CR 135

Certification rule for type approval of automatic shut-off valves for water leakage prevention
Introduction

A type approval is an attestation by an independent third party that a product or system complies with the requirements of Chapter 8, Section 4 of the Swedish Planning and Building Act. At RISE, type approval is performed by a dedicated department, RISE Certification. The type approval process at RISE is accredited based on SS-EN ISO/IEC 17065. The tests used for certification are carried out in accordance with EN ISO/IEC 17025. Follow-up reviews are conducted according to EN ISO/IEC 17020.

This certification rule is based on current regulations and standards but may be revised in the future, such as to adapt to new regulations and standards or due to experiences from the application of the certification rule.

This is a translation from the Swedish original document. In the event of any dispute as to its content, the Swedish text shall take precedence.

Borås, February 2022

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1 Introduction

This certification rule covers the certification process and the requirements for type approval of automatic shut-off valves for water leakage prevention.

The purpose of this certification rule is to meet the need from manufacturers to verify that automatic shut-off valves for water leakage prevention fulfil relevant requirements of the Swedish Planning and Building Act.

Valid type approvals are published on the RISE website.

2 Scope

2.1 The scope of the type approval

Automatic shut-off valves for water leakage prevention, intended to permanently be a part of a building.

2.2 Intended use

Products that, by means of continuous measurements, supervise the tap water installation in a building and shut off the central water supply if a leakage is identified.

2.3 This certification rule do not cover

Leakage switch: Monitors the tap water installation locally with a humidity sensor to detect leakage and shut off the water.

Water switch: Uses remote control to shut off the water supply, centrally or locally.

Water alarm: Uses local sensors to identify leakages, which triggers an alarm.

Separate sensors: Sensors for detection of eg. moisture.

3 The certification process

3.1 Applications

Applications for type approval shall be made in writing and shall be accompanied by technical documentation (3.1.1).

3.1.1 Technical documentation

Technical documentation shall describe the design, manufacture and intended use of the product. This means that it shall contain at least:

- Product name or other identification
- Drawings and specifications
- List of all materials and components.
- Eventual certificates / approvals for included materials
- Test reports, if tests are already conducted (see also under 4.1)
- Installation and operating instructions (see also under 4.2)
- Proposed labelling (see also under 4.3)
All documents, including drawings, product descriptions, instructions, etc., must be labelled with their document name or number, and date of issue.

3.2 Initial review of the application

During the initial review of the application, RISE will ensure that this certification rule is applicable and that the content of the application is satisfactory. If anything is unclear or missing, RISE will clarify these issues with the client before the certification process can continue. The review may lead to RISE declining the assignment, in which case the applicant will be informed with a motivation for this decision.

If RISE accepts the assignment, the applicant will receive an order confirmation of that the application has been accepted. This confirmation is the start of the certification agreement between the parties.

Should it be necessary to engage subcontractors for part or all of the assessment, RISE will inform the applicant. The applicant may object to the selected subcontractor.

3.3 Evaluation

The evaluation process checks whether the product meets the requirements specified in sections 4, 5 and 6.

In the evaluation process, examinations are performed to the extent specified in the requirement specification. In some cases, previous test results may be used for the evaluation. Requirements for these tests include that they have been carried out by an accredited testing laboratory.

Furthermore, the manufacturer must verify that it has a quality assurance procedure that is considered to comply with the requirements of this certification rule. An accredited inspection body will verify this when conducting its initial visit, and the results will be documented in a report. In some cases, reports from previous inspection visits for similar or equivalent products can be used in the assessment.

A control plan is drawn up, describing the manufacturer’s factory production control and the surveillance of the factory production control.

In cases where the product and/or the documentation shows deficiencies, i.e. does not meet the requirements, the evaluation can be cancelled.

The results of the evaluation are summarised and submitted for review and decision.

3.4 Review and decision

The evaluation is reviewed, and if approved, the process will proceed to taking a decision about certification. Once the decision has been taken, a type approval can be issued.

3.5 Type approvals

The type approval is issued to the applicant and its validity is based on continuous compliance with the requirements.
3.6 Validity

The validity period of the type approval is a maximum of five years. The type approval can subsequently be renewed (see below). Validity requires the manufacturer’s factory production control to be monitored in accordance with the control plan (see Section 6).

3.7 Renewal

Submission of applications for renewal shall be made in writing at least 6 months before the end of the period of validity. Upon application, an assessment will be made of the steps required to renew the type approval. If no changes have been made to regulations, specifications, etc., the type approval can normally be renewed without further action. Of course, the product must remain unchanged in relation to the original type approval or the latest revision. The applicant must certify that no changes have been made.

The assessment for the renewal also considers the checks (inspections) of the manufacturer’s quality control carried out during the period of validity.

3.8 Changes to type approved products

Please note that no changes may be made to the type approved product, without these being assessed and approved by RISE. For this reason, the manufacturer must notify RISE of any changes planned for the type approved product. A description of the changes and a supplement to the technical file shall be attached to the notification. RISE will determine the necessary steps for ensuring that the type approval can continue to be valid after the changes have been made. The assessment may necessitate further tests. If the changes do not affect the validity of the type approval, the type approval will be revised with the new information. The revised type approval retains its original validity period.

4 Requirements

Products covered by this certification rule must have verified characteristics that enable buildings and construction works to meet the requirements of the Swedish Planning and Building Act, Chapter 8, Section 4. The applicable requirements of the Planning and Building Act and the regulations of the Swedish National Board of Housing, Building and Planning are listed in Annex 1. See Table 1 for how to verify characteristics.

4.1 Product requirements

Type testing of one or more samples representative of the production is used to assess the product’s characteristics. Testing and evaluation are carried out according to the table below. If there are grounds for conducting a different testing programme, this must be approved by RISE Certification.
<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Method</th>
<th>Requirements</th>
<th>Basis for certification</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.1.1 Materials – Hygiene properties</td>
<td>SP Method 5314</td>
<td>2.1 A, C</td>
<td>Specifications for brass alloys, or accredited report from migration testing according to NKB13 Material certificates regarding hygiene and EN 681-1</td>
</tr>
<tr>
<td>4.1.2 Materials – Dezincification resistance</td>
<td>SP Method 5314</td>
<td>2.1. B</td>
<td>Accredited test report for dezincification resistance (EN 6509-1)</td>
</tr>
<tr>
<td>4.1.3 Pressure resistance</td>
<td>SP Method 5314</td>
<td>2.2</td>
<td>Accredited test report</td>
</tr>
<tr>
<td>4.1.4 Leaktightness</td>
<td>SP Method 5314</td>
<td>2.3</td>
<td></td>
</tr>
<tr>
<td>4.1.5 Pressure drop</td>
<td>SP Method 5314</td>
<td>2.4</td>
<td></td>
</tr>
<tr>
<td>4.1.6 Mechanical endurance</td>
<td>SP Method 5314</td>
<td>2.5</td>
<td></td>
</tr>
<tr>
<td>4.1.7 Function ^</td>
<td>SP Method 5314</td>
<td>2.6 - 2.12</td>
<td></td>
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<tr>
<td>4.1.8 Assembly instructions</td>
<td>SP Method 5314</td>
<td>2.13</td>
<td></td>
</tr>
<tr>
<td>4.1.9 Miscellaneous</td>
<td>SP Method 5314</td>
<td>2.14</td>
<td></td>
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<tr>
<td>- CE marking of electronic equipment</td>
<td></td>
<td></td>
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<tr>
<td>- Marking of flow direction</td>
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<td></td>
<td></td>
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<tr>
<td>- Function for self-diagnosis</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>- Area of use specified</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Manual includes instructions for avoiding risk for scalding</td>
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</tbody>
</table>

*) Function testing of the automatic shut-off valve for water leakage prevention shall always be performed together with sensors, apps etc. which are delivered together with the product, to verify that the shut-off valve responds in the prescribed way to incoming signals. However, sensors and other accessories are not covered by the type approval.
4.2 Documentation requirements
The product must be clearly defined, which shall at least include name, intended use, dimensions, drawing, bills of material (BOM) and specifications/certificates for materials. Associated documents must contain such information as to enable correct installation and operation of the product. They shall at least fulfil requirements according to SP Method 5314.

4.3 Labelling requirements
The holder of the type approval has the right to label the products covered by the type approval with the RISE label for type-approval and to use the label in marketing and/or advertising of the products.

Products must be labelled with a certification mark. Labelling shall contain the following information:

- Name or registered trademark of the company responsible for the product
- Name of the product
- Place of manufacture, factory name or equivalent
- Traceability (the serial number, date or other marking to be included in the manufacturer’s inspection records)
- Type approval number
- The registered trademark of the National Board of Housing, Building and Planning (手持)
- Name of certification body (RISE)
- RISE’s accreditation number (1002)
- Inspection body (name or registered trademark)

Examples of RISE Certification mark

Additional rules for the use of RISE Certification mark are found in “Product certification - Rules for the use of certificates and certification marks” (RISE doc no. 18600).
4.4 Requirements for the manufacturer’s factory production control

See Section 5 and General rules for production control, TKR000.

5 The manufacturer’s factory production control

The manufacturer must have factory production control that ensures that products bearing the certification mark comply with the requirements of this certification rule. Factory production control must be described in a control plan.

Requirements regarding the scope of quality control are set out in RISE’s General rules for production control, TKR000, and CR 074 - Production control for drinking water products, chapter 4.

The manufacturer must perform inspection of finished products to an extent deemed necessary to make sure that delivered products fulfil specified requirements according to CR 074 - Production control for drinking water products, sections 4.1 and 4.6. Sampling plan shall specify sampling rules, applicable methods for inspection and testing, and actions to be taken in case of not approved results.

6 Supervisory inspections

Supervisory inspections are performed at least once per calendar year, through visits at the manufacturer/supplier, at times decided by the inspection body.

During visits, the inspection body shall verify the proper function of the factory production control, described by the manufacturer, and take samples of type-approved products. See RISE General rules for production control, TKR000, and CR 074 - Production control for drinking water products, chapter 5. Supervisory inspection shall be described in a control plan.

6.1 Sampling

The inspection body selects products at random from the manufacturer, warehouse, workplace, or by purchasing them from a retailer. Testing and inspection are carried out in accordance with CR 074 - Production control for drinking water products, sections 5.2.1 and 5.2.6, plus selected parts of SP Method 5314.

7 General terms and conditions

Provided in the RISE document General certification rules for certification of products, CR000.
## 8 References

<table>
<thead>
<tr>
<th>Reference</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SS-EN ISO/IEC 17065</td>
<td>Conformity assessment - Requirements for bodies certifying products, processes and services</td>
</tr>
<tr>
<td>SS-EN ISO/IEC 17025</td>
<td>General requirements for the competence of testing and calibration laboratories</td>
</tr>
<tr>
<td>SS-EN ISO/IEC 17020</td>
<td>Conformity assessment – Requirements for the operation of various types of bodies performing inspection</td>
</tr>
<tr>
<td>Planning and Building Act</td>
<td>Planning and Building Act (2010:900)</td>
</tr>
<tr>
<td>BBR</td>
<td>Boverket´s building regulations – mandatory provisions and general recommendations</td>
</tr>
<tr>
<td>RISE doc no. 18600</td>
<td>Product certification - Rules for the use of certificates and certification marks</td>
</tr>
<tr>
<td>TKR000</td>
<td>RISE General rules for production control</td>
</tr>
<tr>
<td>CR000</td>
<td>RISE General certification rules for certification of products</td>
</tr>
<tr>
<td>CR074</td>
<td>RISE Certification rule – Production control for drinking water products</td>
</tr>
<tr>
<td>NKB 13</td>
<td>Product rules for shut-off valves</td>
</tr>
<tr>
<td>EN 681-1</td>
<td>Elastomeric seals – Materials requirements for pipe joint seals used in water and drainage applications - Part 1: Vulcanized rubber</td>
</tr>
<tr>
<td>EN 6509-1</td>
<td>Corrosion of metals and alloys – Determination of dezincification resistance of copper alloys with zinc – Part 1: Test method</td>
</tr>
<tr>
<td>SP Method 5314</td>
<td>Testing of automatic shut-off valves for water leakage prevention for villas and individual apartments</td>
</tr>
</tbody>
</table>

## 9 History

24/02/2022  Certification rule established.
Annex 1  Requirements

**Applicable requirements pursuant to the Swedish Planning and Building Act (2010:900), Chapter 8, Section 4**

<table>
<thead>
<tr>
<th>Planning and Building Act requirements, Chapter 8, Section 4</th>
<th>Applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Load-bearing capacity, stability and durability</td>
<td></td>
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<tr>
<td>2 Safety in case of fire</td>
<td></td>
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<tr>
<td>3 Protection with regard to hygiene, health and the environment</td>
<td>X</td>
</tr>
<tr>
<td>4 Safety in use</td>
<td></td>
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<tr>
<td>5 Protection against noise</td>
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<tr>
<td>6 Energy management and heat retention</td>
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<tr>
<td>7 Suitability for the intended purpose</td>
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<tr>
<td>8 Accessibility and usability for individuals with reduced mobility or sense of direction</td>
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<tr>
<td>9 Economical management of water and waste</td>
<td></td>
</tr>
<tr>
<td>10 Broadband access</td>
<td></td>
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<tr>
<td>11 Electric vehicle charging</td>
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</table>

**Applicable requirements according to the BBR (National Board of Housing, Building and Planning’s building regulations)**

<table>
<thead>
<tr>
<th>Planning and Building Act requirements</th>
<th>Section in the BBR where requirements are considered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chapter 8, section 4, item 3</td>
<td>6:62, 1:st sentence and 2:nd paragraph plus general recommendation Tap water installations</td>
</tr>
<tr>
<td></td>
<td>6:625, 1:st and 4:th paragraph Design</td>
</tr>
</tbody>
</table>

**Requirement of the certification rule covered by the BBR**

<table>
<thead>
<tr>
<th>BBR Requirement</th>
<th>Section in the certification rule where requirement is considered</th>
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<tbody>
<tr>
<td>6:62</td>
<td>4.1.1 Materials – Hygiene properties</td>
</tr>
<tr>
<td>6:625</td>
<td>4.1.2 Materials – Dezincification resistance</td>
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