

**SANITARY TAPWARE**  
**Technical document**  
**077-11**

ECAU rating for multiway selectors

Technical Document 077-11 Rev02  
01/10/2020

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## MODIFICATION HISTORY

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# 1 Rules for implementing this document and technical specifications and general rules applicable to multiway selectors

## 1.1 Purpose

The purpose of this chapter is to define the technical and general performance requirements for multiway selectors.

## 1.2 Field of application

This document specifies the requirements related to:

- rules for designing, designating and classifying multiway selectors;
- provisions for marking, technical documentation and presentation;
- the materials and state of visible surfaces;
- dimensional, leaktightness, hydraulic, mechanical, endurance and acoustic performance.

This document applies to multiway selectors:

- Type 1 - Multiway selectors without an obturator system (the water flow is not closed).
- Type 2 - Multiway selectors with an obturator system.

*Table 1 – Conditions of Use*

<b>Supply system</b>	<b>Selector operating range</b>	<b>Usage limits</b>	<b>Recommended limits</b>
	Dynamic pressure		1 bar ≤ P ≤ 5 bars, balanced pressure, hot water and cold water
	Static pressure	< 1.0 MPa <b>or</b> < 10 bar	
	Hot water (HW) temperature	T ≤ 90°C	T ≤ 65°C
	Cold water (CW) temperature		T ≤ 30°C

### 1.3 References to standards

NF EN 228-1: 2003	Pipe threads where pressure-tight joints are not made on the threads - Part 1: Dimensions, tolerance and designation.
NF EN 248: 2002	Sanitary tapware - General specification for electrodeposited coatings of Ni-Cr.
NF EN ISO 3822-1: 1999	Acoustics - Laboratory tests on noise emission from appliances and equipment used in water supply installations - Part 1: Method of measurement
NF EN ISO 3822-3: 2018	Acoustics - Laboratory tests on noise emission from appliances and equipment used in water supply installations - Part 3: Installation and operating conditions for inline tapware and hydraulic equipment.
NF EN ISO 3822-4: 1997	Acoustics - Laboratory tests on noise emission from appliances and equipment used in water supply installations - Part 4: Conditions for assembly and operation of special equipment
EN ISO 5167-1: 200	Copper and copper alloy - Seamless round general-purpose pipes.

### 1.4 Design

Multiway selectors are equipped with:

- a single control device that selects the outlet channel(s) or
- a dual and/or combined control device that selects the outlet channel(s) and controls the flow rate.

They must have an indexing system to position themselves on the outlet(s).

### 1.5 Designation

Multiway stop selectors are designated according to:

- their name
- the number of outlets
- their type
- their end connections;
- their acoustic group.
- the reference to this document.

EXAMPLE:

3-way selector with an obturator system - MM G1/2- acoustic group I - in accordance with Technical Document 077-11.

### 1.6 Marking and identification

#### 1.6.1 Marking

Multiway selectors must be permanently and legibly marked and include:

- the name or initials of the manufacturer on the body of the selector;
- the acoustic group on the selector body;

EXAMPLE: the name or initials of the manufacturer – I

#### 1.6.2 Identification

Multiway selectors must indicate the inlet(s) by a mark.

Examples of mark: E or IN

## 1.7 Materials

### 1.7.1 Chemical and hygienic requirements

Materials and coatings that are likely to come into contact with drinking water, either normally or accidentally, must comply with applicable French regulations (decree of 29 May 1997: “Concerning materials and objects used in fixed installations for production, treatment and distribution of water intended for human consumption”).

### 1.7.2 State of visible surfaces and coating quality

If the multiway selectors are equipped with visible parts (control, rosette), the chrome-plated surfaces and Ni-Cr coatings must meet the requirements established in Standard EN 248.

## 1.8 Dimensional characteristics

The threads of the connection ends (G1/2B or G3/4B) must comply with Standard EN ISO 228-1. Other end connections are acceptable, but they must be presented to CSTB.

## 1.9 Leaktightness characteristics

### 1.9.1 Test principle

The test consists of verifying the leaktightness of the following, under cold water pressure:

- the obturator and selector upstream of the obturator;
- the obturator and selector downstream of the obturator;
- the selector

### 1.9.2 Leaktightness of the obturator and selector upstream of the selector

#### 1.9.2.1 *Operating procedure*

- Connect the selector to the test circuit;
- With the outlet open, shut the closing device;
- Apply a water pressure of  $(1.6 \pm 0.05)$  MPa or  $(16.0 \pm 0.5)$  bar over  $(60 \pm 5)$  s to the inlet of the selector.

#### 1.9.2.2 *Required characteristics*

Throughout the duration of the test, there should be no leakage at the closing device, nor any leakage or seepage through the walls.



### 1.9.3 Leaktightness with or without an obturator system and selector downstream of the obturator

#### 1.9.3.1 Operating procedure

- Connect the valve to the test circuit;
- With the outlet(s) closed artificially, open the obturator, if any;
- Apply a water pressure of  $(0.4 \pm 0.02)$  MPa or  $(4.0 \pm 0.2)$  bar over  $(60 \pm 5)$  s to the inlet of the selector;
- Gradually reduce the pressure to  $(0.02 \pm 0.002)$  MPa or  $(0.2 \pm 0.02)$  bar and maintain for  $(60 \pm 5)$  s.

#### 1.9.3.2 Required characteristics

No leakage or seepage through the walls must be observed throughout the test.

### 1.9.4 Leaktightness of the selector with an obturator system in its different outlet positions

#### 1.9.4.1 Operating procedure

- Connect the selector, in its normal position of use, to the test circuit;
- Put the selector in position No. 1 and open the obturator, with outlet No. 1 artificially closed (except if there is a connected outlet, in which case that outlet must also be artificially closed) and the other outlets open;
- Apply a static water pressure of  $(0.4 \pm 0.02)$  MPa or  $(4.0 \pm 0.2)$  bar] and maintain for  $(60 \pm 5)$  s, then gradually bring the pressure back to  $(0.02 \pm 0.002)$  MPa or  $(0.2 \pm 0.02)$  bar and maintain for  $(60 \pm 5)$  s;
- Check for leaks in other outlets;
- Repeat this operating procedure by putting the selector in position No. n+1 and opening the obturator, with outlet No. n+1 artificially closed (except if there is a connected outlet, in which case that outlet must also be artificially closed) and the other outlets open.

#### 1.9.4.2 Required characteristics

Throughout the test, no leakage should occur in the other outlets that are open.

### 1.9.5 Leaktightness of the selector without an obturator system in its different outlet positions

#### 1.9.5.1 Operating procedure

- Connect the selector, in its normal position of use, to the test circuit;
- Put the selector in position No. 1 (except if there is a connected outlet, in which case that outlet must also be artificially closed) and the other outlets open;
- Apply a static water pressure of  $(0.4 \pm 0.02)$  MPa or  $(4.0 \pm 0.2)$  bar and maintain for  $(60 \pm 5)$  s, then gradually bring the pressure back to  $(0.02 \pm 0.002)$  MPa or  $(0.2 \pm 0.02)$  bar and maintain for  $(60 \pm 5)$  s;
- Check for leaks in other outlets;
- Repeat this operating procedure by putting the selector in position No.n+1, with outlet No. n+1 artificially closed (except if there is a connected outlet, in which case that outlet must also be artificially closed) and the other outlets open

#### 1.9.5.2 Required characteristics

Throughout the test, no leakage should occur in the other outlets that are closed.

Tableau 2 – Summary of leaktightness tests

Leaktightness		Cold water test				
		Position of the obturator or diverter	Position of outlets	Test conditions		Requirement
				Pressure (bar)	Duration (second)	No leaks
Selector assembly	Closing device on the seat and upstream of the closing device	closed	open	16 ± 0.5	60 ± 5	after the obturator or through the walls upstream of the obturator
	Downstream of the closing device	open	closed	0.4 ± 0.02 0.02 ± 0.002	60 ± 5	after any joint
Selector with obturator	Closing device open, Selector in outlet position No. 1		Outlet No. 1 closed (if there is a connected outlet, this outlet is closed) Other open outlets	0.4 ± 0.02 0.02 ± 0.002	60 ± 5	at other outlets
	Closing device open, Selector in outlet position N <sub>n+1</sub>		Outlet No. n <sub>+1</sub> closed (if there is a connected outlet, this outlet is closed) Other open outlets	0.4 ± 0.02 0.02 ± 0.002	60 ± 5	at other outlets
Selector with no obturator	Selector in outlet position No. 1		Outlet No. 1 closed (if there is a connected outlet, this outlet is closed) Other open outlets	0.4 ± 0.02 0.02 ± 0.002	60 ± 5	at other outlets
	Selector in outlet position N <sub>n+1</sub>		Outlet No. n <sub>+1</sub> closed (if there is a connected outlet, this outlet is closed) Other open outlets	0.4 ± 0.02 0.02 ± 0.002	60 ± 5	at other outlets

## 1.10 Pressure resistance characteristics - Mechanical behaviour under pressure

### 1.10.1 Test principle

The test is conducted to detect any deformations of the selector that can occur under the action of cold water under pressure. The test is performed upstream and downstream of the closing device, if any.

### 1.10.2 Mechanical behaviour upstream of the selectors with an obturator system - Obturator in the closed position

#### 1.10.2.1 Operating procedure

- Connect the selector, in its normal position of use, to the test circuit;
- Close the obturator;
- Apply a static water pressure of (2.5 ± 0.05) MPa or (25.0 ± 0.5) bar over (60 ± 5) s to the inlet of the selector;
- Check for any permanent deformation of the selector parts upstream of the closing device.

#### 1.10.2.2 Required characteristics

There must not be any visible deformation of any part of the selector throughout the duration of the test.

### 1.10.3 Mechanical behaviour downstream of the selectors – Obturator in the open position if any

#### 1.10.3.1 Operating procedure

- Connect the selector, in its normal position of use, to the test circuit;
- Fully open the selector closing device, if any, and put it in position No. 1;
- Apply a dynamic water pressure of  $(0.4 \pm 0.02)$  MPa or  $(4.0 \pm 0.2)$  bar over  $(60 \pm 5)$  s to the inlet of the selector;
- Check for any permanent deformation of the selector parts downstream of the closing device;
- Repeat this operating procedure by putting the selector in position No.  $n + 1$ .

#### 1.10.3.2 Required characteristics

There must not be any visible deformation of any part of the selector throughout the duration of the test.

*Table 3 – Summary of pressure resistance tests*

Pressure resistance of selectors	Cold water test upstream of the obturator		Test conditions		
	Obturator position	Position of outlets	Pressure	Duration (second)	Requirement
Upstream of the closing device	Closed	open	$(2.5 \pm 0.05)$ MPa $(25 \pm 0.5)$ bar	$60 \pm 5$	no visible deformation
Downstream of the closing device, if any	Open, if any	open	$(0.4 \pm 0.02)$ MPa $(4.0 \pm 0.2)$ bar	$60 \pm 5$	no visible deformation

## 1.11 Hydraulic characteristics

### 1.11.1 Test principle

The purpose of the test is to determine, for the fully open tested product, the value of the flow rate for a reference pressure of 3 bar, which is constant on the cold water supply.

For multiway selectors, each channel is tested separately according to Table 9.

For multiway selectors, the reference pressure is  $(0.3 + 0.02/-0)$  MPa or  $(3 (+ 0.2/-0))$  bar, with the outlets equipped with a maximum class, i.e. C, hydraulic resistor (see Appendix A of Standard NF EN ISO 3822-4).

For multiway selectors, each channel is tested separately according to Table 9.

### 1.11.2 Equipment

- Cold water supply system set at a temperature of  $\leq 30$  °C;
- A dynamic pressure of  $0.3 (+ 0.02/-0)$  MPa or  $3 (+ 0.2/-0)$  bar;
- A test bench suitable for multiway selectors.

### 1.11.3 Operating procedure

- Place the selector to be tested on the test bench;
- Inlet feed hoses (flexible piping) must be tested in a straight position;
- Fully open the closing device;
- Set the dynamic pressure to  $(0.3 + 0.02/-0)$  MPa [ $(3 + 0.2/-0)$  bar];
- Once a stable and continuous flow has been obtained, measure and record the flow rate.

### 1.11.4 Required characteristics

Under the specified test conditions, the measured flow rate must not be less than that indicated in Table 5.

Comment:

During the flow test, measure the force:

- at the end of the lever (selector with obturator) or
- in rotation (selector with no obturator)

the force must not exceed 10 N ( $F \leq 10$  N)

*Table 4 – Minimum test flow rate and pressure values*

Multiway selectors		Flow rate	Test pressure
Selector in the fully open position	If a Bath position is set	20.0 L/min (0.33 L/s)	0.3 (+0.02/-0) MPa 3 (+0.2/-0) bar
	Other outlets	12.0 L/min (0.20 L/s)	
Selector in the fully open position	All outlets	20.0 L/min (0.33 L/s)	

## 1.12 Mechanical strength characteristics - Operating device torque test

This test must be completed prior to the mechanical endurance test.

### 1.12.1 Principle

The test principle consists of submitting the operating device to a given torque in order to verify its resistance with no water supply

### 1.12.2 Equipment

It consists either of a torque wrench (2% accuracy) suitable for the operating device, or a lever arm and a device for measuring the force applied.

### 1.12.3 Operating procedure

- Place the selector to be tested on the test bench;
- Fully open the closing device;
- Gradually apply a torque of  $(6 \pm 0.2)$  Nm for  $(4 +2/-0)$  s to the operating device in the opening direction;
- Maintain the torque for  $(300 +15)$  s;
- Shut the closing device completely;
- Gradually apply a torque of  $(6 \pm 0.2)$  Nm for  $(4 +2/-0)$  s to the operating device in the closing direction;
- Maintain the torque for  $(300 +15)$  s.

### 1.12.4 Required characteristics

After the test, no visible deformation or deterioration preventing the selector from operating should be noted.

After the endurance test, perform the leak test in accordance with Article 1.9.4 of this document.

## 1.13 Mechanical endurance characteristics of the operating device

The selectors must first pass the leak tests described in Chapter 1.9.2.

### 1.13.1 Test principle

The test consists in monitoring the behaviour of the selector by performing a number of channel selection and opening and closing operations if it has an obturator at a specified cold water and hot water pressure and with a predefined maintenance time (see Table 6).

### 1.13.2 Equipment

The test device consists of the following components:

- supply circuits equipped with a pump or a similar device to provide a static pressure of  $(0.4 \pm 0.05)$  MPa or  $(4 \pm 0.5)$  bar
  - in cold water at a temperature  $\leq 30$  °C and
  - in hot water at a temperature of  $(65 \pm 2)$  °C.

If the supply circuit is a closed circuit, it is necessary to ensure that the quality of the water is not changed during the test (e.g. increase in grease content).

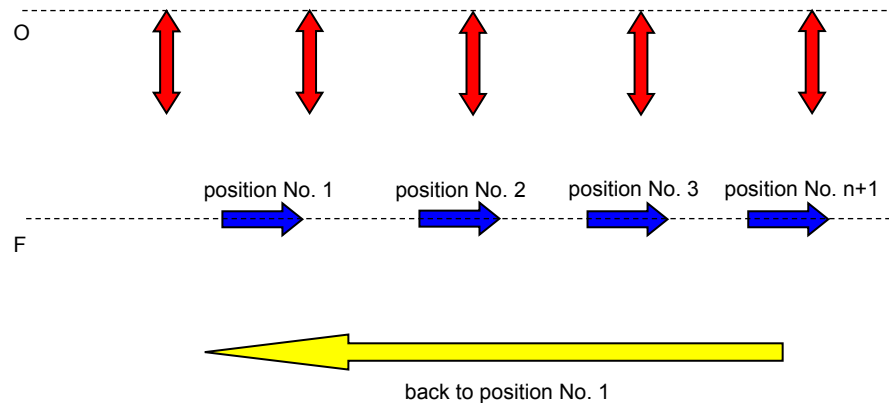
- a selector operating device driver. It must not exert axial or radial forces that do not occur during normal operation due to misalignment or otherwise.

NOTE: The sample may exhibit abnormal wear due to the loads exerted by the test machine and caused by the eccentricity of the two axes. This is the result of a lateral drive only due to lateral forces that do not occur during normal operation.

- For selectors with an obturator:
  - an automatic test bench, which allows rotation in both directions and/or on both axes (Opening/Closing and Channel Selection), with a speed of  $10 \pm 0.1$  rpm.  
The torques (Opening/Closing and Channel Selection) must be within the specified tolerances regardless of selector wear.  
The defined torques (Opening/Closing and Channel selection) must not be affected by the period of inertia of the machine during the test.
- For selectors with no obturator
  - An automatic test bench, which allows rotation in both directions, with a speed of  $(10 \pm 0.1)$  rpm.  
The torque (Channel Selection) must remain within the specified tolerances regardless of selector wear.  
The defined torque (Channel selection) must not be affected by the period of inertia of the machine during the test.

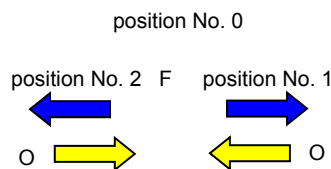
### 1.13.3 Operating procedure

- For selectors with an obturator
  - Assemble the selector, as it is equipped, on the test bench;
  - Connect the selector inlet to the supply circuit;
  - Connect the driver to the selector control device;
  - Set the torques (Opening/Closing and Channel Selection) to a maximum value of  $(2.5 \pm 0.25)$  Nm;
  - Adjust the static water pressure of the two hot and cold water circuits to  $(0.4 \pm 0.05)$  MPa or  $(4.0 \pm 0.5)$  bar;
  - Set the flow rate to  $(6 \pm 1)$  L/min by reducing the flow section upstream of the selector;
  - Submit the selector to a fatigue test of 200,000 openings/closing, with each cycle consisting of a to and from movement between all of the outlet positions and an opening/closing movement at each outlet (see diagram below):



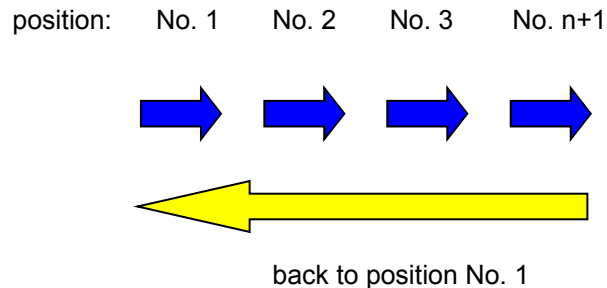
- start by opening at  $(90 \pm 2)\%$  of the total opening movement, maintain in the open position for (1 to 2) s and close at position No. 1, maintain in the closed position for (2 to 3) s and then move to position No. 2;
- start by opening at  $(90 \pm 2)\%$  of the total opening movement, maintain in the open position for (1 to 2) s and close at position No. 2, maintain in the closed position for (2 to 3) s and then move to position No. 3;
- The return to position No. 1 must be by the shortest path permitted by the selector;
- Throughout the duration of the test, supply the double inlet valve with cold water for  $(15 \pm 0.5)$  min., then hot water for  $(15 \pm 0.5)$  min., successively.

Specific cases: Selector with obturator combined with 2-way selection.



- Start by going to position No. 1 at  $(90 \pm 2)\%$  of the fully open position; maintain in the open position for (1 to 2) s;
- Then close at position No. 0; maintain in closed position for (2 to 3) s;
- Then go to position No. 2 at  $(90 \pm 2)\%$  of the fully open position; maintain in the open position for (1 to 2) s;
- Then close at position No. 0; maintain in closed position for (2 to 3) s, etc.;
- Throughout the duration of the test, supply the double inlet valve with cold water for  $(15 \pm 0.5)$  min., then hot water for  $(15 \pm 0.5)$  min., successively;
- For selectors with an obturator combined with the selection of more than 2 channels, the test shall be carried out in the same way but by checking all of the outlet positions and all of the closed positions.
- For selectors with no obturator
  - Install the selector, as equipped, on the test stand and connect the inlet of the selector to the supply circuit;
  - Connect the driver to the selector control device;
  - Set the torque (channel selection) to a constant value of  $(2.5 \pm 0.25)$  Nm;
  - Adjust the static water pressure of the two hot and cold water circuits to  $(0.4 \pm 0.05)$  MPa or  $(4.0 \pm 0.5)$  bar;
  - Set the flow rate to  $(6 \pm 1)$  L/min by reducing the flow section upstream of the selector;

- Submit the selector to a fatigue test of 30,000 cycles, with each cycle consisting of a to and from movement between all of the outlet positions (see diagram below):



- start by maintaining position No. 1 for (2 to 3) s;
- then go to position No. 2;
- start by maintaining position No. 2 for (2 to 3) s;
- then go to position No. 3, etc.;
- The return to position No. 1 must be by the shortest path permitted by the selector;
- Throughout the duration of the test, supply the double inlet valve with cold water for  $(15 \pm 0.5)$  min., then hot water for  $(15 \pm 0.5)$  min., successively.

#### 1.13.4 Required characteristics

- For selectors with an obturator

There must be no leaks, blockages, etc. throughout the test.

After 200,000 openings/closings, after this test, there must be no leakage in the selector when tested in accordance with Articles 1.9.2.3 and 1.9.2.4 for one outlet or 1.9.2.5 for different outlets.

- For selectors with no obturator

There must be no leaks, blockages, etc. throughout the test.

After 30,000 opening and closing cycles, after this test, no leakage must be observed in the selector when tested in accordance with Article 1.9.2.5.

Table 5 - Endurance test conditions

Parameter	values
Cold water temperature	$\leq 30^{\circ}\text{C}$
Hot water temperature	$(65 \pm 2)^{\circ}\text{C}$
Static pressure	$(0.4 \pm 0.05)$ MPa or $(4 \pm 0.5)$ bar
Rotation speed	$10 \pm 0.1$ rpm
Time in open position	1 to 2 s
Time in closed position or in channel selection	2 to 3 s
Max. operating torque (Nm)	$(2.5 \pm 0.25)$ Nm
Max. closing or opening torque (Nm)	$(1.5 \pm 0.25)$ Nm
Number of openings/closings for selectors with an obturator	200,000 cycles
Number of cycles for selectors without an obturator	30,000 cycles

## 1.14 Acoustic characteristic

The selectors are classified:

- by acoustic group and
- by flow class, if appropriate.

### 1.14.1 Operating procedure

The tests must be carried out in accordance with the provisions of the following standard:

- NF EN ISO 3822-2 for selectors **with** an obturator
- NF EN ISO 3822-3 for selectors **without** an obturator

on 3 samples.

### 1.14.2 Required characteristics

#### 1.14.3 Flow class of selectors

Selectors equipped to receive outlet accessories such as jet regulators, showers, etc. having been tested with low noise resistance in accordance with EN ISO 3822-4 have received the appropriate flow class of those indicated in Table 6.

Table 6 – Flow rating

Flow class	Flow rate (l/s)
Z	0.15
A	0.25
S	0.33
B	0.42
C	0.50
D	0.63

The results of the measurements performed in accordance with EN ISO 3822 are the acoustic level of the tapware, *Lap*, in dB(A).



#### 1.14.4 Determination of the acoustic group

The acoustic group is determined by the value *Lap* obtained at a dynamic pressure of  $(0.3 \pm 0.02)$  MPa or  $(3 \pm 0.2)$  bar determining acoustic groups I or II as indicated in Table 7.

Table 7 – Acoustic group

Group	Lap in dB (A)
I	$\leq 20$
II	$20 < \text{Lap} \leq 30$

#### 1.15 Test sequence

Table 8 – Performance of the test

Sample Sequence	Order	Tests
Sample 1 Materials	1.	§1.7.2A State of visible surfaces and coating quality ( <i>salt spray</i> )
Sample 2 Materials	1.	§1.7.2B State of visible surfaces and coating quality ( <i>air thermal shock</i> )
Sample 3 Endurance	1.	§1.6 Marking and Identification
	2.	§1.9 Leaktightness
	3.	§1.13 Endurance
	4.	§1.9 Leaktightness
	5.	§2.6.1.6 Endurance
	6.	§1.9 Leaktightness
Sample 5 Alternating pressures	1.	§1.6 Marking and Identification
	2.	§2.6.1.5 Resistance to alternating pressure
	3.	§1.9 Leaktightness
Sample 6 Torsion	1.	§1.6 Marking and Identification
	2.	§1.12 Torque
	3.	§1.9 Leaktightness
Sample 7 Hydraulic	1.	§1.6 Marking and Identification
	2.	§1.11 Flow rate
	3.	§2.6.1.1 Class E verification
	4.	§1.10 Resistance to pressure
Sample 8-9-10 Acoustics	1.	§1.6 Marking and Identification
	2.	§1.14 Acoustics
	3.	§2.6.1.7 Class A verification

## 2 ECAU rating

### 2.1 Foreword

The ECAU rating was created to meet the expectations of market players who require performances that are superior or complementary to that of the specifications of Part 1.

For multiway selectors, the following are required:

- Hydraulic performance levels according to user needs;
- Creation of the 3 acoustic classes to clarify this performance;
- Specific mechanical performance for obturators

It should be noted, however, that the use of the ECAU rating is voluntary and supplementary to the evaluation of a product that is already certified under the 1<sup>st</sup> part of this document.

### 2.2 Purpose

The purpose of this chapter is to establish the hydraulic, mechanical, acoustic and maintenance performance levels to be met by shower outlets for sanitary tapware to qualify for the ECAU rating in accordance with the regulation for use DT077-00..

### 2.3 Field of application

This chapter applies to multiway selectors.

### 2.4 Reference to standards and additional specifications

NF EN 246: 2003	Sanitary tapware - General specifications for flow rate regulators.
NF EN ISO 3822-2: 1995	Acoustics - Laboratory tests on noise emission from tapware and hydraulic equipment used in water supply installations - Part 2: Guidelines for the installation and operation of draw-off taps and tapware.
NF EN ISO 3822-1: 1999	Acoustics - Laboratory tests on noise emission from appliances and equipment used in water supply installations - Part 1: Method of measurement
T 54 094: 2006	Plastics - Piping components made of unplasticised polyvinyl chloride and unplasticised chlorinated polyvinyl chloride - Fittings for pressure pipelines - Determination of resistance to alternate pressure stress.
DT077-00	Regulations for use of marks

### 2.5 ECAU rating principle

The ECAU rating is based on four characteristics:

- hydraulic or flow characteristic, symbolised by the letter “E”;
- comfort characteristic symbolised by the letter “C”;
- acoustic characteristic symbolised by the letter “A”;
- Mechanical or wear characteristic, symbolised by the letter “U”.

#### 2.5.1 Meaning of E

The flow characteristic taken into account is the use flow ‘q’ of the selector as it is equipped (standard accessories: regulators, fittings, etc.).

There are 4 classes for this characteristic. See Article 2.6.1.3.

### 2.5.2 Meaning of C

The comfort characteristics taken into account for class 1 are:

- resistance to alternate pressures;
- operating force ( $F \leq 10 \text{ N}$ ).

	<b>C</b>
Field of application	<ul style="list-style-type: none"> <li>- Household with waiver (house, apartment, student residence)</li> <li>- Public (Hospitality, ERP (institution receiving the public), office, EHPA (nursing home), non-medical retirement home, spa treatment centre)</li> </ul>
Class 1	<ul style="list-style-type: none"> <li>- Dimensional;</li> <li>- Resistance to alternating pressure</li> </ul>
Class 2	<ul style="list-style-type: none"> <li>- Must be C1</li> <li>- Must be E1 for shower outlet</li> <li>- Flow rate in water saving position;</li> <li>- Inclusion of a flow control system (button or additional force to be applied or other) to obtain maximum flow from the tap (shower side).</li> </ul>

### 2.5.3 Meaning of A

The acoustic characteristic taken into account is the sound pressure level,  $L_{ap}$ .

There are 3 classes for this characteristic.

### 2.5.4 Meaning of U

The wear characteristic taken into account is the mechanical endurance and, more precisely, the number of operating cycles to which the mobile equipment is subjected.

There is 1 class for this characteristic.

An application for an ECAU rating implies a class 3 application for endurance tests (U3).

## 2.6 Performance level for the ECAU rating

### 2.6.1 Characteristics required for class C1

In addition to Part 1 of this document, to obtain a class C1 rating, the product must have the following characteristics:

2.6.1.1 *Hydraulic or flow characteristic (class E)*

2.6.1.2 *Operating procedure*

Complies with the requirements of Article 1.11.3 of this document.

2.6.1.3 *Classification*

Depending on their performance level, selectors can be classified as follows:

<b>Class</b>	<b>Class</b>
E1	$12 \text{ L/min} \leq q < 16.2 \text{ L/min}$
E2	$16.2 \text{ L/min} \leq q < 19.8 \text{ L/min}$
E3	$19.8 \text{ L/min} \leq q < 25.2 \text{ L/min}$
E4	$25.2 \text{ L/min} \leq q$

NOTE: For bathtub tapware, the minimum class is E<sub>3</sub>.

2.6.1.4 *Selection criteria*

Flow rate class selection will be based on:

- the supplied device;
- the building comfort level;
- the type of room to be equipped.

2.6.1.5 *Resistance to alternating pressure stress*

- Selectors used in a sanitary installation are subject to considerable pressure variations due to the closing of installed devices - solenoid valves of washing machines, mixers, valves, etc.
- To ensure their resistance to such stress, it seemed advisable to use a test described in the T 54-094 Standard for the rating of supply hoses and piping components.

2.6.1.5.1 *Test principle*

Application during 200 cycles of a variable and defined internal hydraulic pressure at the mechanical mixer inlets, with the mechanical mixer in the closed position.

2.6.1.5.2 *Equipment*

The equipment essentially includes:

A pressure generator capable of generating variable pressure that can vary at constant frequency between a low limit and a high limit, establishing constant amplitude. The diagram of that variation takes the form of a generally rectangular signal (see Figure 1).

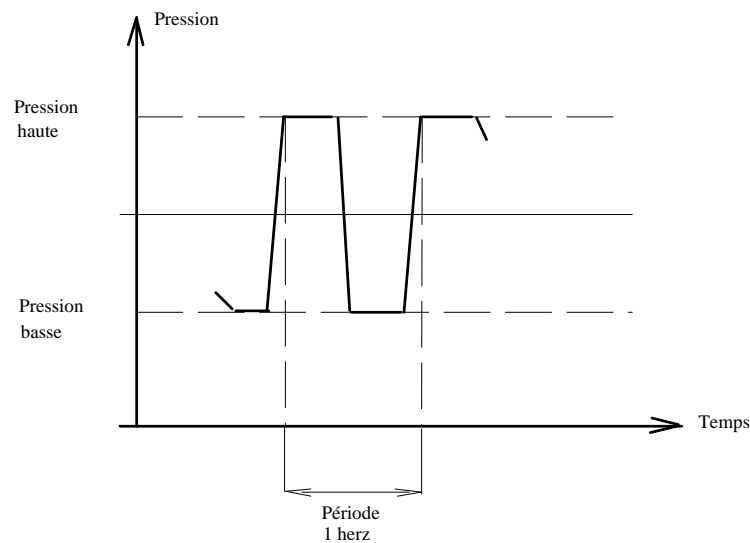


Figure 1 – – Signal waveform – alternating pressures

- the time needed to shift from low pressure to high pressure and vice versa must be as short as possible and never longer than one-tenth of the period;
- the low and high pressure values must be obtained and checked to within  $\pm 2\%$  of the desired values;
- to check the waveform of the signal representing the pressure variation, the generator must be combined with a device that can verify the pressure changes in the test specimen (low-inertia pressure sensor and graphic data recorder or oscilloscope).

#### 2.6.1.5.3 Operating procedure

- Assemble the selector in the open position and close the outlet;
- Apply 200 cycles to the closed selector (filled with water and cleared of air):
  - low pressure of  $(8 \pm 1)$  bar;
  - high pressure of  $(50 \pm 1)$  bar;
  - frequency of  $(1 \pm 0.5)$  Hertz.
  - 1) on one of the inlets, (the other being in the open air);
  - 2) on the other inlet;

Note: A “slight” leak is allowed during the test if it does not have an influence on the low and high pressures of the test.

After the alternating pressure test, perform the leak test in accordance with Article 1.9.2 of this document.

#### 2.6.1.5.4 Required characteristics

During the leak test, no visible deterioration or leakage should be observed.

#### 2.6.1.6 Mechanical endurance or wear resistance characteristic

##### 2.6.1.6.1 Operating procedure

Complies with the requirements of Article 1.13.3 of this document.

##### 2.6.1.6.2 Classification

**Endurance performance is modified by multiplying by 2.5 the requirements for all mobile equipment in this document.**

Class	Number of cycles (opening/closing)	
U3	Obturator	500,000 cycles
	Outlet selection (with no obturator)	80,000 cycles

#### 2.6.1.6.3 Required characteristics

- For selectors with an obturator

There must be no leaks, blockages, etc. throughout the test.

After 500,000 openings/closings, after this test, there must be no leakage in the selector when tested in accordance with Articles 1.9.2.3 and 1.9.2.4 for one outlet or 1.9.2.5 for different outlets.

- For selectors with no obturator

There must be no leaks, blockages, etc. throughout the test.

After 80,000 opening and closing cycles, after this test, no leakage must be observed in the selector when tested in accordance with Article 1.9.2.5.

#### 2.6.1.7 Acoustic characteristic

##### 2.6.1.7.1 Operating procedure

Complies with the requirements of Article 1.14.1 of this document.

##### 2.6.1.7.2 Classification

Depending on their performance level, tapware can be classified as follows:

Acoustic group	Classification	$L_{ap}$
II	A <sub>1</sub>	$20 \text{ dB (A)} < L_{ap} \leq 30 \text{ dB (A)}$
I	A <sub>2</sub>	$15 \text{ dB (A)} < L_{ap} \leq 20 \text{ dB (A)}$
I	A <sub>3</sub>	$L_{ap} \leq 15 \text{ dB (A)}$

##### 2.6.1.7.3 Selection criteria

The acoustic class selection will mainly depend on the characteristics and use of the building.

## 2.7 Example of ECAU rating

A selector with an obturator and a usage flow rate of 24 L/min, with an  $L_{ap}$  of 18 dB (A), that passed the endurance tests (500,000 cycles) and passed the level 1 comfort tests shall be classified as:

E<sub>3</sub> C<sub>1</sub> A<sub>2</sub> U<sub>3</sub>

A selector with no obturator and a usage flow rate of 24 L/min, with an  $L_{ap}$  of 18 dB (A), that passed the endurance tests (80,000 cycles) and passed the level 1 comfort tests shall be classified as:

E<sub>3</sub> C<sub>1</sub> A<sub>2</sub> U<sub>1</sub>

## 2.8 Rating presentation

### 2.8.1 Specific information for the catalogue or other commercial media

See Chapter 6.1 of the regulations for use of DT077-00.

The specific information on the methods for rating multiway selectors are as follows:

Flow	E	q L/min measured under 3 bar	E1	12 L/min ≤ q < 16.2 L/min	
			E2	16.2 L/min ≤ q < 19.8 L/min	
			E3	19.8 L/min ≤ q < 25.2 L/min	
			E4	25.2 L/min ≤ q	
Comfort	C	Type	C1	Dimensions, alternating pressures	
			C2	Water saving characteristics	
			C3	Examined	
Acoustics	A	Lap dB (A)	A1	20 dB (A) < Lap ≤ 30 dB (A)	
			A2	15 dB (A) < Lap ≤ 20 dB (A)	
			A3	Lap ≤ 15 dB (A)	
Wear	U	Number of cycles	U3	With an obturator: Mobile equipment	500,000 cycles
			U1	Without an obturator: Selection of outlets:	80,000 cycles

### 2.8.2 Product information

See Chapter 6.2 of the regulations for use of DT077-00.

### 3 ECAU rating application

The rating application must be issued by the applicant/holder in one copy (**1 original on the applicant's letterhead paper in French or English**) according to the cases and models indicated below. All the documents are to be remitted to CSTB.

In the event that the product comes from a manufacturing unit located outside the European Economic Area, the applicant shall designate a representative within the European Economic Area who co-signs the application.

Note: Electronic versions of template letters and sheets may be obtained from CSTB.

The applicant produces a file that contains the elements described in the following table depending on the type of application.

*Summary Applications Table*

Type of application Elements	Initial application	Complementary application	Admission following a penalty of withdrawal	Suspension application	Renunciation application
<b>Application and commitment letter</b>	Standard letter 1A or 1B (for a representative)	Standard letter 2A or 2B (for a representative)	Standard sheet 7 specific items	Standard letter 5A or 5B (for a representative)	Standard letter 4A or 4B (for a representative)
<b>Sales literature</b>	YES	If applicable	YES	Instructions or extract from the catalogue	

#### 3.1 For an initial rating application

The applicant shall prepare a dossier which includes:

- an application and commitment letter in accordance with standard letter 1 A.
- **if a representative**, application and commitment letter as per standard letter 1 B.

#### 3.2 For a complementary rating application

The holder shall prepare a file containing the following:

- an application and commitment letter in accordance with standard letter 2 A.
- **if a representative**, application and commitment letter as per standard letter 2 B.

#### 3.3 For a new rating application following a penalty of withdrawal of the ECAU rating

The holder shall prepare a file containing the following:

- specific items that all applicants must submit as part of a new admission application where the right of use has been withdrawn as a result of a sanction, using standard sheet 7.

#### 3.4 For an application for the suspension of the ECAU rating

The holder shall prepare a file containing the following:

- a suspension letter as per standard letter 5 A.
- **if a representative**, a suspension letter as per standard letter 5 B.

#### 3.5 For an application for renunciation of the ECAU rating

The holder shall prepare a file containing the following:

- a renunciation letter as per standard letter 6A.
- **if a representative**, a renunciation letter as per standard letter 6B.



**STANDARD LETTER 1A**  
**ECAU AND/OR EChAU RATINGS**

**ECAU OR EChAU RATING APPLICATION FORM**  
**FOR APPLICANTS LOCATED IN THE EUROPEAN ECONOMIC AREA**

(to be drawn up on the applicant's/holder's letterhead paper)

Centre Scientifique et Technique du Bâtiment  
Direction Hydraulique et Equipements Sanitaires, (HES)  
Division Robinetterie et Appareils Sanitaires (RAS)  
For the attention of Mr. Laurent Rousseau  
84, avenue Jean Jaurès  
Champs sur Marne  
F-77447 Marne La Vallée Cedex 2

Subject: **ECAU and/or EChAU rating admission application**

Attachment(s): a technical file.

Dear Sir, Madam,

I would like to request an ECAU and/or EChAU rating:

- for the following product/range of products: ..... (detailed list of the product/range of products or specify "as set out in the list included with this application");
- produced at the following production unit: ..... (company name, address);
- and for the following trade name: ..... (trademark and/or specific trade reference, which may be on the list included with this application).

For this purpose, I declare that I have read and accept technical document 077 associated with this rating and undertake to comply with it and to inform my commercial network during the entire validity period of the ECAU and/or EChAU rating and in particular to comply without restrictions or reservations with the decisions made by CSTB.

Yours faithfully,

**Date, signature and name in full of the  
applicant/holder's legal representative**

**STANDARD LETTER 1B**  
**ECAU AND/OR EChAU RATINGS**

**ECAU OR EChAU RATING APPLICATION FORM**  
**FOR APPLICANTS LOCATED OUTSIDE OF THE EUROPEAN ECONOMIC AREA**

(to be drawn up on the applicant's/holder's letterhead paper)

Centre Scientifique et Technique du Bâtiment (CSTB)  
Direction Hydraulique et Equipements Sanitaires, (HES)  
Division Robinetterie et Appareils Sanitaires (RAS)  
For the attention of Mr. Laurent Rousseau  
84, avenue Jean Jaurès  
Champs sur Marne  
F-77447 Marne La Vallée Cedex 2

Subject: **ECAU and/or EChAU rating admission application (with a representative)**  
Attachment(s): a technical file.

Dear Sir, Madam,

I would like to request an ECAU and/or EChAU rating:

- for the following product/range of products: ..... (detailed list of the product/range of products or specify "as set out in the list included with this application");
- produced at the following production unit: ..... (company name, address);
- and for the following trade name: ..... (trademark and/or specific trade reference, which may be on the list included with this application).

For this purpose, I declare that I have read and accept technical document 077 associated with this rating and undertake to comply with it and to inform my commercial network during the entire validity period of the ECAU and/or EChAU rating and in particular to comply without restrictions or reservations with the decisions made by CSTB.

Furthermore, I appoint the Company ..... (company name), ..... (company legal form), ..... (registered office) represented by Mr/Ms ..... (name of the legal representative) in that person's capacity as ..... (position) to represent me in the European Economic Area for all matters relative to ECAU and/or EChAU ratings.

I undertake to immediately notify CSTB of any new appointment of the representative designated above.

In this regard, I request that the expenses that are to be borne by me be invoiced directly to the representative. They will make the payments on my behalf and in my name as soon as the invoices are received, as agreed when accepting the role of representative.

Yours faithfully,

**Date, signature and name in full of the applicant's legal representative**

preceded by the handwritten wording "Approving representation"

**Date, signature and name in full of the representative in the European Economic Area**

preceded by the handwritten wording "Accepting representation".

**STANDARD LETTER 2A**  
**ECAU AND/OR EChAU RATINGS**

**COMPLEMENTARY APPLICATION FORM FOR ECAU AND/OR EChAU RATING**  
**FOR APPLICANTS LOCATED IN THE EUROPEAN ECONOMIC AREA**

(to be drawn up on the applicant's/holder's letterhead paper)

Centre Scientifique et Technique du Bâtiment (CSTB)  
Direction Hydraulique et Equipements Sanitaires, (HES)  
Division Robinetterie et Appareils Sanitaires (RAS)  
For the attention of Mr. Laurent Rousseau  
84, avenue Jean Jaurès  
Champs sur Marne  
F-77447 Marne La Vallée Cedex 2

Subject: **Complementary application for the ECAU and/or EChAU rating**  
Attachment(s): a technical file.

Dear Sir, Madam,

As holder of the ECAU and/or EChAU rating for the product(s) of our manufacture identified below:

- designation of the product(s): .....
- production unit: .....
- right of use granted on ..... (date) and bearing the following number: ..... (*number of valid certificate*)

I am writing to apply for the ECAU and/or EChAU rating for the following product/range of products that we manufacture:

- detailed list of the product/range of products: .....
- specific trade reference: .....

*(this information may be included in a list attached to this application)*

**For an extension application, please provide the information below:**

*This product deviates from the certified product/range of products due to the following modifications: .....  
<description of the modifications>.*

*The product/range of products for which I am seeking an extension will replace the certified product listed above:*

- NO (1);
- YES (1).

*I declare that the products/product range covered by this application are, with relation to the other characteristics, strictly in conformity with the products/product range already certified and manufactured under the same conditions.*

For this purpose, I declare that I have read and accept technical document 077 associated with this rating and undertake to comply with it and to inform my commercial network during the entire validity period of the ECAU and/or EChAU rating and in particular to comply without restrictions or reservations with the decisions made by CSTB.

Yours faithfully,

**Date, signature and name in full**  
**of the applicant/holder's legal representative**

(1) Delete as appropriate.

**STANDARD LETTER 2B**  
**ECAU AND/OR EChAU RATINGS**

**COMPLEMENTARY APPLICATION FORM FOR ECAU AND/OR EChAU RATING  
FOR APPLICANTS LOCATED OUTSIDE OF THE EUROPEAN ECONOMIC AREA**

(to be drawn up on the applicant's/holder's letterhead paper)

Centre Scientifique et Technique du Bâtiment (CSTB)  
Direction Hydraulique et Equipements Sanitaires, (HES)  
Division Robinetterie et Appareils Sanitaires (RAS)  
For the attention of Mr. Laurent Rousseau  
84, avenue Jean Jaurès  
Champs sur Marne  
F-77447 Marne La Vallée Cedex 2

Subject: **Complementary application for the ECAU and/or EChAU rating (with a representative)**  
Attachment(s): a technical file.

Dear Sir, Madam,

As holder of the ECAU and/or EChAU rating for the product(s) of our manufacture identified below:

- designation of the product(s): .....
- production unit: .....
- right of use granted on ..... (date) and bearing the following number: ..... (*number of valid certificate*)

I am writing to apply for the ECAU and/or EChAU rating for the following product/range of products that we manufacture:

- detailed list of the product/range of products: .....
- specific trade reference: .....

(*this information may be included in a list attached to this application*)

**For an extension application, please provide the information below:**

*This product deviates from the certified product/range of products due to the following modifications: ..... <description of the modifications>.*

*The product/range of products for which I am seeking an extension will replace the certified product listed above:*

- NO (1);
- YES (1).

*I declare that the products/product range covered by this application are, with relation to the other characteristics, strictly in conformity with the products/product range already certified and manufactured under the same conditions.*

For this purpose, I declare that I have read and accept technical document 077 associated with this rating and undertake to comply with it and to inform my commercial network during the entire validity period of the ECAU and/or EChAU rating and in particular to comply without restrictions or reservations with the decisions made by CSTB.

Furthermore, I appoint the Company ..... (company name), ..... (company legal form), ..... (registered office) represented by Mr/Ms ..... (name of the legal representative) in that person's capacity as ..... (position) to represent me in the European Economic Area for all matters relative to ECAU and/or EChAU ratings.

I undertake to immediately notify CSTB of any new appointment of the representative designated above.

In this regard, I request that the expenses that are to be borne by me be invoiced directly to the representative. They will make the payments on my behalf and in my name as soon as the invoices are received, as agreed when accepting the role of representative.

Yours faithfully,

**Date, signature and name in full  
of the applicant's legal representative**

preceded by the handwritten wording "Approving representation"

**Date, signature and name in full  
of the representative in the European Economic Area**

preceded by the handwritten wording "Accepting representation".

(1) Delete as appropriate.

**STANDARD LETTER 4A**  
**ECAU AND/OR EChAU RATINGS**

**APPLICATION FORM FOR RENUNCIATION OF THE ECAU AND/OR EChAU RATING  
FOR APPLICANTS LOCATED IN THE EUROPEAN ECONOMIC AREA**

(to be drawn up on the applicant's/holder's letterhead paper)

Centre Scientifique et Technique du Bâtiment (CSTB)  
Direction Hydraulique et Equipements Sanitaires, (HES)  
Division Robinetterie et Appareils Sanitaires (RAS)  
For the attention of Mr. Laurent Rousseau  
84, avenue Jean Jaurès  
Champs sur Marne  
F-77447 Marne La Vallée Cedex 2

Subject: **Application for renunciation of the ECAU and/or EChAU rating**

Dear Sir, Madam,

As holder of the ECAU and/or EChAU rating, I would like to renounce the ECAU and/or EChAU rating for the product(s) that we manufacture identified by the following references:

- designation of the product(s):
- manufacturing unit: ..... (company name, address): .....
- brand name: .....
- commercial reference: .....
- date of ECAU and/or EChAU rating admission: ..... or certificate No.: .....

for the following reasons:

- .....

for a maximum duration of 6 months, renewable once.

Manufacturing is due to cease on: .....

The inventories of these products with packaging marked ECAU or EChAU are the following: .....

The anticipated time it will take to deplete them is: .....

Yours faithfully,

**Date, signature and name in full of the holder's  
legal representative**

**STANDARD LETTER 4 B**  
**ECAU AND/OR EChAU RATINGS**

(to be drawn up on the distributor's letterhead)

**APPLICATION FOR RENUNCIATION OF THE ECAU AND/OR EChAU RATING WITH A REPRESENTATIVE  
FOR APPLICANTS LOCATED OUTSIDE OF THE EUROPEAN ECONOMIC AREA**

For the attention of Mr Laurent Rousseau  
Division Robinetterie et Appareils Sanitaires  
(Tapware and Sanitaryware Division)  
Direction HES  
CSTB  
84 avenue Jean Jaurès  
CHAMPS-SUR-MARNE  
77447 MARNE LA VALLEE CEDEX 2 (France)

Subject: **Application for renunciation** of the ECAU and/or EChAU rating **with a representative**

Dear Sir, Madam,

As holder of the ECAU and/or EChAU rating, I would like to renounce the ECAU and/or EChAU rating for the product(s) that we manufacture identified by the following references:

- designation of the product(s):
- manufacturing unit: (company name, address):
- brand name:
- commercial reference:
- date of ECAU and/or EChAU rating admission or admission No.:

for the following reasons:

Manufacturing is due to cease on:

The inventories of these products with packaging marked ECAU and/or EChAU are the following:

The expected time for their depletion is:

Yours faithfully,

**Date and signature of the holder's legal  
representative**

**Date and signature of the representative in the  
European Economic Area**

**STANDARD LETTER 5A**  
**ECAU AND/OR EChAU RATINGS**

**APPLICATION FORM FOR SUSPENSION OF THE ECAU AND/OR EChAU RATING  
FOR APPLICANTS LOCATED IN THE EUROPEAN ECONOMIC AREA**

(to be drawn up on the applicant's/holder's letterhead paper)

Centre Scientifique et Technique du Bâtiment (CSTB)  
Direction Hydraulique et Equipements Sanitaires, (HES)  
Division Robinetterie et Appareils Sanitaires (RAS)  
For the attention of Mr. Laurent Rousseau  
84, avenue Jean Jaurès  
Champs sur Marne  
F-77447 Marne La Vallée Cedex 2

Subject: **Application for suspension of the ECAU and/or EChAU ratings**

Dear Sir, Madam,

As holder of the ECAU and/or EChAU rating, I would like to request the suspension of the ECAU and/or EChAU rating for the product(s) that we manufacture identified by the following references:

- designation of the product(s):
- manufacturing unit: ..... (company name, address): .....
- brand name: .....
- commercial reference: .....
- date of ECAU and/or EChAU rating admission: ..... or certificate No.: .....

for the following reasons:

- .....

for a maximum duration of 6 months, renewable once.

Manufacturing is due to cease on: .....

The inventories of these products with packaging marked ECAU or EChAU are the following: .....

The anticipated time it will take to deplete them is: .....

Yours faithfully,

**Date, signature and name in full of the holder's  
legal representative**

**STANDARD LETTER 5B**  
**ECAU AND/OR EChAU RATINGS**

**APPLICATION FORM FOR SUSPENSION OF THE ECAU AND/OR EChAU RATING  
FOR APPLICANTS LOCATED OUTSIDE OF THE EUROPEAN ECONOMIC AREA**

(to be drawn up on the applicant's/holder's letterhead paper)

Centre Scientifique et Technique du Bâtiment (CSTB)  
Direction Hydraulique et Equipements Sanitaires, (HES)  
Division Robinetterie et Appareils Sanitaires (RAS)  
For the attention of Mr. Laurent Rousseau  
84, avenue Jean Jaurès  
Champs sur Marne  
F-77447 Marne La Vallée Cedex 2

Subject: **Application for suspension of the ECAU and/or EChAU ratings (with a representative)**

Dear Sir, Madam,

As holder of the ECAU and/or EChAU rating, I would like to request the suspension of the ECAU and/or EChAU rating for the product(s) that we manufacture identified by the following references:

- designation of the product(s):
- manufacturing unit: ..... (company name, address): .....
- brand name: .....
- commercial reference: .....
- date of ECAU and/or EChAU rating admission: ..... or certificate No.: .....

for the following reasons:

- .....

for a maximum duration of 6 months, renewable once.

Manufacturing is due to cease on: .....

The inventories of these products with packaging marked ECAU or EChAU are the following: .....

The anticipated time it will take to deplete them is: .....

Yours faithfully,

**Date, signature and name in full of the holder's  
legal representative**

**Date, signature and name in full of the  
representative in the European Economic Area**



**STANDARD SHEET 7**  
**ECAU AND/OR EChAU RATINGS**

**SPECIFIC ITEMS ALL APPLICANTS (INDUSTRIALISTS, IMPORTERS, DISTRIBUTORS, ETC.) MUST PRODUCE AS PART OF A NEW ADMISSION APPLICATION WHEN THE RATING HAS BEEN WITHDRAWN AS A RESULT OF A SANCTION**

In the event of an act of deceptive commercial practice under Articles L 121-2 to L121-5 of the Consumer Code (indication of a false rating of a certified product or a false label).

The applicant is responsible for determining and carrying out a course of action that will fully address and remedy the causes and consequences of their commitments as regards the correct usage of the certification mark.

ACTIONS	MINIMUM PROOF TO BE SUPPLIED BY THE CSTB APPLICANT SHOWING THE ACTIONS THEY HAVE UNDERTAKEN TO FULLY ADDRESS AND REMEDY THE CAUSES AND CONSEQUENCES	VALIDITY OF THE PROOF RECEIVED
<b>CURATIVE ACTIONS</b>	<ul style="list-style-type: none"> <li>A list of those affected including full contact details (customers, prospects, technical controllers, etc.) who have received false attestations/false certificates; failing that, a list of those affected (customers, prospects, technical controllers, etc.) who have been contacted over the preceding 24 months.</li> </ul>	<input type="checkbox"/> List sent <input type="checkbox"/> List not sent <i>Comments:</i> .....
	<ul style="list-style-type: none"> <li>List of customers, including full contact details, who have received products with inappropriately marked packaging information; otherwise, the list of customers of the past 24 months.</li> </ul>	<input type="checkbox"/> List sent <input type="checkbox"/> List not sent <i>Comments:</i> .....
	<ul style="list-style-type: none"> <li>Letter written by the Applicant's manager informing those affected of the invalidity of the false attestations/false certificates they have been sent.</li> </ul>	<i>CSTB will verify that this action has been carried out by contacting 5% of those affected or at least 5 customers and technical controllers.</i>  <input type="checkbox"/> Letter of information duly implemented, corroborated by those affected <input type="checkbox"/> Letter of information not implemented or partially implemented <i>Comments:</i> .....
	<ul style="list-style-type: none"> <li>Letter written by the Applicant's manager informing the customers of products that are inappropriately marked or products bearing the certification mark(s).</li> </ul>	<i>CSTB will verify that this action has been carried out by contacting 5% of the customers or at least 5 customers</i>  <input type="checkbox"/> Letter of information duly implemented, corroborated by those affected <input type="checkbox"/> Letter of information not implemented or partially implemented <i>Comments:</i> .....
	<ul style="list-style-type: none"> <li>Action undertaken against the person or persons responsible for approving and issuing the false attestations/false certificates and/or delivering inappropriately marked products.</li> </ul>	<input type="checkbox"/> Action is relevant <input type="checkbox"/> Action is not relevant <i>Comments:</i> .....

## 4 Prices

The purpose of this chapter is to determine the amount due for services related to the ECAU and EChAU ratings and describe the terms of payment.

The ECAU and EChAU ratings include the following services:

- Development, examination of application and implementation of ECAU and/or EChAU ratings;
- Operation of ECAU and/or EChAU ratings;
- Testing.

### 4.1 Services related to the ECAU and EChAU ratings

Nature of the service	Definition of the service	Paying for the services
<p><u>Management:</u> Development and implementation of ratings, examination of the rating application</p>	<p>Participation in the implementation of the ratings, including preparation of the associated technical document.</p> <p>Services including examination of application files, relations with applicants, laboratories and assessment of inspection results.</p>	<p>➤ <i>Initial/complementary application: See § 4.2.1</i></p>
<p><u>Management:</u> Rating operation</p>	<p>Services including management of rating files, relations with holders, laboratories, publication of ratings data on certificates, assessment of inspection results.</p>	<p>➤ <i>Monitoring: See § 4.2.2</i></p>
<p>Tests</p>	<p>Laboratories' testing services</p>	<p>The laboratories' price lists are provided upon request.</p> <p>The applicant/holder supplies samples free of charge and makes them available at the laboratory's address.</p> <p>The costs related to the import duties and taxes are to be borne by the test applicant; the applicant shall pay all duties and taxes before sending the samples.</p> <p>➤ <i>Initial/complementary application: See § 4.2.1</i></p> <p>➤ <i>Monitoring: See § 4.2.2</i></p>

## 4.2 Paying for the services

### 4.2.1 Initial application/complementary application

Management and testing fees related to examination services are invoiced in the framework of an initial or complementary ECAU and/or EChAU rating application. They are payable in one instalment, at the time at which the application is filed, for official registration.

Such fees will remain payable even if the ECAU and/or EChAU rating is not granted or extended or if the application is withdrawn during the examination.

### 4.2.2 Monitoring

Fees for annual services related to management and testing of ECAU and/or EChAU ratings are invoiced during the first quarter of each year and will remain payable in the event of non-renewal, withdrawal, cancellation or suspension of the ECAU and/or EChAU rating during the year.

### 4.2.3 Non-payment of amounts due

The applicant or holder of the ECAU and/or EChAU rating must pay all fees in accordance with the established terms of payment. Any failure on their part is an obstacle to the fulfilment by CSTB of the responsibilities of inspection and corrective action that are incumbent upon it hereunder.

If a first official notice by registered letter with acknowledgement of receipt does not result in the payment of all amounts due within one month, any established penalties may be applied for all of the products accepted for such holder.

## 4.3 Prices

Prices are reviewed annually, in the form of a price list drawn up by CSTB. This revision is reported by CSTB.

If holders refuse to recognise the annual revision of fees, they shall be deemed to have voluntarily terminated the ratings for their products.

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