), and administers all the certification schemes in the area of Vertical Transport. Responsibility for supervising the content of the certification schemes rests with the CCvD-VT.. Study groups have been created to set up and maintain the certification schemes. These study groups have an executive and advisory function in respect of the CCvD-VT.

The Central Board of Experts in Vertical Transport authorises the various certification schemes in the area of Vertical Transport and approves them for use by the accredited and, in the case of compulsory certification, appointed inspection bodies.

More general information can be found on the TCVT website at www.tcvt.nl.

1.2 Certification scheme for the E&T of offshore cranes

This certification scheme applies to cranes, situated on fixed offshore, trafo platforms, mining installations, on the Dutch continental shelf, and does not apply to cranes on movable offshore installations.

In consultation with the National Mines Inspectorate and the sector organisation NOGEPA a voluntary certification system has been chosen. Further to this it has been decided to draw up the certification scheme W2-01E Offshore cranes for inspection bodies that are accredited in conformance with NEN 17020.

For a crane which is older than 24 years, the owner of the crane will provide the certification body *with* a valid *"Lifetime Extension declaration"* in which the safe use of the crane is declared.

1.3 Miscellaneous

In consultation with the *State Supervision of Mines* ("SODM"), it has been decided that the certifying and/or assessing of hoisting gear does not form part of this scheme.

The study group on offshore cranes has not produced any guidelines for the issuing and any withdrawal of the Certificate of Approval. The study group is of the opinion that the procedures produced by the Stichting TCVT can be used. The study group has decided that a new inspection must take place at most 12 months after the previous inspection, with a possible extension of 1 month. This is provided that this is necessary for operational reasons and that the safe use of the hoisting crane allows this. As well as the safety aspect, the study group has also given consideration to the environment as far as any shortcomings are concerned.

1.4 Entry into force

This scheme will be entry into force at the 1 of july 2021. Inspections made under the scheme 2015 wil be valid one year after the inspection, until at least 1-7-2022.

2. DEFINITIONS AND ABBREVIATIONS

Arbobesluit	:	Arbeidsomstandighedenbesluit: Dutch legislation, describes the legal requirements fort he working conditions decree..
CCvD-VT	:	Centraal College van Deskundigen Verticaal Transport *(Central Board of Experts in Vertical Transport*).
Certificate	:	A document that describes the situation or standard of a product as an exemplification.
Check	:	An inspection of the relevant item, other than a sample performed by the technical inspector
Crane driver (crane operator)	:	A demonstrably qualified person who operates the crane for the purpose of moving materials and persons from and to supply boats and moving materials on the offshore location itself. The crane driver is also competent to perform certain maintenance work on the crane.
Crane log	:	A log of the crane in hardcopy or digital version
E&T	:	Examination and Testing. The name of the inspection programme for a crane to establish that the crane meets the statutory provisions and/or the various international/national standards. In general, the examination consists of a visual inspection and verification of the functions and the effectiveness of these functions. Normally it is not necessary for the parts to be dismantled for further examination. Testing is understood to be a load test with the crane with a load equal to the hoisting load and the safety and limit devices are also tested. This is carried out in conformance with this certification scheme W2-01E.
Fixed installation	:	*A non-movable facility positioned on or above the continental shelf for the purpose of carrying out exploratory survey work or extracting minerals and which is registered in the Netherlands*
Hoisting gear	:	Equipment positioned between the load and the crane hook to hoist this load.
Inspection body	:	A body that carries out the assessment of the crane in accordance with the certification scheme W2-01E and which is accredited for this by the Accreditation Council on the basis of NEN-EN-ISO/IEC 17020 type A
ISO	:	International Organization for Standardization.
NOGEPA	:	Nederlandse Olie en Gas Exploratie en Productie Associatie (Dutch Oil and Gas Exploration and Production Association).
Offshore crane	:	In the context of this certification system this means a general purpose offshore crane. This is a slewing crane permanently located on a fixed offshore installation, intended primarily for moving materials and personal handling from and to supply boats. If the pedestal of the crane is welded to the offshore structure, the first horizontal weld under the

pedestal flange is regarded as the border. If the crane is mounted to the platform structure by the use of a pedestal adapter, the bottom connection point (including the bolts) is seen as being part of the offshore crane.

Pedestal : A loadbearing platform substructure on which the top structure of the offshore crane is secured.

Shortcoming with no risk to safety or the environment : A shortcoming that does not entail any risk to safety or the environment is understood to be a shortcoming of an administrative nature or minor repairs

Shortcoming with no direct risk to safety or the environment : A shortcoming that does not entail any direct risk to safety or the environment is understood to be a shortcoming that will not result in a direct risk to safety or the environment in the near future.

Shortcoming with a direct risk to safety : A direct risk to persons and/or objects and/or environment is considered to be present in all cases:
If there is a direct risk of parts of the hoisting crane giving way or the load coming down unintentionally.

SodM : Staatstoezicht op de Mijnen (*State Supervision of Mines*).
All activities in connection with the exploitation and production of minerals are supervised by State Supervision of Mines, a division of the Ministry of Economic Affairs. State Supervision of Mines is responsible for the supervision of the Mining Legislation and also ensures that the mining industry complies with the Working Conditions, Working Times, Environmental, Food & Drugs, Water Supply and Nuclear Energy Legislation.

TCVT : Stichting Toezicht Certificatie Verticaal Transport (*Foundation for the Supervision of Certification of Vertical Transport*).

WWBM : WarenWetBesluitMachines: Dutch legislation, describes the legal requirement for the periodic inspection.

NEN 17020	:	NEN-EN-ISO/IEC 17020 type A: 2012.
NEN 3140	:	NEN 3140+A3: 2019
ISO 12482-1	:	ISO 12482-1:1995 Cranes condition monitoring
ISO 9927-1	:	ISO 9927-1:2013 Crane inspections
ISO 4309	:	ISO 4309:2010 Cranes wire ropes
ATEX 153	:	ATEX 153 (19999/92/EG)

3. CERTIFICATION PROCEDURES

3.1 Purpose

These regulations describe the general procedures followed by the inspection body when carrying out the Periodic E&T of Offshore Cranes for the TCVT Certificate of Approval, in combination with the attaching of the TCVT Approval Sticker to the crane.

3.2 Request and dealing with the request

In most situations the owner of the crane or the contracted maintenance body is also the E&T client. In the text below we refer to the client. The consideration here is that in many cases the client looks after the maintenance of the crane.

3.2.1 Request

The client makes a request to the inspection body for a given crane to be examined and tested. Client and the inspection body agree on the inspection date.

3.2.2 Carrying out and reporting the E&T

The crane is to be examined and tested on date (dd-mm-yyyy):

- The crane and a qualified crane-driver will be made available by the client
- A check on whether the client has met the requirements for the E&T of the crane to run smoothly, taking into account:
    - the assessment form;
    - the testing programme;
    - the instructions for the assessment form;
    - the hoisting tables provided.
- The completed assessment form is given to the client.
- The findings are noted in the crane log (with a reference to the assessment form).
- The certificate is issued depending on the shortcomings that have been found.
- A copy of the complete assessment is added to the crane log. A copy of the completed assessment form is sent to the inspection body for archiving.

3.3 Issuing the certificate

Under certain conditions, the inspector is authorised to award the TCVT Certificate of Approval and in combination with this to distribute the TCVT Approval Sticker. These conditions are to do with the seriousness of the shortcomings that have been found. A distinction is made between the shortcomings as detailed below.

3.3.1 No shortcomings or shortcomings with no risk to safety and/or environment:

Shortcomings with no risk to safety and/or the environment:
- The shortcomings are discussed with the client;
- The TCVT Certificate of Approval and the TCVT Approval Sticker are issued, dated dd-mm-yyyy;
- Correction/Repair by the client;

Notes are made in the crane log.
If there are no shortcomings or they do not constitute a risk to safety and the environment, the inspection body gives the client the signed TCVT Certificate of Approval in combination with the TCVT Approval Sticker.

3.3.2 Shortcoming(s) with no direct risk to safety and/or the environment:

- The shortcomings are discussed with the client;
- The crane is repaired;
- Notes are made in the crane log;
- The measures taken by the client are reported to the inspection body;
- Measures/repairs must be positively assessed by the inspection body
- The TCVT Certificate of Approval and the TCVT Approval Sticker are issued, dated dd-mm-yyyy (date of inspection).

If shortcomings do not constitute any direct risk to safety and the environment, the inspection body asks the client to rectify the shortcomings in question within 3 months and to send a written report on this to the inspection body. The client also details in the crane log the repair work that has been carried out. Failure thereof, will imply that a new inspection must be carried out

After receiving the report from the client and the positive assessment of the repair work that has been carried out, the inspection body gives the client the signed TCVT Certificate of Approval in combination with the TCVT Approval Sticker.

Note.
Where necessary, a further inspection is carried out (for example in the case of welding repairs and other cases).
Further requirements and tests to be specified by the inspection body.
Repair during inspection is possible, but the shortcoming will be reported.

3.3.3 Shortcoming(s) with a direct risk to safety

- The shortcomings will be discussed with the Offshore Installation Manager (HMI);
- The crane is taken out of use;
- The crane is repaired.
- Notes are made in the crane log;
- Sign-off by the client or his representative (the crane is ready);
- The procedure is followed after a check on date dd-mm-yyyy.

The follow-up procedure may be followed in accordance with 3.3.1, 3.3.2 or 3.3.3.

If shortcomings constitute a direct risk to safety, immediate measures have to be taken on the crane. Because of the crane owner's legal obligations (Arbobesluit and WWBM), the inspection body informs the owner in writing that for safety reasons the crane should not be used and therefore must be taken out of use. The inspection body states that the owner is obliged to take at once the direct measures that are needed to rectify the shortcomings. The inspection body asks the client to make a report to the inspection body in writing about the measures that are being taken, for the purposes of re-inspection. After receiving the report from the client, the inspection body informs the client whether re-inspection is required and plans re-inspection in corporation with the client. If the repairs are

considered to be satisfactory, the inspection body gives the client the signed TCVT Certificate of Approval, in combination with the TCVT Approval Sticker.

Note:
The inspection body strictly advices that measures are taken immediately in order to rectify any shortcoming that has been found if, in the opinion of the certification body, when the hoisting crane is used this shortcoming may result in a direct risk to persons and/or objects. A verbal notification is noted in the inspection report.
Repair during inspection is possible, but the shortcoming will be reported.
A direct risk to persons and/or objects is considered to be present in any event:
if there is a direct risk of parts of the hoisting crane giving way or the load coming down unintentionally.

4. ARRANGEMENTS BETWEEN THE CLIENT AND THE INSPECTION BODY

Below are details of what arrangements as a minimum have to be made by the inspection body with the owner/client.

4.1 The information needed

Carrying out the examining and testing:

Examining and testing: Date
Start time/finish time
Place of examining and testing
Details about the offshore crane client

The offshore crane that is to be examined:

Details about the crane: Make: ……..
Type: ……..
Serial number: …….

Apparatus/items to be provided by the client:

- The apparatus needed:
  - the offshore crane, in good working order, that is to be examined and tested;
  - test weights required for the test; (load cell, hoisting gear)
- A qualified crane operator
- Documents:
  - statement of Conformity (or inspection report when taken into use);
  - hoisting tables;
  - the crane's operating and maintenance manuals;
  - the maintenance management system (as example: grease sample, NEN 3140, Atex).
- Crane log:
  - certificates/statements of conformity for cables/blocks;
  - certificates/statements of conformity for the auxiliary equipment used

Procedure:

Carry out the examining and testing in accordance with:

- the assessment form (see Annex A);
- the testing programme (see Annex B);
- the instructions for the assessment form (see Annex C).

4.2 Explanation

The owner/client is informed of the findings in writing immediately after the examining and the testing. The findings, summarised in the report, are also recorded in the crane log / assessment form.

The inspector is authorised to issue the TCVT Certificate of Approval on behalf of the inspection body, under the conditions referred to in subsection 3.3. It is deemed that the owner/client will file the TCVT Certificate of Approval in or near the crane log and will apply the TCVT Approval Sticker at the place prescribed.

4.3 Complaints procedure

In accordance with NEN 17020 the inspection body has a procedure for dealing with complaints and appeals.

5. LEGAL FRAMEWORK

5.1 Definition of a compulsory and a voluntary scheme

5.1.1 Legal provisions

In accordance with Warenwetbesluit Machines, hoisting cranes which have a working load of 2 tons or more must be examined periodically (at least once a year) to ensure that they are in good working condition.
This examination must involve suitable testing of the crane and its safety and limit devices.

ISO 9927-1 states that the crane must be checked by the crane operator before use. This check is a visual inspection for obvious defects along with functional testing of the safety systems. The crane must be inspected at least once a year by an experienced engineer.

5.1.2 Compulsory scheme

In the case of a compulsory scheme, the criteria that a crane has to meet, are set out in statutory standards. A compulsory scheme can therefore be defined as follows:
A compulsory scheme is a scheme that has been set up by the industry based on statutory standards.

5.1.3 Voluntary scheme

A voluntary scheme is a scheme that has been set up by the industry based on general legal provisions.
The latter is the case for offshore cranes, so for offshore cranes we have a voluntary certification system.

5.2 Situation under the voluntary certification system

The owner of the offshore crane is responsible for ensuring that on a regular basis periodic routine checks are carried out on the offshore crane, depending on what the crane is intended to be used for. ISO 9927, should be taken as a guide for this. These periodic checks will normally be carried out by the crane operator or by a demonstrably similarly competent maintenance specialist. The results and deviations found in these periodic routine checks must be reported in the maintenance management system so that it is available to be inspected by the inspection body.
ISO 9927 gives guidelines for daily checks, weekly checks and checks on cranes that are not used regularly.

The owner of the offshore crane is also responsible for setting up a preventive maintenance programme on the basis of the operational use and on the basis of the periodic tasks specified by the manufacturer. ISO 12482-1 can be used as a guide provided that NEN 3140 for the inspection of electrical engineering installations is applicable.

Every year, with a maximum extension of 1 month, the crane must be examined by an inspection body. This examination can be carried out in conformance with ISO 9927-1. Generally, this examination consists of a visual inspection and verification of the functions and the effectiveness of these functions. It is not normally necessary to dismantle the parts for further examination. The generic inspection list as described in Annex A must be used as a checklist and also the accompanying instructions (see Annex C).

Every 5 years**,** with a maximum extension of 1 month, the crane has to be tested in the presence of an inspector from an inspection body. The test programme is described in Annex B. The checklist of the load-dependent safety systems, contained in Annex A under the 1700 group, is included in this.

6. E&T ASSESSMENT FORMS

A year after the offshore crane with a CE mark has been taken into use the first annual assessment takes place in accordance with this certification scheme W2-01E.

6.1 Assessment forms

The following documents form part of the certification scheme.

6.1.1. Assessment form (see Annex A)

The details about the offshore crane are recorded on this form. It also includes a summary of the parts of the crane and provides the opportunity to record the findings for each part.

Note:
The assessment form in Annex A is a generic inspection list for a general purpose offshore crane and is based on ISO 9927-1. It has been sought to design the form so extensively that it applies for all types of fixed offshore cranes. In consultation with the manufacturer of the offshore crane and the owner of the crane an additional inspection list can be produced with the correct names of the parts. The scope and the format of the inspection list must however be comparable with the form in annex A. The inspection list must be submitted to the accredited inspection body for approval.

6.1.2. Test programme (see Annex B)

6.1.3. The test programme gives a description with notes of the way in which the offshore crane will be tested. Instructions for the assessment form (see Annex C)

For carrying out the examination and test programme instructions have been produced for carrying out the programme and recording the findings.

7. CRANE LOG

7.1. General

The owner of the offshore crane is responsible for ensuring that there is a crane log with the crane in question and that this crane log is maintained correctly and clearly.

The owner of the offshore crane or, on behalf of the owner, the manufacturer of the offshore crane, determines how the log should be presented and must submit it to the accredited inspection body for approval.

The crane log can be in the form of a hard copy or as an electronic version. In both cases, however, the owner of the crane must ensure that measures have been taken and that the origin of the various people filling in this log is traceable. The crane log may be an integral part of the crane manual supplied by the supplier, or refer to the crane manual (see also the requirements regarding the content and how the crane log is to be filled in) where possible. The crane log may be an integral part of the maintenance management system of the offshore installation administered by the owner, provided that the administrative tasks of the inspector of the accredited body, or the inspector of SodM, can be carried out in this in a sound and user-friendly way.

The crane log must be kept near the crane, and if requested must be given for inspection at once to:

- the officers responsible for enforcing, and cooperating in implementing the Working Conditions Act;
- the inspector(s) of the inspection body;
- the organisation that carries out the maintenance on the crane.

These parties must be given the opportunity to make comments in the crane log, but the last-named of these parties may only do so after consulting the owner in question of the offshore crane.

The relevant certificates concerning the cables and hoisting gear must also be kept near the crane and if requested must be given for inspection at once to the parties referred to above.

7.2. Requirements as regards the contents and filling in of the crane log

7.2.1. Filling in

The crane log must be filled in accurately, in good order and truthfully.
Any change in the information contained in the crane log must be marked at once.
Comments must not be changed or made such that they are illegible.

In the crane log the following information must be entered on the inspection pages:
- the date of the inspection;
- the organisation and the name of the person who carried out the inspection, the examining or the testing;
- the category of the inspection, examining or testing;
- the scope of the inspection;
- the main conclusions from the inspection, examining or testing.

In the crane log, the following information must be given regarding the inspection:
- the date of the inspection;
- the organisation and the name of the inspector or person carrying out the testing;
- against which standard the inspection has been carried out (if applicable).

The crane log should contain details about repairs and/or modifications that relate to the load bearing structure (including the pedestal) and/or (parts of) the mounting with which the crane is kept in its original condition or modifications which do not change the ways in which the crane can be used.
Major painting work is also seen as being a repair.

Note:
Modifications must be executed as per original design requirements of the offshore crane. The EN standards can be followed as a guide.

8. QUALIFICATIONS OF PERSONNEL

8.1. Purpose

In NEN 17020 requirements are defined in respect of the integrity and expertise of the personnel, including the management, of an inspection body so that this inspection body is able to properly fulfil its technical functions and that persons or organisations outside the inspection body cannot exert any influence on the inspections that have been carried out.

The competence criteria below have been established in order to meet this purpose for carrying out inspections on cranes on fixed offshore installations.

In according with NEN 17020 the inspection body shall define and document the competence requirement for all the personnel involved in inspection activities, including requirements for education, training, technical knowledge, skills and experience.

8.2 Technical Inspector

The technical inspector must have sufficient expertise to perform his function for the inspection of one or more type (s) of machines from this scheme. He must be familiar with the inspection scheme, including appendices A and B. The inspection body must demonstrate this.

The competence criteria below have been drawn up to meet this objective for performing the present inspections.

Education	MBO level 4 mechanical engineering, measurement and control engineering or mechanic mobile machines or mechatronics or electrical engineering mechanic or equivalent (e.g. via previously acquired competences)
Knowledge and experience	Sufficient practical knowledge and experience of the machines, parts, construction, drive mechanisms, mechanical parts, safety and limiting devices, braking systems, steel cables and test procedures to be inspected. Knowledge of laws and regulations regarding cranes. The knowledge and experience can be gained in either machine design, manufacture, installation, maintenance, inspection, operation or a combination of these subjects.
Independence	Must be able to work independently, estimate risks, weigh shortcomings and make decisions.
Expresion-skill	Good expression skills.
Contact-skill	Good communication skills.

The inspection body has a plan in which a training course is laid down on the basis of the specific experience of the aspiring inspector

8.3. Function of the Technical Manager

Education: At least at HBO level (higher vocational education) or a demonstrably equivalent level of education, specific knowledge of machine construction, mechanics and mathematics. Specific knowledge of the regulations, the law, rules and regulations and standards concerning all aspects of hoisting cranes.

Intake: Technical management experience and 3 years of relevant experience in the offshore cranes sector. Experience and a permanent appointment in the inspection body.

Communication skills: The ability to express oneself well verbally and in writing, also in English. Can get on well with management and co-workers of clients, manufacturers, government agencies and other national and international bodies.

Self-reliance: Must be able to make decisions autonomously and independently within the limits set for the organisation and manage co-workers.

8.4 Facilities

The Technical Inspector of the inspection body must have appropriate and adequate resources to carry out the inspection competently and be able to perform the inspection safely
The technical inspector has at least the following means:

- Metric measuring tape of 30 to 50 meters or an equivalent digital device with a maximum inaccuracy of 10cm: calibration is not required (indicative measurement);
- Metric caliper with a maximum inaccuracy of 0.5 mm: Calibration not required (indicative measurement);
- Calibrated tension gauge in accordance with ISO 7500 (class 1).
- Personnel Protection Equipment (PPE) as required by the client.

9. TCVT CERTIFICATE OF APPROVAL AND TCVT APPROVAL STICKER

For the design of the TCVT Certificate of Approval and the TCVT Approval Sticker, see Annex D.

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ANNEX A

FORMAT OF THE ASSESSMENT FORM FOR THE PERIODIC EXAMINING AND TESTING OF OFFSHORE CRANES

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EXPLANATORY NOTES

NEN 17020 states that the inspection body must apply inspection methods and procedures that are set out in the requirements against which conformance has to be determined.

The inspection list for offshore cranes, described in Annex A, and the accompanying instructions (Annex C) flesh out the requirements. This inspection list also fleshes out the recommendations in ISO 9927-1 Cranes – Inspections.

It is advised that this format should also be used for other periodic inspections of offshore cranes or other hoisting applications on Offshore Mining Installations.

The filled in inspection form must be kept until it can be replaced by a filled in form for the next periodic inspection carried out by an accredited inspection body.

The inspection form and the crane log must be shown to authorised officers on request.

Customer's job number: .....

Date of inspection : .....

Carried out by : ..... (stamp + signature)

(company / body)

Specialist : .....

Hoisting crane details

Manufacturer : ..... Company no. : .....

Model / type : ..... Year built : .....

Factory number : ..... Hours in use : .....

Installed on : .....

Type of crane

Stationary / column Lattice boom..... ..... m

.... m

Drive system: Electric, Electric/hydraulic, Diesel/hydraulic

Owner

Name : .....

Address : .....

Place of business: .....

Contact person : .....

Telephone no. : .....

Client

Company : .....

Officer : .....

Telephone no. : .....

Findings

Shortcomings : **NO** / **YES**, for the points :

direct risk : .....

no direct risk : .....

Report issued to:

Name / Position : ..... / .....

Company : .....

Signature for receipt : ..... date.....

(X = in order/not in order; O = not applicable)

		io/nio	**Comments**
0100	**Documentation**		
0101	Crane log	.....	
0102	Operating / maintenance / assembly instructions	.....	
0103	Electrical / hydraulics / pneumatics diagram	.....	
0104	Certificates, steel cables dated	.....	
0105	Certificates, hoisting blocks, wedge & socket dated....	.....	
0106	Latest inspection report dated	.....	
0107	Maintenance report present	.....	
0108	Assessment of last maintenance report dated	.....	
0190	Periodic maintenance carried out in conformance with the programme	.....	
0110	Assessment of last NEN 3140 report dated	.....	
0111	Assessment of last Atex report dated	.....	
0112	Slewing ring inspection and condition procedure	.....	
0113	Lifetime extension declaration for cranes older than 24 years	.....	
0114	CE Declaration of Conformity	.....	
0200	**Access**		
0201	Steps / stairs / cage ladders	.....	
0202	Platforms / walkways	.....	
0203	Handgrips / handrails	.....	
0204	Escape route	.....	
0205	.....	.....	
0300	**Cabin / control point**		
0301	Controls (buttons / handles / pedals) (neutral position)	.....	
0302	Instruments - view on mechanical radius indicator	.....	
0303	Load recording system	.....	
0304	Hoisting tables (in line with crane log)	.....	
0305	Emergency stop button / protection	.....	
0306	Movement no longer possible after activating emergency stop	.....	
0307	Emergency release of hoisting winch	.....	
0308	Windows (safety glass)	.....	
0309	Fire extinguisher	.....	
0310	Means of communication	.....	

0400	**Crane structure (visual)**		**io/nio**	**Comments**
0401	Structure		.....	
0402	Bolt / pin connections / lockings	Locks	.....	
0403	Cable pulleys		.....	
0404	Cable run-out safety devices		.....	
0405	Control on cable clearance		.....	
0406	Lubrication		.....	
0407	Overall condition		.....	
0408	Bilge level		.....	
0500	**Slewing gear**			
0501	Slewing ring		.....	
0502	Slewing ring fastening / bolts		.....	
0503	Drive wheels / gear ring / drive pinion		.....	
0504	Gearbox / drive		.....	
0505	Coupling		.....	
0506	Lubrication		.....	
0507	Brakes / pawl		.....	
0508	Grease sample report available	dated	.....	
0509	Axial clearances (N,E,S,W)		.....	

0600	**Winchgear**	**io/nio**	**io/nio**	**Main winch io/nio**	**Aux. winch io/nio**	**Top winch Comments**
0601	Drum / bearings			.....		
0602	Fastening of the cable on the hoist drum as per manufacturer's instruction	n.a.		.....		
0603	Fastening of the cable on the drum as per manufacturer's instruction .	n.a		.....		
0604	Slack cable / run out safeguard				.....	
0605	Pawl / band brake				.....	
0606	Overall condition				.....	
0607	safety break				.....	

		Main winch	Aux. winch	Top winch
0700	**Running cables**			
0701	Cable conform crane log/certificate	.....	.....	.....
0702	Condition of cable	.....	.....	.....
0703	Protection against corrosion	.....	.....	
0704	Cable inspection carried out in accordance with ISO 4309	.....	.....	
0705	Installation	.....	.....	.....
0706	End connection	.....	.....	.....

		io/nio Left	io/nio Right	Comments
0800	**Standing cables (guy ropes)**			
0801	Cable conform crane log/certificate	.....	.....	
0802	Condition of cable / preservation	.....	.....	
0803	Cable inspection carried out in accordance with ISO 4309	.....	.....	
0804	Installation	.....	.....	
0805	End connection	.....	.....	

		Main hoist	Aux. hoist
0900	**Hoisting hook and blocks**		
0901	ID marking of hoisting hook / block	.....	.....
0902	Details conform certificate	.....	
	Hook:		
0903	Safety latch	.....	
0904	Y dimension of the hook	.....	
0905	Visual inspection (wear, cracks, changes in shape, etc.)	.....	
	Blocks:		
0906	Overall condition	.....	
0907	Lubrication	.....	
0908	Locks	.....	

		io/nio	Comments
1000	**Diesel motor**		
1001	Exhaust system	.....	
1002	Spark arrester exhaust	.....	
1003	Overall condition of the diesel motor	.....	
1004	Maintenance report present dated	.....	

1100	**Hydraulical installation**	**io/nio**	**Comments**
1101	Hydraulic pumps / motors	.....	
1102	Hoses / lines / couplings	.....	
1103	Oil tank	.....	
1104	Luffing cylinder(s), functioning, condition	.....	
1105	Telescopic cylinders, functioning, condition	.....	
1106	Control equipment, general	.....	
1107	Maintenance report present dated	.....	
1108	Sealing of hydraulic safety valves	.....	
1109	Hydraulic accumulator's	.....	

1200	**Pneumatical installation**	**io/nio**	**Comments**
1201	Inspection period, air tank	.....	
1202	Inspection period, safety valve *& seal*	.....	
1203	Hoses / lines / couplings	.....	
1204	Certificates for air tanks (PED) dated	.....	

1300	**Electrical installation**	**io/nio**	**Comments**
1301	Electrical wiring / cables/ cable trays	.....	
1302	Switchbox / equipment	.....	
1303	Work lighting / obstruction lighting	.....	
1304	Guarding of live parts	.....	
1305	Earth connections	.....	
1306	Slip ring unit	.....	

1400	**Electro motors**	**io/nio**	**Comments**
1401	Fixing	.....	
1402	Coupling	.....	
1403	Earths	.....	
1404	Overall condition	.....	

1500	**Miscellaneous**	**io/nio**	**Comments**
1501	Paintwork	.....	
1502	Identification	.....	
1503	Overall condition of the crane	.....	
1504	Have major repairs / modifications been carried out expertly	.....	

Functional tests:

		Main winch io/nio	Aux. winch io/nio	Comments
1600	Automatic limiters / indicator / safety devices (not load-dependent)			
1601	Highest position of hoist block(s)		.....	
1602	3 coil safety device (minimum)		.....	
1603	Highest position of boom / signal		.....	
1604	Lowest position of boom / signal		.....	
1605	Slewing limiter(s) (signal)		.....	
1606	Mechanical radius indicator		.....	
1700	**Automatic limiters / safety devices (load-dependent)** According to the manufacturing specification		**io/nio**	**Comments**
1701	Load indicator (deviation max. +/- 2,5% of the specified curve full scale).		.....	
1702	Load limiter.		.....	
1703	Warning 100% optical red / acoustic aux hoist		.....	
1704	Load moment safety device (max +/- 2,5% on the display)		.....	
1705	Pre-warning 90%optical yellow (		.....	
1706	Final warning 100% red / acoustic main hoist (alarm signal			
1707	Luffing down cut-out….			
1708	Load Moment Safety bypass switch (if provided)		.....	
1709	Slack rope safety device		.....	
1710	Holding test with max. line pull			

Hoisting table number:	**Test: load moment safety device (LMB)**

Item	Boom m. 1	Jib m. 2	Total length m 3	reeving s 4	Slewing area R=360 L= limited space 5	Hoisting table for P=platform S=sea lifts M=men lifting 6	WLL Free in the hook Kgs 7	LMB stop at a radius of m 8	WLL In conform. with hoisting table Kgs 9	Difference in % between column 7 and 9 10	Acc	N.acc
1											☐	☐
2											☐	☐
3											☐	☐
4											☐	☐
5											☐	☐
6											☐	☐
7											☐	☐
8											☐	☐
9											☐	☐
10											☐	☐

Main winch **Aux. winch**

1800 Emergency lowering gear

1801 Instructions for using emergency lowering gear present .....

1802 Lowering with a switched-off power source .....

1900 Additional safety systems **io/nio** **Comments**

1901 Automatic overload protection system .....

1902 Manual overload protection system .....

1903 Transporting of persons .....

1904 Emergency luffing .....

1905 Emergency slewing .....

1906 Emergency recovery .....

1907 Functionality of ILD (impact Limiter Device) Procedure from crane manufacturer .....

1908 Emergency hoisting / lowering. .....

2000 Notes and/or comments.

.....

.....

Identification code:
TCVT W2-01E/2021

ANNEX B

TESTING PROGRAMME

FOR THE PERIODIC EXAMINING AND TESTING OF

OFFSHORE CRANES

Document code	Expired version	Current version	Drawn up by study group 2	Approved by CCvD-VT	Adopted by Executive Board, Stichting TCVT
W2-01E	15-050	21-001	15-2-2021	26-02-2021	12-03-2021

1. FOREWORD

This programme must, depending on the crane that is to be tested, be followed in combination with the assessment form for the periodic examining and testing of offshore cranes (Annex A).

2. FREQUENCY OF TESTING

Every year, with a maximum extension of 1 *month*, the crane must be tested at the maximum rope pull of the winch. This to demonstrate the proper functioning of the winch brake system and safe load indicator system.

Every 5 years, with a maximum extension of 1 month, the crane must be tested with a weight equal to the maximum working load on the maximum allowable radius for this load.
This test every 5 years may take place at the same time as the inspection of the pedestal, which is carried out under the supervision of the classification organisation.

An inspector from an inspection body must be present.

3. TEST WEIGHTS

These must be set up near the crane and provided with certified and sound fastening and hoisting means. The mass of the test weights must be marked on the test weights. If concrete test weights, containers with loose parts and the like are used, the weights must be checked by weighing them. When setting up the test weights, the maximum deck load per m² of the offshore location must also be taken into account.

If water bags are used, they must be attached to the crane hook using a calibrated load sensor. This calibrated load sensor must have an accuracy according to article 8.4. .

Alternatively, a designated fixed point, pointed out by the operator, may be used instead of solid weights or water bag to obtain the same result. When the test is been carried out with a fixed point, the lifting table is leading.

4. SLEWING AREA

The slewing area of the crane must be as free of obstacles as possible.
So far as possible, the hoisting of the test load should be carried out over the sea.

5. SOUND HOISTING GEAR

Certified and sound hoisting gear, suitable for hoisting the test load, must be used for testing the crane. When testing, the wind speed allowed for the hoisting crane in question by the manufacturer must be taken into account.

6. THE TESTS AND CHECKS

During the test load-dependent safety and limit devices have to be checked. In consultation with the client, the inspection body must have prepared beforehand a test programme relating specifically to the machine (see also under Annex A under 1700).
When the tests regarding several equal components, the test can be taken at random, with a minimal of 3% of the components.

7. REPORTING

The results of the load test(s) must be recorded in the crane log.

Identification code:
TCVT W2-01E/2021

ANNEX C

INSTRUCTIONS FOR THE ASSESSMENT FORM FOR THE PERIODIC EXAMINING AND TESTING OF OFFSHORE CRANES

Document code	Expired version	Current version	Drawn up by study group 2	Approved by CCvD-VT	Adopted by Executive Board, Stichting TCVT
W2-01E	15-050	21-001	15-2-2021	26-02-2021	12-03-2021

ANNUAL INSPECTION LIST FOR AN OFFSHORE CRANE

0101 Documentation

0101 Crane log
The crane log must be filled in completely with among others the last E&T that was carried out.
Maintenance work and major repairs and/or modifications must be recorded.
Replacing of steel cables and checks must be recorded on the appropriate pages.
Check for the presence of a hoisting table.

0102 Operating / maintenance / assembly instructions
Check for the presence of the operating, maintenance and assembly instructions.

0103 Electrical / hydraulical / pneumatical diagrams
Check for the presence of the electrical, hydraulical and pneumatical diagrams.

0104 Certificates, steel cables dated……
Check that the steel cable certificates are in conformance with the manufacturer's instructions.

0105 Certificates, hoisting blocks dated……
Check that the hoisting blocks certificates are in conformance with the manufacturer's instructions.

0106 Last inspection report dated .....
Read through the last inspection report and note the deviations that were reported.

0107 Maintenance report present.
Check for the presence of the maintenance report.

0108 Assessment of the last maintenance report dated.....
Check for and read through the last maintenance report.
Look carefully at the comments that were made then.

0109 Periodic maintenance carried out by / on behalf of the user / administrator in conformance with the programme.
Check for and read through the last maintenance report.
Look carefully at the comments that were made then.

0110 Assessment of the electrical engineering report (NEN 3140) dated .....
Check the interval between inspections as set out in the risk list.
Check for and read through the last maintenance report.
Look carefully at the comments that were made then

0111 Check availability of ATEX 95 (if applicable) and ATEX 137 report, Health & Safety document (explosion safety document).
Crane in a Zone 1 or 2 ?
- No report available in a Zone 1 area is a direct risk
- No report available in a Zone 2 area is a no direct risk, if there is a hot work permit available.

Look carefully on the comments that are made.

0112 Slewing ring inspection and condition procedure
Check for measurements carried out by maintenance contractors of the bearing play.
Tolerances condition further to summaries of grease samples.

0113 When the crane (> 24 years) is due to inspection, the owner of the crane will provide the inspection body a lifetime extension declaration with sufficient information regarding:
- spline inspections (gear box, winch)
- boom (decrease of material thickness max. 10%, Lloyds rules)
- A-frame (decrease of material thickness max. 10%, Lloyds rules)
- electrical components

0114 Check for the presents of the CE Declaration of Conformity;
- when presented: continue the inspection
- when not presented for crane taken in to use before January 1st 1995 : mark as Not Applicable
- when not presented for cranes taken in to use after January 1st 1995 : direct risk to safety

0200 Access

0201 Steps / stairs / cage ladders

0202 Platforms / walkways
Check for slip and trip.
Visual inspection of welded joints. Pay particular attention to welds where the paint has broken or that show a lot of corrosion.
Check the structure for dents, bent pieces, severe corrosion and other damage. Check the fixing of parts to each other.

0203 Handgrips / handrails

0204 Escape route
201 to 204 Check for the overall condition of these parts.
Look out for damage, fastenings, welding work, attack by corrosion, free of obstacles

0300 Cabin / control point

0301 Control (buttons / handles / pedals) neutral position
Check the control units, such as whether they come back to Neutral .

0302 Instruments
Check the functioning.

0303 Load recording system
Check the working of the system,.

0304 Hoisting tables (in line with the crane log)
Check for the presence in the cabin of a hoisting table.
Is everything in conformance with the table in the crane log.

0305 Emergency stop button(s).

0306 movement is no longer possible after it has been activated
0305-0306: Check the working of the emergency stop button(s).

0307 Emergency release.
Check the working of the emergency release system.

0308 Windows (safety glass)
Check the condition of the windows.

0309 Fire extinguisher
A fire extinguisher with a valid inspection date must be present with the crane.

0310 Communication means
Check for the presence of and the functioning of the communication system.

0400 Crane structure (visual)

0401 Structure
Visual inspection of welded joints. Pay particular attention to welds where the paint has broken or that show a lot of corrosion.
Check the structure for dents, bent pieces, severe Corrosion and other damage. Check the fixing of parts to each other.

0402 Bolt / pin connections / locks
Check bolt and pin connections and their locks, including parts built on to them where there may be risks of falling (work lighting, limit switches, etc.).

0403 Cable sheaves.
Check the groove wear (with a calibre). Check manufacturers instruction
Check the bearing play and the position of the bearings. Check the clearance in relation to the next sheave or wall.
Note: check the factory specification of the bearings; some bearings have a lot of play.

0404 Cable run-out safety devices
Check for the presence, the correct positioning and the functioning of the run-out safety devices.

0405 Control on cable clearance
Check for chafing along structural parts.

0406 Lubrication
Check lubrication.

0407 Overall condition

0408 Bilge level pedestal.
check overall condition crane pedestals

0500 Slewing gear

0501 Slewing ring
Check the functioning in general. Check for unusual noises and play. Check the seal.

0502 Slewing ring fastening / bolts
If stud bolts are equipped with a pre-tension control system, the setting of this control system must be checked against the original equipment manufacturers procedure.
When the setting is not in compliance with the requirements of the original equipment manufacturer, This must be reported as a “DIRECT RISK”.

0503 Drive wheels / gear ring / drive pinion
Check the teeth for excessive wear.
Check the tooth clearance between the gear ring and the pinion.

0504 Gearbox / drive
Check the overall condition.

0505 Coupling
Check the condition of the coupling

0506 Lubrication
Check whether the tooth contact area and slew bearing are sufficiently lubricated.

0507 Brakes
Check the brakes for functioning (without a load).

0508 Grease sample report available
Check availability of grease sample report and recommendations.

0509 Axial clearances (N,E,S,W)
Check actual clearance report, measured values in relation to the maximum tolerance

0600 Winchgear

0601 Drum / bearings
Check the grooves for wear.
Check the flanges of the drum for wear or sharp edges or deformation caused by wear or caused by other causes.
Check for excessive play of the bearings.

0602 Fastening of the cable on the drum breaks at a force smaller than or equal to 10% of the minimum breaking strength of the cable.
Check the fastening of the cable on the drum.

0603 Fastening of the cable on the drum breaks at a force larger than the minimum breaking strength of the cable.
Check the fastening of the cable on the drum.

0604 Run-out safety device
Check for the presence, the correct positioning and the functioning of the run-out safety devices.

0605 Pawl / band brake / safety break
Check the functioning of the pawl and the brake lining of the band brake.
Check safety break for proper functioning

0606 Overall condition

0700 Running cables
Cables must be of the galvanised type.

0701 Cable conform crane log / certificate
Check the cables being used are conform specification, crane log and certificate

0702 Condition of the cable
Record the measured diameter of all cables. It must be in accordance with the crane manufacturers instruction.
The dimensions given by the manufacturer for rejection must be followed. The rejection standard to be used must be from the standard for the steel cable in question. The lifetime of a steel cable in a machine is very much depending on its construction, the environment in which it is used and how it is used.
Periodic inspections must be carried out at regular intervals, which in turn depend on the circumstances in which the steel cable is used.
During the inspection, particular attention should be paid to those areas where corrosion, wear, fatigue or damage may be expected as a result of the circumstances in which the cable is used.
During the inspection it should always be kept in mind that with a visual assessment only external defects in the cable can be seen.
A cable can be rejected on the grounds of breaks in the wire, wear, corrosion, a reduction in diameter, external damage, numerous fractures together and a broken strand, broken wires + wear + corrosion + a reduction in diameter.
The above-mentioned rejection criteria must be applied to the worst parts of a steel cable.

0703 Protection against corrosion
Check the cable for protection against corrosion

0704 Cable inspection carried out in accordance with the crane manufacturers instruction.

0705 Check whether the cable has been installed in accordance with the manufacturer's instructions.

0706 Check whether the end connections have been fitted in accordance with the manufacturer's instructions.

0800 Standing cables (guy ropes) Cables must be of the galvanised type.

0801 Cable conform crane log / certificate
Check the cables being used are conform specification, crane log and certificate

0802 Condition of the cable

Record the measured diameter of all cables. It must be in accordance with the manufacturers instruction.

The dimensions given by the manufacturer for rejection must be followed. The rejection standard to be used must be from the standard for the steel cable in question.
The life of a steel cable in a machine is very much dependent on its construction, the environment in which it is used and how it is used.
Periodic inspections must be carried out at regular intervals, which in turn depend on the circumstances in which the steel cable is used.
During the inspection, particular attention should be paid to those areas where corrosion, wear, fatigue or damage may be expected as a result of the circumstances in which the cable is used.
During the inspection it should always be kept in mind that with a visual assessment only external defects in the cable can be seen.

A cable can be rejected on the grounds of breaks in the wire, wear, corrosion, a reduction in diameter, external damage, numerous fractures together and a broken strand, broken wires + wear + corrosion + a reduction in diameter.
The above-mentioned rejection criteria must be applied to the worst parts of a steel cable.

0803 Cable inspection carried out in accordance with ISO 4309

0804 Check whether the cable has been installed in accordance with the manufacturer's instructions.

0805 Check whether the end connections have been fitted in accordance with the manufacturer's instructions.

0900 Hoisting hooks and blocks

0901 ID marking of hoisting hook / block
For each hook and block that goes with the crane, record the information requested in the assessment report.

0902 Details conform certificate / crane log.
Check whether the details on the hook and the block are the same as in the certificate / crane log. Check validity of the certificate.
"Hoisting hooks & blocks must be assessed and load tested every 4 years. There must be objective evidence that a complete assessment is performed and a tracible valid certificate is available.
(Assessment = Hoisting hook & blocks must be disassembled, components to be inspected and a dimensional control of all components needs to be performed and recorded)

Hooks:

0903 Safety latch
Check whether the safety latch is on and is working properly.
Check the functioning in general and according specifications.

0904 Y dimension
Check whether the Y dimension of the hook is the same as on the certificate.

0905 Visual inspection

Blocks:

0906 Overall condition
Check the fastening of the side plates, the pendulum bearing of the hook traverse and on the bearing journals of the block eye.
Check for wear, cracks, excessive bearing play of the sheaves and other damage.
Check that the warning stripes are clearly visible.

0907 Lubrication
Check whether all the parts of the hoisting block are well lubricated.

0908 Locks
Check whether all locks are fitted correctly.

1000 Diesel motor

1001 Exhaust system
Check the overall condition of the motor exhaust.

1002 Spark arrester exhaust
Check the condition of the spark arrester.

1003 Overall condition of the diesel motor.
Check the overall condition, suspension, V belt, leaks.

1004 Maintenance report present
Check for test reports, motor safety devices.

1100 Hydraulicalinstallation
Warning: oil causes serious pollution.
In all cases in which oil leaks may occur when checks or tests are being carried out, suitable receptacles must be put in place to catch the oil.

1101 Hydraulic pumps / motors
Check for proper functioning and look out for any other noises.

1102 Hoses / pipes / couplings
Check for damage and that they are fitted correctly.

1103 Oil tank
Check the level in the oil tank and check the tank for leaks.

1104 Luffing cylinder(s), functioning, condition
Check the cylinder rod for damage and leaks.

1105 Telescopic cylinder, functioning, condition
Check the cylinder rod for damage and leaks.

1106 Control equipment, general
Check the control equipment for proper functioning.

1107 Maintenance report present
Check for the presence of the maintenance report of the hydraulics system and that it has been updated.

1108 Sealing of hydraulic safety valves
Check for the presence of seals.

1109 Certificates, accumulators
Check the certificates for conformance.

1200 Pneumatical installation

1201 Inspection period, air tank
Check the inspection period for the air tank. Make a note in the report if the inspection is due.

1202 Inspection period, pressure safety device.

Check for the presence of seals.

1203 Hoses / pipes / couplings
Check for damage and that they are fitted correctly.

1204 Certificates, pressure tanks
Check the certificates for conformance when applicable

1300 Electrical installation

1301 Electrical wiring / cables
Visual check of the cables for insulation and for the soundness of the gland of the cables.
Check the fastening of the cables.

1302 Switchboxes / equipment
Visual check that the switchboxes / equipment are in good condition.

1303 Work lighting / obstruction lighting
Visual check of the working of the lights.

1304 Guarding of live parts
Visual check that live parts are guarded and for danger of electrocution.

1305 Earths
Visual check for the presence, condition and connection of earth wires.

1306 Slip ring unit
Visual check that the outside of the slip ring unit is in good condition.

1400 Electro motors
See maintenance report.
General external visual inspection.

1401 Fixing
Visual check of the fixing of the electro motors and the cable inlet.

1402 Coupling
Visual check of the elastic couplings for play and that they are fitted properly.

1403 Earths
Visual check of the earth connections of the electro motors.

1404 Overall condition
Visual check.

1500 Miscellaneous

1501 Paintwork
Check the condition of the paintwork. Make a note of corrosion and places that are corroded through.

1502 Identification
Check and verify the details about the crane, such as the make, the type, its number and the year it was built.
Check for the CE mark for cranes built after 01 January 1995.

1503 Overall condition of the crane

1504 Have major repairs / modifications been carried out expertly
Have major repairs / modifications been reported? Have the repairs / modifications been carried out carefully in accordance with specifications and has it been demonstrated that the repairs / modifications are sound (for example by an inspection by a specialist institute or the classification organisation). The inspection body will take notice if a specialist institute has carried out the repairs/modification,

Functional tests:

1600 Automatic limiters / safety devices (not load-dependent)

1601 Highest position of hoist block(s)
Check the functioning of the switch for the highest position of the hoist blocks.

1602 3 windings safety device (minimum)
Check the 3 windings safety device.
Following text will be recorded in the crane log when occurred:
"testing of the windings safety device couldn't take place. The certificate doesn't include the authorised functioning of the device. The operator has to test the device when the cable will be changed and makes a note in the crane log.

1603 Highest position of boom / signal
Check the functioning of the switch for the highest position of the boom and the signal that goes with it.

1604 Lowest position of boom / signal
Check the functioning of the switch for the lowest position of the boom and the signal that goes with it.

1605 Slewing limiter(s) (signal)
Check the slewing limiters and the signal that goes with it.

1606 Mechanical radius indicator

1700 Automatic limiters / safety devices (load-dependent: check article 8.4)

1701 Load indicator
Check the pre-warning and final warning settings as per manufacturer's requirements.
Record the settings on the inspection report.
If there are no specific requirements the pre-warning and final warning needs to be inspected as described in inspection item 1703, 1705 & 1706.

1702 Load limiter
Check, from the manufacturer's specifications or using a test load, the setting of the load limiter.

1703 Warning 100% optical red / acoustic aux hoist

1704 Load moment safety device

1705 pre-warning 90% optical yellow (max 95% for the selected significant wave height..

1706 warning 100% optical red / acoustic. (alarm signal max. 110% = real load against SW load conform load chart) for the selected significant wave height.

1707 switch off luffing down or luffing down cut-out

1708 Load Moment Safety bypass switch (if provided)

1709 Slack rope safety device
Check the slack rope safety device by gradually relieving the load on the cable.

1710 Holding test with max. line pull
The crane must be tested at the maximum rope pull of the winch. This to demonstrate the proper functioning of the winch brake system, safe load indicator system and the tensile force of the cable on the drum.

1800 Emergency lowering gear

1801 Instructions for using emergency lowering gear present
Are these instructions clear and in the cabin or in the immediate surrounding area.

1802 Lowering with a switched off power source
Check the functioning of emergency lowering in accordance with the procedure.

1900 Additional safety systems

1901 Automatic overload protection system
Check if the system is functioning conform the manufacturer's instructions.

1902 Manual overload protection system
Check if the system is functioning conform the manufacturer's instructions.

1903 Transporting of persons
Check if the system is functioning conform the manufacturer's instructions.
Check for the presence of certification

1904 Emergency luffing
Check if the system is functioning conform the manufacturer's instructions.

1905 Emergency slewing
Check if the system is functioning conform the manufacturer's instructions.

1906 Emergency recovery
Check if the system is functioning conform the manufacturer's instructions.

1907 Functionality of the ILD
Check if the system is functioning conform the manufacturer's instructions.

2000 Space for notes and/or comments.

Identification code:
TCVT W2-01E/ 2021

ANNEX D

TCVT CERTIFICATE OF APPROVAL AND TCVT APPROVAL STICKER

Document code	Expired version	Current version	Drawn up by study group 2	Approved by CCvD-VT	Adopted by Executive Board, Stichting TCVT
W2-01E	15-050	21-001	15-2-2021	26-02-2021	12-03-2021

TCVT Certificate of Periodic Approval

ABC	inspection body ABC-Certification B.V. P.O. Box 7777 0000 AN ROTTERDAM	Tel. 010-2222222 Fax. 010-3333333 RvA logo Accreditation no: ……..

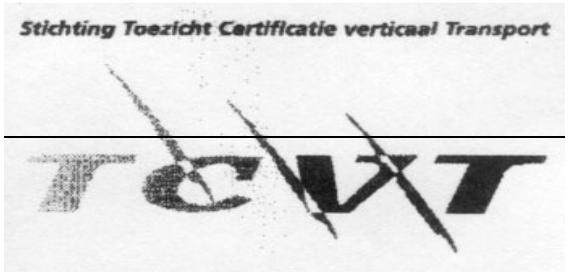
This TCVT Certificate of Approval is issued by inspection body ABC-Certification B.V. on the basis of the certification scheme for the examining and testing of offshore cranes W2-01E/2021

ABC-Certification B.V. declares that on dd-mm-yyyy the offshore crane referred to below

- was examined and tested in accordance with the above mentioned certification scheme and based on the findings has been approved;
- meets the other requirements set out in the above-mentioned certification scheme.

On behalf of ABC Certification B.V. Carl Cranedriver , inspector

Details of the offshore crane
Make:
Type:
Serial number:
Date issued:
Assessment form number: ……
TCVT Approval Sticker: ……



Sticker placed on crane, not on the certificate

This certificate consists of two pages

Reprints are forbidden

Document code	Expired version	Current version	Drawn up by study group 2	Approved by CCvD-VT	Adopted by Executive Board, Stichting TCVT
W2-01E	15-050	21-001	15-2-2021	26-02-2021	12-03-2021

Notes for the user

1. At the latest 13 months after the examination has been carried out a periodic examination must be carried out again, by a inspection body. For details, see www.tcvt.nl.

In addition, at least every 5 years the offshore crane must be tested with a weight equal to the maximum working load on the maximum allowable radius for this load.

2. a test load at max. SWL and max. radius in the presence of a technical inspector to ensure that it is in good working order.

3. In the event of complaints, contact [*the client*] and in the case of serious complaints contact ABC-Certification B.V.

4. The owner must allow the inspection body to attach the TCVT Approval Sticker to the crane at a place that is clearly visible to third parties or (let) places the TCVT Approval Sticker himself..

TCVT Approval Sticker (in reference with VT-800)

To be taken care of by the inspection body or by the owner.

Fill in by hand at the inspection site, date xx-yy-zzzz, and indicate with a cross the year/month of the next TCVT inspection.