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1 – OBJECTIVE

This document presents the additional criteria of "Rules for Product Certification" – 700-RC-001 for the conformity assessment program for circuit breakers, with a focus on safety through the certification mechanism compulsory or voluntary compliance with requirements of ABNT NBR NM 60898-1:2004, ABNT NBR IEC 60947-2: 1998 and Quality Technical Regulation for the granting and maintaining the license to use the Mark of Conformity or SBAC and TÜV Rheinland do Brasil Ltda, seeking greater protection of the citizen.

2 – SCOPE

Applies to all companies in the segment - circuit breakers used in the input frame, measurement and distribution, residential, commonly known as MCB (Miniature Circuit Breakers), or plays mono, bi, tri and tetrapolar which request to grant a license for use of SBAC Conformity Mark or TUV Mark.

NOTE 1: *The certification is compulsory in Brazil for the marketing of the circuit-breakers at voltages up to 415V ~ (Volts), nominal currents up to and including 63A (amperes) and short-circuit current up to 10kA (kilo amperes), according to the Ordinance No 348/2007 of 13 September 2007(document issued by INMETRO - Federal Agency of Brazil).*

NOTE 2: *For voluntary certification, TUV will use the criteria set forth in Ordinance No. 348/2007 Inmetro - Regulation on Conformity Assessment (RAC) for Circuit Breakers. Should be the criteria and parameters set for the maximum circuit breakers according to their standards listed in Item 3 of the CRC.*

3 – COMPLEMENTARY DOCUMENTS

- Ordinance No. 348/2007 Inmetro - Regulation on Conformity Assessment (RAC) for Circuit Breakers

- Ordinance No. 335/2011 Inmetro
- Ordinance No. 274/2014 Inmetro
- 700-PI-2 - Establishment and Duties of Technical Committees
- NBR ISO 9000:2005 – Quality Management Systems – Grounds and Glossary
- NBR ISO 9001:2008 – Quality Management Systems - Requirements
- ABNT ISO/IEC Guide 2:2006 – Norms and Related Activities - Glossary
- Ordinance No. 243/2006 Inmetro - Quality Technical Regulation for Low Voltage Circuit Breakers
- ABNT NBR IEC 60947-2: 1998 – Low Voltage Handling and Command Devices – Circuit Breakers
- ABNT NBR NM 60898-1: 2004 – Surge Protection Circuit Breakers for Domestic and Similar Installations
- ABNT NBR 5426:1985 – Sampling Plans and Procedures in the inspection by Attributes - Procedure

4 – RESPONSIBILITY

The responsibility for reviewing this "Complement" is of TÜV Rheinland do Brasil Ltda.

5 – ABBREVIATIONS

Apply the requirements of clause 4 of Rule – 700-RC-001, supplemented with the following:

OAC - Conformity Assessment Bo
OCS - Certification Body System
RAC - Regulation on Conformity Assessment
RTQ - Technical Regulation on Quality
UO - Organizational Unit
MOU - Memorandum of Understanding

6 – DEFINITIONS

For purposes of this CRC, adopted the following definitions are from 6.1 to 6.7, supplemented with those contained in NBR ISO 8402 and ABNT ISO/IEC Guide 2.

6.1 - Identification Seal of Compliance
Identification Seal of Compliance, affixed to or issued in accordance with the criteria established by Inmetro based on the principles and policies adopted within the SBAC, indicating that a suitable level of confidence that the circuit breaker is in accordance with their respective related techniques item 3 of this Regulation.

6.2 - Authorization for the Use of the Seal of Conformity Identification
Document issued in accordance with the criteria established by Inmetro based on the principles and policies adopted within the SBAC, which by TÜV Rheinland, TÜV now, grants a company, through a contract, the right to use the ID of the statement established in accordance Inmetro their products in accordance with these Regulations.

6.3 - Conformity Assessment Body - OAC
Public, private or mixed, the third party, accredited by Inmetro, according to the criteria established by him, based on the principles and policies adopted under SBAC.

6.4 – Lot
Defined quantity of product units in production or produced under uniform conditions (same homogeneous series). DRAW FOR FINAL DOCUMENT.

Applies to item 5.3 of the Rule – 700-RC-001.

6.5 – Data-sheet
Report provided by the manufacturer or importer with the description of the constructive characteristics of a circuit breaker.

NOTE 3: *This data-sheet to the requestor (s) abroad (s) should preferably contain the information / text in a bilingual format (language), but there is always the (s) text (s) in English. The TUV may ask the applicant to provide all documentation in Portuguese (from Brazil), in specific cases.*

NOTE 4: *Along with this data-sheet, should be given lists of components and processes used for production of circuit breakers according to (s) number (s) homogeneous (s) informed (s) by the applicant / manufacturer. Apply the same requirements regarding language, as reported in NOTE 3.*

6.6 – Applicant
Applies to item 5.4 of the Rule – 700-RC-001.

6.7 - Definition of Homogeneous Series
The definition of homogeneous series is applicable to all rules of circuit breakers under these Rules.

6.7.1 – Circuit Breakers can be regarded as being the same basic design and evaluated as a homogeneous series, provided that the following conditions:

a) have the same basic design;

b) the poles have the same external dimensions;

c) the materials, finishes and dimensions of the internal current-carrying parts are identical, except for the changes detailed in subsection 6.7.2a of this Complement;

d) the terminals are of similar design except for the changes detailed in this Complement - Item 6.7.2d;

e) the size, material, configuration and method of attachment of the contacts are identical;

f) the mechanism for manual operation (material and physical characteristics) is equal;

g) the impression materials and insulation are identical;

h) the method, materials and construction used for the device of arc extinction are identical;

i) the basic design of the overcurrent device performance is identical, except for the changes detailed in this Complement – Item 6.7.2b;

j) the basic design of the device performance snapshot is identical, except for changes detailed in this Complement – Item 6.7.2c;

k) the nominal voltage is destined for the same type of monophasic circuit breakers (1 pole), with the same overall dimensions for pole, with the exception of external barriers between poles.

6.7.2 – Are allowed the following variations:
a) cross-sectional area of the internal current-carrying connections;
b) dimensions and material of the actuated device overcurrent;
c) number of turns and cross-sectional area of coil wire of the device, instant acting;
d) dimensions of the terminals.

7 - MECHANISM OF CONFORMITY ASSESSMENT

7.1 – The mechanisms for assessing the conformity of products covered by this regulation, circuit breaker, are compulsory and voluntary certification.

7.2 – This regulation establishes two (2) different models of certification to obtain authorization for the use of the Seal Identification of Conformity, the supplier must choose one:

a) Model with Assessment of the Quality Management System of Production Process and Product Testing in Product
This model consists of the evaluation and approval of the Quality Management System of the manufacturing process, used in repetitive production processes in series, with third-party audits on the manufacturer and tests on samples taken in the production and trade

b) Certified Model Lot
This model is based on the method "go-no go" for certification of each lot and should be applied to isolated single production batch or intermittent with long intervals of time with little or no recognized control during the manufacturing process.

7.3 – It is the responsibility of the applicant together with TÜV formalize the model should be used for certification of their products monopolar type of circuit breakers, with the same overall dimensions for pole, with the exception of external barriers between poles.

8 – STEPS IN THE PROCESS OF CONFORMITY ASSESSMENT

8.1 – Model with Assessment of the Quality Management System Fabrication and Testing

8.1.1 – Initial Assessment

8.1.1.1 – Request for initiation of proceedings

8.1.1.1.1 – TÜV should at least make the analysis of the manufacturer's Quality Manual and its procedures, particularly those inherent in the manufacturing steps of the breakers in the request.

8.1.1.1.2 – The applicant must formalize in the form provided by TÜV, they choose a certification model that includes both assessment and maintenance of Quality Management System of the manufacturer of the product subject of the request, as well as conducting the tests described in the relevant technical requirements listed in question 2 of this regulation in samples collected at the factory.

NOTE 5: The condition of the legal representative of the product manufacturer, foreign or domestic, should be clear on the application form.

8.1.1.1.3 – At the request must be included in an annex, the name of the circuit-breaker, its homogeneous series, his data-sheet and documentation of Quality Management System of the manufacturer, developed for the service set out in Appendix A of this CRC.

8.1.1.2 – Analysis of the application and documentation
TÜV should at least make analysis of the data-sheet and all manufacturer's documentation and related procedures, including those inherent in the manufacturing steps of the breakers in the request.

8.1.1.3 – Initial Tests

8.1.1.3.1 – Type Tests

Upon completion of the initial audit at the factory, must be conducted type tests mentioned in ABNT NBR NM 60898-1 or NBR IEC 60947-2 or RTQ attached to Inmetro No 243/2006.

8.1.1.3.1.1 – The type tests in a homogeneous series of products and various quantities of poles are:

a) tests described in Tables C1, C2, C3 and C4 of Annex C of ABNT NBR NM 60898-1;
b) tests described in subsection 10.2 of the RTQ attached to Ordinance No. 243/2006 Inmetro class P1 or P2 must be stated on the certificate as the test performed;
c) tests described in Table 9 of NBR IEC 60947-2;
d) confirmatory testing I^2t curve for each of the rated current;
e) test to confirm the level of protection in compliance with Appendix B of this regulation, shall conform to subsection 9.10.2 according to ABNT NBR NM 60898-1.

8.1.1.3.1.2 – The manufacturer will provide figures for the I^2t, which must be confirmed by the TÜV testing in accredited laboratory, in at least three points of the curve, representative of the circuit breakers.

NOTE 6: *The curves I^2t must be provided to TUV (scanned and also printed), by requesting and / or manufacturer, formatted official drawings of the manufacturer (form A2 and A3), legible, with all information, ie clearly indicating the manufacturer's name, line circuit breaker, configuration / number of poles, curve (s) of expertise instantaneous (B, C, D, for example).*

8.1.1.3.1.3 – Will be considered approved this item, circuit breakers whose test results obtained do not exceed 5% (five percent) of the values declared by the manufacturer.

8.1.1.3.1.4 – The values of the curve I^2t should be measured according to tests described in subparagraphs 9.12.11.2, 9.12.11.3 and 9.12.11.4, ABNT NBR NM 60898-1 and in paragraph 16 of the RTQ attached to Ordinance No. 243/2006 Inmetro.

NOTE 7: *Concerning the confirmation of the values I^2t for circuit breakers as RTQ (item 16), TUV in agreement with the applicant / manufacturer certification, set the value of short-circuit (nominal or not) be calibrated and applied in order to get yourself 3 points / values for comparison with the curves I^2t provided. This information should be included in the test report.*

8.1.1.3.1.5 – For products certified by OAC operating abroad and considering the existence of a memorandum of understanding with TÜV, should be carried out as follows:

a) sequence E2 and testing of 9.10.1 and 9.10.2 subitems for circuit breakers manufactured according to ABNT NBR NM 60898;
b) program Z and testing for clause 7.2.1 of the Annex RTQ Inmetro No. 243/2006, for circuit breakers manufactured as RTQ attached to Ordinance Inmetro No. 243/2006;
c) sequence III and testing of subsection 7.2.1.2.4 b NBR IEC 60947-2, for circuit breakers manufactured according to NBR IEC 60947-2.

8.1.1.3.2 – **Definition Laboratory**
It TÜV select the lab to be hired to carry out the tests for the certification process of the product as set out in

paragraph 14 of the CRC.

8.1.1.3.3 – Definition of sampling

8.1.1.3.3.1 – TÜV must collect samples at the plant circuit breakers to allow the tests laid down in the relevant technical standards

8.1.1.3.3.2 – The number of samples required for testing of the kind is prescribed technical standards. If it is not expected to repeat tests in the standard should be collected over a set of samples required for testing. These additional samples will be used in case of failure of the first sample and will not be admitted non-compliance in this set.

8.1.1.4 – Initial Audit

After examination and approval of the application and documentation, TÜV, in agreement with the applicant, the audit program's initial Quality Management System of the manufacturer, with reference to Annex A of this Complement, and the sampling in the factory to perform all standard tests, providing additional samples, according to subclause 8.1.1.3.3.

NOTE 8: Presentation of Certificate of Quality Management System issued under the SBAC, with reference to the ABNT NBR ISO 9001:2008 and this certification is valid for the circuit breaker production line subject of the request at the discretion of TÜV, under this regulation, exempt the holder of the certificate of assessments of the Quality Management System under this regulation as it has validity. In this case, the certificate holder must make available to TÜV all records under this certification.

8.1.1.5 – Issuance of Certificate of Compliance

8.1.1.5.1 – Met all requirements in this CRC and checked for compliance tests of circuit breakers, TÜV presents the case to the Certification Committee which shall decide on granting certification. Permission to use the Seal of Conformity Identification should be granted only after this step.

8.1.1.5.2 – The certification should be granted only to the applicant who has in his case all non-conformities eliminated.

8.1.1.5.3 – The authorization for use of the Seal of Conformity Identification should be granted only after the signing of the contract between the applicant and the TÜV, the time of release for marketing.

8.1.1.5.4 – The ***recommendation*** of the Technical Commission does not exempt TÜV of responsibilities of the granted certifications.

8.1.1.5.5 – Being the product as TÜV should formalize the grant of permission to use the Seal Identification of Compliance, as provided in Section 11, for the (s) model (s) Product (s) that meets (m) the criteria established in this CRC.

8.1.2 – Maintenance Assessment

8.1.2.1 – Assessment planning maintenance

8.1.2.1.1 – Following the granting of permission to use the Seal of Conformity Identification, control of this is exclusively done by TÜV, which plans new audits and testing to see if the technical and organizational conditions that led to the initial granting of the permit are being maintained

8.1.2.1.2 – TÜV shall schedule and conduct at least one audit every six months in each manufacturing plant authorized, and there may be others since there is a resolution of TÜV, based on evidence to justify them.

8.1.2.1.3 – Found some non-compliance in the audit to maintain certification, TÜV must agree with the company requesting a deadline for correction of these non-conformities.

8.1.2.1.4 – TÜV must perform every six months, tests on samples of the circuit breakers certificates, according to subclause 8.1.2.2 of the CRC, to evaluate compliance with technical standards listed in item 3 of this CRC. For these tests should be sampled in any trade or in the shipping area.

8.1.2.2 – Follow-up Tests

8.1.2.2.1 – Definition of tests to be performed
The follow up tests shall be performed as follows:

CIRCUIT BREAKER – ABNT NBR NM 60898-1:
- **1st Half** – D0 Sequence (only 9.10.1 e 9.10.2)
- **2nd Half** – D0 Sequence (only 9.10.1 e 9.10.2) and E1 and E2 (See NOTE 9);
- **3rd Half** – D0 Sequence (only 9.10.1 e 9.10.2)
- **4th Half** – D0 Sequence (only 9.10.1 e 9.10.2) and C and D1
- **5th Half** – D0 Sequence (only 9.10.1 e 9.10.2)
- **6th Half** – D0 Sequence (only 9.10.1 e 9.10.2) and B and A (only 9.15)

NOTE 9: *For the tests for the 2nd Half, the TUV examine the tests performance of the sequence E1 or sequence E2, according to the characteristics of the product already certified and based in table 15 of ABNT NBR NM 60898-1 [K relationship between the tests at service short-circuit capacity (Ics) and the tests at rated short-circuit capacity (Icn)], namely.*

- *Perform the sequence E1 in circuit breakers with breaking capacity up to and including 6kA*
- *Perform the sequence E2 in circuit breakers with breaking capacity above 6kA [up to and including 10kA, when compulsory certification (according to decree No. 348/2007 Inmetro) and up to and including 25kA when voluntary certification].*

*The values **Ics** and **Icn** should be informed by the manufacturer and / or requesting certification. INSERTED*

Number for samples:

- **DO**: 1 sample 1-pole of each nominal current, whereas, in each semester a type of curve shall be tested, ant at the end of three years each curve shall have been tested at least once;
- **E1 e E2**: 3 samples of any current rating and any smooth curve of each homogeneous series;
- **C**: 3 samples of any current rating and any smooth curve of each homogeneous series;
- **9.15**: 1 sample of any unipolar current rating and any smooth curve of each homogeneous series;
- **B**: 3 samples of any current rating and any smooth curve of each homogeneous series;
- **D1:** 3 samples of higher rated current and any smooth curve of each homogeneous series.

Obs: every three years should have been tested at least once every configuration of poles

CIRCUIT BREAKER – RTQ (Ordinance No. 243/2006 Inmetro)
- **1st Half** – Tests of subsection 7.2.1
- **2nd Half** – Tests of subsection 7.2.1 and Program Y
- **3rd Half** – Tests of subsection 7.2.1
- **5th Half** – Tests of subsection 7.2.1 and Program Z (must be done in categories P1 and / or P2 *)
- **5th Half** – Tests of subsection 7.2.1
- **6th Half** – Tests of subsection 7.2.1 and Program X

*(*) **Category of performance under short-circuit (P1 and / or P2)** - the performance category (under short-circut) should be set according to the sequence of operation and condition of the breaker after running this with current values corresponding to the capabilities of establishment and disruption of short-circuit. These categories should be designated as shown in table A.2 (RTQ annexed to decree No. 243/2006 Inmetro).*

Number of samples RTQ (Ordinance No. 243/2006 Inmetro)
- **Z** : 3 samples of any current rated each homogeneous series;

- **Y** : 3 samples of any current rated each homogeneous series;
- **X** : 3 samples of any current rated each homogeneous series;
- **7.2.1**: 1 sample of any current rating of each homogeneous series

Obs: every three years should have been tested at least once every configuration of poles.

CIRCUIT BREAKER – NBR IEC 60947-2

- **1st Half** – subclause 7.2.1.2.4 b
- **2nd Half** – subclause 7.2.1.2.4 b and Sequence II
- **3rd Half** – subclause 7.2.1.2.4 b
- **5th Half** – subclause 7.2.1.2.4 b and Sequence I
- **5th Half** – subclause 7.2.1.2.4 b
- **6th Half** – subclause 7.2.1.2.4 and Sequence II or III (for circuit breakers with a capacity above 6kA).

Number of samples:

- As table 10 of NBR IEC 60947-2;
- For subitem 7.2.1.2.4b NBR IEC 60947-2 test will be conducted in a unipolar sample of each rated current.

Obs.: every three years should have been tested at least once every configuration of poles.

NOTE 10: In case of changes in materials or in the design during the follow up of certification, additional testes shall be performed to the changes occurred, at TUV's discretion.

8.1.2.2.2 - Development of laboratory

It is the TÜV who will select the lab to be hired to carry out the tests for the certification process of the product as set out in item 14 of the CRC.

8.1.2.2.3 - Definition of sample maintenance (follow-ups)

TÜV shall establish a procedure to collect samples of trade so as to enable the achievement of the relevant tests on circuit breakers certificates, provided the technical requirements listed in item 3 of the CRC

8.1.2.2.4 – Found some non-compliance in the trial to maintain certification, must be repeated in two new samples for the attribute does not conform, not being admitted to finding any non-compliance

8.1.2.2.5 – Confirmation of non-compliance in the trial for the maintenance of certification entails the immediate suspension of approval for the use of Seal Identification of Compliance for the breaker does not comply

8.1.2.3 – Maintenance audit

The bi-annual evaluation of the Quality Management System of the company must be planned and carried out by TÜV, in agreement with the company and should include at least the following steps:

a) review of the documentation of the Quality Management System of the company;
b) audit firm in accordance with the requirements set forth in this CRC;
c) collecting samples in the shipping area company aimed at testing the product.

8.1.2.3.1 – TÜV must ensure that the company keeps its production process controlled to avoid deviations that may compromise the conformity of the final product

8.1.2.3.2 – If a company has its Quality Management System certificate, the TÜV should proceed as defined in items 8.1.1.4.

8.1.2.4 - Issuance of Certificate of Compliance Maintenance

8.1.2.4.1 – Met all requirements in this and checked for compliance tests of circuit breakers, TÜV presents

the case to the Certification Committee which shall ***recommend*** the renewal of authorization to use the Seal of Conformity Identification. The ***recommendation*** decision of the Technical Commission does not exempt TÜV of responsibilities of the granted certifications.

8.1.2.4.2 – If the product is compliant and no non-conformities in the Quality Management System of the requesting company, TÜV must revalidate the authorization to use the Seal Identification of Compliance, as provided in Section 11, for the (s) model (s) Product (s) that meet the criteria set forth in this CRC.

8.1.2.4.3 – The occurrence of product failure in trials of maintenance of certification entails the immediate suspension of the authorization to use the Seal of Compliance for the identification and removal of the failed model of the same trade

8.1.3 – Treatment of deviations in the process of conformity assessment
8.1.3.1 – Treatment of nonconformities in the initial assessment process
The type tests should not present such non-compliance

8.1.3.1.1 – The treatment of non-compliance should be discussed between evaluated and evaluator, seeking effective lines of corrective actions to eliminate it.

8.1.3.1.2 – The Certification of TÜV must do the final analysis of the information and recommend whether or not the certification.

8.1.3.1.3 – The granting of permission to use the Seal Identification of Compliance should be issued only for products compliant.

8.1.3.2 – Treatment of non-conformities in the maintenance process.

8.1.3.2.1 – Tests of the sequence D0 (ABNT NBR NM 60898-1), subsection 7.2.1 of the ordinance attached RTQ Inmetro No 243/2006 and subsection 7.2.1.2.4 b (NBR IEC 60947-2):

1. When in test of maintenance, there is a non-compliance which does not lead to suspension of the next maintenance should be increased from one sample to the same nominal current tested;
2. The trial of maintenance that is performed with samples could increase at the next maintenance test, return to the previous sampling if not detected any discrepancies in the final test;
3. Occurring repeat non-compliance, should be submitted by the company report corrective action to be verified in the next maintenance test;
4. Production will be halted when there is no compliance in a sample in the second test where he appeared subsequent maintenance of non-compliance;

8.1.3.2.1.1 – Found some non-compliance in the assessment of the Quality Management System of the company holding the certificate, the TÜV must agree with the same period for a correction of these non-conformities, as well as to formalize this occurrence OCS responsible for certifying the company's system requestor.

8.1.3.2.2 – Testing of other sequences (ABNT NBR NM 60898-1, NBR IEC 60947-2 and RTQ attached to Ordinance No. 243/2006 Inmetro)

1. When in trial of maintenance, there is a non-compliance that does not lead to suspension of the certificate should be carried out another test of the same string / program to confirm the result, within six months with increased sampling.
2. When this fact is repeated, must be submitted by the company report of corrective action, which will be verified in the next maintenance test.

8.1.3.3 – Treatment of non-conforming products on the market
Where non-compliance found under review and responsibility of TÜV not endanger the safety of the user, the requesting party will not have your authorization to use the Seal of Conformity Identification suspended if it ensures the TÜV, through corrective actions, correction of non-compliance with existing products on the market and the implementation of these actions on the production line. Otherwise, the applicant company will

have its authorization to use the Seal of Conformity Identification suspended immediately.

8.2 – Model with Batch Certification

8.2.1 – Request the beginning of the process.
The applicant must formalize in the form provided by TÜV, they choose a certification model that evaluates the compliance of a batch of product.
At the request must be included in an annex, lot identification and the object of the same description memorial circuit breaker forming this lot.

NOTE 11: The condition of the legal representative of the product manufacturer, foreign or domestic, should be clear on the application form.

8.2.2 - Analysis of the Documentation
TÜV should, in case of an importer, the import documentation confirming the identity of the lot subject of the request, and in the case of national manufacturer, review the procedure for identifying the batch in the request.

8.2.2.1 – The concepts of extension of the authorization are not adopted in the case of certification for each lot.
8.2.3 – Initial test.
8.2.3.1 – Type tests for Batch.

8.2.3.1.1 – TÜV, after review and approval of the request and documentation should schedule the test type described in ABNT NBR NM 60898-1 and NBR IEC 60947-2 and RTQ attached to Ordinance No. 243/2006 Inmetro in samples collected randomly from the lot.

8.2.3.2 – Definition of the laboratory
It TÜV select the lab to be hired to carry out the tests for the certification process of the product as set out in item 14 of the CRC.

8.2.3.3 – Definition of sampling
The number of parts necessary to carry out the type tests shall be as prescribed technical standards. If it is not expected to repeat tests in the standard should be collected over a set of samples required for testing. These additional samples will be used in case of failure of the first sample and will not be admitted non-compliance in this set.

8.2.4 - Testing Inspection Lot.

8.2.4.1 – In addition to the type tests described in Section 8.2.3.1, TÜV plan must achieve the following tests to examine the lot:
a) Products according to ABNT NBR NM 60898: dielectric strength and calibration, as sub-items 9.7 and 9.10 of the standard;
b) Products as Ordinance No. 243/2006 Inmetro: calibration and withstand voltage, as chapters 12 and 17 of the Technical Regulation on Quality
c) Products according to NBR IEC 60947-2: calibration and verification dielectric, as subitems 8.4.2 and 8.4.3 of the standard;
d) Test of resistance of insulating material to abnormal heat and fire (glow wire test), where authorized by DOT.

8.2.4.2 – Definition of the laboratory.
It TÜV select the lab to be hired to carry out the tests for the certification process of the product as set out in item 14 of the CRC.

8.2.4.3 – Sampling Plan

Samples collected according to NBR 5426, conform to the sampling plan double-standard, general inspection level I and EQS of 0.25.

8.2.4.3.1 – Tests for batch analysis should be conducted according to technical norms, using all samples collected, divided equally for each of the checks.

8.2.5 – Treatment of deviations in the process of conformity assessment.

8.2.5.1 – Type tests for batch must not non-conformities.

8.2.5.2 – In the event of nonconformity, the batch is disapproved for the purpose of certification.

8.2.6 – Treatment of non-compliance of the inspection process batch.

8.2.6.1 – Tests inspection lot shall not submit non-conformities.

8.2.6.2 – In the event of nonconformity, the batch is disapproved to certify

9 - TREATMENT OF CLAIMS

The supplier must have a system for handling complaints from customers, including the following requirements, depending on the specifics of the program object:

9.1 – A Policy for Handling of Complaints and signed by its executive greater, which demonstrates the company:

a) Values and give effective treatment to complaints submitted by its customers.
b) Knows and agrees to comply with and be subject to the penalties provided in the laws (Law No. 8078/1990, Law No. 9933/1999, etc.);
c) Stimulates and analyzes the results and take the appropriate steps, according to the statistics of complaints received;
d) Defines responsibilities for handling complaints;
e) Undertakes to respond to Inmetro any claim that it has received and established by it within a formally designated person or team, properly trained and freedom for the treatment due to complaints.

9.2 – Development of training program for the person or team responsible for handling complaints, as well as for the others involved, covering at least the following topics:

a) Regulations and standards for products, processes, services, people or systems management;
b) Understanding the Laws of 8078 of 11 September 1990, which provides for consumer protection and other measures, and 9933 of 20 December 1999, which provides for the powers of Conmetro and Inmetro, establishing the rate of metrological services, and other measures;
c) Notions of interpersonal relationship;
d) Policy for Handling of Complaints;
e) Procedure for Handling of Complaints.

9.3 – Where relevant, separate facilities and easy access for customers who wish to make complaints, as well as signposts and posters encouraging complaints and reporting on how and where to complain;

9.4 – Procedure for Handling of Complaints, which must include a simple form of registration of complaint by the customer as well as screening ,investigation , response ,resolution and closure of the complaint;

9.5 – Adequate record of each of the claims submitted and processed.

9.6 – Map that allows to easily view the status (eg under review, progress, current status, resolved, etc.) for each of the complaints from customers over the last 18 months;

9.7 – Statistics which show the number of claims raised in the last 18 months and the average time to resolve.

9.8 – Performing biannual review of statistics on the complaints and evidence of implementation of the corresponding corrective actions, as well as opportunities for improvements.

10 – SEAL IDENTIFICATION OF CONFORMITY

10.1 – For the purpose of developing the identifying stamp of compliance were observed the guidelines of the Ordinance No. 179/2009 Inmetro (No. 73/2006 - REMOVE it was repealed.)

10.2 – Specification

Seal Identification of Compliance should be placed in circuit breakers, visibly, by printing the stamp on the product and packaging, if any, as set out in Annex B (Items B.1. this CRC. Besides Identification Seal Conformity, the manufacturer must affix a label to the circuit breaker, indicating their level of protection as well as their implementation, in compliance with Annex B of the CRC.

NOTE 12: *For circuit breakers whose certification is voluntary (not mandatory according to decree No. 348/2007 Inmetro) may not be used seals as defined in Exhibit B (Items B.1 and B.2). The seal to be used will be established under item B.3. It should also be informed as to the classification level of protection to items and B.2.1 B.2.2 (in product and packaging).*

10.2.1 – In batch certification, the seal Identification of Compliance shall be accepted in the breakers, through the medium of self-adhesive label products and their packaging, provided by individual product.

10.2.2 – The applicant or authorized company should implement a control to identify the products that bear the Seal of Conformity Identification.

10.3 – Acquisition

10.3.1 – The request must be made for a particular model and for the same plant.

10.4 – Traceability

TÜV must verify traceability of the certified products in the control of the authorized company or requestor.

11 – AUTHORIZATION FOR USE OF SEAL IDENTIFICATION OF CONFORMITY.

The granting of permission to use the Seal of Conformity Identification is performed when the circuit breaker is in accordance with the criteria defined in this program of conformity assessment in the context of SBAC.

11.1 – Permission to use the Seal of Conformity Identification will have its validity linked to the validity of registration granted, when applicable.

11.2 – In the case of a request to extend the scope of the authorization for use of the Seal of Conformity Identification, circuit breakers relevant to this may only be sold from the moment the TÜV approve the extension.

11.2.1 – When the applicant wish to extend the authorization for additional models of the same basic design of a product of the same plant, given the same technical standards, TÜV may request an extension of it.

11.2.1.1 – The request must be made for a particular model and for the same plant.

11.2.1.2 – When requesting the change of location or produce more than one location while keeping the same product design, meeting the same technical standards, may request the extension of the TÜV certification, making the evaluation of the quality system of testing and factory maintenance.

11.2.1.3 - TÜV must determine whether the extension request is appropriate, considering the following conditions, for evaluation as a homogeneous series in accordance with item 6.7 of the CRC.

11.3 – Granting of authorization
The granting of permission to use the Seal Identification of Compliance comply with the criteria described in subsection 11.3.1.

11.3.1 – Mechanism of conformity assessment.
The instrument granting the authorization to use the seal for identification of compliance must contain at least the following data:
a) corporate name, trade name, complete address and CNPJ (where applicable) the company or authorized requestor;
b) Complete data from TÜV;
c) number of authorization for the use of the Seal of Conformity Identification, date of issue and validity of the authorization;
d) identification of the certification;
e) signature of the TÜV;
f) types and models of products with the respective design codes and relevant technical standards, as established in the CRC, rated voltage, rated performance symbol instant (ABNT NBR NM 60898-1), the nominal frequency, breaking capacities referred to their respective voltages (Icn, and Icu Ics), reference temperature, categories of performance (as RTQ attached to Ordinance No. 243/2006 INMETRO), categories of use (NBR IEC 60947-2), number of poles, degree of protection (ABNT NBR 60947-2), distance grid, energy limiting class if declared by the manufacturer (ABNT NBR NM 60898-1);
g) the inscription: "This authorization is tied to a contract and to the address mentioned above"

11.4 – Maintenance of the authorization
The maintenance of the authorization to use the identifying stamp of conformity is conditional upon satisfying the requirements of items 8.1.2.2 and 8.1.2.3.

11.5 – Suspension or cancellation of authorization
The suspension or cancellation of authorization to use the seal of identification occurs when compliance is not met any of the requirements of items 8.1.2.2 and 8.1.2.3. In these cases the company must cease use of the identification of compliance and any advertising that has to do with it.

11.5.1 – The interruption of the suspension, full or partial, is subject to verification by the company applying for the correction of non-compliance that gave rise to the suspension.

11.5.2 – The applicant company who has your permission to use the Seal of Conformity Identification canceled can only return to the system after the completion of the full certification (re-audit of the Quality Management System and new trials).

12 – RESPONSIBILITIES AND OBLIGATIONS

12.1 – Recognition of Certification Activities
For the recognition and acceptance of certification activities set forth in this CRC, but implemented by a certification body that operates abroad, must meet the TÜV described below:

1) any agreement for recognition of activities necessary for the compulsory or voluntary certification, such as test results or inspection reports, with certification bodies operating abroad, will be accepted only if such activities, and are mutually recognized, are undertaken by organizations that meet the same rules of accreditation adopted Inmetro.

2) in any situation, TÜV is responsible for product certification.

12.2 – Authorized Company Obligations

12.2.1 – Comply with all conditions set forth in this CRC in the legal and contractual arrangements regarding the authorization.

12.2.2 – Apply the Seal of Conformity and Identification label indicating their level of protection and enforcement in all breakers certificates, according to the criteria set forth in this CRC.

12.2.3 – Comply with the relevant decisions taken by the TÜV certification, using, ultimately, to Inmetro in cases of complaints and appeals.
12.2.4 – Facilitate the TÜV or its contractor, upon proof of this condition, the audit work and maintenance, as well as other testing and certification activities under this CRC.

12.2.5 – Maintain technical and organizational conditions that formed the basis for obtaining approval for the use of the Seal of Conformity Identification, reporting, prior to TÜV, any changes you wish to make the product which was granted.

12.2.6 – Report immediately to cease in the event of TÜV definitely the manufacture or import of the model circuit breaker certificate.

12.2.7 – The certified product can not keep the same encoding of a non-certified product (code and model).

12.2.8 – Submit prior to TÜV all advertising material which is marked a Seal Identification of Compliance.

12.2.9 – The requesting company has technical responsibility, civil and criminal liability for products manufactured or imported by it, as well as all documents related to certification, with no possibility of transferring this responsibility.

12.3 – Obligations of the TÜV

12.3.1 – Implement the program of conformity assessment, as provided in this CRC, as required herein, and to resolve questions with the mandatory Inmetro.

12.3.2 – Using the system database provided by Inmetro to keep up to date, the deadlines specified in the contract, information about the certified products.

12.3.3 – Immediately notify the Inmetro when the suspension, extension, reduction and cancellation of certification.

12.3.4 – Submit to Inmetro for examination and approval of the MOUs, the scope of this CRC, established with other certification bodies.

12.3.5 – The TÜV is responsible for implementing the program of conformity assessment defined in this CRC.

13 – PENALTIES.
The manufacturer / importer of circuit breakers that fail to meet the requirements of the CRC will be subject to penalties of warning, suspension or revocation of certification, in addition to those provided for in Law No. 9933/99.

14 – USE OF LABORATORY TEST

14.1 – Testing Laboratories

The tests described in the certification schemes and defined in Section 8 of the CRC should be performed according to item 9.2.1 of the 700-RC-001.

NOTE 13: The ratio of accredited laboratories can be obtained by consulting the websites of Inmetro of cooperation and agreements of the signatory agencies.

15 – ACTIVITIES CARRIED OUT BY FOREIGN OAC
The conformity assessment activities, performed by a foreign body may be accepted provided they meet all

the following conditions:

a) TÜV has an MOU with the foreign body.

b) The foreign body is believed by the same international rules adopted by Inmetro for the same scope or equivalents;

c) The activities carried out abroad are equivalent to those regulated by Inmetro;

d) The accredited or designated by Inmetro issue the certificate of compliance to the Brazilian regulations and assume responsibility for all activities undertaken abroad and arising from this issue, as if himself had conducted all the activities.

e) The TÜV is responsible for the prosecution and granting of certificates of conformity.

f) Inmetro approve the MOU.

16 – CHANGES MADE

Date	Revision	Responsable
21/8/13	Change the number of documents	Gabriela Halphen
25/2/11	General review. Current document based on Inmetro Ordinance n° 348/2007	
20/07/13	Exclusion of Inmetro Ordinance Nº 27/2000; inclusion of Inmetro Ordinance Nº 335/2011 and updated the code and title of the document - 700.PI-028 – Constitution and Attributions of the Technical Commissions of Certifications	
21/07/2016	Included in item 3: - Ordinance No. 335/2011 Inmetro - Ordinance No. 274/2014 Inmetro - 700-PI-2 - Establishment and Duties of Technical Committees Inclusion of " recommendation " in the items: - 8.1.1.5.4 - 8.1.2.4.1	Vanessa Hernandes

ANNEX A

REQUIREMENTS FOR ASSESSING THE QUALITY OF THE FACTORY

In the review of plant must be audited items of ISO 9001, described below

REQUIREMENTS OF NBR ISO 9001:2008	
Nº of the item	**Description of the item**
4.2.4	Control of records
6.3	Infrastructure
6.4	Work environment
7.1	Planning of product realization
7.4.3	Verification of purchased product
7.5.1	Control of production and service provision
7.5.2	Validation of manufacturing processes and service delivery
7.5.3	Identification and traceability
7.5.5	Preservation of product
7.6	Control of monitoring and measurement equipment
8.1	General
8.2.4	Monitoring and measurement of product
8.3	Control of nonconforming product
8.5.2	Corrective action
8.5.3	Preventive action

The TUV will conduct the evaluation at the factory: at admission and follow-half mark of products already certified.

ANNEX B

CERTIFICATION IDENTIFICATION IN THE AMBIT OF SBAC AND CLASSIFICATION OF THE LEVEL OF PROTECTION

B.1 SEAL IDENTIFICATION OF CONFORMITY

Fontes
Univers
Univers-Black

Pantone 1235
100%
80%

CMYK
C0 M27 Y76 K2
C0 M20 Y75 K2

Maximum reduction

50 mm

Maximum reduction

11 mm

Shades of Gray
100%
90%
70%

Single Color

Single Color

Pantone 1235
- 100%
- 80%

CMYK
- C0 M27 Y76 K2
- C0 M20 Y75 K2

Shades of Gray
- 100%
- 90%
- 70%

Single color

Maximum reduction

50 mm

Maximum reduction

11 mm

Single color

B.2 CLASSIFICATION LEVEL OF PROTECTION

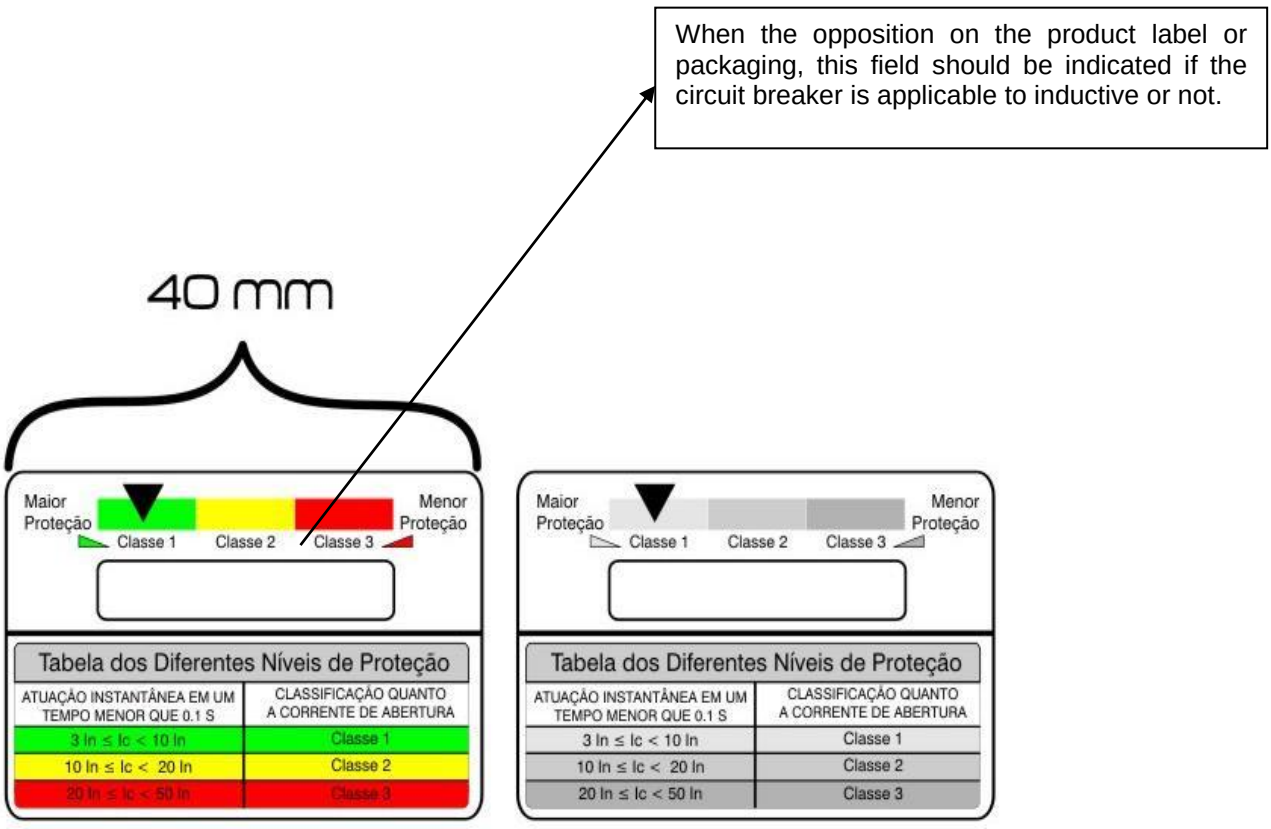
B.2.1 LEVEL OF PROTECTION

The classification of the level of protection will be given based on the firing current (Ic) in relation to nominal current (In), the circuit breaker in a time of less than 0.1 seconds, as detailed below:

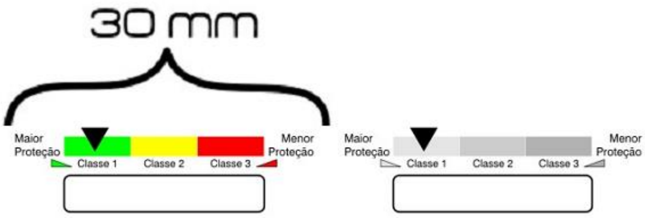
Tabela dos Diferentes Níveis de Proteção	
ATUAÇÃO INSTANTÂNEA EM UM TEMPO MENOR QUE 0.1 S	**CLASSIFICAÇÃO QUANTO A CORRENTE DE ABERTURA**
3 In ≤ Ic < 10 In	**Classe 1**
10 In ≤ Ic < 20 In	**Classe 2**
20 In ≤ Ic < 50 In	**Classe 3**

B.2.2 LABEL

Circuit breakers should bear a label indicating the rating of the same, according to the table above.



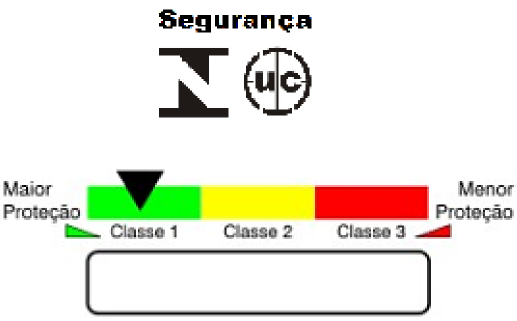
MAXIMUM REDUCTION

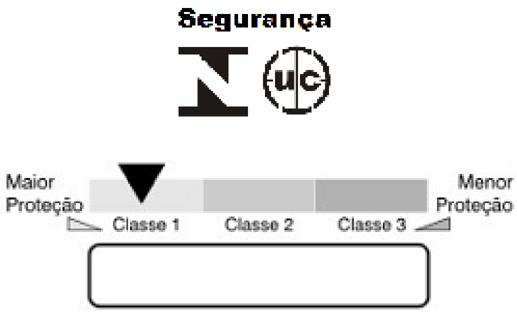


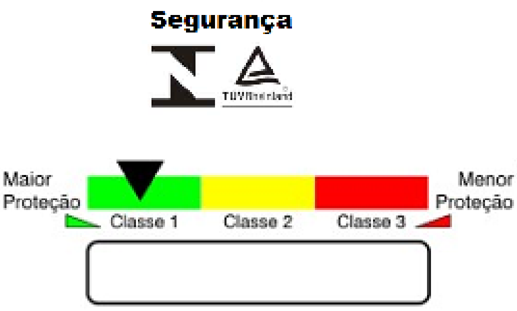
On the label should appear if the circuit breaker applies to inductive (motor starting).

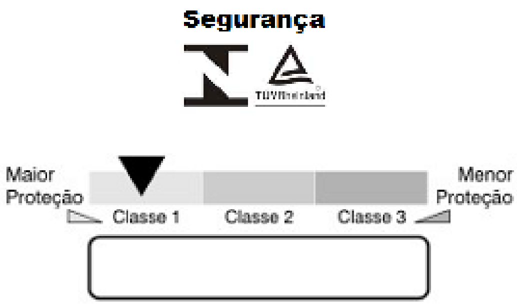
B.2.2.1 SEAL ARRANGEMENT FOR IDENTIFICATION OF CONFORMITY AND THE LABEL.

B.2.2.1.1 IN PRODUCT

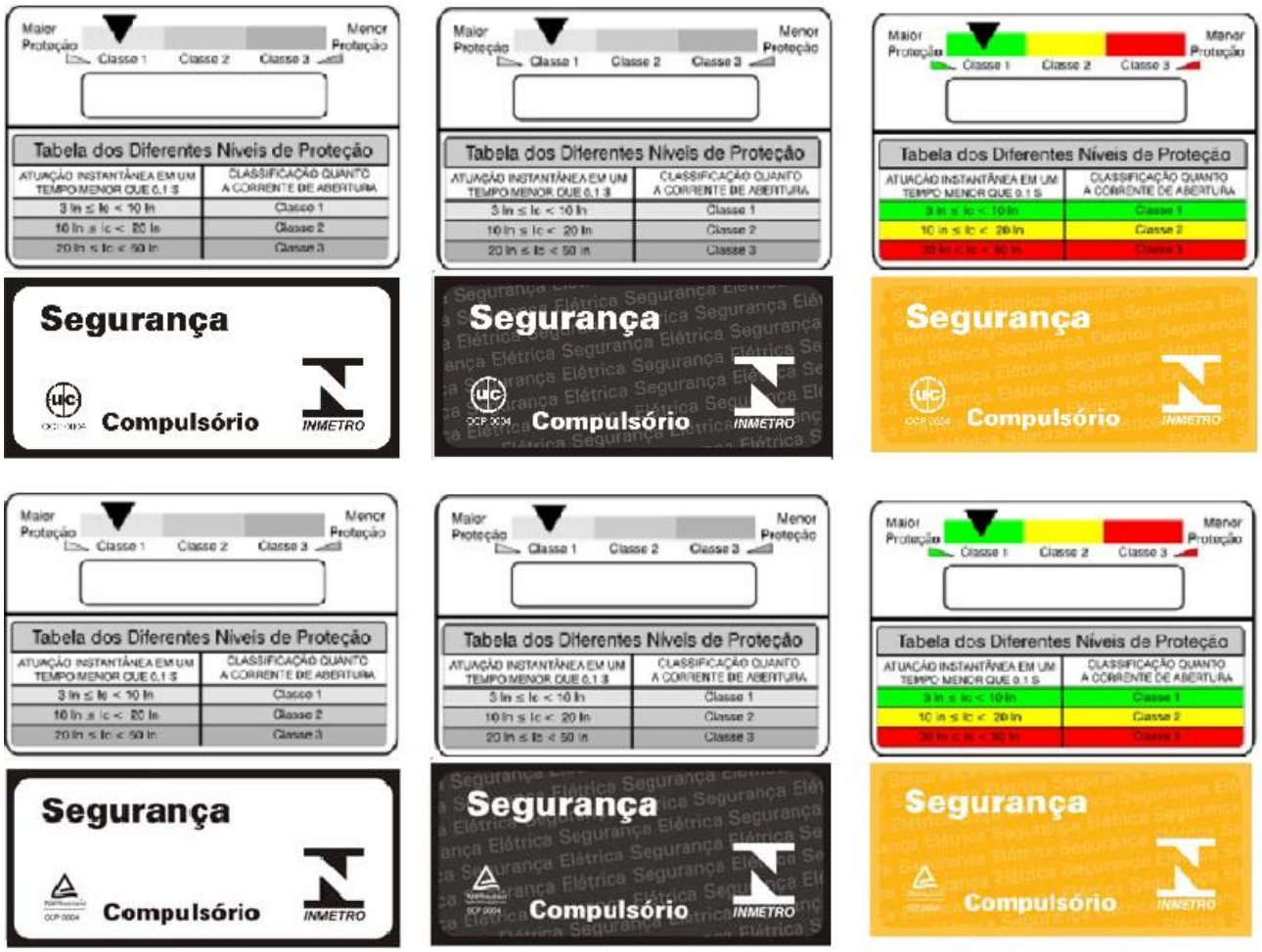








B.2.2.1.2 IN PACKING



B.3 SEAL IDENTIFICATION OF CONFORMITY (CERTIFICATION ONLY VOLUNTARY):

B.3.1 – FOR PRODUCT AND PACKAGING:

TÜV RHEINLAND or UCIEE

NOTE:
1) The mark "UCIEE" will be granted only for customers who already have authorization to use this brand, and it still would not migrate to the mark from TUV.