

**On approval of the standard of state service “Dangerous technical devices registration and removal from the register"**

***Unofficial translation***

Order of the Minister for Investment and Development of the Republic of Kazakhstan dated November 27, 2018 No. 822. Registered with the Ministry of Justice of the Republic of Kazakhstan on November 30, 2018 No. 17845. Abolished by order of the Minister of Industry and Infrastructure Development of the Republic of Kazakhstan dated April 24, 2020 No. 229.

      *Unofficial* *translation*

      Footnote. Abolished by order of the Minister of Industry and Infrastructure Development of the Republic of Kazakhstan dated 04.24.2020 No. 229 (shall be enforced upon expiry of twenty one calendar days after the day of its first official publication).

      In accordance with subparagraph 1) of Article 10 of the Law of the Republic of Kazakhstan dated April 15, 2013 "On State Services**" I hereby ORDER**:

      1. To approve the attached standard of the state service “Dangerous technical devices registration and removal from the register”.

      2. The Committee for Industrial Development and Industrial Safety of the Ministry for Investment and Development of the Republic of Kazakhstan, in the manner prescribed by law, shall ensure:

      1) state registration of this order with the Ministry of Justice of the Republic of Kazakhstan;

      2) sending of this order in Kazakh and Russian languages to the Republican State Enterprise on the Right of Economic Management "Republican Center of Legal Information" within ten calendar days from the date of state registration for official publication and inclusion in the Reference Control Bank of Regulatory Legal Acts of the Republic of Kazakhstan;

      3) posting of this order on the Internet resource of the Ministry for Investments and Development of the Republic of Kazakhstan;

      4) submission to the Legal Department of the Ministry for Investment and Development of the Republic of Kazakhstan of the information on implementation of measures, in accordance with subparagraphs 1), 2) and 3) of this paragraph within ten working days after the state registration of this order with the Ministry of Justice of the Republic of Kazakhstan.

      3. Supervision of the fulfilment of this order shall be entrusted to the Supervising Vice Minister for Investments and Development of the Republic of Kazakhstan.

      4. This order shall enter into force upon the expiry of ten calendar days after the day of its first official publication.

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*Minister for Investments and*
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|
*Development of the Republic of Kazakhstan*
 |
*Zh. Kasymbek*
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|   | Approvedby order № 822 of the |
|   | Minister for Investments andDevelopmentof the Republic of Kazakhstan,dated November 27, 2018 |

 **Standard of state service “Dangerous technical devices registration and removal**
**from the register"**
**Chapter 1. General Provisions**

      1. The state service “Dangerous technical devices registration and removal from the register" (hereinafter - the state service).

      2. The state service standard was developed by the Ministry for Investment and Development of the Republic of Kazakhstan (hereinafter - the Ministry).

      3. The public service shall be provided by the territorial departments of the Industrial Development and Industrial Safety Committee of the Ministry (hereinafter - the service provider).

      Receipt of request and issue of a result of the state service provision shall be carried out through the office of the service provider.

 **Chapter2. Procedure for rendering of the public service**

      4. The term of rendering of state service:

      1) from the day of filing the package of documents to the service provider - 10 (ten) working days;

      2) maximum waiting time for filing the package of documents – 15 (fifteen) minutes;

      3) maximum allowed service time – 15 (fifteen) minutes.

      5. Form of the state service rendering: on paper.

      6. The result of the state service rendering – issuance of notification of registration, deregistration of dangerous technical devices.

      Form of the state service result rendering: on paper.

      7. The state service to individuals and legal entities (hereinafter -the service recipient) shall be provided free of charge.

      8. Working hours of the service provider - from Monday to Friday from 9.00 to 18.30, lunch break from 13.00 to 14.30, except weekends and holidays, according to the Labor Legislation of the Republic of Kazakhstan.

      Reception of documents and issuance of the result of public services rendering shall be carried out from 9.00 to 17.30 with a lunch break from 13.00 to 14.30.

      State service shall be rendered in turn, without an appointment and accelerated service.

      The list of documents required for the public services rendering, when the service recipient applies (or his representative by proxy)shall be as follows:

      1) an application for registration and deregistration of a dangerous technical device according to the forms in accordance with Annexes 1 and 2 to this state service standard;

      2) an identity document (for identification);

      3) passport of a vessel under pressure, a boiler (autonomous superheater, economizer), a boiler, a pipeline, a crane, an elevator, a lift by the forms according to Annexes 3, 4, 5, 6, 7, 8 and 9 of this state service standard.

      In cases of submission by the service recipient of an incomplete package of documents in accordance with the list provided for in this paragraph, and (or) documents with an expired date, the service provider shall refuse to accept the application.

 **Chapter 3. The procedure for appealing decisions, actions (inaction) of service providers**
**and (or) their officials on the public services rendering issues.**

      10. Appealing against decisions, actions (inaction) of the service provider and (or) its officials regarding the provision of public services, a complaint shall be filed in the name of the head of the service provider at the address specified in paragraph 12 of this standard of public services.

      The complaint shall be submitted in writing by mail, to the portal of "electronic government" or by personal delivery via the office of the service provider.

      In the complaint of the service recipient the following shall be indicated:

      if it is a physical person - his/her surname, first name, patronymic name (if available), mailing address;

      if it is a legal entity - its name, postal address, reference number and date.

      The complaint shall be signed by the service recipient.

      Confirmation of the complaint acceptance shall be its registration (stamp, reference number and date) in the office of the service provider with the surname, first name and patronymic (if available) and initials of the person who accepted the complaint, the date and place of receiving the response to the complaint.

      When applying via the portal, the information on the appeal procedure may be obtained by calling the Integrated Call Center: 1414, 8 800 080 7777.

      When sending a complaint via the portal, the service recipient from the "personal cabinet" shall have access to information about the appeal, which is updated during processing of the request by the service provider (notes on delivery, registration, execution, response to consideration or refusal to consider the complaint).

      The complaint of the service recipient received by the service provider shall be subject to review within five working days from the date of its registration.

      A motivated answer on the results of the examination shall be sent to the customer by postal service, via the portal of "electronic government" or issued by personal delivery in the office of the service provider.

      In case of disagreement with the results of the public service provided, the service recipient can file a complaint with the authorized body for assessment and control of the quality of public services.

      The complaint of the service recipient received by the authorized body for the assessment and control of the quality of public services shall be considered within fifteen working days from the date of its registration.

      11. In cases of disagreement with the results of the public service provided, the service recipient can apply to the court in accordance with the procedure established by the Legislation of the Republic of Kazakhstan.

 **Глава 4. Other requirements, taking into account the specifics of the State service rendering**

      12. Address of places for rendering of the state service shall be specified on the Internet resource of the service provider: comprom.mid.gov.kz.

      13. Contact telephone numbers of reference services for public services shall be placed on the Internet resource of the service provider: comprom.mid.gov.kz.

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|   | Annex 1to order No. 822 of the |
|   | Minister for Investment andDevelopmentof the Republic of Kazakhstan,dated November 27, 2018Document formTo the Head\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_(name of the\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_territorial Department)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_(surname, name, patronymic(if available) |

 **Application for registration of dangeroustechnical device**

      \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      (name of enterprise, organization, last name, first name, patronymic (if available) of an individual, departmental affiliation,

      individual identification number, address, zip code, telephone)

      I hereby request to put on record

      (to register) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      (name, type, kind of dangerous technical device)

      factory (serial)№ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      manufactured \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      (date and year of manufacture, name of manufacturer, country)

      Supervision over \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ has been organized in full

      compliance with (type of dangerous technical device)

      Rules for ensuring industrial safety in the operation of load-lifting

      mechanisms approved by order No. 359 of the Minister for Investment and Development of the Republic

      Kazakhstan of December 30, 2014 (registered in the State Register ofRegulatory Legal Acts under the number 10332) (hereinafter - the Rules for lifting

      mechanisms) and the Rules for ensuring industrial safety during the work with

      equipment operating under pressure, approved by order No. 358 of the Minister of Investment and Development of the Republic of Kazakhstan of December 30, 2014 (registered in the Register of State Registration of Regulatory Legal Acts under

      No. 10303) (hereinafter - the Rules for pressure equipment) (underline as necessary).

      There is the trained personnel for servicing dangerous technical devices.

      The technical condition of the registered dangerous technical device allows its safe operation.

      The person responsible for supervising the safe operation of a dangerous technical

      device and carrying out technical inspections is appointed by order

      №\_\_\_\_\_\_ from "\_\_" \_\_\_\_\_\_\_20\_\_\_ .

      Surname, name, patronymic (if available)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_,

      position \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      Passed the check for the knowledge of the Rules on load-lifting mechanisms and Rules for ensuring industrial safety during work with the

      equipment operating under pressure (underline as necessary) and has the Certificate №\_\_\_\_\_\_,

      date, year, name of the issuing organization

      \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      The management of the enterprise (organization) guarantees the creation of conditions for the implementation control functions by the

      responsible persons, assigned to them in accordance with the Rules on load-lifting mechanisms and the Rules for ensuring industrial safety during the work with equipment operating under pressure (underline as necessary) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      (position of the head of the organisation, Surname, name, patronymic (if available)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_,

      Surname, name, patronymic (if available) signature)

      of individual)

      "\_\_\_" \_\_\_\_\_\_\_ 20\_\_\_.

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|   | Annex 2to order No. 822 of theMinister for Investment andDevelopmentof the Republic of Kazakhstan,dated November 27, 2018Document formTo the Head\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_(name of the\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_territorial Department)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
|   | (surname, name, patronymic(if available) |

 **Application for deregistration of a dangerous technical device**

      \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      (name of enterprise, organization, last name, first name, patronymic

      (if available) of an individual, departmental affiliation,

      individual identification number, address, zip code, telephone)

      I hereby ask you to deregister

      \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      (name, type, kind of dangerous technical device)

      factory (serial)№ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      manufactured

      \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      (date and year of manufacture, name of manufacturer, country)

      \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      (position of the head of the organisation (Surname, name, patronymic (if available)

      Surname, name, patronymic (if available) (signature)

      of individual)

      "\_\_\_" \_\_\_\_\_\_\_ 20\_\_.

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|   | Annex 3to order No 822 of theMinister for Investment andDevelopmentof the Republic of Kazakhstan,dated November 27, 2018Dcoument form |

 **Passport**
**of the vessel, working under pressure 1. Certificate of quality of the vessel manufacture**

      \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      (name of the vessel)

      Factory № \_\_\_\_\_\_\_\_\_\_\_\_\_ manufactured )\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      (date of manufacture)

      \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      (manufacturer name and address)

      \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 **2. Technical characteristics and parameters**

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| --- | --- | --- | --- |
|
Name of the vessel’s parts |
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|
Operating pressure, MPa kp/cm2 |
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|
Design pressure, MPa (kp/cm2) |
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 |
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|
Trial test pressure, MPa (kp/cm2) |
hydraulic |
 |
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 |
|
pneumatic |
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|
Ambient operating temperature, °С |
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 |
|
Estimated wall temperature, °С |
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|
Minimum allowable negative wall temperature, °С |
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|
Name of operating environment |
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|
Characteristics of operating environment |
Hazard class |
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|
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Explosion hazard |
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|
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Fire hazard |
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|
Corrosion (erosion) allowance, мм |
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 |
|
Capacity, м3 |
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|
Empty vessel mass 1, kg |
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|
Maximum weight of filled environment 1, kg |
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|
Estimated life of the vessel, years |
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|
1 For vessels with liquefied gases |

 **3. Information about the main parts of the vessel**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|
Name of vessel elements (body, bottom, neck, grids, pipes, vessel jacket) |
Quantity, pieces |
Dimensions, mm |
Basic metal |
Information on welding (soldering) |
|
Diameter (internal or external) |
Wall thickness |
Length (height) |
Grade |
Technical guidance document (GOST (State standard) |
Method of connection (welding, soldering) |
Type of welding (soldering) |
Electrodes, welding wire, solder (type, grade, GOST or NTD) |
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 **4. Information on fittings, flanges, caps and fasteners**

|  |  |  |  |
| --- | --- | --- | --- |
|
Name |
Quantity, pieces. |
Dimensions, mm or specification number |
Material |
|
Grade |
GOST (State Standard) (Technical guidance document) |
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 **5. Data on safety relief devices, main reinforcement, control instruments, safety appliances**

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| --- | --- | --- | --- | --- | --- |
|
Name |
Quantity, pieces. |
Installation site
  |
Nominal width, mm |
Nominal pressure, MPa (kp/cm2) |
Body material |
|
Grade |
GOST(State Standard) (Technical guidance document ) |
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 **6. Data on main materials used in the manufacture of the vessel**

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| --- | --- |
|
Material |
Data of the mechanical tests according to the certificate or the protocol of factory tests |
|
At Т = 20°С |
|
 |
Impact-viscosity |
|
Element name |
Grade |
Standard (Technical guidance document) |
Heat number (lot)) |
Number and date of the certificate (protocol) |
Yield limit Re, MPa (kp/cm2) |
Ultimate resistance(strength limit)Rm, MPa (kp/cm2) |
Percentage extension As, % |
Contraction ratio, % |
Before aging, j / cm2 (kgf·m / cm2) |
After aging, j / cm2 (kgf·m / cm2) |
Sample type |
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      Table continuation

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|
Data of the mechanical tests according to the certificate or the protocol of factory tests |
Additional data (ultrasonic testing, tests for hardness, the state of the initial heat treatment and others) |
Chemical composition according to the certificate or the protocol of factory tests |
|
At Т < 0° С |
|
Impact-viscosity, j / cm2 (kgf·m / cm2) |
Temperature, °С |
Sample type |
C |
Mn |
Si |
Cr |
Ni |
Мо |
Cu |
Ti |
V |
S |
P |
Other elements |
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 **7. Vessel Body Dimensions Table**

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| --- | --- | --- | --- | --- | --- | --- |
|
Element name |
Sketch number |
Cross section number |
Diameter, мм |
Out-of-roundness, % |
Straigthness error, mm |
Edge offset of welded butt joints, mm |
|
Nominal outer or inner |
Deviation |
allowable |
measured |
allowable |
measured |
longitudinal  |
annular  |
|
allowable  |
measured |
allowable |
measured |
allowable |
measured |
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 **8. Results of testing and research of welded joints**

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| --- | --- | --- |
|
The name of an element and a number of the drawing (sketch) indicating the connection for which the control welded joints were made |
Test certificate (number and date) |
Mechanical tests |
|
Welded joint |
Weld metal |
|
Ultimate resistance Rm, MPa (kp/cm2) |
Impact-viscosity |
Diameter of straightening and bending angle |
Ultimate resistance Rm, MPa (kp/cm2) |
Relative extension As, % |
Hardness HB |
|
Value, j / cm2 (kgf·m / cm2) |
Temperature, °С |
Sample type |
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      Table continuation

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|
Mechanical tests |
Metallographical tests |
Welder's stamp |
|
Heat-affected zone (weld adjacent zone) |
Evaluation |
|
Impact-viscosity |
Hardness HB |
|
Value, j / cm2 (kgf·m / cm2) |
Temperature, °С |
Sample type |
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Macro or micro research document number and date |
Evaluation |
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 **9. Data on non-destructive testing of welded joints**

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| --- | --- | --- | --- | --- | --- |
|
Weld designation |
Number and date of the inspection document |
Method of inspection |
Volume of inspection, % |
Defects description |
Evaluation |
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 **10. Data on other tests and research 11. Data on heat treatment**

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| --- | --- | --- | --- | --- | --- | --- |
|
Element name |
Document number and date  |
Type of heat treatment |
Temperature of heat treatment, °С |
Speed, °С/h |
Holding time, h |
Cooling method |
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heating |
cooling |
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 **12. Data on hydraulic (pneumatic) testing The vessel has successfully passed**
**the following tests**

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|
Testing type and conditions |
Part of the vessel being tested |
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|
Hydraulic testing  |
Test pressure, MPa (kp/cm2) |
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Test medium |
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|
Temperature of test medium, °С |
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Holding time, h (min) |
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|
Pneumatic testing  |
Test pressure, MPa (kp/cm2) |
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Holding time, h (min) |
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Vessel position at trial1 |
horizontal  |
 |
vertical |
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Note: indicate "Yes" in the required column. |

 **13. Conclusion**

      The vessel is made in accordance with the "Rules for ensuring industrial safety during operation

      of the equipment working under pressure "and Design and engineering documentation

      \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      (name, designation and date of approval of the document)

      The vessel was subjected to external and internal inspection and hydraulic (pneumatic) test of probation pressure according to section 12 of this passport.

      The vessel is recognized as suitable for work with the parameters specified in this passport.

      Technical supervisor \_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      (signature) (signature decryption)

      Stamp (if available)

      Head of the Quality Service \_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      (signature) (signature decryption)

      "\_\_\_\_" \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 20\_\_

 **14. Information about the location of the vessel**

|  |  |  |
| --- | --- | --- |
|
Name of the organization -owner |
Location of the vessel |
Installation date |
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 **15. Person who provides good operating condition and safe work of the vessel**

|  |  |  |
| --- | --- | --- |
|
Number and date of the order of appointment |
Position, surname, name and patronymic of the appointed person |
Signature |
|
 |
 |
 |

 **16. Information on installed fixture**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|
Date |
Name |
Quantity, pieces |
Nominal width, mm |
Nominal pressure, MPa (kp/cm2)) |
Material (grade, GOST (State standard) or technical guidance document ) |
Installation location |
Signature of the designated person for good operating condition and safe work of the vessel |
|
 |
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 |
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 |
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 |
 |

 **17. Other data on vessel installation**

      a) corrosive environment \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      b) anti-corrosive coating \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      c) thermal insulation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      d) lining \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      e) scheme of the vessel connection to the installation (line)

      \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 **18. Information on the replacement and repair of the main elements of the vessel and fixtures**

|  |  |  |
| --- | --- | --- |
|
Inspection |
Permitted pressure, MPa (kgf / cm2) |
The date of the next inspection |
|
Date |
Results |
|
 |
 |
 |
 |

 **19. Record of inspection results**

|  |  |  |
| --- | --- | --- |
|
Date |
Replacement and Repair Information |
Signature of the person who conducted the work |
|
 |
 |
 |

 **20. The vessel registration**

      The vessel registered as № \_\_\_ in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      (registration authority) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      pages and \_\_\_\_\_\_\_\_\_\_\_\_\_ drawings numbered and tied together in the passport

      \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      (position of the representative the signature of the person ensuring good condition and safe operation of the vessel)

      Stamp (if available) "\_\_\_\_\_" \_\_\_\_\_\_\_\_\_\_\_\_\_ 20\_\_

|  |  |
| --- | --- |
|   | Annex 4to order No 822 of theMinister for Investment andDevelopmentof the Republic of Kazakhstan,dated November 27, 2018Document form |

 **Passport of the boiler (autonomous superheater, economizer)**
**1. General data**

|  |  |
| --- | --- |
|
Name and address of the manufacturer |
 |
|
Year of manufacture |
 |
|
Type (model) |
 |
|
Name and purpose |
 |
|
Factory number |
 |
|
Estimated lifetime, years |
 |
|
Estimated resources, h |
 |
|
of a boiler |
 |
|
heating surface |
 |
|
outlet collector |
 |
|
superheater |
 |
|
Estimated number of starts |
 |
|
cold starting |
 |
|
hot startup |
 |

 **2. Technical specifications and parameters**

|  |  |
| --- | --- |
|
Calculated types of fuel and their calorific value MJ / kg, (kcal / kg) |
 |
|
Starting fuel and its calorific value, MJ / kg, (kcal / kg) |
 |
|
Calculated pressure, MPa (kgf / cm2) |
 |
|
in a drum |
 |
|
in the terminal header of superheater |
 |
|
Calculated temperature of superheated steam (liquid), ° С |
 |
|
Steam capacity, t / h (kg / s) |
 |
|
Heating capacity, MJ / h (kcal / h) |
 |
|
Thermal power, W |
 |
|
Heating surface of a steam boiler, m2 |
 |
|
Evaporative |
 |
|
Superheater |
 |
|
Intermediate superheater |
 |
|
Economizer |
 |
|
Heating surface of the boiler, m2 |
 |
|
Volume, m3 |
Steam boiler |
natural-circulation |
water with the maximum permissible level of water in the drum \*\* |
|
 |
 |
 |
steam with the maximum permissible level of water in the drum |
|
 |
 |
 |
steam with the maximum permissible level of water in the drum |
|
 |
 |
monotube |
steam |
|
water  |
|
Water boiler |
 |

 **3. Data on safety valves (devices)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|
Type of safety valve |
Quantity |
Installation location |
Valve section area, mm2 |
Coefficient of steam consumption alpha\_s or liquid alpha\_l |
Opening start pressure and opening start pressure range, MPa (kgf / cm2) |
|
1 |
2 |
3 |
4 |
5 |
6 |
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 |

      Note. It shall be filled by the manufacturer of the boiler (autonomous superheater, economizer). For boilers, please specify the list of devices to protect against the increase in pressure (or temperature).

 **4. Water Level Indicator Data**

|  |  |  |
| --- | --- | --- |
|
Water Level Indicator type |
Quantity |
Installation location |
|
1 |
2 |
3 |
|
Direct action |
 |
 |
|
Remote action |
 |
 |

 **5. Data on main reinforcement**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|
Name of reinforcement |
Quantity |
GOST (State Standard) or technical guidance document (grade) |
Nominal width, mm |
Nominal pressure, MPa (kp/cm2) |
Working parameters
  |
Material of the body |
Installation location |
|
Pressure, MPa (kp/cm2) |
Temperature, °С |
Grade |
GOST or NTD |
|
1 |
2 |
3 |
4 |
5 |
6 |
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 **6. Data on the main equipment for measurement, control, alarm, regulation and**
**automatic protection**

|  |  |  |  |
| --- | --- | --- | --- |
|
Name |
Quantity |
Type (grade) |
GOST (State Standard) or technical guidance document  |
|
1 |
2 |
3 |
4 |
|
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 |
 |

      Note. It shall be filled in by the manufacturer of the boiler (autonomous superheater, economizer) in case of equipment supply together with the boiler. In other cases, it shall be filled by the owner of the boiler.

 **7. Feedwater or circulation pumps**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|
Pump type |
Manufacturer |
Quantity |
Maximum allowable water temperature at the inlet to the feed pump,°С |
Parameters |
Pump drive type (steam, electric, etc.) |
|
Nominal feed m / h3 |
Pump head at nominal feed, MPa (kgf / cm2) |
|
1 |
2 |
3 |
4 |
5 |
6 |
7 |
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      Note. It shall be filled by the manufacturer of the boiler (autonomous superheater, economizer) in case of supply of feed or circulation pumps together with the boiler. For power units of thermal power plants, it shall be filled by the owner of the boiler.

 **8. Data on the boiler main elements, made of sheet steel**

|  |  |  |  |
| --- | --- | --- | --- |
|
Name (boiler shell, head or body, tube-sheet, flue tubes) |
Quantity |
Size, mm |
Material |
|
Inner diameter |
Wall thickness |
Length
or height |
Steel grade |
GOST (State Standard) or technical guidance document |
|
1 |
2 |
3 |
4 |
5 |
6 |
7 |
|
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 |

      Table continuation

|  |  |
| --- | --- |
|
Data on welding |
Data on heat treatment |
|
Welding type |
Electrodes and welding wire (type, grade) |
Method and control volume |
Treatment type |
Heat treatment temperature,°С |
Soaking period |
Cooling method |
|
8 |
9 |
10 |
11 |
12 |
13 |
14 |
|
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 |

 **9. Data on the boiler elements, made of pipes**

|  |  |  |  |
| --- | --- | --- | --- |
|
Name (collector, pipe, pipeline, elbow, transition, assembly welded pipe elements) |
Quantity |
Size, mm |
Material |
|
Outer diameter |
Wall thickness |
Length |
Steel grade |
GOST (State Standard) or technical guidance document |
|
1 |
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4 |
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      Table continuation

|  |  |
| --- | --- |
|
Data on welding |
Heat treatment data |
|
Type |
Electrodes and welding wire (type, grade, GOST(State Standard) or technical guidance document) |
Method and control volume |
Type |
Heat treatment temperature, °С |
Soaking period |
Cooling method |
|
8 |
9 |
10 |
11 |
12 |
13 |
14 |
|
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 **10 Data on fittings, covers, flat bottoms, transitions, flanges with fasteners (bolts, studs, nuts)**

|  |  |  |  |
| --- | --- | --- | --- |
|
Name |
Number |
Dimensions, mm, or specification number |
Material |
|
Steel grade |
GOST (State Standard) or technical guidance document |
|
1 |
2 |
3 |
4 |
5 |
|
 |
 |
 |
 |
 |

      Note. Fittings shall be indicated with an internal diameter of 36 mm and more.

 **11. The results of measurements of boilers' bodies, drums, collectors, which**
**were made of sheet steel or forgings**

|  |  |  |  |
| --- | --- | --- | --- |
|
Name of the boiler element |
Form number |
Section number (after 1 m length) |
Outer(inner) diameter |
|
Horizontal |
Vertical (at an angle 90°) |
Out of roundness, % |
|
1 |
2 |
3 |
4 |
5 |
6 |
|
 |
 |
 |
 |
 |
 |

      Note: For drums with inner diameter less than 1500 mm and working pressure less than 6 MPa (60 kgf / cm2), this table shall not be required to be filled.

 **12. Manufacturer's conclusion**

      On the basis of carried out tests and trials, the following information shall be verified:

      1. The elements of the boiler or boiler as an assembly are made according to the project-design documentation developed by project organization

      \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      (name of the organization-developer of the design documentation)

      2. The elements of the boiler or boiler as an assembly have been tested and meet the above standards and technical documentation.

      3. The elements of the boiler or boiler as an assembly have been subjected to trial pressure testing \_\_\_\_ MPa (kgf / cm2).

      4. The pipe elements of the boiler have been subjected to measuring control for deviation from the size and shape and for permeability.

      5. Elements of the boiler or boiler as an assembly are recognized as suitable for working with the parameters specified in this passport.

      Technical Manager Head of Technical Quality Control of the Manufacturer

      \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      (surname, name, patronymic (if any) (surname, name, patronymic (if any) signature, stamp)

      "\_\_\_" \_\_\_\_\_\_\_\_\_\_20\_\_

      The passport contains drawings of the longitudinal and transverse sections and a plan of the boiler indicating the main dimensions and calculations on strength of the boiler elements working under pressure: drums, collectors, pipes of heating surfaces and pipelines within the boiler, built-in separators of direct flow boilers, outer cyclones, desuperheaters, etc.

 **13. Data on boiler location**

|  |  |  |
| --- | --- | --- |
|
Name of the organisation |
Boiler location (address of the owner) |
Installation date |
|
1 |
2 |
3 |
|
 |
 |
 |

 **14. A person ensuring proper condition and safe operation of the boiler**

|  |  |  |  |
| --- | --- | --- | --- |
|
Number and Date of the Purpose order |
Position, surname, name, patronymic (if any) |
Date of the Rules knowledge check |
Signature |
|
1 |
2 |
3 |
4 |
|
 |
 |
 |
 |

 **15. Information about installed reinforcement (during repair or reconstruction)**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|
Name |
Installation date |
Quantity |
Nominal width, mm, type, grade |
Nominal pressure, MPa (kp/cm2)) |
Material |
Installation location |
Signature of the person ensuring proper condition and safe operation |
|
Grade |
GOST or NTD |
|
1 |
2 |
3 |
4 |
5 |
6 |
7 |
8 |
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 |

 **16. Replacement and Repair Information of the boiler parts, operating under pressure**

|  |  |  |
| --- | --- | --- |
|
Document date and number |
Replacement and Repair Information |
Signature of the person ensuring proper condition and safe operation |
|
1 |
2 |
3 |
|
 |
 |
 |

      Note: Documents confirming the quality of the newly installed (instead of worn-out) elements of the boiler, used in the repair of materials, electrodes, welding, are stored on a par with the passport.

 **17. Drawings of the boiler room (plan, cross-section and longitudinal section) and the**
**certificate of installation quality are attached to the passport**
**18. The results of the inspection**

|  |  |  |  |
| --- | --- | --- | --- |
|
Inspection Date |
The results of the inspection and signature of the person who conducted the inspection |
Permitted pressure, MPa (kgf / cm2) |
The date of the next inspection |
|
1 |
2 |
3 |
4 |
|
 |
 |
 |
 |

 **19. Registration**

      Boiler (autonomous superheater, economizer) registered as № \_\_\_\_\_\_\_

      in\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      (registered authority) certificate of registration attached to the passport)

      In total \_\_\_\_\_\_\_

      pages and \_\_\_\_\_\_\_\_\_\_\_\_\_ drawings are numbered and tied together on \_\_\_\_\_ sheets and separate documents on \_\_\_\_\_ sheets according to the attached inventory.

      \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      (position, surname, name, patronymic of the person, (signature)

      providing security)

      Stamp of the organisation (if available)

|  |  |
| --- | --- |
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|  |  |
| --- | --- |
|
Estimated type of fuel and its calorific value, MJ / kg (kcal / kg) |
 |
|
Type of furnace. Furnace heat release volume, MJ / (m3 x h) |
 |
|
Fuel consumption, m3 / h (t / h) |
 |
|
Type and characteristics of the furnace installation (burners) |
 |
|
Heating surface, m2 |
 |
|
volume, m3 |
 |
|
Data on the position of the lowest liquid level |
According to the drawing № |
|
Steam boiler |
 |
|
Working pressure, MPa (kgf / cm2) |
 |
|
Design pressure, MPa (kgf / cm2)
  |
 |
|
Test pressure, MPa (kgf / cm2)
  |
 |
|
Nominal temperature of steam leaving the boiler, ° С |
 |
|
Nominal temperature of the liquid at the boiler inlet, ° С  |
 |
|
Nominal steam capacity, t / h
  |
 |
|
Minimum allowed steam output, t / h  |
 |
|
Maximum allowable steam output, t / h |
 |
|
Liquid boiler |
 |
|
Working pressure, MPa (kgf / cm2)
  |
 |
|
Design pressure, MPa (kgf / cm2)
  |
 |
|
Test pressure, MPa (kgf / cm2) |
 |
|
Nominal temperature of the liquid at the boiler inlet, ° С
  |
 |
|
Nominal temperature of the fluid leaving the boiler, ° C
  |
 |
|
Nominal heat output, kW
  |
 |
|
Minimum heat output, kW
  |
 |
|
Maximum heat output, kW
  |
 |
|
Minimum allowable flow rate of liquid, m3 / h
  |
 |
|
Maximum allowable flow rate of liquid, m3 / h
  |
 |
|
Maximum allowable hydraulic resistance of the boiler at the nominal output, MPa (kgf / cm2) |
 |
|
Minimum allowable pressure at nominal temperature, MPa (kgf / cm2) |
 |
|
Maximum allowable temperature of liquid at the boiler outlet, ° C |
 |

 **Boiler passport 1. General data**

|  |  |
| --- | --- |
|
Consumer name and address |
 |
|
Name and address of manufacturer |
 |
|
Order number of the boiler according to the manufacturer's numbering system |
Year of manufacture 20\_\_ |
|
Type and system |
 |
|
Heat conductor name |
 |
|
Form and constructive dimensions as per drawing |
 |

 **2. Technical specifications and parameters 3. Data on safety valves**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|
№ |
Type of safety valves |
Quantity |
Installation location |
Inside nominal diameter, mm |
Cross-sectional area taken when calculating the capacity, mm2 |
Coefficient of consumption of steam, gas alpha\_s or liquid alpha\_l |
Opening start pressure and opening start pressure range, MPa (kgf / cm2) |
Passport number (certificate) |
|
1 |
2 |
3 |
4 |
5 |
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 **4. Liquid Level Indicator Data**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|
№ |
Level indicator type |
Indicators number |
Installation location |
Valid operating parameters |
Number of the Passport (certificate) |
|
Pressure, MPa (kgf / cm2)) |
Temperature, °С |
|
1 |
2 |
3 |
4 |
5 |
6 |
7 |
|
 |
Direct action |
 |
 |
 |
 |
 |
|
 |
Remote action |
 |
 |
 |
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 |

 **5. Data on main reinforcement**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|
№ |
Name of reinforcement and its position number on the drawing |
Quantity |
Standard Designation |
Inside nominal diameter, mm |
Nominal pressure, MPa (kp/cm2) |
Working parameters |
Material of the body |
Number of the Passport (certificate) |
|
Pressure, MPa (kgf / cm2)) |
Temperature, °С |
Grade |
Standard Designation |
|
1 |
2 |
3 |
4 |
5 |
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7 |
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 **6. Type and basic data on the equipment supplied with the boiler for measuring,**
**control, alarm, regulation and automatic protection**
**7. Data on heat carrier**

|  |  |
| --- | --- |
|
Name of the heat carrier (chemical formula or manufacturer) |
 |
|
Maximum allowable application temperature, ° С |
 |
|
Auto-ignition temperature in open space, ° С |
 |
|
Solidification temperature, ° C |
 |
|
Boiling point or initial boiling point at 0.1013 MPa (1 kgf / cm2), ° С |
 |
|
Heat of vaporization, kJ / kg |
 |
|
Viscosity within the application temperature, Pa x s |
 |
|
Lower limit of explosive concentration at 0.1013 MPa (1 kgf / cm2), ° С |
 |
|
The change (curve) of the boiling point depending on the pressure |
 |
|
Data on the physical-chemical properties that have a harmful effect on the human body |
 |
|
Other data affecting the safe operation of the boiler (for example, corrosion activity, etc.) |
 |

 **8. Feeding or circulating pumps of the heat carrier**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|
№ |
Pump type |
Pumps quantity |
Maximum and minimum allowable temperature at the pump inlet, ° С |
Parameters |
|
Nominal feed, m3 / h |
Pump head at nominal feed MPa (kgf / cm2) |
|
1 |
2 |
3 |
4 |
5 |
6 |
|
 |
 |
 |
 |
 |
 |

 **9. Data on the main and additive materials used in the manufacture of elements for**
**boilers working under pressure**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|
№ |
Name of the element |
Drawing number and element position |
Material |
Melting or batch number |
Certificate number and dat, name of organization that issued it |
Data on mechanical tests by certificate |
|
Grade |
Standard designation |
At temperature 20°С |
|
sigma \_0,2 MPa (kgf / mm2) |
sigma \_в, MPa (kgf / m2) |
delta\_ 5,% |
psi, % |
|
1 |
2 |
3 |
4 |
5 |
6 |
7 |
8 |
9 |
10 |
11 |
|
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      Table continuation

|  |  |  |
| --- | --- | --- |
|
Data on mechanical tests by the certificate |
Chemical composition |
Additional data (ultrasonic testing, hardness test, initial heat treatment condition) |
|
At temperature 20°С |
At design temperature of the wall |
|
The bending angle and the diameter of the mandrel or other technological tests |
Impact strength, (40), j / cm2 (kgf·m / cm2) |
|
Before aging |
After aging |
Sample type |
sigma(t)\_0,2, MPa |
sigma\_n, 100 000 MPa |
sigma\_DP, MPa (kgf / mm2), t, |
 |
 |
 |
|
12 |
13 |
14 |
15 |
16 |
17 |
18 |
19 |
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21 |
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      Note. Designations: sigma\_0,2 - yield strength at 20 ° С; Sigma\_v - tensile strength at 20 ° C; sigma\_5 - tensile breaking strength; psi - relative narrowing; sigma (t) \_0.2 yield strength at temperature t; Sigma\_n - technical creep limit at temperature t for 100,000 h; Sigma\_DP is a technical limit of long-term strength at temperature t per 100,000 h.

 **10. Measurement chart for drums, casings and collectors made of sheet steel**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|
№ |
Name |
Number |
Diameter |
Edge offset of welded butt joints |
|
sketch |
section |
nominal (outer or inner), mm |
permissible deviation, % |
measured deviation, % (+-) |
|
longitudinal |
|
permissible |
measured |
|
1 |
2 |
3 |
4 |
5 |
6 |
7 |
8 |
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      Table continuation

|  |  |  |  |
| --- | --- | --- | --- |
|
Edge offset of welded butt joints |
Out-of-roundness, % |
Deviation of the longitudinal section profile, mm |
Out of flat, mm |
|
circular |
permissible |
measured |
|
permissible |
measured |
permissible |
measured |
permissible |
measured |
|
9 |
10 |
11 |
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14 |
15 |
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 |

      Note. The sketch of the element is attached

 **11. The results of tests and control of welded joints**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|
№  |
Name of the element and number of the drawing, sketch (with indication of connections for which control connections were made |
Certificate number and date |
Mechanical tests |
Metallographic analysis |
Welder’
s stamp |
|
Welded joint |
Weld metal |
Evaluation |
|
sigma \_в, MPa (kgf / mm2) |
Impact strength, (40), j / cm2 (kgf·m / cm2) |
Sample type |
Diameter of sending and angle bend |
sigma \_в, MPa (kgf / mm2) |
delta\_5, % |
Number and Date of macro or micro research document |
Evaluation |
|
1 |
2 |
3 |
4 |
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6 |
7 |
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      Notes: 1. The sketches shall be attached (if necessary) indicating the location of welded joints, micrographs of structures with a description of the latter.

      2. When replacing the test of welded joints of pipes for impact strength by a test for flattening or bending, the results shall be entered into the "Impact strength" chart.

      3. In the "Evaluation" charts, the reference shall be made to the relevant regulatory and technical documentation.

 **12. Data on non-destructive testing of welded joints**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|
№ |
The name of the element and the number of drawing (sketch) |
Method of control |
Volume of control |
Detected defects |
Evaluation |
|
1 |
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 **13. Other tests and studies 14. Data on heat treatment**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|
№ |
Name of the element |
Number of drawing |
Number and Date of certificate of heat treatment |
Grade of material |
Type of heat treatment |
Heating rate,°C/h |
Heat treatment temperature,°С |
Soaking time, h |
Cooling rate, °C |
Cooling method
  |
|
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 **15. Other data 15.1. The results of hydraulic tests**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|
№ |
Name of the element |
Test pressure, MPa (kp/cm2) |
Soaking time, min |
Water temperature,°С |
Date |
Evaluation |
|
1 |
2 |
3 |
4 |
5 |
6 |
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      Note. When conducting a hydraulic test after installation at the boiler installation site, the test report shall be drawn up by the organization that conducted the test and shall be attached to the passport.

 **15.2. Data relating to devices for heat carrier extinguishing in case of its ignition**
**15.3. Data on the device cooling the furnace in the event of an accident**
**16. Manufacturer Conclusion**

      On the basis of carried out trials and tests, the following information shall be verified:

      1. The elements of the boiler or boiler as an assembly are made according to the project-design documentation developed by project organization

      \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      (name of the organization-developer of the design documentation)

      2. The elements of the boiler or boiler as an assembly have been tested and meet the above standards and technical documentation.

      3. The elements of the boiler or boiler as an assembly have been subjected to trial pressure testing \_\_\_\_ MPa (kgf / cm2).

      4. The pipe elements of the boiler have been subjected to measuring control for deviation from the size and shape and for permeability.

      5. Elements of the boiler or boiler as an assembly are recognized as suitable for working with the parameters specified in this passport.

      Technical Manager Head of Technical Quality Control

      \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      (surname, name, patronymic (if any) (surname, name, patronymic (if any) signature, stamp)

      "\_\_\_" \_\_\_\_\_\_\_\_\_\_20\_\_

      The passport contains drawings of the longitudinal and transverse sections and a plan of the boiler indicating the main dimensions and calculations on strength of the boiler elements working under pressure: drums, collectors, pipes of heating surfaces and pipelines within the boiler, built-in separators of direct flow boilers, outer cyclones, desuperheaters, etc.

 **17. Data on boiler location**

|  |  |  |
| --- | --- | --- |
|
Name of the organisation |
Boiler location (address of the owner) |
Installation date |
|
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2 |
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 **18. A person ensuring proper condition and safe operation of the boiler**

|  |  |  |  |
| --- | --- | --- | --- |
|
Number and Date of the Purpose order |
Position, surname, name, patronymic (if any) |
Date of the Rules knowledge check |
Signature |
|
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 **19. Information about installed reinforcement (during repair or reconstruction)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|
Name |
Quantity |
Nominal width, mm, тип, марка |
Nominal pressure, MPa (kp/cm2)) |
Material |
Installation location |
Signature of the person ensuring proper condition and safe operation |
|
Grade |
GOST (State Standard) or technical guidance document |
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 **20. Replacement and Repair Information of the boiler parts, operating under pressure**

|  |  |  |
| --- | --- | --- |
|
Date and number of the document |
Replacement and Repair Information |
Signature of the person ensuring proper condition and safe operation |
|
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      Note: Documents confirming the quality of the newly installed (instead of worn-out) elements of the boiler, used in the repair of materials, electrodes, welding, shall be stored on a par with the passport.

 **21.Drawings of the boiler room (plan, cross-section and longitudinal section)**
**and the certificate of installation quality shall be attached to the passport**
**22. The results of the inspection**

|  |  |  |  |
| --- | --- | --- | --- |
|
Inspection Date |
The results of the inspection and signature of the person who conducted the inspection |
Permitted pressure, MPa (kgf / cm2) |
The date of the next inspection |
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 **23. Registration**

      Boiler (autonomous superheater, economizer) registered as № \_\_\_\_\_\_\_

      in\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      (registered authority)

      \_\_\_\_\_\_\_pages and drawings numbered and tid together in the passport on \_\_\_\_\_ sheets and separate documents on \_\_\_\_\_ sheets according to the attached inventory.

      \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      (position, surname, name, patronymic of the person, (signature)

      providing security)

      Stamp of the organisation (if available)

|  |  |
| --- | --- |
|   | Annex 6to order No. 822 of theMinister for Investment andDevelopmentof the Republic of Kazakhstan,dated November 27, 2018Document form |

 **Pipeline passport**

      registration number \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      Name and address of the pipeline owner’s organization

      \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      Purpose of the pipeline \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      Workspace \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      Operating environment parameters:

      pressure, MPa (kgf / cm2) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      temperature, ° С \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      Estimated lifetime, years \* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      Estimated resource, h \* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      Estimated number of starts \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      The list of schemes, drawings, certificates and other documents for manufacture

      and installation of the pipeline, submitted during registration

      \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      Stamp location (if available) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      Signature of the organization technical management (pipeline owner)

      "\_\_\_" \_\_\_\_\_\_\_\_\_\_ 20\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      \* Shall be filled according to the project organization information.

 **The person who provides good condition and safe operation of the pipeline**

|  |  |  |  |
| --- | --- | --- | --- |
|
Number and Date of the Purpose order |
Position, surname, name, patronymic
  |
Date of the knowledge test of the boiler inspection rules |
Signature of the Responsible Person |
|
1 |
2 |
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4 |

 **Records of the pipeline repair and reconstruction**

|  |  |  |
| --- | --- | --- |
|
Date of the record |
The list of works carried out during the repair and reconstruction of the pipeline; Date of carrying out |
Signature of the Responsible Person |
|
1 |
2 |
3 |

 **Records of pipeline inspection results**

|  |  |  |
| --- | --- | --- |
|
Date of the inspection |
Inspection results |
The date of the next inspection |
|
1 |
2 |
3 |

      in total \_\_\_\_\_\_\_pages and drawings \_\_\_\_\_ are numbered and tied together on \_\_\_\_\_\_\_\_\_\_\_\_sheets

      \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      (position of the registering person and his signature)

      Stamp of the organisation (if available)

      "\_\_\_" \_\_\_\_\_\_\_\_\_\_\_\_ 20\_\_ .

|  |  |
| --- | --- |
|   | Annex 7to order No. 822 of theMinister for Investment andDevelopmentof the Republic of Kazakhstan,dated November 27, 2018 Document form |

 **Crane passport**

      The passport shall be published in a rigid cover on sheets of format 210 х 297 mm

      Passport format of the printing edition shall be 218х296 mm

      Passport cover

      \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      (crane name)

      \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      (crane index) passport\*

      \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      (passport designation)

      \* This passport shall be a model, on the basis of which the manufacturer must compile a passport for the type of cranes produced by him according to the regulatory documentation of the parent organization, including the list of information contained in this sample, only those that relate to this type of crane. If necessary, the passport shall include additional information characterizing the specificity of the produced crane. The passport shall be filled in the State and Russian languages.

|  |  |
| --- | --- |
|
 |
Title page |

      Place of the trademark (emblem) of the enterprise

      \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      (name of manufacturer)

      \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      (name, type of crane)

      \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      (crane index) passport

      \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      (passport designation)

      \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      (registration number)

      When transferring the crane to another owner or renting the crane with the owner’s functions transfer, this passport shall be transferred along with the crane.

|  |  |
| --- | --- |
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Back title page |

 **Attention of the crane owner!**

      1. The owner of the crane shall always have a passport on hand or it shall always be kept in the organization (at the enterprise, in the cooperative, joint-stock company, partnership, private person) that has received the land for rent, together with the functions of the owner.

      2. The crane operating permit shall be obtained in the manner prescribed by the Rules for Construction and Safe Operation of Cranes.

      3 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      (other information that requires special attention of the crane owner)

|  |  |
| --- | --- |
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page. 1 |

 **A place**
**for drawing a general view of the crane**
**in working position**
**with basic dimensions indicating**

|  |  |
| --- | --- |
|
 |
format 210 х 297 (218 х 290) мм |

      1. General information

      1.1. Manufacturer and its address \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      1.2. Type of crane \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      1.3. Crane index \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      (indicate its execution)

      1.4. Factory number \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      1.5. Year of manufacture \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      1.6. Purpose of the crane \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      1.7.Classification Group (mode) of the crane \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      1.7.1. Classification Group (mode) of mechanisms: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      main hoist \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      auxiliary hoist \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      change in radius \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      crane movement \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      trolley movement \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      crane swing \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      1.8. Type of drive \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      (for jib self-propelled cranes indicate the type of drive mechanism

      movement and mechanisms located on the turntable)

      1.9. Environment in which the crane can be operated:

      temperature \_\_\_\_ ° C.

      relative humidity \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      explosion hazard \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      fire hazard \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      Other characteristics of the environment as needed \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      1.10. Permissible wind speed, m / s:

      for working conditions (including wind gusts), the corresponding threshold

      actuation of the anemometer installed on the crane )\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      for the working condition of the crane, not equipped with an anemometer,

      at a height of 10 m \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      for the idle state of the crane at a height of 10 m \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      (for modular cranes, data for specific versions shall be given)

      1.11. Permissible slope of the site for the installation of a boom of self-propelled

      crane,% (degrees):

      when working with outriggers \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      when working without outriggers

      1.12. Requirements for the site on which the movement of a crane with a cargo shall be allowed:

      pressure on the ground (specific), Pa (kg / cm2) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      slope,% (degrees) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      1.13 Limiting the simultaneous execution of work operations

      \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      1.14. Electric current, voltage and number of phases:

      power circuit \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      control circuit \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      working light circuit \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      repair lighting circuit \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 **2. Main technical data and characteristics of the crane**

      2.1. Main characteristics of the crane \*:

      maximum lifting capacity of the main hoist, t

      \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      maximum lifting capacity of the auxiliary hoist, t

      \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      lifting capacity at maximum boom reach, t \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      maximum load moment, m \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      maximum height of the hoist, m \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      lifting height at maximum reach m \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      maximum lowering depth, m \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      maximum boom reach, m \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      boom reach with maximum load capacity, m \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      minimum boom reach, m \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      crane span, m \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      cantilever outreach, m \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      \* For modular cranes, the data shall be provided for specific versions,

      for jib self-propelled cranes - for the main boom.

      2.2. Load-lifting characteristics (compiled for all combinations of work conditions of the crane, which are provided for its operation)

      Load-lifting characteristics

      Place for tables, graphs and diagrams of the crane load-lifting characteristics

      High-altitude characteristics

      Place for tables, graphs and diagrams of the crane lift heights

      2.2.1. Maximum weight of the load with which the boom section extension shall be allowed

      , t (boom design shall be indicated : telescopic, telescopic

      with extension, with mechanical extension, as well as working on outriggers or without them)

      \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      2.2.2. The maximum mass of the load with which a movement of the self-propelled boom crane shall be allowed, t (indicate state of the site, movement speed,

      boom position relative to the axis of motion) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      2.3. Geometric parameters of the crane:

      base, m \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      outrigger base, m \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      rut, m \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      tail radius, m \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      (shall be indicated when the counterweight is in pushed-in or pulled-out position)

      turning radius, m \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      smallest radius of curvature of the curved section of the rail track, m

      \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      Place for a crane scheme and tables with values of basic crane dimensions and

      parameters of its maneuverability \*

      \* it shall be compulsorily performed for jib self-propelled cranes.

      2.4. Speed \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      (for mechanisms with multiple speed,

      \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      indicate all their values or the changes range )

 **Speed of lifting, lowering and landing of a load, m / s (m / min)**

|  |  |  |
| --- | --- | --- |
|
Parts of line |
Speed of the main lift |
Speed of auxiliary lift |
|
 |
nominal |
increased\*\* |
landing |
nominal |
increased\*\* |
landing |
|
 |
 |
 |
 |
 |
 |
 |

      \*\* Specify the conditions under which work with the increased speed shall be allowed (or ensured)

      Traveling speed, m / s (m / min or km / h):

      crane with a load on the hook \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      crane without load (working) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      transport speed (under its own power) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      (indicate speed range \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      from min to max)

      crane transport (in tow) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      cargo trolley with a load of maximum weight \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      extension / retracting of boom section \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      changes of handling radius(average) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      rotational speed rad / s (rpm) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      (indicated for all implements of working equipment)

      2.5. Time for full change of handling radius (for main boom):

      from min to max, с (min) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      from min to max, с (min) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      2.6. Swing angle, rad (degree) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      2.7. Gradeability, rad (degree) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      (shall be indicated for all options

      \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      of transportation or their range)

      2.8. Place of control: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      when working \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      during installation and testing \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      when moving a jib self-propelled crane:

      in operation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      in transport mode \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      on outriggers \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      2.9. Control method (indicate control methods: mechanical,

      electric, hydraulic, pneumatic, etc., as applied to a

      specific mechanism or group of mechanisms) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      2.10. The method of current lead to the crane and mechanisms \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      2.11. Stability characteristics \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |  |
| --- | --- | --- |
|
Load moment, kN·M (m·m) |
Load stability |
Own stability |
|
Holding Mu, \* (during outreach), m
Tipping over M0 \* (during outreach), m |
 |
 |

      \* The value of the moments characterizing the load and its own stability shall be indicated for the working equipment and the position of the boom (outreach) M, when the ratio of moments is closest to 1 (one).

      2.12 Mass of the crane and its main parts, t:

      the constructive mass of the crane (for a jib self-propelled crane shall be indicated

      with main boom) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      crane mass total (for a jib self-propelled crane shall be indicated with the main

      boom in a full ready state) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      Counterweight mass \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      Ballast mass \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      Mass of the main crane assembly parts transported separately

      \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      Weight of crane in transport position \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      2.13. Estimated wheel load on the rail, kN (tf) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      2.14.Load of chassis axis on the base in transport position

|  |  |
| --- | --- |
|
Execution of crane |
Load, kN (ts) |
|
total |
front axis |
rear axis |
|
 |
 |
 |
 |

      2.15. Average ground pressure, Pa (for crawler cranes)

      \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      2.16. Other information as needed (for example, data on metal,

      ballast drawings, etc.)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 **3. Technical data and characteristics of assemblies and parts**

      3.1. Engines of power plants and mechanisms

      3.1.1. Internal combustion engines (parameter values at sea level);

      appointment \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      type and symbol \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      rated power, kW (hp) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      rotating frequency, rad / s (rpm) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      maximum torque, N · m (kgf · m) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      rotating frequency rad / s (rpm) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      specific fuel consumption, g / kV · h \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      starter: type and symbol \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      power, kW (HP) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      air filter type \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      fuel tank capacity, l \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      rechargeable batteries: type and symbol \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      voltage, P \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      nominal capacity, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      quantity \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      specific energy consumption per hour of crane operation, kWh / h \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      connection to the engine with transmission:

      type \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      designation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      hour meter, designation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      3.12. Generators and electric motors

|  |  |  |  |
| --- | --- | --- | --- |
|
Parameters |
Electric motors of the power plant |
Generators |
Electric drive mechanism |
|
Purpose(mechanism on which the engine is installed)
Type and symbol
Type of the current
Voltage, V
Rated current, A
Frequency Hz
Rated power kW
Rotational frequency, rad / s (rpm) PV,% for 10 min
Execution (normal, waterproof, explosion-proof, fireproof etc.)
Protection degree according to GOST 17494
Type of connection to the engine with transmission: name
type and designation |
 |
 |
 |

      3.1.3. Total rated power of electric motor, kW

      \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      3.1.4. Hydraulic pumps and motors

|  |  |  |
| --- | --- | --- |
|
Parameters |
Hydraulic pump |
Hydraulic motors |
|
Purpose
Quantity
Type and symbol
Ultimate moment, N · m (for hydraulic motor)
Rated power consumption, kW (for hydraulic pumps)
Nominal pressure of the working fluid - discharge pressure, Pa (kgf / cm2)
Nominal production flow ( consumption) l / min
Rotational frequency, rad / s (rpm)
Direction of rotation |
 |
 |

      3.1.5. Hydraulic cylinders:

      Purpose

      \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      Quantity \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      Type and symbol \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      Hydraulic cylinder diameter, mm \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      piston stroke, m \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      force, kN (ts) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      nominal pressure of working fluid - discharge pressure, Pa (kgf / cm2)

      \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      fluid grade \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      3.2. Schemes \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      3.2.1. Electrical schematic diagram

      Place for the scheme

      3.2.1.1. List of electrical equipment elements

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|
Designation on scheme |
Name and brief technical description |
Type |
Quantity |
Note |
|
 |
 |
 |
 |
 |

      3.2.1.2. Electric wiring diagrams

      Place for the diagram

      3.2.2. Hydraulic circuit diagram

      Place for the scheme

      3.2.2.1. List of hydraulic equipment

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|
Designation on scheme |
Name and brief technical description |
Type |
Quantity |
Note |
|
 |
 |
 |
 |
 |

      3.2.3. Pneumatic schematic diagram

      Place for the scheme

      3.2.3.1. List of elements of pneumatic equipment

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|
Designation on scheme |
Name and brief technical description |
Type |
Quantity |
Note |
|
 |
 |
 |
 |
 |

      3.2.4. Kinematic scheme (the kinematic scheme shall specify the installation of bearings, a list of which shall be issued as a specification for the scheme)

      Place for the scheme

      3.2.4.1. Characteristics of gear trains

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|
Position number on scheme |
Designation in the drawing |
Name of details |
Unit, mm |
Teeth quantity |
Material, grade |
Heat treatment (hardness of teeth) |
|
 |
 |
 |
 |
 |
 |
 |

      3.2.4.2. Characteristics of chain sprockets

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|
Position number on scheme |
Designation in the drawing |
Name of details |
Unit, mm |
Teeth quantity |
Material, grade |
Heat treatment (hardness of teeth) |
|
 |
 |
 |
 |
 |
 |
 |

      3.2.4.3. Characteristics of reduction gearboxes

|  |  |  |  |
| --- | --- | --- | --- |
|
Position number on scheme |
Name, type |
Designation in the drawing |
Gear ratio |
|
 |
 |
 |
 |

      3.2.4.4. Characteristics of the brakes:

      the mechanism where the brake is installed \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      number of brakes \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      type, system (automatic, controlled, normally open or closed,shoe brake, disk-shaped, etc.)

      \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      diameter of brake pulley, disc, mm \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      braking factor of margin:

      of cargo winch \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      of boom hoist \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      brake drive:

      type \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      tension,H \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      progress of the executive body, mm \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      brake path of the mechanism \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      3.2.5. Schemes of reeving and characteristics of ropes and chains (schemes of reeving of cargo polyspasts for main and auxiliary hoists, polyspasts of boom hoists, jib, etc.; diagrams shall indicate the sizes of drums, blocks and methods of ropes and chains fastening)

      Place for schemes

      3.2.5.1. Characteristics of the ropes (completed according to the certificate of the rope manufacturer):

      purpose of the rope (main, auxiliary hoist, boom, etc.)

      \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      The rope design and designation of the standard\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      diameter, mm \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      length, m \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      temporary resistance of wires to breaking, N / mm2 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      breaking strength of the rope as a whole, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      estimated rope tension,kN \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      utilization factor (ultimate factor of safety):

      estimated \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      normative \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      coating of the wire surface (ozh, g, s according to GOST (State Standard))

      3.2.5.2. The characteristic of chains ( shall be filled under certificates of the enterprise -

      manufacturer of the chain

      chain purpose and designation on the scheme \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      chain design and designation of the standard \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      diameter (gauge) of a link or diameter of a roller, mm \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      chain pitch, mm \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      chain length, m \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      breaking strength of the chain as a whole, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      estimated rope tension,kN \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      coefficient of ultimate factor of safety:

      estimated \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      normative \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      3.3. Load-gripping devices (shall be filled in by the certificates of the enterprise-

      manufacturer )

      3.3.1. Hooks: mechanisms \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      type (single-horned, double-horned, forged, lamellar, etc.)

      \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      number of hook and designation of the standard

      \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      rated load capacity, t \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      factory number (certificate, year of manufacture) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      image of the Technical Control Department stamp of the crane manufacturer

      \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      3.3.2. Grab buckets:

      type \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      bucket capacity, m3 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      the type of materials for which transshipment the grapple is intended and their maximum

      bulk mass, kN / m3 (ts / m3).

      \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      weight of grapple, tons \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      mass of material to be scooped, t \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      factory number \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      image of Technical Control Department stamp \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      3.3.3. Cargo electromagnets:

      type \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      current supply source:

      type \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      power, kWt \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      supply current:

      type \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      voltage, V \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      electromagnet mass, t \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      lifting force, kN (ts) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      lifting materials:

      chips \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      scrap metal \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      cast iron ingots \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      maximum temperature of the lifted load, ° С \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      factory number \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      image of TCD stamp \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      3.3.4. Other load gripping devices (spreaders, automatic grippers, etc.)

      3.4. Devices, safety devices and signaling devices. Safety

      Equipment

      3.4.1. Limit switches \*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|
Type: lever spindle, etc. (electrical circuit) |
Mechanism with which the switch is functionally connected (Installation location) |
Distance from the crane load-lifting equipment, trolley up to the stop at the time of engine shutdown (m, deg, etc.) |
Blocking |
Quantity |
Position number on the schematic electrical diagram |
|
 |
 |
 |
 |
 |
 |

      \* For jib self-propelled cranes, the table shall be filled with all types and versions of the working equipment supplied with the crane.

      3.4.2. Load-lifting limiter:

      mechanisms disabled by the limiter \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      designation (grade, type, modification) and serial number \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      system \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      maximum overload point at which \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      limiter is triggered,% \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      availability of sound, light warning signalling

      \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      overload at which the warning signal is activated

      \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      3.4.3. Security contacts

|  |  |  |  |
| --- | --- | --- | --- |
|
Installation location (cabin, remote control, weathervan frame, etc.) |
Type |
Purpose |
Position number on the schematics electrical diagram |
|
 |
 |
 |
 |

      3.4.4. Stops and buffers:

      mechanisms which

      restrict movement \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      of support stops construction (rigid, spring, hydraulic, etc.)

      \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      maximum stroke, mm \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      (for spring hydraulic and other moving structures)

      \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      Installation location \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      of the buffers:

      construction (rigid, spring, hydraulic, etc.)

      \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      maximum stroke, mm (for spring hydraulic and etc. buffers)

      \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      3.4.5. Other safety devices

|  |  |  |
| --- | --- | --- |
|
Name |
Type, grade, drive method |
Purpose |
|
DPC (device of crane protection against dangerous voltage)
Anemometer (wind alarm)
Anti-theft devices
Parking brake
Caterpillar trucks stoppers
Imbalance limiter of the travelling gantry crane
Other safety devices |
 |
 |

      3.4.6. Indicators

|  |  |  |
| --- | --- | --- |
|
Name |
Type |
Purpose |
|
Load-lifting and radius indicator
The crane tilt indicator
Indicator of load on the crane load-gripping part
Other information indicators |
 |
 |

      3.4.7. Signal and communication devices

|  |  |  |
| --- | --- | --- |
|
Name |
Type, designation, device system  |
Purpose, trigger conditions |
|
Radio station
Sound signal
Overall light signaling
Other devices |
 |
 |

      3.5. Cabins:

      location \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      purpose \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      type, constructive type (open, closed, and so on. n.)

      \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      number of seats \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      type, characteristic of glazing \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      insulation characteristic (thermal, sound insulation, etc.) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      characteristics of microclimate systems in the cabin

      (ventilation, heating, air conditioning, etc.) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      characteristic of a seat \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      other equipment (wipers, fire extinguishers, etc.)

      3.6. Data on the metal of the main elements of the crane metalwork

      (filled in by certificates of the manufacturer of the material)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|
Name and designation of angles and elements |
Type, thickness of metal, standard |
Material grade, category, group, strength class |
Material grade standard |
Certificate number |
|
 |
 |
 |
 |
 |

      4. Document of Acceptance (certificate)

      Crane \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      (name, type, index)

      Serial number \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      manufactured in accordance with technical standards \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      The crane was tested according to the program \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      and recognized as suitable for operation with the parameters specified in the passport \*

      \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      Warranty period \_\_\_\_\_\_\_\_\_ months.

      Service life at 1,5-shift work in the passport mode \_\_\_\_\_\_\_\_\_\_\_\_\_\_ years

      Resource before the first overhaul \_\_\_\_\_ hours

      Stamp place \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      (signature)

      \* It shall be filled in cases when the manufacturer sends the crane in assembled form or if the company makes a complete assembly of the crane.

      5. Documentation supplied by the manufacturer

      5.1. Documentation included in the crane passport:

      1) installation diagram of the ballast and counterweight with an indication of permission by the mass and the deviation of the plates gravity center, precautionary coloring and inscriptions applied to the plates;

      2) drawings of ballast and counterweight.

      5.2. The documentation supplied with the crane passport:

      1) the passport (instruction) of the load-lifting limiter (load moment) and the scheme of its action;

      2) a passport (formular) and instructions for installation and operation of the device recording parameters of the crane;

      3) vehicle chassis passport;

      4) passport of the internal combustion engine;

      5) passport (instructions) of equipment and safety devices ;

      6) instruction manual of the crane;

      7) crane installation manual;

      8) instructions for the rail track installation;

      9) an album of drawings of wearing parts;

      10) a list of spare parts, tools and accessories;

      11) an album of electrical drawings (if necessary);

      12) other documents (if necessary).
 Data on the crane location\*

|  |  |  |
| --- | --- | --- |
|
The name of the enterprise (organization) - the owner of the crane or surname and initials of the private person |
The crane location (address of the owner) |
Installation date  |
|
 |
 |
 |

      \* At least 2 pages.

      Information on appointment of engineering and technical workers responsible for maintaining the crane in good condition\*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|
Number and Date of the appointment order or contract with the organization |
Surname, initials |
Position |
Number and validity of the certificate |
Signature |
|
 |
 |
 |
 |
 |

      \* At least 5 pages.

      Information on the repair of metal structures, replacement of mechanisms, ropes, load-gripping body \*

|  |  |  |  |
| --- | --- | --- | --- |
|
Date |
Information on the nature of repair and replacement of elements of the crane |
Data on acceptance of the crane from repair (Date, document number) |
Signature of the technical engineer responsible for the maintenance of the crane in good condition |
|
 |
 |
 |
 |

      \* At least 6 pages.

      Note: Documents confirming the quality of the newly installed mechanisms, ropes and other elements of the crane, as well as the materials used in the repair (metal rolling, electrodes, welding wire, etc.) and the conclusion on the quality of welding, shall be stored along with the passport.

      Record of the results of the technical inspection\*

|  |  |  |
| --- | --- | --- |
|
Date of inspection |
Results of inspection |
The date of the next inspection (partial and full) |
|
 |
 |
 |

      \* At least 32 pages.

      Note: In the same section, the results of a special inspection of a crane that has spent a standard service life (technical resource) are recorded.

      Registration

      (separate page)

      Crane is registered as № \_\_\_\_\_\_\_

      in\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      (registered authority)

      In total, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ pages has been numbered\_\_\_\_\_\_\_ \_\_\_\_\_\_\_sheets tied together in the passport

      Including the drawings on \_\_\_\_\_ sheets

      Stamp of the organisation (if available) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      (signature, position)

      \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      (Date) (surname, initials of the registrant)

|  |  |
| --- | --- |
|   | Annex 8to order No. 822 of theMinister for Investment andDevelopmentof the Republic of Kazakhstan,dated November 27, 2018Document form |

 **Passport of the elevator**

      Permission to use the elevator from "\_\_\_" \_\_\_\_\_\_\_\_\_\_\_\_\_ № \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      issued by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      (name of issuing authority)

 **1. General information**

|  |  |
| --- | --- |
|
Manufacturer (supplier) |
 |
|
Type and model of elevator |
 |
|
Factory number |
 |
|
Month and year of manufacture |
 |
|
Allowable temperature (minimum and maximum) (° C) in:
1. engine room
2. lift shaft |
 |
|
Environment in which the elevator can be operated (relative humidity, dust saturation, aggressive, explosive, fire hazardous) |
 |
|
Regulatory documents, according to which the elevator is made (Rules, GOST (State Standard), regulatory documents, etc.) |
 |
|
Assigned lifetime |
 |
|
Rated load capacity, kg |
 |
|
Number of passengers (max) |
 |
|
Nominal speed of the moving cabin  |
 |
|
Cabin speed in "revision mode", m / s |
 |
|
Control system |
 |
|
Number of stops |
 |
|
The number of the elevator shaft doors |
 |
|
Hoisting height, m |
 |
|
Electrical circuits |
Kind of current |
Voltage, V; (±) |
Frequency, Hz |
|
On the elevator introduction device |
 |
 |
 |
|
Power circuit:
1. elevator drive
2. door drive |
 |
 |
 |
|
Control circuit |
 |
 |
 |
|
Lighting circuit for
1. cabins
2. lift shaft
3. repair work |
 |
 |
 |
|
Alarm circuit |
 |
 |
 |

 **2. Main technical data and characteristics of elevator equipment**

      1. Winch

|  |  |
| --- | --- |
|
Type (geared, gearless, with traction sheave, with friction pulley, winding drum, with an asterisk) |
 |
|
Serial number |
 |
|
Year of manufacture |
 |
|
Gear ratio |
 |
|
Center distance of transmission, mm |
 |
|
Rated torque at the output shaft, Nm |
 |
|
Diameter of leading body, mm |
 |
|
Diameter of the side block mm |
 |
|
Weight, kg |
 |

      2. Brake

|  |  |
| --- | --- |
|
Type (shoe, disc, cone-, etc.) |
 |
|
Diameter of brake pulley (disk, drum), mm |
 |
|
Braking torque, N / m |
 |

      3. Electric motors

|  |  |
| --- | --- |
|
Purpose |
Electric motor |
|
of winch |
of door drive |
|
Type |
 |
 |
|
Kind of current |
 |
 |
|
Voltage, V |
 |
 |
|
Rated current, A |
 |
 |
|
Frequency Hz |
 |
 |
|
Power, kWt |
 |
 |
|
Permissible overheating of the motor windings (° C) (insulation class) |
 |
 |
|
Rotation frequency, rpm |
 |
 |
|
Duty cycle (%) |
 |
 |
|
Inclusions per hour |
 |
 |
|
Execution (normal waterproof, dustproof, marine, etc.) indicating the degree of protection |
 |
 |
|
Weight, kg |
 |
 |

      4. Shaft doors:

|  |  |
| --- | --- |
|
Construction (swing, sliding, combined, single, double or multi-flaps) |
 |
|
The size of the doorway in the light (width x height), mm |
 |
|
Opening / closing method (manual, semi-automatic, automatic) |
 |

      5. Cabin

|  |  |
| --- | --- |
|
Internal dimensions, mm
width
depth
height |
 |
|
Door construction (hinged, sliding, single, double or multi-flaps) |
 |
|
The method of opening or closing doors (manual, semi-automatic automatic) |
 |
|
Door drive (electric hydraulic, pneumatic, spring, etc.) |
 |
|
Cabin type (through passage, not through) |
 |
|
Weight, kg |
 |

      6. Counterweight

|  |  |
| --- | --- |
|
Weight, kg (assembled) |
 |

      7. Traction and counterbalancing elements

|  |  |  |
| --- | --- | --- |
|
Name |
Traction elements |
Counterbalancing elements |
|
Cabin |
Counterweight |
Stopper |
 |
|
Kind (rope, chain etc.) |
 |
 |
 |
 |
|
Type (filled in according to the documentation of the traction element manufacturer) |
 |
 |
 |
 |
|
Construction (filled in according to the documentation of the traction element manufacturer) |
 |
 |
 |
 |
|
Symbol |
 |
 |
 |
 |
|
Diameter, pitch, dimensions, mm |
 |
 |
 |
 |
|
Number of items, pcs |
 |
 |
 |
 |
|
The length of one element, including the length required for fastening, m |
 |
 |
 |
 |
|
Breaking strength (breaking load), H |
 |
 |
 |
 |
|
Reserve strength ratio (for traction elements) |
 |
 |
 |
 |

 **3. Safety devices**

      8. Mechanical devices

|  |  |  |
| --- | --- | --- |
|
Name and characteristics |
Cabin |
Counterweight |
|
Catchers |
Type (sharp, sharp with shock-absorbing way, smooth braking, designation |
 |
 |
|
Powered by(speed limiter,a device triggered by slack of all traction ropes) |
|
Speed limiter |
type (centrifugal, pendulum and etc.) designation |
 |
 |
|
Speed of the cabin(counterweight) at which the speed limiter is activated, m / s |
|
Maximum
Minimum |
 |
 |
|
Buffer |
Type (fixed stop, energy-storage type, energy-dispersive etc.) |
 |
 |
|
Height in free state, mm |
 |
 |
|
Quantity, pieces |
 |
 |

      9. Electrical safety devices installed in the elevator

|  |  |
| --- | --- |
|
Cabin Level Control:
1. at the lowest floor platform
2. at the highest floor platform |
 |
|
Control of the shaft door closing |
 |
|
Automatic lock control of the shaft door  |
 |
|
Control of the closing of the shaft door leaf that is not equipped with a lock |
 |
|
Control of the shaft’s emergency door closing |
 |
|
Control of closing the door for maintenance in the shaft |
 |
|
Control of the inspection hatch closing in the shaft |
 |
|
Control of closing the cabin door |
 |
|
Control of shaft door closing |
 |
|
Control on cabin speed limiter actuation |
 |
|

Control on reset of the cab speed limiter to starting position |
 |
|
To stop the elevator (switch, "Stop" button) |
 |
|

Catcher actuation control |
 |
|
Control of breakage or relative movement of traction elements |
 |
|
Control on break or slack of the rope in the speed limiter |
 |
|
Tension control of the balancing ropes |
 |
|
Monitoring the device operation on limiting the tension device's surge of the balancing ropes |
 |
|
Control on accession of the removable device for manual movement of the cabin (the position of the removable steering wheel) |
 |
|
Control on return of energy-dispersive type buffer to its original position |
 |
|
Disconnection of control circuits from the lift shaft |
 |
|
Disconnection of control circuit from the lift pit |
 |
|
Disconnection of control circuits from the block room |
 |
|
Monitoring the position of the service platform |
 |
|
Blocking device position control |
 |

      10. The list of documents attached to the elevator passport

|  |  |  |
| --- | --- | --- |
|
The title of document |
Document designation |
Number of pages |
|
Installation drawing |
 |
 |
|
Schematic diagram with a list of elements |
 |
 |
|
List of operational documents |
 |
 |

|  |  |
| --- | --- |
|   | Annex 9to order No. 822 of theMinister for Investment andDevelopmentof the Republic of Kazakhstan,dated November 27, 2018Document form |

 **Passport of the lift**

      Title page

      Place of the trademark (emblem) of the enterprise

      Country \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      (name of manufacturer)

      \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      (name, type of lift()

      \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      (lift index)

      passport \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      (passport designation)

      Registration number \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      When transferring the lift (skylift) to another owner or renting the lift with the owner’s functions transfer, this passport shall be transferred along with the lift.

      Attention of the lift owner!

      1. A passport shall be kept at all times with the owner of the lift or in the organization (at the enterprise, cooperative, joint-stock company, partnership, private person) who has received the lift for rent, together with the functions of the owner.

      2.1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      2.2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

      (other information that requires special attention of the lift owner)

      List of documentation supplied with the crane passport

|  |  |  |
| --- | --- | --- |
|
Document name |
Document designation |
Number of pages |
|
 |
 |
 |
|
Technical description and instruction manual of the lift |
 |
 |
|
 |
|
Technical passport
  |
 |
 |
|
 |
|
The user manual of the car |
 |
 |
|
 |
|
Album of the fast wearing parts |
 |
 |
|
 |
|
SPTA Set List |
 |
 |
|
 |

 **1. General data**

|  |  |
| --- | --- |
|
1.1. Enterprise-manufacturer |
 |
|
 |
|
1.2. Type of the lift |
 |
|
 |
|
1.3. Factory number |
 |
|
 |
|
1.4. Year of manufacture |
 |
|
 |
|
1.5. Purpose of the lift |
 |
|
 |
|
1.6. Design of the working equipment |
 |
|
 |
|
1.7. Design of the undercarriage |
 |
|
 |
|
1.8. Type of drive |
 |
|
 |
|
1.9. Environment where a lift can operate:
temperature - the highest
the lowest, C
relative air humidity, %
explosion hazard
fire hazard |
 |
|
 |
|
1.10. Permissible wind speed at a height of 10 m:
for the working condition of the lift |
 |
|
 |

 **2. Main technical data and characteristics of assembly units and parts 2.1 Engines of power plants. Engines (engine) of internal combustion**

|  |  |
| --- | --- |
|
 |
 |
|
 |
|
 |
 |
|
 |

 **2.2. General data**

|  |  |
| --- | --- |
|
2.1.1. Load capacity, kg \* (N) |
 |
|
 |
|
2.1.2. Working lifting height, m \* |
 |
|
 |
|
2.1.3. Radius, м\* |
 |
|
 |
|
2.1.4. Base, m |
 |
|
 |
 |
|
2.1.5. Front and rear wheel track, m |
 |
|
 |
 |
|
2.1.6. Ground clearance, m |
 |
|
 |
 |
|
2.1.7. Minimum turning radius, m |
 |
|
 |
 |
|
2.1.8. The maximum slope which is overcome by a lift,% |
 |
|
 |
 |
|
2.1.9. Maximum transport speed of the lift movement, m / s (km / h) |
 |
|
 |
 |
|
2.1.10. Support contour, m |
 |
|
 |
 |
|
2.1.11. Time of lifting an elevator cradle to the greatest height,  |
 |
|
 |
 |
|
2.1.12 Maximum rotational speed of the turning part, s-1 (rpm) |
 |
|
 |
|
2.1.13. Angle of rotation, deg. |
 |
|
 |
|
2.1.14. Place for control |
 |
|
 |
|
2.1.15. Control method (electric, hydraulic) |
 |
|
 |
|
2.1.17. Control fuel consumption mode:
transport mode, l / 100 km
working mode, l / hour |
 |
|
 |
|
2.1.18. Stability coefficient |
 |
|
 |
|
2.1.19. Weight of the lift, kg |
 |
|
 |

      \* The lift service area shall be given in the passport.

 **2.3 Rechargeable batteries**

|  |  |
| --- | --- |
|
3.2.1. Type and symbol |
 |
|
 |
|
3.2.2. Voltage, V |
 |
|
 |
|
3.2.3. Nominal capacity, f |
 |
|
 |
|
3.2.4. Number |
 |
|
 |

 **3.4. Electric motor (electric motors)**

|  |  |
| --- | --- |
|
3.3.1 Purpose |
 |
|
 |
|
3.3.2. Type and symbol |
 |
|
 |
|
3.3.3. Kind of current
  |
 |
|
 |
|
3.3.4. Voltage, V |
 |
|
 |
|
3.3.5. Rated current, A |
 |
|
 |
|
3.3.6. Frequency, Hz |
 |
|
 |

 **3.4. Hydraulic pumps and motors**

|  |  |
| --- | --- |
|
3.4.1. Purpose |
 |
|
 |
|
3.4.2. Quantity, ps. |
 |
|
 |
|
3.4.3. Type and symbol |
 |
|
 |
|
3.4.4. Ultimate moment, N · m  |
 |
|
 |
|
3.4.5. Nominal pressure of working fluid – (discharge pressure), Pa (kgf / cm2) |
 |
|
 |
|
3.4.6. Nominal production flow ( consumption) l / min) |
 |
|
 |

 **3.5. Hydraulic cylinders:**

|  |  |
| --- | --- |
|
3.5.1. Purpose |
 |
|
 |
|
3.5.2. Quantity, ps. |
 |
|
 |
|
3.5.3. Type and symbol |
 |
|
 |
|
3.5.4. Rod diameter, mm |
 |
|
 |
|
3.5.5. Piston stroke, mm |
 |
|
 |
|
3.5.6. Force, kN (ts) |
 |
|
 |
|
3.5.7. Nominal pressure of working fluid – (discharge pressure), Pa (kgf / cm2) |
 |
|
 |

 **3.6. Steel ropes**

|  |  |
| --- | --- |
|
3.6.1. Purpose of the rope (tracking system, rope system, etc.) |
 |
|
 |
|
3.6.2. Rope design and designation of the standard  |
 |
|
 |
|
3.6.3. Diameter, mm |
 |
|
 |
|
3.6.4. Length, mm |
 |
|
 |
|
3.6.5. Temporary resistance of wires to breaking, N / |
 |
|
 |
|
3.6.6. Breaking strength of the rope as a whole, Н |
 |
|
 |
|
3.6.7. Ultimate coefficient of safety:by rules / in fact |
 |
|
 |

      \* Filled according to the documentation of the organisation-supplier

 **3.7. Characteristic of chains**

|  |  |
| --- | --- |
|
3.7.1. Chain purpose |
 |
|
 |
|
3.7.2. Chain design and designation of the standard  |
 |
|
 |
|
3.7.3. Diameter (gauge) of a link or diameter of a roller, mm |
 |
|
 |
|
3.7.4. Chain pitch, mm |
|
 |
|
3.7.5. Chain length, mm (links number, p-s) |
|
 |
|
3.7.6. Breaking strength of the chain, кН |
|
 |
|
3.7.7. Estimated rope tension, kN |
|
 |
|
3.7.8. Ultimate coefficient of safety |
|
 |

 **3.8. Characteristics of gear trains**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|
Name of assembly unit |
Designation in the drawing |
Name |
Unit, mm |
Teeth number |
Material |
Heat treatment (hardness of teeth) |
|
 |
 |
 |
 |
 |
 |
 |
|
 |
 |
 |
 |
 |
 |
 |

 **3.9. Characteristics of chain sprockets**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|
Name of assembly unit |
Normative document number or designation in the drawing |
Name |
Unit, mm |
Teeth number |
Material |
Heat treatment (hardness of teeth) |
|
 |
 |
 |
 |
 |
 |
 |
|
 |
 |
 |
 |
 |
 |
 |

 **3.10. Load-gripping devices\***

|  |  |
| --- | --- |
|
3.10.1. Hook (single-horned, etc.) |
 |
|
 |
|
3.10.2. Designation of the normative document and number of hook by the standard  |
 |
|
 |
|
3.10.3. Rated load capacity, kg |
 |
|
 |
|
3.10.4. Factory number |
 |
|
 |
|
3.10.5. image of the Technical Control Department stamp |
 |
|
 |

      \* Filled according to the documentation of the organisation-supplier

 **3.11. Brakes:**

|  |  |
| --- | --- |
|
3.11.1. Mechanism where the brake is installed |
 |
|
 |
|
3.11.2. Type of the brake |
 |
|
 |

 **4. Safety device**

|  |  |
| --- | --- |
|
4.1. Device against overloads |
 |
|
 |
|
4.2. The tracking system of the cradle orientations in vertical position |
 |
|
 |
|
4.3. Device for limiting service area |
 |
|
 |
|
4.4. The locking device of the lifting and rotation of the boom when lift is not set on supports |
 |
|
 |
|
4.5. Device for blocking the lifting of supports at the working position of the boom |
 |
|
 |
|
4.6. Device on emergency lowering a cradle in case of failure of the hydraulic system or engine |
 |
|
 |
|
4.7. Device protecting additional supports of the lift from spontaneous moving during the lift operation |
 |
|
 |
|
4.8. Device of index of a tilt angle of the elevator |
 |
|
 |
|
4.9. The device of the engine emergency stop with control from a cradle and from the lower panel |
 |
|
 |
|
4.10. Anemometer (for lifts with a lifting height of 22 m) |
 |
|
 |

 **4.1. Signal and communication devices**

|  |  |  |  |
| --- | --- | --- | --- |
|
name |
type |
purpose |
Installation location |
|
 |
 |
 |
 |
|
 |
 |
 |
 |

 **5. Data on the metal of the main (design) elements of the lift metal structures\***

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|
Name and designation of the assembly unit |
Type, thickness of metal, the designation of the regulatory document |
Material grade, category, group, strength class |
The designation of the regulatory document on the material grade |
Certificate number |
Electrodes, welding wire (type, grade), the designation of the regulatory document |

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