

**SANITARY TAPWARE**  
**Technical document**  
**077-15**

ECAU-M rating for tapware for medical environments

Technical Document 077-15 Rev02  
01/10/2020

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## MODIFICATION HISTORY

Revision no.	Application date	Modifications
00	01/06/2017	Update to the document layout and reference. Creation of the document.
01	02/04/2019	Cancel and replaces technical document 077-15_Rev 18  <b>Update of technical document according to the new frame:</b> <i>"Trame_doc_technique_VF_PC_DT_R3."</i>  <b>Content modifications:</b> <ul style="list-style-type: none"><li>- The MM rating is replaced by the M rating</li></ul>
02	01/10/2020	Reference to the regulation for use of marks (DT077-00)

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## 1 Normative support for EChAU-M rating

### 1.1 Purpose

The purpose of this chapter is to list the articles of Standards NF EN 817, NF EN 1111 and NF EN 15091 that shall be taken into account for the EChAU-M rating in accordance with the regulation for use DT077-00.

### 1.2 List of the tests involved

The table below lists the articles of the Standard NF EN 817.

Articles	Title of articles
4	Marking and identification
4.1	Marking
4.2	Identification
5	Materials
5.1	Chemical and hygienic requirements
5.2 A	State of visible surfaces ( <i>neutral salt spray test</i> )
5.2 B	State of visible surfaces ( <i>"air" thermal shock resistance test</i> )
6	Dimensional characteristics
6.2	Inlet dimensions
6.3	Outlet dimensions
6.4	Assembly dimensions
7	Test sequences
8	Leaktightness characteristics
8.3	Tightness of the obturator and mixer upstream of the obturator with the obturator in the closed position
8.4	Tightness of the mixer downstream of the obturator with the obturator in the open position
8.5	Tightness of the manual diverter
8.6	Tightness and operation of the automatic diverter
8.7	Obturator tightness test: Cold and hot water cross-feed
9	Pressure resistance characteristics - Mechanical behaviour under pressure
9.4	Mechanical behaviour upstream of the obturator - Obturator in the closed position
9.5	Mechanical behaviour downstream of the obturator - Obturator in the open position
10	Hydraulic characteristics
10.6	Flow rate determination
10.7	Sensitivity determination
11	Mechanical strength characteristics - Operating device torque test
12	Mechanical endurance characteristics
12.1	Mechanical endurance of the operating device
12.2	Mechanical endurance of diverters
12.2.3 A	Mechanical endurance of manual diverters
12.2.3 B	Mechanical endurance of automatic diverters
12.3	Mechanical endurance of swivel spouts
13	Protection against backflow
14	Acoustic characteristics

The table below lists the articles of the Standard NF EN 1111.

Articles	Title of articles
7	Marking/Identification
7.1	Marking
7.2	Identification
8	Materials
8.1	Chemical and hygienic requirements
8.2 A	State of visible surfaces and coating quality ( <i>neutral salt spray test</i> )
8.2 B	State of visible surfaces and coating quality ( <i>"air" thermal shock resistance test</i> )
9	Dimensional characteristics
9.2	Inlet dimensions
9.3	Outlet dimensions
9.4	Assembly dimensions
10	Protection against backflow
11	Test sequences
12	Leaktightness
12.2	Obturator leaktightness upstream of it
12.3	Cross-feed between water inlets
12.4	Leaktightness downstream of the obturator
12.5	Leaktightness of the manually operated diverters
12.6	Leaktightness of automatic diverters
13	Performance ( <i>Hydraulic characteristics</i> )
13.2	Flow rate determination
13.3	Sensitivity
13.4	Reliability
13.5	Temperature stability
13.5.1	Temperature setting operation
13.5.2	Flow rate reduction
13.5.3	Failure and restoration of cold water supply
13.5.4	Supply pressure variation
13.5.5	Supply temperature variation
13.5.6	Retractable temperature stop
14	Resistance to pressure
14.3	Test on the mechanical performance of the thermostatic mixer upstream of the obturator - Obturator in the closed position
14.4	Mechanical behaviour downstream of the obturator - Obturator in the open position
15	Torsional strength of the operating devices
16	Mechanical endurance characteristics
16.2	Sequential control device endurance test
16.3	Endurance test of opening and closing systems operated by rotation of the control device
16.4	Obturator-diverter endurance test
16.5	Endurance test of other opening and closing systems
16.6	Endurance of diverters for thermostatic mixers
16.6.2.3.1	Mechanical endurance of manual diverters
16.6.2.3.2	Mechanical endurance of automatic diverters
16.7	Mechanical endurance of swivel spouts
16.8	Thermostatic component
17	Acoustic characteristics

The table below lists the articles of the Standard NF EN 15091.

### 1.2.1 For tapware

Articles	Title of articles
4	General requirements and tests
4.1	Marking
4.2	Materials
4.2.1	Chemical and hygienic requirements
4.2.2	Requirements related to exposed surfaces
4.3	Functions
4.4	Anti-pollution protection
4.5	Electrical characteristics and requirements
4.5.5	Operating safety
4.5.5.1	Test procedure for electrical valves
4.5.5.3	Test procedure for battery-operated valves
4.6	Leaktightness characteristics
4.6.4	Leaktightness of tapware upstream of the obturator
4.6.5	Leaktightness of the tapware downstream of the obturator with the obturator open
4.7	Pressure resistance characteristics - Mechanical behaviour under pressure
5	Tapware requirements and tests
5.2	Dimensional characteristics
5.2.2	Surface-mounted taps for installation on horizontal surfaces
5.2.3	Surface-mounted taps for installation on vertical surfaces
5.2.4	Inline tapware with threaded inlet and outlet
5.2.6	Mixer taps for installation on horizontal surfaces
5.2.7	Surface-mounted taps for installation on vertical surfaces with captive nuts
5.2.8	Mixer taps with opposite inlets
5.3	Hydraulic characteristics
5.3.3	Flow test principle
5.3.5	Cold and hot water cross-feed
5.4	Water hammer
5.5	Endurance
5.5.3	Operating procedure for single taps
5.5.4	Operating procedure for mixer taps
5.6	Acoustic characteristics



### 1.2.2 For urinal flush valves

Articles	Title of articles
6	Requirements and tests for urinal flush valves
6.3	Classification of urinal flush valves
6.5	Dimensional characteristics
6.6	Hydraulic characteristics
6.7	Water hammer measurement for urinal flush valves
6.8	Mechanical endurance
6.8	Mechanical endurance

### 1.2.3 For WC flush valves

Articles	Title of articles
7	Requirements and tests for WC flush valves
7.3	Classification
7.4	Dimensional characteristics
7.5	Hydraulic characteristics
7.5.2.3	Operating procedure for flow rate/impact force test
7.5.2.4	Operating procedure for flow rate/volume test
7.5.3	Flow rate/impact force test at reduced dynamic pressure
7.5.4	Flow rate/volume test at reduced dynamic pressure
7.5.5	Flush flow/impact force test at high dynamic pressure
7.5.6	Water hammer measurement
7.6	Principle and verification of atmospheric interrupters for WC flush valves
7.7	Endurance
7.8	Acoustic characteristics

## 2 ECAU-M rating

### 2.1 Foreword

The ECAU-M rating was created to meet the expectations of market players who require performances that are superior or complementary to that indicated in Standards NF EN 817, NF EN1111 and NF EN 15091 for tapware for medical environments.

The requirements for tapware for medical environments are as follows:

- Ergonomics with special dimensions for using the tap;
- A suitable design to facilitate the cleaning of the tap;
- Resistance to alternating pressure stress against water hammer problems;
- Hydraulic performance levels according to user needs;
- Water saving to avoid wasting water in certain cases of use;
- Energy saving to avoid consuming hot water in certain cases of use;
- Creation of the 3 acoustic classes to clarify this performance;
- Increased endurance performance by multiplying by 2.5 the requirements of the European standard to optimise maintenance frequencies;
- The ageing test to meet disinfection requirements.

It should be noted, however, that the use of the ECAU-M rating is voluntary and supplementary to the evaluation of a product that is already certified under Standards NF EN 817, NF EN1111 and NF EN 15091.

### 2.2 Purpose

The purpose of this chapter is to establish the dimensional, hydraulic, mechanical, acoustic, endurance and ageing performance levels to be met by tapware used in medical environments to qualify for the E.C.A.U-M rating.

### 2.3 Field of application

This document specifies the requirements related to:

- the rules for the design, designation and rating of tapware used in medical environments
- provisions for marking, technical documentation and presentation;
- the materials and state of visible surfaces;
- the dimensional, hydraulic, mechanical, endurance, ageing and acoustic performance.

This document primarily applies to the following types of tapware:

- mechanical mixer
- thermostatic mixer
- electronic mixer

Table 1 – Conditions of Use

Supply system \ Operating range of M tapware	Usage limits	Recommended limits
Dynamic pressure	$\geq 0.05 \text{ MPa} - \geq 0.5 \text{ bar}$	$1 \text{ bar} \leq P \leq 5 \text{ bar}$
Static pressure	$< 1.0 \text{ MPa} - < 10 \text{ bar}$	
Hot water (HW) temperature	$T \leq 90^\circ\text{C}$	$T \leq 65^\circ\text{C}$
Cold water (CW) temperature		$T \leq 30^\circ\text{C}$

## 2.4 References to standards and additional specifications

NF EN 817: 2008	Sanitary tapware. Mechanical mixer taps (PN 10)
NF EN 1111: 2017	Sanitary tapware - General technical specifications for single taps and mixer taps (nominal size ½) PN 10 – Minimum flow pressure 0.05 MPa (0.5 bar).
NF EN 15091: 2014	Sanitary tapware - Electronic opening and closing sanitary tapware.
NF EN 248: 2002	Sanitary tapware - General specification for electrodeposited coatings of Ni-Cr.
DT077-00	Regulations for use of marks

## 2.5 ECAU-M rating principle

The ECAU-M rating is based on five 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”;
- characteristic for medical environments, symbolised by the letter “M”.

The ECAU-M rating is characterised by the association of the letters ECAU-M, each of which is provided with a class: 1, 2, 3, etc. according to a level of performance or quality, with the exception of the letter “M”.

It can only be assigned to tapware for medical environments:

- pursuant to Standard NF EN 817.
- pursuant to Standard NF EN 1111.
- pursuant to Standard NF EN 15091.  
The test procedures are defined in Article 1 of this document.
- having passed the performance tests for the ECAU-M rating. The test procedures are provided in Article 2.6 below.

### 2.5.1 Meaning of E

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

There are 7 classes for this characteristic. See Article 2.7.1.1.

### 2.5.2 Meaning of C

The comfort characteristics taken into account are hydraulic performance, endurance and thermal shock resistance.

There are 3 classes for this characteristic. See Article 2.7.2.1.

Table 2 – C rating for mechanical mixers

	<b>Ch</b>
Field of application	<ul style="list-style-type: none"> <li>– Household <b>with waiver</b> (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 (Note 1)	<ul style="list-style-type: none"> <li>– Dimensional;</li> <li>– Operating force;</li> <li>– Sensitivity</li> <li>– Reliability;</li> <li>– Constant temperature with hot water at 63 °C;</li> <li>– Constant temperature with hot water at 50°C;</li> <li>– Resistance to alternating pressure stress;</li> </ul>
Class 2 (Note 2)	<ul style="list-style-type: none"> <li>– Must be C1;</li> <li>– Must be <b>E00</b> for washbasin, bidet;</li> <li>– Must be <b>E0</b> for shower outlet;</li> <li>– Controlled flow rate for water saving with a flow regulator.</li> </ul>
Class 3	<ul style="list-style-type: none"> <li>– Must be <b>C1</b> and Ch2;</li> <li>– Must be <b>E00</b> for washbasin, bidet;</li> <li>– Must be <b>E0</b> for shower outlet;</li> <li>– In the position with the handle centred on the axis of the fixed spout of the mixer tap or in the position recommended by the applicant/holder (if the handle is not centred with the mixer tap spout) there is no consumption of hot water when opening the tap to the “pressure point” position;</li> <li>– Specific marking on the tap temperature control indicating the position and/or the cold water zone;</li> <li>– It applies only to bath-shower mixer taps (shower outlets), showers, washbasins and sinks;</li> </ul>

Table 3 – C rating for thermostatic mixers

	Ch
Field of application	<ul style="list-style-type: none"> <li>– Household <b>with waiver</b> (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 (Note 1)	<ul style="list-style-type: none"> <li>– Dimensional;</li> <li>– Safety test with hot water temperature at 50°C</li> <li>– Safety stop effectiveness</li> <li>– Accuracy of displayed temperature;</li> <li>– Resistance to alternating pressure stress;</li> </ul>
Class 2 (Note 2)	<ul style="list-style-type: none"> <li>– Must be C1 (note 1)</li> <li>– Must be E00 for washbasin, bidet</li> <li>– Must be E0 for shower outlet</li> <li>– Controlled flow rate for water saving with a flow controller</li> </ul>
Class 3	<ul style="list-style-type: none"> <li>– Must be C1 (note 1) and Ch2</li> <li>– Must be E00 for washbasin, bidet</li> <li>– Must be E0 for shower outlet</li> <li>– Temperature limitation of the water at 50 °C in the maximum temperature position;</li> <li>– Inclusion of a non-adjustable stop and disengaging system on the tap temperature control for disinfecting the system;</li> <li>– Specific marking on the tap temperature control indicating limitation of hot water temperature to 50 °C;</li> <li>– It applies only to shower, bath-shower, washbasin and bidet mixers</li> </ul>
Note 1:	In cases in which the requirements of C and Ch are identical, only the letter C is used (e.g. for class 1, only C1 is used and there is no Ch1 rating)
Note 2:	To be examined for the ECAU/EChAU rating, all tapware equipped with a “pressure point or button” system will be classified as “C2”. This means that holders may not request only a C1 rating for a product equipped with a “hard point or button” system. They must file a complementary “EC <sub>2</sub> AU” rating application.
Note 3:	The characteristics for complying with the decree of 30 November 2005 amending the decree of 23 June 1978 on the limitation of the risk of burns are taken into account for class 3.

Table 4 – C rating for electronic opening and closing valves

Ch			
Field of application	<ul style="list-style-type: none"> <li>– Household <b>with waiver</b> (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>		
Product	Sanitary tapware	Urinal flush valve	WC flush valve
Class 1	<ul style="list-style-type: none"> <li>– Verification of detection</li> <li>– Verification of hydraulic operation</li> <li>– Alternating pressures</li> <li>– Dimensions</li> <li>– Hydraulic characteristics</li> </ul>	<ul style="list-style-type: none"> <li>– Verification of detection</li> <li>– Verification of hydraulic operation</li> <li>– Alternating pressures</li> </ul>	<ul style="list-style-type: none"> <li>– Verification of detection</li> <li>– Verification of hydraulic operation</li> <li>– Alternating pressures</li> </ul>
Class 2	<ul style="list-style-type: none"> <li>– Must be Ch1</li> <li>– Controlled flow rate for water saving with a flow regulator</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. See Article 2.7.3.1.

### 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 following are subjected:

- obturators;
- swivel spouts;
- bath-shower diverters.

There is 1 class for this characteristic. See Article 2.7.4.1.

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

### 2.5.5 Meaning of M

M is the characteristic for medical environments.

## 2.6 Performance level for the ECAU-M rating

### 2.6.1 Design

Tapware for medical environments are specific fittings that meet special requirements related to the conditions of use and health.

The ergonomics ensure that the entire handle must be accessible during the cleaning operation.

For single-hole tapware, the hot and cold water supplies of the tap must be made of copper tubing or PEX or Silicone hoses.

For wall-mounted shower taps, the control handle must not be horizontal or perpendicular to the wall in the closed position.

Tapware outlets cannot be equipped with a spray regulator or screen flow.

**Pressurised mixing chambers upstream of the obturator are not permitted.**

A backflow prevention valve is only permitted in tapware shower/handspray outlets.

## 2.6.2 Designation

Tapware for medical environments is designated by:

- the type of tapware;
- the reference to this document;

EXAMPLE: Washbasin M (Medical) in accordance with Technical Document 077-15.

## 2.6.3 Marking – Identification

### 2.6.3.1 Marking

See also Appendix 2, Part 1, Chapter 1.1 of the NF 077 reference system.

Valves must be permanently and legibly marked and include:

- the name or initials of the manufacturer on the body of the valve;
- the letter M is recommended

EXAMPLE: Manufacturer initials –M

### 2.6.3.2 Identification

The taps must have a mark to identify the cold water and hot water sides.

Example:

- Blue for cold water and red for hot water
- Letter “F” for cold water and “C” for hot water
- Graphic for temperature increase (thermostatic mixer only)

## 2.6.4 Materials

### 2.6.4.1 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”).

### 2.6.4.2 State of visible surfaces and coating quality

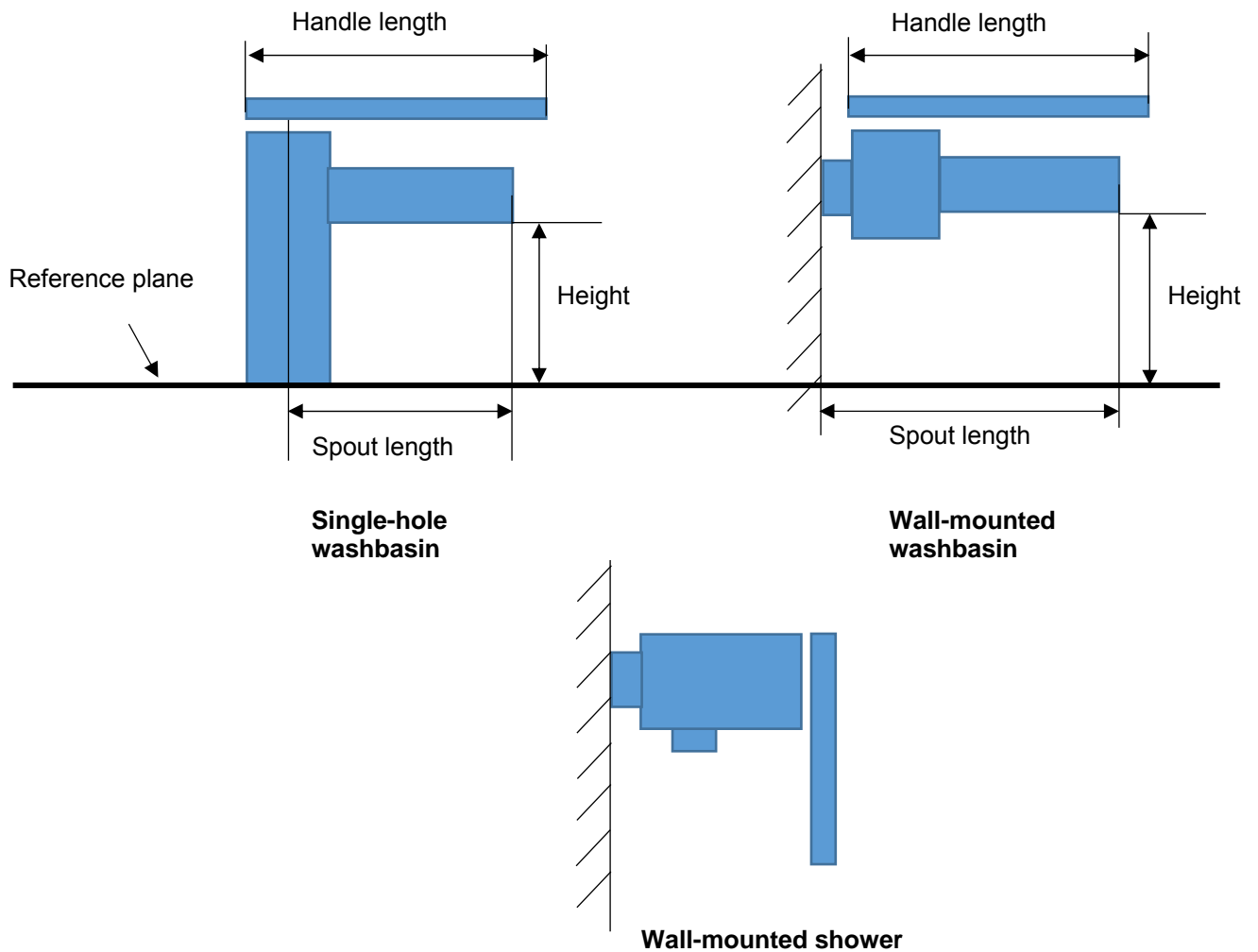
When tapware for medical environments is equipped with coated parts, chrome surfaces and Ni-Cr coatings must meet the requirements of Standard EN 248.

## 2.6.5 Dimensional characteristics

For tapware for medical environments, the dimensions are identical to those indicated in the standards associated with the taps. Only the spout length and height for washbasin models are specific (Table 5)

Table 5 – Specific dimensions

Dimension (mm) \ Model	Symbol	Single-hole washbasin	Wall-mounted washbasin
Handle length	L1	≥ 110	≥ 110
Spout length	L2	≥ 100	≥ 175
Height in relation to the plane	H	≥ 90	≥ 100



## 2.6.6 Material ageing tests

### 2.6.6.1 Test principle

The test consists of subjecting the tapware to disinfection cycles to verify the compatibility of the materials with the products or a thermal shock test used for the disinfection of internal water networks.

### 2.6.6.2 Operating procedure

The products in new conditions are installed

- on a circulation loop and subjected to the following types of disinfection treatments:
  - o corrective;
  - o preventive
- on a control loop with no treatment to evaluate the ageing of products or materials with and without treatment.

#### 2.6.6.2.1 Corrective treatment

Apply one of the treatments to each sample as indicated in Table 6. A sample should only be treated with a disinfectant.

The 20 repetitions shall be carried out continuously without interrupting the treatment.



Table 6 – Corrective treatment

Treatment	Circulation time	Rest time (with no contact)	Concentration	Water temperature	Number of cycles
NaClO Sodium hypochlorite	1 h	< 1 min	100 mg/l	< 30 °C	20
H <sub>2</sub> O <sub>2</sub> Hydrogen peroxide	2 h	< 1 min	1 g/l	< 30 °C	20
ClO <sub>2</sub> Chlorine dioxide	12 h	< 1 min	600 mg/l	< 30 °C	20
Thermal shock	0.5 h	< 1 min	/	70°C	20

#### 2.6.6.2.2 Preventive treatment

Apply one of the treatments to each sample continuously as indicated in Table 7.

A sample should only be treated with a disinfectant.

Table 7 – Preventive treatment

Disinfectant	Contact time	Rest time (with no contact)	Concentration	Water temperature	Number of repetitions
NaClO Sodium hypochlorite	3 months		1 mg/l		continuous
ClO <sub>2</sub> Chlorine dioxide	3 months		1 mg/l		continuous

#### 2.6.6.3 Requirements

During the ageing test, there must be no leaks.

After the ageing test, conduct the following tests:

- leaktightness of the obturator and valve upstream of the obturator with the obturator in the closed position (16 bar, static) under Standards NF EN 817, NF EN 1111 and NF EN 15091
- hydraulic performance under Standard NF EN 1111
  - Article 15.5.3 Failure and restoration of cold water supply
  - Article 15.5.6 Retractable temperature stops

#### 2.6.7 Hydraulic performance characteristics

This article describes the level of specific performance to be achieved using the test methods and procedures established in the associated standards or technical documents for each type of tapware for medical environments.

The articles “Test principle,” “Operating procedure” and “Required characteristics” for each type of tapware are indicated below:

Column “1”: test principle

Column “2”: operating procedure

Column “3” Required characteristics

2.6.7.1 “Mechanical mixer” tapware

Model	Flow rate 34 and 44 °C NF EN 817 Pressure 3 0/+0.2 bar			Sensitivity NF EN 817			T° contro l ring	C rating DT 077-03 DT 077-01	
	1	2	3	1	2	3		3	1 and 2
Washba sin	§10.6.1	§10.6.2	$4 \leq q \leq 6$	§10.7.2	§10.7.3	$\geq 12$ mm	Yes	§2.6.7.5 §2.6.7.6	Ch2/Ch3
Shower	§10.6.1	§10.6.2	$9 \leq q \leq 12$	§10.7.2	§10.7.3	$\geq 14$ mm	Yes	§2.6.7.5	Ch2
Bath	§10.6.1	§10.6.2	$\geq 20$	§10.7.2	§10.7.3	$\geq 14$ mm	Yes		
Bath shower	§10.6.1	§10.6.2	$\geq 20$	§10.7.2	§10.7.3	$\geq 14$ mm	Yes	§2.6.7.5	CH2
Wall- moun te d washba sin	§10.6.1	§10.6	$4 \leq q \leq 6$	§10.7.2	§10.7.3	$\geq 12$ mm	Yes	§2.6.7.5 §2.6.7.6	Ch2/Ch3
Sink	§10.6.1	§10.6	$9 \leq q \leq 12$	§10.7.2	§10.7.3	$\geq 12$ mm	Yes	§2.6.7.2 §2.6.7.4	C2/C3
Service sink	Associate d with §10.6.1	Associate d with §10.6.2	$9 \leq q \leq 12$	Associated with §10.7.2	Associated with §10.7.3	$\geq 12$ mm	Yes	Associate d with §2.6.7.5 §2.6.7.6	Ch2/Ch3
Baby range	Associate d with §10.6.1	Associate d with §10.6.2	$9 \leq q \leq 12$	Associated with §10.7.2	Associated with §10.7.3	$\geq 14$ mm	Yes	Associate d with §2.6.7.5 §2.6.7.6	Ch2/Ch3

2.6.7.2 For “thermostatic mixer” tapware

Model	Flow rate 34 and 44 °C NF EN 1111 Pressure 3 0/+0.2 bar			Sensitivity NF EN 1111			Max. T°	C rating DT 077-03 DT 077-04	
	1	2	3	1	2	3		3	1 and 2
Washba sin	§13.2.1	§13.2.2	$4 \leq q \leq 6$	§13.3.2	§13.3.3	$\geq 12$ mm	41°C	§2.6.7.5 §2.6.7.6	Ch2/Ch3
Shower	§13.2.1	§13.2.2	$9 \leq q \leq 12$	§13.3.2	§13.3.3	$\geq 14$ mm	41°C	§2.6.7.5 §2.6.7.6	Ch2/Ch3
Bath	§13.2.1	§13.2.2	$\geq 20$	§13.3.2	§13.3.3	$\geq 14$ mm	44°C		
Bath shower	§13.2.1	§13.2.2	$\geq 20$	§13.3.2	§13.3.3	$\geq 14$ mm		§2.6.7.5 §2.6.7.6	Ch2/Ch3
Baby range	Associate d with §13.2.1	Associate d with §13.2.1	$9 \leq q \leq 12$	Associated with §13.3.3	Associated with §13.3.3	$\geq 14$ mm	38°C	Associate d with §2.6.7.5 §2.6.7.6	Ch2/Ch3

2.6.7.3 For “electronic opening and closing” valves

Model	Flow rate 34 and 44 °C Pressure 3 0/+0.2 bar			C rating DT 077-03 DT 077-013	
	1	2	3	1 and 2	3
Washba sin	§5.3.3	§5.3.3	$4 \leq q \leq 6$	§2.6.7.5 §2.6.7.6	Ch2/Ch3
Wall- moun te d washba sin	§5.3.3	§5.3.3	$4 \leq q \leq 6$	§2.6.7.5 §2.6.7.6	Ch2/Ch3

## 2.6.8 Mechanical strength test of the valve control

### 2.6.8.1 Test principle

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

### 2.6.8.2 Operating procedure

- Assemble the valve on the test bench and put the operating device in the “open” position
- Gradually apply a force (60 ± 5) N for 4 (+2/0) s, 10 mm from the end of the operating device in the opening direction
- Maintain the force (60 ± 5) N for (300 ± 5) s
- Stop applying force and shut the closing device completely
- Gradually apply a force (60 ± 5) N for 4 (+2/0) s, 10 mm from the end of the operating device in the closing direction
- Maintain the force (60 ± 5) N for (300 ± 5) s
- Stop applying force and end the test

### 2.6.8.3 Required characteristics

During the mechanical test, there must be no breakage in the control device or head/cartridge.

After the mechanical strength test, conduct the leakage tests at a static pressure of 16 bar under Standards NF EN 817, NF EN 1111 and NF EN 15091.

## 2.6.9 Endurance characteristics

Endurance performance is modified by multiplying by 2.5 the requirements of all mobile equipment under the Standards NF EN 817, NF EN 1111 and NF EN 15091.

### 2.6.9.1 “Mechanical mixer” tapware

Model	Obturator	Spout	Diverter	U rating
Washbasin	yes	Yes, if mobile	/	U3
Shower	yes	/	/	U3
Bath	yes	/	/	U3
Bath shower	yes	/	yes	U3
Wall-mounted washbasin	yes	Yes, if mobile	/	U3
Sink	yes	yes	/	U3
Service sink	yes	/	/	U3
Baby range	yes	/	/	U3

### 2.6.9.2 For “thermostatic mixer” tapware

Model	Obturator	Spout	Diverter	U rating
Washbasin	yes	Yes, if mobile	/	U3
Shower	yes	/	/	U3
Bath	yes	/	/	U3
Bath shower	yes	/	yes	U3
Baby range	yes	/	/	U3

2.6.9.3 For “electronic opening and closing” valves

Model	Solenoid valve obturator	Spout	U rating
Washbasin	yes	Yes, if mobile	U3

2.6.10 Test sequence

2.6.10.1 For mechanical mixers (NF EN 817 + Technical Document 077-03 rev01)

Sample Sequence	Order	Tests	
Sample 1 Materials	1.	§5.2A Materials (salt spray)	
Sample 2 Materials	2.	§5.2B Materials (air thermal shock)	
Sample 3 Cartridge endurance	3.	§4.1 Marking	
	4.	§4.2 Identification	
	5.	§13 Protection against backflow	
	6.	§8.3 Leaktightness	
	7.	§8.4 Leaktightness	
	8.	§8.7 Leaktightness	
	9.	§12.1 Endurance	
	10.	§2.6.7.3 Verification of force (for C2 or C3)	
	11.	§8.3 Leaktightness	
	12.	§8.4 Leaktightness	
	13.	§8.7 Leaktightness	
	14.	§2.6.9 Endurance	
	15.	§8.3 Leaktightness	
	16.	§8.4 Leaktightness	
	17.	§8.7 Leaktightness	
	Sample 4 Diverter endurance		<b>Sample 4A – manual diverter</b>
		1.	§4.1 Marking
2.		§4.2 Identification	
3.		§13 Protection against backflow	
4.		§8.5 Leaktightness	
5.		§12.2.3A Endurance	
6.		§8.5 Leaktightness	
7.		§2.6.9 Endurance	
8.		§8.5 Leaktightness	
	<b>Sample 4B – automatic diverter</b>		
	§4.1 Marking		
	§4.2 Identification		
	§13 Protection against backflow		
	§8.6 Leaktightness		
	§12.2.3B Endurance		
	§8.6 Leaktightness		
	§2.6.9 Endurance		
	§8.6 Leaktightness		
Sample 5 Spout endurance	1.	§4.1 Marking	
	2.	§4.2 Identification	
	3.	§13 Protection against backflow	
	4.	§8.4 Leaktightness	
	5.	§12.3 Endurance	
	6.	§8.4 Leaktightness	
	7.	§2.6.9 Endurance	
	8.	§8.4 Leaktightness	

Sample Sequence	Order	Tests		
<b>Sample 6 Hydraulic Charact.</b>		<b>Sample 6 for Ch1</b>	<b>Sample 6 for Ch2</b>	<b>Sample 6 for Ch3</b>
	1.	§4.1 Marking	§4.1 Marking	§4.1 Marking
	2.	§4.2 Identification	§4.2 Identification	§4.2 Identification
	3.			§2.6.1 Identification
	4.	§13 Protection against backflow	§13 Protection against backflow	§13 Protection against backflow
	5.	§6 Dimensions	§6 Dimensions	§6 Dimensions
	6.	§2.6.3 Dimensions	§2.6.3 Dimensions	§2.6.3 Dimensions
	7.	§10.6 Flow rate	§10.6 Flow rate	§10.6 Flow rate
	8.	§2.6.7.1 Class E for flow rate	§2.6.7.1 Class E for flow rate	§2.6.7.1 Class E for flow rate
	9.	§10.7 Sensitivity	§10.7 Sensitivity	§10.7 Sensitivity
	10.	§2.6.7.7 Reliability	§2.6.7.7 Reliability	§2.6.7.7 Reliability
	11.		§2.6.7.5 Flow rate Ch2	§2.6.7.5 Flow rate Ch2
	12.			
	13.			§2.6.7.4 C3 energy saving
	14.	§2.6.7.8 Constant T° at 63 °C		
	15.	§2.6.7.9 Constant T° at 50°C		
	16.	§9.4 Upstream mechanical behaviour	§9.4 Upstream mechanical behaviour	§9.4 Upstream mechanical behaviour
17.	§9.5 Downstream mechanical behaviour	§9.5 Downstream mechanical behaviour	§9.5 Downstream mechanical behaviour	
<b>Sample 7 Torsion</b>	1.	§4.1 Marking		
	2.	§4.2 Identification		
	3.	§13 Protection against backflow		
	4.	§11 Torque		
	5.	§8.3 Leaktightness		
<b>Sample 8-9-10 Acoustic</b>	1.	§4.1 Marking		
	2.	§4.2 Identification		
	3.	§13 Protection against backflow		
	4.	§14 Acoustic		
	5.	§2.6.11 Class A for acoustics		
<b>Sample 11 Alternating pressures</b>	1.	§4.1 Marking		
	2.	§4.2 Identification		
	3.	§13 Protection against backflow		
	4.	§2.6.12 Alternating pressure		
	5.	§8.3 Leaktightness		
<b>Sample 12 to 18 Ageing</b>	1.	§4.1 Marking		
	2.	§2.6.3.1 Marking (077-15)		
	3.	§4.2 Identification		
	4.	§2.6.6 Material ageing tests (077-15)2.6.3.2		
	5.	8.3 Leaktightness		

2.6.10.2 For thermostatic mixers (NF EN 1111 + Technical Document 077-04 rev01)

Sample Sequence	Order	Tests	
<b>Sample 1 Obturator endurance</b>		<b>Sample 1A – rotary obturator</b>	<b>Sample 1B – diverter obturator</b>
	1.	§7.1 Marking	§7.1 Marking
	2.	§7.2 Identification	§7.2 Identification
	3.	§10 Protection against backflow	§10 Protection against backflow
	4.	§12.2 Leaktightness	§12.2 Leaktightness
	5.	§12.3 Leaktightness	§12.3 Leaktightness
	6.	§12.4 Leaktightness	§12.4 Leaktightness
	7.	/	§12.5 Leaktightness
	8.	§16.3 Endurance	§16.4 Endurance
	9.	§12.2 Leaktightness	§12.2 Leaktightness
	10.	§12.3 Leaktightness	§12.3 Leaktightness
	11.	§12.4 Leaktightness	§12.4 Leaktightness
	12.	§2.6.10 Endurance	§2.6.10 Endurance
	13.	§12.2 Leaktightness	§12.2 Leaktightness
	14.	§12.3 Leaktightness	§12.3 Leaktightness
	15.	§12.4 Leaktightness	§12.4 Leaktightness
16.	/	§12.5 Leaktightness	
<b>Sample 2 Diverter endurance</b>		<b>Sample 2A</b>	<b>Sample 2B</b>
	1.	§7.1 Marking	§7.1 Marking
	2.	§7.2 Identification	§7.2 Identification
	3.	§10 Protection against backflow	§10 Protection against backflow
	4.	§12.5 Leaktightness	§12.6 Leaktightness
	5.	§16.6.2.3.1 Endurance	§16.6.2.3.2 Endurance
	6.	§12.5 Leaktightness	§12.6 Leaktightness
	7.	§2.6.10 Endurance	§2.6.10 Endurance
8.	§12.5 Leaktightness	§12.6 Leaktightness	
<b>Sample 3 Spout endurance</b>	1.	§7.1 Marking	
	2.	§7.2 Identification	
	3.	§10 Protection against backflow	
	4.	§12.4 Leaktightness	
	5.	§16.7 Endurance	
	6.	§12.4 Leaktightness	
	7.	§2.6.10 Endurance	
	8.	§12.4 Leaktightness	

Sample Sequence	Order	Tests		
Sample 4 Hydraulic Charact.		<b>Sample 4 for Ch1</b>	<b>Sample 4 for Ch2</b>	<b>Sample 4 for Ch3</b>
	1.	§7.1 Marking	§7.1 Marking	§7.1 Marking
	2.	§7.2 Identification	§7.2 Identification	§7.2 Identification
	3.			§2.6.1 Identification
	4.	§10 Protection against backflow	§10 Protection against backflow	§10 Protection against backflow
	5.	§9 Dimensions	§9 Dimensions	§9 Dimensions
	6.	§2.6.3 Dimensions	§2.6.3 Dimensions	§2.6.3 Dimensions
	7.	§13.2 Flow rate outlet 1 and 2 if applicable	13.2 Flow rate outlet 1 and 2 if applicable	13.2 Flow rate outlet 1 and 2 if applicable
	8.	§13.3 Sensitivity	§13.3 Sensitivity	§13.3 Sensitivity
	9.	§13.4 Reliability	§13.4 Reliability	§13.4 Reliability
	10.	§13.5.1 Setting operation	§13.5.1 Setting operation	§13.5.1 Setting operation
	11.	§13.5.2 Flow rate reduction	§13.5.2 Flow rate reduction	§13.5.2 Flow rate reduction
	12.	§13.5.3 CW failure outlet 1 and 2 if applicable	§13.5.3 CW failure outlet 1 and 2 if applicable	§13.5.3 CW failure outlet 1 and 2 if applicable
	13.	§13.5.4 Pressure variation outlet 1 and 2 if applicable	§13.5.4 Pressure variation outlet 1 and 2 if applicable	§13.5.4 Pressure variation outlet 1 and 2 if applicable
	14.	§13.5.5 HW temperature variation outlet 1 and 2 if applicable	§13.5.5 HW temperature variation outlet 1 and 2 if applicable	§13.5.5 HW temperature variation outlet 1 and 2 if applicable
	15.	§13.5.6 Retractable stop	§13.5.6 Retractable stop	§13.5.6 Retractable stop
	16.	§2.6.7.1.2 Class E flow rate	§2.6.7.1.2 Class E flow rate	§2.6.7.1.2 Class E flow rate
	17.	§2.6.7.1.22 CW Failure HW Temp. 50°C (shower outlet)	§2.6.7.1.22 CW Failure HW Temp. 50°C (shower outlet)	§2.6.7.1.22 CW Failure HW Temp. 50°C (shower outlet)
	18.	§2.6.7.1.33 Accuracy of displayed temperature	§2.6.7.1.33 Accuracy of displayed temperature	§2.6.7.1.33 Accuracy of displayed temperature
	19.	§2.6.7.1.44 Safety stop effectiveness	§2.6.7.1.44 Safety stop effectiveness	§2.6.7.1.44 Safety stop effectiveness
	20.	/	§2.6.7.2.1 C2 Flow rate	§2.6.7.2.1 C2 Flow rate
	21.	/	/	§2.6.7.6.1 Ch3 CW Failure
	22.	/	/	§2.6.7.6.2 Ch3 Temperature accuracy
	23.	/	/	§2.6.7.6.3 Ch3 Stop effectiveness
	24.	/	/	§2.6.7.6.4 Ch3 Pressure variation
	25.	/	/	§2.6.7.6.5 Ch3 HW Temperature variation
	26.	/	/	§2.6.7.6.6 Ch3 Initial draw-off
	27.	§16.3 Endurance	§16.3 Endurance	§16.3 Endurance
	28.	§12.2 Leaktightness	§12.2 Leaktightness	§12.2 Leaktightness
	29.	§12.3 Leaktightness	§12.3 Leaktightness	§12.3 Leaktightness
	30.	§13.3 Sensitivity	§13.3 Sensitivity	§13.3 Sensitivity
	31.	§13.4 Reliability	§13.4 Reliability	§13.4 Reliability
	32.	§13.5.2 Flow rate reduction	§13.5.2 Flow rate reduction	§13.5.2 Flow rate reduction
	33.	§13.5.3 CW Failure outlet 1 and 2 if applicable	§13.5.3 CW Failure outlet 1 and 2 if applicable	§13.5.3 CW Failure outlet 1 and 2 if applicable
	34.	§13.5.4 Pressure variation	§13.5.4 Pressure variation	§13.5.4 Pressure variation
	35.	§13.5.6 Retractable stop	§13.5.6 Retractable stop	§13.5.6 Retractable stop
	36.	§2.6.7.1.22 CW Failure HW Temp. 50°C (shower outlet)	§2.6.7.1.22 CW Failure HW Temp. 50°C (shower outlet)	§2.6.7.1.22 CW Failure HW Temp. 50°C (shower outlet)
	37.	§2.6.7.1.33 Accuracy of displayed temperature	§2.6.7.1.33 Accuracy of displayed temperature	§2.6.7.1.33 Accuracy of displayed temperature
	38.	§2.6.7.1.44 Safety stop effectiveness	§2.6.7.1.44 Safety stop effectiveness	§2.6.7.1.44 Safety stop effectiveness
	39.	/	/	§2.6.7.6.1 Ch3 CW Failure
	40.	/	/	§2.6.7.6.3 Ch3 Stop effectiveness
	41.	/	/	§2.6.7.6.4 Ch3 Pressure variation
	42.	/	/	§2.6.7.6.6 Ch3 Initial draw-off
	43.	§14.3 Upstream mechanical behaviour	§14.3 Upstream mechanical behaviour	§14.3 Upstream mechanical behaviour
44.	§14.4 Downstream mechanical behaviour	§14.4 Downstream mechanical behaviour	§14.4 Downstream mechanical behaviour	

		<b>Sample 5A – Obturator torque</b>	<b>Sample 5A – Temperature control torque</b>
<b>Sample 5 Torsion</b>	1.	§7.1 Marking	§7.1 Marking
	2.	§7.2 Identification	§7.2 Identification
	3.	§10 Protection against backflow	§10 Protection against backflow
	4.	§15 Torque	§15 Torque
	5.	§12.2 Leaktightness	§12.2 Leaktightness
<b>Sample 6-7-8 Acoustic</b>	1.	§7.1 Marking	
	2.	§7.2 Identification	
	3.	§10 Protection against backflow	
	4.	§17 Acoustic	
	5.	§2.6.11 Class A for acoustics	
<b>Sample 9 Alternating pressures</b>	1.	§7.1 Marking	
	2.	§7.2 Identification	
	3.	§10 Protection against backflow	
	4.	§2.6.12 Alternating pressure	
	5.	§12.2 Leaktightness	
<b>Sample 10 Materials</b>	1.	§8.2A Materials (salt spray)	
<b>Sample 11 Materials</b>	1.	§8.2B Materials (air thermal shock)	
<b>Sample 12 to 18 Ageing</b>	1.	§4.1 Marking	
	2.	§2.6.3.1 Marking (077-15)	
	3.	§4.2 Identification	
	4.	§2.6.6 Material ageing tests (077-15)2.6.3.2	
	5.	§12.2 Leaktightness	
	6.	§13.5.3 CW Failure outlet 1 and 2 if applicable	
	7.	§13.5.6 Retractable stop	



2.6.10.3 For electronic opening and closing valves (NF EN 15091 + Technical Document 077-13 rev01)

2.6.10.3.1 For sanitary tapware

Sample Sequence	Order	Tests	
Sample 1 - Materials	18.	§4.4.2A Materials ( <i>Neutral salt spray test</i> )	
Sample 2 - Materials	1.	§4.4.2B Materials ( <i>"air" thermal shock resistance test</i> )	
Sample 3 Hydraulic		<b>Sample 3A – Ch1</b>	<b>Sample 3B – Ch2</b>
	1.	§4.1 Marking	§4.1 Marking
	2.	§4.4 Protection against backflow	§4.4 Protection against backflow
	3.	§5.2 Dimensions	§5.2 Dimensions
	4.	§2.7.1 Dimensions	§2.7.1 Dimensions
	5.	§5.3 Hydraulic characteristics	§5.3 Hydraulic characteristics
	6.	§2.7.2.1 Class E for flow rate	§2.7.2.1 Class E for flow rate
	7.	/	§2.7.2.2 "Water saving" controlled flow rate
	8.	§2.6.9 Verification of hydraulic operation	§2.6.9 Verification of hydraulic operation
	9.	§5.4 Water hammer	§5.4 Water hammer
	10.	§2.6.8 Verification of electronic detection	§2.6.8 Verification of electronic detection
	11.	§2.6.8.3 Verification of flow cut-off	§2.6.8.3 Verification of flow cut-off
12.	§4.5.5 Operational safety (4.5.5.1 electrical tapware or 4.5.5.3 battery-operated taps)	§4.5.5 Operational safety (4.5.5.1 electrical tapware or 4.5.5.3 battery-operated taps)	
Sample 4 Resistance to pressure	1.	§4.1 Marking	
	2.	§4.4 Protection against backflow	
	3.	§4.7 Resistance to pressure	
Sample 5 Endurance		<b>Sample 5A – Single tap</b>	<b>Sample 5B – Mixer</b>
	1.	§4.1 Marking	§4.1 Marking
	2.	§4.4 Protection against backflow	§4.4 Protection against backflow
	3.	§4.6.4 Leaktightness of tapware upstream of the obturator	§4.6.4 Leaktightness of tapware upstream of the obturator
	4.	§4.6.5 Leaktightness of tapware downstream of the obturator	§4.6.5 Leaktightness of tapware downstream of the obturator
	5.	§5.5.3 Endurance of single taps	§5.5.4 Endurance of mixer taps
	6.	§4.6.4 Leaktightness of tapware upstream of the obturator	§4.6.4 Leaktightness of tapware upstream of the obturator
	7.	§4.6.5 Leaktightness of tapware downstream of the obturator	§4.6.5 Leaktightness of tapware downstream of the obturator
	8.		§5.3.5 Cold and hot water cross-feed
	9.	§2.7.4 Endurance	§2.7.4 Endurance
	10.	§4.6.4 Leaktightness of tapware upstream of the obturator	§4.6.4 Leaktightness of tapware upstream of the obturator
	11.	§4.6.5 Leaktightness of tapware downstream of the obturator	§4.6.5 Leaktightness of tapware downstream of the obturator
12.		§5.3.5 Cold and hot water cross-feed	
Sample 6-7-8 Acoustics	1.	§4.1 Marking	
	2.	§4.4 Protection against backflow	
	3.	§5.6 Acoustic characteristic	
	4.	§2.7.5 Class A for acoustics	
Sample 9 Alternating pressures	1.	§4.1 Marking	
	2.	§4.4 Protection against backflow	
	3.	§2.6.10 Alternating pressure	
	4.	§4.6.4 Upstream leaktightness	
Sample 10 to 16 Ageing	1.	§4.1 Marking	
	2.	§2.6.3.1 Marking (077-15)	
	3.	§4.4 Protection against backflow	
	4.	§2.6.6 Material ageing tests (077-15)2.6.3.2	
	5.	§4.6.4 Leaktightness of tapware upstream of the obturator	

2.6.10.3.2 For urinal flush valves

Sample Sequence	Order	Tests
<b>Sample 1 Materials</b>	1.	§4.4.2A Materials ( <i>Neutral salt spray test</i> )
<b>Sample 2 Materials</b>	1.	§4.4.2B Materials ( <i>"air" thermal shock resistance test</i> )
<b>Sample 3 Hydraulic</b>	1.	§4.1 Marking
	2.	§4.4 Protection against backflow
	3.	§6.5 Dimensions
	4.	§6.6 Hydraulic characteristics (EN 12541 reference)
	5.	§2.6.9 Verification of hydraulic operation
	6.	§6.7 Water hammer
	7.	§2.6.8 Verification of electronic detection
	8.	§2.6.8.3 Verification of flow cut-off
	9.	§4.5.5 Operational safety (4.5.5.1 electrical tapware or 4.5.5.3 battery-operated taps)
<b>Sample 4 Resistance pressure</b>	1.	§4.1 Marking
	2.	§4.4 Protection against backflow
	3.	§4.7 Resistance to pressure
<b>Sample 5 Endurance</b>	1.	§4.1 Marking
	2.	§4.4 Protection against backflow
	3.	§4.6.4 Leaktightness of tapware upstream of the obturator
	4.	§4.6.5 Leaktightness of tapware downstream of the obturator
	5.	§6.8 Urinal endurance
	6.	§4.6.4 Leaktightness of tapware upstream of the obturator
	7.	§4.6.5 Leaktightness of tapware downstream of the obturator
	8.	§6.6 Hydraulic characteristic (EN 12541 reference)
	9.	§2.9.4 Endurance
	10.	§4.6.4 Leaktightness of tapware upstream of the obturator
	11.	§4.6.5 Leaktightness of tapware downstream of the obturator
	12.	§6.6 Hydraulic characteristic (EN 12541 reference)
<b>Sample 6-7-8 Acoustics</b>	1.	§4.1 Marking
	2.	§4.4 Protection against backflow
	3.	§5.6 Acoustic characteristic
	4.	§2.7.5 Class A for acoustics
<b>Sample 9 Alternating pressures</b>	1.	§4.1 Marking
	2.	§4.4 Protection against backflow
	3.	§2.6.10 Alternating pressure
	4.	§4.6.4 Upstream leaktightness
<b>Sample 10 to 16 Ageing</b>	1.	§4.1 Marking
	2.	§2.6.3.1 Marking (077-15)
	3.	§4.4 Protection against backflow
	4.	§2.6.6 Material ageing tests (077-15)
	5.	§4.6.4 Leaktightness of tapware upstream of the obturator

2.6.10.3.3 For WC flush valves

Sample Sequence	Order	Tests
Sample 1 Materials	1.	§4.4.2A Materials ( <i>Neutral salt spray test</i> )
Sample 2 Materials	1.	§4.4.2B Materials ( <i>"air" thermal shock resistance test</i> )
Sample 3 Hydraulic	1.	§4.1 Marking
	2.	§4.4 Protection against backflow
	3.	§7.4 Dimension
	4.	§7.5 Hydraulic characteristics
	5.	§2.6.9 Verification of hydraulic operation
	6.	§7.5.3 Flow rate/impact force test at reduced dynamic pressure
	7.	§7.5.4 Flow rate/volume test at reduced dynamic pressure
	8.	§7.5.5 Flow rate/impact force test at high dynamic pressure
	9.	§7.5.6 Water hammer
	10.	§2.6.8 Verification of electronic detection
	11.	§2.6.8.3 Verification of flow cut-off
	12.	§4.5.5 Operational safety (4.5.5.1 electrical tapware or 4.5.5.3 battery-operated taps)
Sample 4 Resistance pressure to	4.	§4.1 Marking
	5.	§4.4 Protection against backflow
	6.	§4.7 Resistance to pressure
Sample 5 Endurance	13.	§4.1 Marking
	14.	§4.4 Protection against backflow
	15.	§4.6.4 Leaktightness of tapware upstream of the obturator
	16.	§4.6.5 Leaktightness of tapware downstream of the obturator
	17.	§7.7 Urinal endurance
	18.	§4.6.4 Leaktightness of tapware upstream of the obturator
	19.	§4.6.5 Leaktightness of tapware downstream of the obturator
	20.	§7.5 Hydraulic characteristic (NF EN 12541 reference)
	21.	§2.9.4 Endurance
	22.	§4.6.4 Leaktightness of tapware upstream of the obturator
	23.	§4.6.5 Leaktightness of tapware downstream of the obturator
24.	§7.5 Hydraulic characteristic (NF EN 12541 reference)	
Sample 6-7-8 Acoustics	5.	§4.1 Marking
	6.	§4.4 Protection against backflow
	7.	§7.8 Acoustic characteristic
	8.	§2.9.5 Class A for acoustics
Sample 9 Alternating pressures	6.	§4.1 Marking
	7.	§4.4 Protection against backflow
	8.	§2.6.10 Alternating pressure
	9.	§4.6.4 Upstream leaktightness
Sample 10 to 16 Ageing	1.	§4.1 Marking
	2.	§2.6.3.1 Marking (077-15)
	3.	§4.4 Protection against backflow
	4.	§2.6.6 Material ageing tests (077-15)2.6.3.2
	5.	§4.6.4 Leaktightness of tapware upstream of the obturator

## 2.7 ECAU-M rating for tapware for medical environments

The essential principle of the ECAU-M rating is that the different characteristics are independent of each other. The level of each characteristic is to be selected as needed. The highest level may apply for one characteristic, while the lowest level may apply for another.

### 2.7.1 Hydraulic or flow characteristic

#### 2.7.1.1 Classification

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

*Table 8 – E rating for mechanical mixers*

Class	Flow rate value	
E0	9 L/min ≤ q < 12 L/min	
E1	12 L/min ≤ q < 16 L/min	
E2	16 L/min ≤ q < 20 L/min	
E3	20 L/min ≤ q < 25.2 L/min	
E4	25.2 L/min ≤ q	
	<b>Performance for class C2 (flow rate at pressure point or button)</b>	
E00	4 L/min ≤ q ≤ 6 L/min	Washbasin, Bidet and Sink
E02	5 L/min ≤ q < 9 L/min	Shower
	<b>Performance for class Ch2 (flow rate with a flow controller)</b>	
E00	4 L/min ≤ q ≤ 6 L/min	Washbasin and Bidet
E0	9 L/min ≤ q < 12 L/min	Shower

*Table 9 – E rating for thermostatic mixers*

Class	Flow rate value	
E0	9 L/min ≤ q < 12 L/min	
E1	12 L/min ≤ q < 16 L/min	
E2	16 L/min ≤ q < 20 L/min	
E3	20 L/min ≤ q < 25.2 L/min	
E4	25.2 L/min ≤ q	
	<b>Performance for class C2 (flow rate at pressure point or button)</b>	
E00	4 L/min ≤ q ≤ 6 L/min	Washbasin, Bidet and Sink
E02	5 L/min ≤ q < 9 L/min	Shower
	<b>Performance for class Ch2 (flow rate with a flow controller)</b>	
E00	4 L/min ≤ q ≤ 6 L/min	Washbasin and Bidet
E0	9 L/min ≤ q < 12 L/min	Shower

Table 10- E rating for electronic opening and closing valves

Class	Flow rate value
E00	4 L/min ≤ q ≤ 6 L/min
E02	5 L/min ≤ q < 9 L/min
E0	9 L/min ≤ q < 12 L/min
E1	12 L/min ≤ q < 16 L/min
E2	16 L/min ≤ q < 20 L/min
E3	20 L/min ≤ q < 25.2 L/min
E4	25.2 L/min ≤ q

### 2.7.1.2 Selection criteria

Flow rate class selection will be based on:

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

## 2.7.2 Comfort characteristics

### 2.7.2.1 Classification

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

Table 11 – E rating for mechanical mixers

Class	The tap must comply with the requirements of the following articles
C1 (Note 1)	2.6.3 Dimension 2.6.12 Alternating pressure
C2	Meets the requirements of Class C1 2.6.7.2.1 C2 flow rate in "Water saving" position
C3	Meets the requirements of Classes C1 and C2 2.6.4 Identification 2.6.7.3.1 Energy saving C3
Ch1	See C1 (note 1)
Ch2	Meets the requirements of Class C1 (Note 1) 2.6.7.5.1 "Water saving" controlled flow rate
Ch3	Meets the requirements of Classes <b>C1</b> (Note 1) and Ch2 2.6.4 Identification 2.6.7.6.1 Ch3 energy saving
Note 1:	In cases in which the requirements of C and Ch are identical, only the letter C is used (e.g. for class 1, only C1 is used and there is no Ch1 rating)

Table 12 – E rating for thermostatic mixers

Class	The tap must comply with the requirements of the following articles
C1 (Note 1)	§2.6.3 Dimension §2.6.7.1 Hydraulic characteristics for class C1 §2.6.10 Endurance §2.6.12 Alternating pressure
C2	Meets the requirements of Class C1 §2.6.7.2 Hydraulic characteristics for class C2
C3	Meets the requirements of Classes C1 and C2 §2.6.7.3 Hydraulic characteristics for class C3
Ch1	See C1 (note 1)
Ch2	Meets the requirements of Class C1 (Note 1) §2.6.7.5 Hydraulic characteristics for class Ch2
Ch3	Meets the requirements of Classes C1 (Note 1) and Ch2 §2.6.7.6 Hydraulic characteristics for class Ch3
Note 1:	In cases in which the requirements of C and Ch are identical, only the letter C is used (e.g. for class 1, only C1 is used and there is no Ch1 rating)

Table 13 – E rating for electronic opening and closing valves

Class	The tap must comply with the requirements of the following articles:		
	Tapware	Urinal valve	WC valve
Ch1	2.6.8 Verification of electronic detection 2.6.9 Verification of hydraulic operation 02/06/2010 Alternating pressure		
	2.7.1 Dimensions 2.7.2 Hydraulic		
Ch2	Meets the requirements of Class Ch1 2.7.2.2 “Water saving” controlled flow rate	/	/

#### 2.7.2.2 Selection criteria

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

## 2.7.3 Acoustic characteristic

### 2.7.3.1 Classification

Depending on their performance level, taps for medical environments can be classified as follows:

Acoustic group	Class	Lap
II	A1	20 dB (A) < Lap ≤ 30 dB (A)
I	A2	15 dB (A) < Lap ≤ 20 dB (A)
I	A3	Lap ≤ 15 dB (A)

### 2.7.3.2 Selection criteria

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

## 2.7.4 Mechanical or wear resistance characteristic

### 2.7.4.1 Classification

Depending on the actual level of wear resistance of their various components, taps for medical environments can be classified as follows:

*Table 14 – U rating for mechanical mixers*

Class	Number of cycles	
U3	Obturator:	175,000 cycles
	Swivel spout:	200,000 cycles
	Bath-shower diverter:	80,000 cycles

*Table 15 – U rating for thermostatic mixers*

Class	Number of cycles	
U3	Obturator:	500,000 cycles
	Temperature control:	50,000 cycles
	Swivel spout:	200,000 cycles
	Bath-shower diverter:	80,000 cycles

*Table 16 – U rating for electronic opening and closing valves*

Class	Number of cycles	
U3	Obturator (sanitary tapware)	500,000 cycles
	Obturator (flush valve)	175,000 cycles

### 2.7.4.2 Selection criteria

U<sub>3</sub>: intensive use and use in harsh conditions.

## 2.8 Example of ECAU-M rating

Washbasin tapware for medical environments with a flow rate during use of 5 L/min that passes comfort level 2 tests, with an  $L_{ap}$  of 10 dB (A), and that passes the endurance tests shall be classified as:

E<sub>01</sub> Ch<sub>2</sub> A<sub>3</sub> U<sub>3</sub>

Shower tapware for medical environments with a flow rate during use of 14 L/min, that passes comfort level 1 tests, with an  $L_{ap}$  of 28 dB (A), and that passes the endurance tests shall be classified as:

E<sub>1</sub> Ch<sub>1</sub> A<sub>1</sub> U<sub>3</sub>

## 2.9 Rating presentation

### 2.9.1 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 tapware for medical environments are as follows:

Table 17 – Rating for mechanical mixers

Flow	<b>E</b>	q L/min measured under 3 bar	E00	4 L/min ≤ q ≤ 6 L/min	
			E02	5 L/min ≤ q < 9 L/min	
			E0	9 L/min ≤ q < 12 L/min	
			E1	12 L/min ≤ q < 16 L/min	
			E2	16 L/min ≤ q < 20 L/min	
			E3	20 L/min ≤ q < 25.2 L/min	
			E4	25.2 L/min ≤ q	
			<b>For bathtub tapware, the minimum class is E<sub>3</sub></b>		
Comfort	<b>C</b>	Type	C1	Dimensions, operating force	
			C2	Water saving characteristics	
			C3	Water saving system	
	<b>Ch</b>	Type	Ch1	Dimensions	
			Ch2	Water saving characteristics	
			Ch3	Water saving system	
Acoustics	<b>A</b>	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	<b>U</b>	Number of cycles	U3	Obturator	175,000 cycles
				Swivel spout	200,000 cycles
				Bath shower diverter	80,000 cycles
Medical	<b>M</b>		/	Medical	



Table 18 – Rating for thermostatic mixers

Flow	E	Q L/min measured under 3 bar	E00	4 L/min ≤ Q ≤ 6 L/min	
			E02	5 L/min ≤ Q < 9 L/min	
			E0	9 L/min ≤ Q < 12 L/min	
			E1	12 L/min ≤ Q < <b>16</b> L/min	
			E2	<b>16</b> L/min ≤ Q < <b>20</b> L/min	
			E3	<b>20</b> L/min ≤ Q < 25.2 L/min	
			E4	Q ≥ 25.2 L/min	
			For bathtub tapware, the minimum class is E <sub>3</sub>		
Comfort	C	Type	C1	Dimensions	
			C2	Water saving characteristics	
			C3	Water saving system	
	Ch	Type	C1	Dimensions	
			Ch2	Water saving characteristics	
			Ch3	Water saving system	
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	Obturator	500,000 cycles
				Temperature control:	50,000 cycles
				Swivel spout	200,000 cycles
				Bath shower diverter	80,000 cycles
Medical	M		/	Medical	

Table 19 – Rating for electronic opening and closing valves

Flow	<b>E</b>	q L/min measured under 3 bar	E00	4 L/min ≤ q ≤ 6 L/min	
			E02	5 L/min ≤ q < 9 L/min	
			E0	9 L/min ≤ q < 12 L/min	
			E1	12 L/min ≤ q < 16 L/min	
			E2	16 L/min ≤ q < 20 L/min	
			E3	20 L/min ≤ q < 25.2 L/min	
			E4	25.2 L/min ≤ q	
			Comfort	<b>Ch</b>	Type
Ch2	Water saving characteristics				
Acoustics	<b>A</b>	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	<b>U</b>	Number of cycles	U3	Obturator (sanitary tapware)	500,000 cycles
				Obturator (flush valves)	175,000 cycles
Medical	<b>M</b>		/	Medical	

## 2.9.2 Product information

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

### 3 ECAU-M 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	Initial application	Complementary application	Admission following a penalty of withdrawal	Suspension application	Renunciation application
<b>Elements</b>					
<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-M 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-M 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-M 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 AND/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 AND/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 ratings**

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 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 rating**

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 form for suspension 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 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 shall remain applicable 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.

*[Trame\_doc\_technique\_VF\_R3\_DT\_PC-rev02]*