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Implementation Rules of Compulsory Product Certification

Explosion-proof Electrical Products

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0 Foreword

The Regulation is formulated based on the safety risk and certification risk of explosion-proof electrical products, and specifies the basic principles and requirements for Compulsory Product Certification (CCC certification) of explosion-proof electrical products.

The Regulation is used in combination with the *Implementation rules of Compulsory Product Certification - Classified Management of Manufacturing Enterprises, Selection and Determination of Certification Mode, Implementation rules of Compulsory Product Certification - Utilization of Testing Resources and Other Certification Results of Manufacturing Enterprises, Implementation rules of Compulsory Product Certification – Requirements for Factory Quality Assurance Capability, Implementation rules of Compulsory Product Certification - General Requirements for Factory Inspection* and other general implementation rules.

Certification authorities shall establish and implement detailed rules of certification in accordance with general implementation rules and the Regulation.

Manufacturing enterprises shall ensure that the certified products manufactured can meet the certification requirements continuously.

1 Scope of application

The Regulation is applicable to Class I, Class III and Class III explosion-proof electrical products, including: explosion-proof motors; explosion-proof electric pumps; explosion-proof power distribution equipment; explosion-proof switches, control and protection products; explosion-proof starters; explosion-proof transformers; explosion-proof electric actuators and solenoid valves; explosion-proof connectors; explosion-proof monitoring products; explosion-proof communication and signaling equipment; explosion-proof air-conditioning and ventilation equipment; explosion-proof electric heating products; explosion-proof accessories and Ex components; explosion-proof instruments and meters; explosion-proof sensors; safety barriers; explosion-proof instrument boxes.

The adjustment of applicable scope due to changes in laws and regulations or relevant product standards, technologies, industrial policies and other factors shall be subject to the announcement issued by the Certification and Accreditation Administration of the People’s Republic of China.

2 Reference standards for certification

Explosion-proof electrical products shall be certified in accordance with the standards applicable to their explosion-proofing type. The explosion-proofing type of products may be one of the following, or may be a combination of two or more types.

No.	Explosion-proofing type	Reference standards	
		General standards	Special standards
1	Explosion suppression “d”	GB3836.1	GB3836.2
2	Increased safety “e”		GB3836.3
3	Intrinsically safe “i”		GB3836.4
4	Positive pressure enclosure “p”		GB3836.5
5	Immersion “o”		GB3836.6
6	Sand filling “q”		GB3836.7
7	“n” type		GB3836.8
8	Encapsulation “m”		GB3836.9
9	Intrinsically safe “iD”		GB12476.1
10	Enclosure protection “tD”	GB12476.5	
11	Encapsulation protection “mD”	GB12476.6	

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12	Positive pressure protection “pD”		GB12476.7
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In principle, the above standards shall follow the current and valid versions issued by the national administrative department for standardization. When the above standards are revised, they shall be subject to the requirements of relevant documents issued by the Certification and Accreditation Administration of the People’s Republic of China.

3 Certification mode

The basic certification mode for CCC certification of explosion-proof electrical products is:

Type test + Initial factory inspection + Post-certification supervision

Post-certification supervision refers to post-certification follow-up inspection or sample testing or inspection at production site or a combination of them.

Certification authorities shall, in accordance with the *Implementation rules of Compulsory Product Certification - Classified Management of Manufacturing Enterprises, Selection and Determination of Certification Mode*, carry out classified management of manufacturing enterprises, and determine the mode and frequency of post-certification supervision and omit or expand the initial factory inspection of products based on the results of classified management.

4 Division of certification units

In principle, application units shall be divided based on the classification, explosion-proofing type, product type, explosion-proof structure and safety parameters of explosion-proof electrical products.

The same products produced by the same producers and different manufacturing enterprises or the same products produced by different producers and the same manufacturing enterprises may be subjected to type tests on samples of only one unit. Products of other manufacturing enterprises/producers are required to undergo consistency verification with relevant materials.

Certification authorities shall specify the specific requirements for the division of units in the implementing rules for certification in accordance with relevant documents issued by the Certification and Accreditation Administration of the People’s Republic of China.

5 Certification application

5.1 Submission and acceptance of certification application

Certification applicants shall submit a certification application to certification authorities, and certification authorities shall handle the application and give feedback as “accepted” or “rejected” as per the time limit required in the implementing rules for certification.

In case of non-compliance with national laws, regulations and relevant industrial policies, certification authorities shall not accept relevant certification entrustments.

5.2 Application materials

Certification authorities shall specify the list of application materials (at least including the certification application or contract, registration certificate of certification applicant/producer/manufacturing enterprise, etc.) in the implementing rules for certification in accordance with laws, regulations, standards and the implementation requirements of certification.

Certification applicants shall provide required materials in accordance with the list of

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application materials in the implementing rules for certification. Certification authorities shall be responsible for reviewing, managing, preserving and keeping confidential relevant materials, and shall inform certification applicants of the results of review.

5.3 Implementation arrangement

Certification authorities shall agree with certification applicants on relevant responsibilities and arrangements of both parties in each step of certification, and shall determine the specific scheme for certification implementation and inform certification applicants based on the actual conditions and classified management of manufacturing enterprises and in accordance with the Regulation and the implementing rules for certification.

6 Implementation of certification

6.1 Type test

6.1.1 Type test scheme

Certification authorities shall prepare a type test scheme after data review and notify certification applicants.

The type test scheme includes sample requirements and quantity, test standards and items, laboratory information, etc.

If, at the time of applying for certification, certification applicants submit a satisfactory type test report, certification authorities shall accept it.

6.1.2 Sample requirements for type test

In general, samples required for type tests shall be selected by certification applicants in accordance with the requirements of certification authorities. If necessary, certification authorities may also conduct on-site sampling to obtain samples. Certification authorities shall specify relevant requirements for sample delivery/sampling of the products to be certified in the detailed rules for implementation.

Certification applicants shall ensure that the samples they provide are consistent with the products actually manufactured. Certification authorities and/or laboratories shall examine the authenticity of the samples provided by certification applicants. If laboratories have any doubt about the authenticity of the samples, they shall notify certification authorities and make corresponding treatment.

Certification authorities shall specify the list of key components and materials used in products and relevant requirements in the implementing rules for certification in accordance with relevant documents issued by the Certification and Accreditation Administration of the People's Republic of China.

For key components and materials within the scope of CCC certification purchased in China, manufacturing enterprises shall provide the CCC certificate; for key components and materials out of the scope of CCC certification, certification authorities shall specify the conditions and specific requirements for voluntary certification certificates or type test reports that may be accepted or recognized in the implementing rules for certification.

6.1.3 Items of type test

In principle, all applicable items specified in the reference standards for product certification shall be included.

When there is any adjustment to some test items in the standards, it shall be implemented in accordance with relevant documents issued by the Certification and Accreditation Administration of the People's Republic of China.

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6.1.4 Implementation of type test

In principle, all type tests shall be completed in laboratories designated by the Certification and Accreditation Administration of the People's Republic of China. Laboratories shall carry out type tests on samples and make complete records of the entire process and results and keep them on file to ensure the traceability of the records.

On the premise of not affecting the validity of certification results, certification authorities may establish corresponding management procedures in accordance with the *Implementation rules of Compulsory Product Certification - Utilization of Testing Resources and Other Certification Results of Manufacturing Enterprises*. Designated laboratories shall dispatch testing personnel to carry out testing or visual inspection by using the testing resources of manufacturing enterprises in accordance with standard requirements, and shall issue a testing report. Laboratories shall ensure the authenticity, correctness and traceability of test conclusions. Certification authorities shall specify the specific requirements and procedures in the implementing rules for certification.

6.1.5 Type test report

Certification authorities shall specify a uniform format for type test reports.

Upon completion of type tests, laboratories shall issue a type test report to certification authorities and certification applicants in a timely manner. The test report shall contain a description of all product and certification-related information in the application units. Certification applicants shall ensure that complete and valid type test reports can be provided to certification authorities and law enforcement authorities at the time of post-certification supervision.

6.2 Initial factory inspection

Initial factory inspection is an on-site inspection and evaluation conducted by certification authorities to determine whether the quality assurance capability and product consistency control capability of manufacturing enterprises meet the certification requirements. Initial factory inspection shall be carried out after the results of the type test are acceptable, and may also be carried out simultaneously with the type test if necessary.

Certification authorities shall establish the requirements for initial factory inspection based on product characteristics in accordance with the *Implementation rules of Compulsory Product Certification – Requirements for Factory Quality Assurance Capability* and the *Implementation rules of Compulsory Product Certification - General Requirements for Factory Inspection*, and clarify them in the implementing rules for certification.

Initial factory inspection shall cover all processing sites for certified products. If necessary, certification authorities may conduct additional inspection at a place other than the manufacturing enterprise.

6.3 Certification evaluation and conclusion

Certification authorities shall conduct a comprehensive evaluation of the conclusions of type tests and initial factory inspection and relevant materials/information, and make a conclusion on certification. For products meeting the certification requirements, a CCC certificate shall be issued; for products failing in certification, the certification shall be terminated, and no certification shall be issued.

6.4 Time limit for certification

Certification authorities shall specify the time limit for each step of certification, and ensure that relevant work is completed as per the time limit. Certification applicants shall provide

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active cooperation in certification activities. Generally, the CCC certificate shall be issued to certification applicants within 90 days from the acceptance of certification application.

7 Post-certification supervision

Post-certification supervision refers to the supervision exercised by certification authorities over certified products and their manufacturing enterprises. Certification authorities shall specify the specific requirements for the selection of post-certification supervision mode in the implementing rules for certification based on the classified management and actual conditions of manufacturing enterprises.

7.1 Post-certification follow-up inspection

7.1.1 Principle of post-certification follow-up inspection

Certification authorities shall, on the basis of the classified management of manufacturing enterprises, carry out effective follow-up inspection on certified products and their manufacturing enterprises to verify that the quality assurance capability of manufacturing enterprises continues to meet the certification requirements and ensure that certified products continue to comply with standard requirements and be consistent with type test samples.

Post-certification follow-up inspection shall preferably be carried out in the normal production of manufacturing enterprises without prior notice. For products that are not produced continuously, certification applicants shall submit relevant production plans to certification authorities to facilitate effective post-certification follow-up inspection.

7.1.2 Content of post-certification follow-up inspection

Certification authorities shall establish specific requirements for post-certification follow-up inspection, product consistency inspection, and quality control of manufacturing enterprises in accordance with the *Implementation rules of Compulsory Product Certification – Requirements for Factory Quality Assurance Capability*, and clarify them in the implementing rules for certification.

7.2 Sampling test or inspection at production site

7.2.1 Principle of sampling test or inspection at production site

In principle, the sampling test or inspection at production site shall cover the explosion-proofing types and product types involved in certified products.

Where post-certification supervision is conducted by means of sampling test or inspection at production site, certification applicants, producers and manufacturing enterprises shall provide cooperation.

7.2.2 Content of sampling test or inspection at production site

Certification authorities shall specify the specific content and requirements of sampling test or inspection at production site in the implementing rules for certification, and manufacturing enterprises shall send the samples requiring testing to designated laboratories.

Certification authorities may also establish corresponding management procedures in accordance with the *Implementation rules of Compulsory Product Certification - Utilization of Testing Resources and Other Certification Results of Manufacturing Enterprises*, and carry out sampling test (or visual inspection) by using the testing sources of manufacturing enterprises. Designated laboratories shall issue a test report.

Certification authority shall specify the specific requirements and procedures in the implementing rules for certification.

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7.3 Frequency and time of post-certification supervision

Certification authorities shall, on the basis of the classified management of manufacturing enterprises, adopt different frequencies of post-certification supervision for different types of manufacturing enterprises, reasonably determine the supervision time, and specify the specific principles in the implementing rules for certification.

7.4 Recording of post-certification supervision

Certification authorities shall record the whole process of post-certification supervision and keep the records on file to ensure the traceability of certification process and results.

7.5 Evaluation of post-certification supervision results

Certification authorities shall conduct a comprehensive evaluation of the conclusions of post-certification supervision and relevant materials/information. If the evaluation result is acceptable, the CCC certificate and mark can be used continuously; if the evaluation result is unacceptable, certification authorities shall suspend or revoke the certificate and make a public announcement as appropriate.

8 CCC certificate

8.1 Validity of CCC certificate

The CCC certificate covered in the Regulation is valid for five years. During the validity period, the validity of the certificate shall be maintained based on the post-certification supervision of certification authorities.

Where the CCC certificate expires and needs to be renewed, certification applicants shall submit a certification application within 90 days before the expiration of the certificate. If the result of the last post-certification supervision within the validity period of the certificate is acceptable, certification authorities shall directly issue a new certificate after receiving the certification application.

8.2 Change of products covered by CCC certificate

After certification, if the key components and materials used in products, the structure and parameters related to explosion protection, etc. are changed, or other matters specified by certification authorities in the implementing rules for certification are changed, certification applicants shall submit a change application to certification authorities and shall not implement the change until it is approved/filed.

8.2.1 Change application and requirements

Certification authorities shall specify the specific requirements for certification change in the implementing rules for certification, including the scope and procedures of certification change.

For a change in the same products or content of a plurality of manufacturing enterprises affiliated to the same producer, certification applicants may submit a change application only once, and certification authorities shall use the certificate involved in the change in association.

8.2.2 Change evaluation and approval

Certification authorities shall evaluate relevant application materials and determine whether to approve changes based on the content of changes. If sample test and/or factory inspection is required, changes shall be approved only after the test and/or inspection is satisfactory. In principle, the representative samples used for the original full type test shall be used as the basis of change evaluation.

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8.2.3 Filing of change

Changes in the key components and materials used in products and the structure and parameters involving explosion protection can be confirmed and approved by the person in charge of certification technology of manufacturing enterprises approved by certification authorities without sample testing, but corresponding records shall be kept and reported to certification authorities for filing. Certification authorities shall verify the post-certification supervision and conduct a verification test if necessary.

Certification authorities shall specify relevant requirements for the person in charge of certification technology in the implementing rules for certification.

8.3 Expansion of products covered by CCC certificate

If certification applicants need to expand the product scope covered by a certificate already obtained, they shall submit a certification application for product expansion to certification authorities.

Certification authorities shall check the difference between expanded products and original certified products in accordance with the technical data on expanded products provided by certification applicants, confirm the validity of original certification results for expanded products, and carry out supplementary tests on the difference or inspect the products at production site. If the result of verification is satisfactory, certification authorities shall issue a new certificate separately or renew the certificate in accordance with the requirements of certification applicants.

In principle, the representative samples used for the original full type test shall be used as the basis of product expansion evaluation.

8.4 Cancellation, suspension and withdrawal of CCC certificate

The cancellation, suspension and withdrawal of CCC certificates shall be implemented in accordance with the *Administrative Regulation on Compulsory Product Certification*, the *Regulation on Cancellation, Suspension and Withdrawal of Compulsory Product Certification* and relevant provisions of certification authorities. Certification authorities shall determine the product category and scope that do not meet the certification requirements, and take appropriate means to announce certificates cancelled, suspended or revoked.

8.5 Use of CCC certificate

CCC certificates shall be used in accordance with the *Administrative Regulation on Compulsory Product Certification*.

9 Certification mark

Certification marks shall be managed and used in accordance with the *Administrative Regulation on Compulsory Product Certification*.

9.1 Style of mark

The style of the certification mark of products covered by the Regulation is shown as follows:



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9.2 Application position of mark

Uniformly printed standard CCC marks must be applied to a conspicuous position on the body of certified products. Printed or embossed CCC marks shall be printed or embossed in a conspicuous position on the nameplate or body of products. Where CCC marks cannot be applied to the body of products, they must be applied to the minimum package of products and attached documents.

10 Fee

The certification fee shall be charged based on the CCC charging standard published by certification authorities and laboratories.

11 Certification responsibility

Certification authorities shall be responsible for the certification conclusions made by them

Laboratories shall be responsible for test results and reports.

Certification authorities and the factory inspectors appointed by them shall be responsible for the conclusions of factory inspection.

Certification applicants shall be responsible for the authenticity and legality of the application materials and samples submitted.

12 Detailed Implementation Rules for certification

Certification authorities shall establish scientific, reasonable and operable implementing rules for certification in accordance with the principles and requirements of the Regulation, file them with the Certification and Accreditation Administration of the People's Republic of China, and make them public. The implementing rules shall include at least the following content:

- (1) Process and time limit requirements of certification;
- (2) Selection of certification mode and relevant requirements;
- (3) Detailed rules for division of units and relevant requirements;
- (4) Requirements for classified management of manufacturing enterprises;
- (5) Certification application materials and relevant requirements;
- (6) Requirements for sample testing (including requirements for type tests, on-site sampling tests and testing by using the testing resources of manufacturing enterprises);
- (7) Requirements for initial factory inspection and post-certification supervision (including requirements for coverage of factory inspection, enterprise quality assurance capability, product consistency inspection, quality control of manufacturing enterprises, quality control for key components and materials, factory inspection for ODM/OEM mode, supervision frequency, sampling test or inspection, etc.);
- (8) Requirements for certification change (including change of standard versions);
- (9) List of key components and materials;
- (10) Requirements for person in charge of certification technology;
- (11) Charging standard and relevant requirements;
- (12) Process and time requirements related to technical disputes and appeals.