



SANITARY TAPWARE

CERTIFICATION

# NF Certification System Technical Management Appendix 2: Sanitary tapware



Identification No.: NF077  
Revision No.: 19  
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**MODIFICATION HISTORY**

<b>Modified Part</b>	<b>Revision no.</b>	<b>Effective date</b>	<b>Modification made</b>
/	19	02/04/2019	Creation of the document following the organisation of the new reference system

## Part 1 Specific NF marking

### 1.1 Specific product marking

The NF marking indications for the product family are specified below:

Complementary indications	Tap	Jet regulator or flow controller	Drainage system	Shower accessories		Diverter HC
				Hose	Handspray	
Logo  : <ul style="list-style-type: none"> <li>on the body <sup>a</sup></li> <li>on mechanism <sup>b</sup> (head, cartridge)</li> </ul>	X X	X	X (see chapter 1.3 of this document)	X	X	X
The Holder's name or logo: <ul style="list-style-type: none"> <li>on the body and/or brace and/or handle <sup>a</sup></li> <li>on the mechanism (head, cartridge)</li> </ul>	X X	X	X (see chapter 1.3 of this document)	X	X	X
Name or logo of the manufacturer of the sensitive component: <ul style="list-style-type: none"> <li>on the thermostatic component</li> </ul>	X					
Type number: <ul style="list-style-type: none"> <li>on the thermostatic component</li> </ul>	X					
Acoustic classification (group and class of hydraulic resistance) <ul style="list-style-type: none"> <li>on the body <sup>a</sup></li> </ul>	X	X			X	
Volume provided <sup>c</sup> <ul style="list-style-type: none"> <li>on the body</li> </ul>	X <sup>c</sup>					
Diverter type <ul style="list-style-type: none"> <li>on the body (the letters HC)</li> <li>on the shower connection (the letters HC)</li> </ul>						X

<sup>a</sup> or another part, subject to agreement by CSTB.

<sup>b</sup> For mechanisms with a design that is not specific to a body (head, mechanical mixing cartridge and "selector" cartridge), the letters "NF" can be used.

<sup>c</sup> Applicable only to automatic shut-off urinal valves.



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### 1.2 Specific marking for supply connection hoses

Supply connection hoses for sanitary tapware must comply with NF EN 13618 and be NF and/or QB certified.  
The NF and/or QB marking must appear on all products

### 1.3 Specific marking for drainage devices

The NF marking indications for the drainage product family are specified below:


Special case: Marking of  logo on drains

The purpose of this paragraph is to propose marking solutions according to the following types of drains:

- washbasin - bidet;
- shower tray;
- bath;
- sink - wash tub.

Drain that can consist of the following 3 components:

- a plug;
- tubing;
- a trap;

Only one of these components needs be marked with the  logo.

**NOTE** When the plug and the siphon are specific to a certain drain, a single marking on the drain is sufficient.  
The logo can then appear on the plug or siphon.

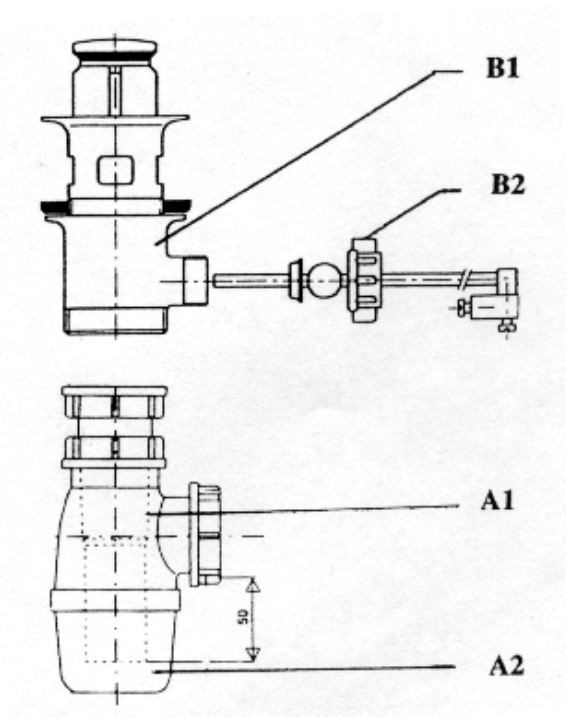
Examples

The markings are symbolised:

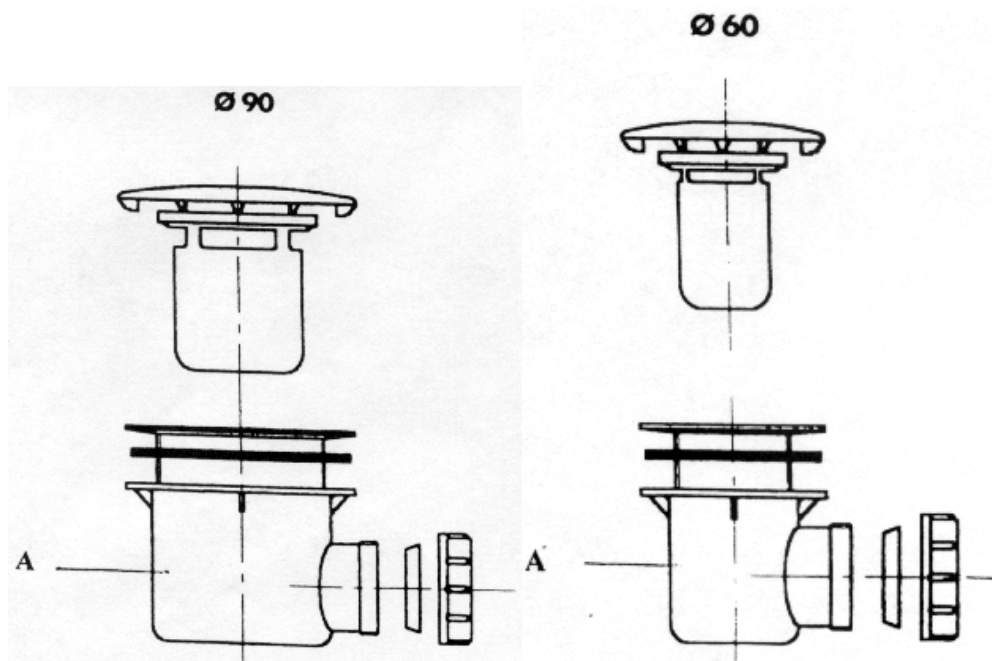
- on the plug by the letter B. When B1 and B2 are indicated in the following figures, the Holder may mark the component either B1 or B2;
- on the siphon by the letter B. When A1 and A2 are indicated in the following figures, the Holder may mark the component either A1 or A2;
- on the tubing by the letter C.

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For washbasin – bidet drains

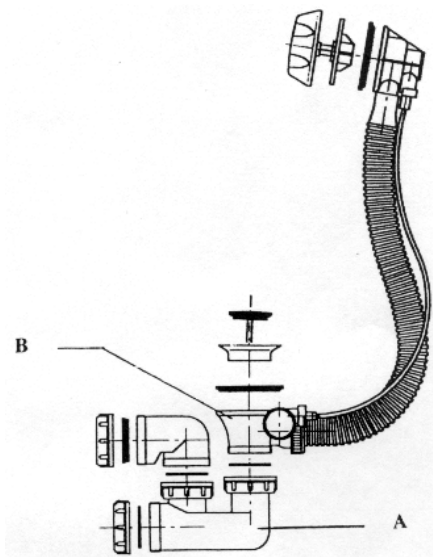


For shower tray drains



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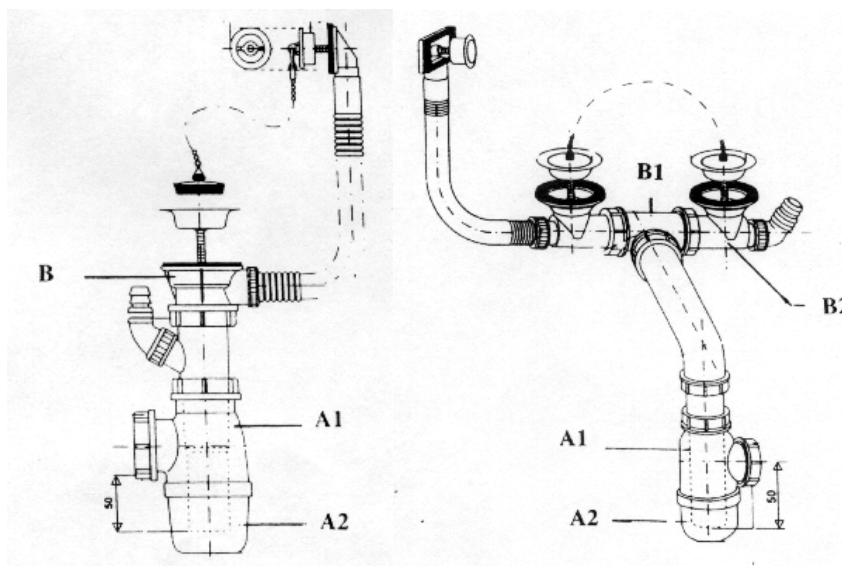
For bathtub drains



NOTE When the siphon is not removable with the plug, a single marking is sufficient for the drain (either on the siphon or on the plug).

For sink - washbasin drains

Ø 60 or Ø 90



NOTE: If there is a code for identifying the product, the code must be given to CSTB.

If the product is manufactured in several factories, marking shall be extended by an identification of the manufacturing unit.

If it is not possible to mark the product, the conditions of application on the packaging or on the accompanying documents must be sent to CSTB.

## Part 2

# Single taps and mixer taps

### 2.1 Applicant/Holder production quality requirement

#### 2.1.1 Nature and frequency of inspections

##### 2.1.1.1 In-production inspection

The applicant/holder shall verify that the functions described in the product standard NF EN 200 and the complementary technical specifications (see Part 2 in Article 2.2 of the NF077 certification reference system) are fulfilled.

However, procedures and equipment different from those described in the standards may be used.

The inspection operations during production and sampling procedures are specified in Table 1.

**Table 1 - Inspection during production**

Function tested	"Inspection" option	Non-certified ISO 9001 "Quality control" option	ISO 9001 certified "Quality Management" option
Marking – Identification	Inspection of the first and last items of each batch	Quality documentation	
Supply of materials and components	- Identification for each batch or certificate of conformity of the supplier - Inspections	- Identification for each batch or certificate of conformity of the supplier - Inspections	
Standardised dimensions	Sample 1 <sup>a</sup>	Quality documentation	
Visible surfaces after coating	100% of items	Quality documentation	
Coating quality	1 item/month/material/type of coating	Quality documentation	
- Sealing (obturator) - Presence of flow rate	100% of items	100% of items	
Packaging	Sample 1 <sup>a</sup>	Quality documentation	
<sup>a</sup> Sample 1: For each manufacturing order, sampling of the first and the last item and at least 1% of each batch.			

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### 2.1.1.2 Inspection of finished products

The testing apparatus and inspection procedures used to inspect finished products in the factory laboratory or an external laboratory shall comply with the requirements of the NF EN 200 standard and complementary technical specifications (see Part 2 of Article 2.2 of the NF077 certification reference system).

However, different procedures and apparatus may be used as long as the results are equivalent, and contingent upon CSTB's agreement.

The products to be inspected are sampled at the end of the assembly lines (after packaging) or upon entry into the warehouse.

The finished product inspection operation types and sampling procedures are set out in the Table 2.

**Table 2 - Inspection operations on finished products**

Inspection point	"Quality Control" option	Non-certified ISO 9001 "Quality control" option	ISO 9001 certified "Quality Management" option
Marking – Identification (§4)	At least 2 items/type of mixer/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Dimensional characteristics (§6; §2.6.3 *)	At least 2 items/type of mixer/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Sealing characteristics (obturator, diverter, spout) (§8)	At least 2 items/type of mixer/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Pressure resistance characteristics of ceramic cartridges (§9)	At least 2 items/type of mixer/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Hydraulic characteristics (§10)	At least 2 items/type of mixer/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Operating device resistance characteristics (§11)	At least 2 items/type of mixer/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Mechanical endurance characteristics (§12; §2.6.9*)	1 test/type of mixer/half year	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Protection against water pollution (§13)	Quality documentation <sup>a</sup>	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Packaging	At least 2 items/type of mixer/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Resistance to alternating pressures (§2.6.12)	1 test/type of mixer/half year	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
<p>* §2.6.3/§2.6.9/§2.6.12 of Technical Document 077-02</p> <p><sup>a</sup> Sampling plan accepted by CSTB and subject to revision.</p> <p><sup>b</sup> In this table, when the column "ISO 9001 certified Quality Management Option" is filled in by "Quality Documentation", this means that the applicant/holder has examined the need for a sampling plan. Such examination may result in no testing if design control provides evidence of compliance with product specifications. In this case, the auditor must audit the design to ensure control of the system.</p>			

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### 2.2 Procedures for Inspections Carried Out by CSTB

#### 2.2.1 Types of products

The different types of products that are inspected by the auditing body(ies) and tested by the laboratory(ies) of the mark are single taps and mixers under NF EN 200 and complementary technical specifications (see part 2 of Article 2.2 of the NF077 certification reference system)

A product is designated by:

- body type;
- head type;
- diverter type;
- connection method.

A product can vary:

- in range if only the operating device or the height/depth of the spout is changed;
- if another coating or accessories are provided without any technical influence on the product.

#### 2.2.2 Nature of the inspections and tests

The inspections and tests are carried out in accordance with the requirements of the NF EN 200 standard and this document.

**Table 3**

Test No.	Type of test
1	Verification of markings
2	Materials: Only the coating quality and appearance
3	Verification of dimensional characteristics
4	Inspection of valve assembly sealing (upstream and downstream of the obturator, spout, diverter)
5	Characteristics of mechanical behaviour under pressure
6	Hydraulic characteristics
7	Resistance of the operating device to tightening torque
8	Mechanical endurance (head, diverter, swivel spout)
9	Acoustic characteristics
10	Resistance to alternating pressure variations

The following correlations are applied in order to avoid repeating tests on components common to several products.

Test No.	Type of product inspections
1	All products
2	2 items per type of material
3, 5, 6 and 10	All products per type of body, head and spout
4 and 8	1 product per head type 1 product per diverter type 1 product per spout type
7	1 product per type of operating device
9	3 products per type of body and head
Test No. 10 is carried out only for <b>E.C.A.U./E.Ch.A.U. ratings</b>	

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**2.2.3 Sampling**

**2.2.3.1 For admission**

All testing shall be carried out in the laboratory/laboratories of the mark, or under its (their) responsibility.

The applicant shall provide the laboratory with samples necessary for the tests in accordance with the instructions provided in the "Admission" column in Table 3.

All the nominal dimensions covered by the application are tested.

Additional tests will be carried out to cover any variants.

**2.2.3.2 For follow-up**

All testing shall be carried out in the laboratory/laboratories of the mark, or under its (their) responsibility.

On a half-year basis, the auditor or manager shall collect or request from the holder the samples required for the tests indicated in Table 4.

**Table 4**

Test No.	Type of inspections of the products sampled
1	All products sampled for the 1st half year and the 2nd half year
2	2 items per type of material for the 1st half year and the 2nd half year
3, 5 and 6	2 products with a 150 mm centre-to-centre distance (bath shower and shower) for the 1st half year 3 single-hole type products (bath shower, washbasin and sink) for the 2nd half year
4 and 8	1 product per head type for the 1st half year or 2nd half year 1 product per diverter type for the 1st half year or 2nd half year 1 product per spout type for the 1st half year or 2nd half year
7	1 product with a 150 mm centre-to-centre distance or single hole type product for the 1st half year or 2nd half year
10	1 product with a 150 mm centre-to-centre distance (bath shower or shower) for the 1st half year 1 single-hole type product (bath shower, washbasin or sink) for the 2nd half year
9	*

\*: The acoustic tests are valid for 5 years.  
Test No. 10 is carried out only for E.C.A.U./E.Ch.A.U. ratings

**2.2.4 Extension of the right to use the NF mark**

When holders apply for an extension of the NF mark to new models or modified models, they shall file the list of models for which the extension of the mark is requested, in support of the application.

The holder shall then submit the necessary samples for the tests defined in Table 3.



## Part 3 Mechanical mixers

### 3.1 Applicant/Holder production quality requirement

#### 3.1.1 Nature and frequency of inspections

##### 3.1.1.1 In-production inspection

The applicant/holder shall verify that the functions described in the product standard NF EN 817 and the complementary technical specifications (see Part 2 in Article 2.2 of the NF077 certification reference system) are fulfilled.

However, procedures and equipment different from those described in the standards may be used.

The inspection operations during production and sampling procedures are specified in Table 1.

**Table 1 - Inspection during production**

Function tested	"Inspection" option	Non-certified ISO 9001 "Quality control" option	ISO 9001 certified "Quality Management" option
Marking – Identification	Inspection of the first and last items of each batch	Quality documentation	
Supply of materials and components	- Identification for each batch or certificate of conformity of the supplier - Inspections	- Identification for each batch or certificate of conformity of the supplier - Inspections	
Standardised dimensions	Sample 1 <sup>a</sup>	Quality documentation	
Visible surfaces after coating	100% of items	Quality documentation	
Coating quality	1 item/month/material/type of coating	Quality documentation	
- Sealing (obturator) - Presence of flow rates	100% of items	100% of items	
Packaging	Sample 1 <sup>a</sup>	Quality documentation	
<sup>a</sup> Sample 1: For each manufacturing order, sampling of the first and the last item and at least 1% of each batch.			



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**3.1.1.2 Inspection of finished products**

The testing apparatus and inspection procedures used to inspect finished products in the factory laboratory or an external laboratory shall comply with the requirements of the NF EN 817 standard and complementary technical specifications (see Part 2 of Article 2.2 of the NF077 certification reference system).

However, different procedures and apparatus may be used as long as the results are equivalent, and contingent upon CSTB's agreement.

The products to be inspected are sampled at the end of the assembly lines (after packaging) or upon entry into the warehouse.

The finished product inspection operation types and sampling procedures are set out in the Table 2.

**Table 2 - Inspection operations on finished products**

Inspection point	"Quality Control" option	Non-certified ISO 9001 "Quality control" option	ISO 9001 certified "Quality Management" option
Marking – Identification (§4; §2.6.1*)	At least 2 items/type of mixing valve/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Dimensional characteristics (§6; §2.6.3*)	At least 2 items/type of mixing valve/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Sealing characteristics (obturator, cross-feed, diverter, spout) (§8*)	At least 2 items/type of mixing valve/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Pressure resistance characteristics (§9)	At least 2 items/type of mixing valve/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Hydraulic characteristics: Flow rate (§10.6); Sensitivity (§10.7) Required for ECAU/EChAU ratings <sup>c</sup> Reliability (§2.6.7.6*) Constant temperature (§2.6.7.7 and §2.6.7.8*) Water saving (§2.6.7.1/ §2.6.7.2 or §2.6.7.4) Energy saving (§2.6.7.3 or §2.6.7.5)	At least 2 items/type of mixing valve/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Operating device resistance characteristics (§11)	At least 1 items/type of mixing valve/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Mechanical endurance characteristics (§12; §2.6.7.2; §2.6.9*)	1 test/type of mixing valve/half year	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Protection against water pollution (§13)	Quality documentation <sup>a</sup>	Documentation on quality <sup>a</sup>	Quality documentation <sup>b</sup>
Packaging	At least 2 items/type of mixing valve/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Resistance to alternating pressures (§2.6.12)	1 test/type of mixing valve/half year	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
<sup>a</sup> §2.6.1/§2.6.3/§2.6.7/§2.6.9/§2.6.12 of Technical Document 077-03 <sup>b</sup> Sampling plan accepted by CSTB and subject to revision. <sup>c</sup> In this table, when the column "ISO 9001 certified Quality Management Option" is filled in by "Quality Documentation", this means that the applicant/holder has examined the need for a sampling plan. Such examination may result in no testing if design control provides evidence of compliance with product specifications. In this case, the auditor must audit the design to ensure control of the system. For ECAU/EChAU ratings, applicants/holders must be able to conduct all of the tests in their laboratory or have a subcontracting agreement with a laboratory.			

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### 3.2 Procedures for Inspections Carried Out by CSTB

#### 3.2.1 Types of products

The different types of products that are inspected by the auditing body(ies) and tested by the laboratory(ies) of the mark are single taps and mixers under NF EN 817 and complementary technical specifications (see part 2 of Article 2.2 of the NF077 certification reference system)

A product is designated by:

- body type;
- head type;
- diverter type;
- connection method.

A product can vary:

- in range if only the operating device or the height/depth of the spout is changed;
- if another coating or accessories are provided without any technical influence on the product.

#### 3.2.2 Nature of the inspections and tests

The inspections and tests are carried out in accordance with the requirements of the NF EN 817 standard and this document.

**Table 3**

Test No.	Type of test
1	Verification of markings
2	Materials: Only the coating quality and appearance
3	Verification of dimensional characteristics
4	Inspection of valve assembly sealing (upstream and downstream of the obturator, spout, diverter)
5	Hydraulic characteristics
6	Characteristics of mechanical behaviour under pressure
7	Mechanical endurance (cartridge, diverter, swivel spout)
8	Resistance of the operating device to tightening torque
9	Acoustic characteristics
10	Resistance to alternating pressure variations
11	Water saving characteristics (flow rate and operating force of "hard point" for C2 or flow rate for Ch2)
12	Energy saving characteristics (C3 or Ch3)

The following correlations are applied in order to avoid repeating tests on components common to several products.

Test No.	Type of product inspections
1	All products
2	2 items per type of material
3, 5, 6, 10, 11 and 12	All products per type of body, cartridge and spout
4 and 7	1 product per cartridge type 1 product per diverter type 1 product per spout type
8	1 product per type of operating device
9	3 products per type of body and cartridge
Tests No. 10, No. 11 and No. 12 are only conducted for <b>ECAU/EChAU ratings</b> .	

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**3.2.3 Sampling**

**3.2.3.1 For admission**

All testing shall be carried out in the laboratory/laboratories of the mark, or under its (their) responsibility.

The applicant shall provide the laboratory with samples necessary for the tests in accordance with the instructions provided in the "Admission" column in Table 3.

All the nominal dimensions covered by the application are tested.

Additional tests will be carried out to cover any variants.

**3.2.3.2 For follow-up**

All testing shall be carried out in the laboratory/laboratories of the mark, or under its (their) responsibility.

On a half-year basis, the auditor or manager shall collect or request from the holder the samples required for the tests indicated in Table 4.

**Table 4**

Test No.	Type of inspections of the products sampled
1	All products sampled for the 1 <sup>st</sup> half year and the 2 <sup>nd</sup> half year
2	2 products per type of material for the 1 <sup>st</sup> half year and the 2 <sup>nd</sup> half year
3, 5, 6, 11 and 12	2 products with a 150 mm centre-to-centre distance (bath shower and shower) for the 1 <sup>st</sup> half year 3 single-hole type products (bath shower, washbasin and sink) for the 2 <sup>nd</sup> half year
4 and 7	1 product per cartridge type for the 1 <sup>st</sup> half year or 2 <sup>nd</sup> half year 1 product per diverter type for the 1 <sup>st</sup> half year or 2 <sup>nd</sup> half year 1 product per spout type for the 1 <sup>st</sup> half year or 2 <sup>nd</sup> half year
8	1 product with a 150 mm centre-to-centre distance or single hole type product for the 1 <sup>st</sup> half year or 2 <sup>nd</sup> half year
10	1 product with a 150 mm centre-to-centre distance (bath shower and shower) for the 1 <sup>st</sup> half year 1 single-hole type product (bath shower, washbasin and sink) for the 2 <sup>nd</sup> half year
9	*
*: The acoustic tests are valid for <b>5 years</b> .	
Tests No. 10, 11 and 12 are only conducted for <b>ECAU/EChAU ratings</b> .	

**3.2.4 Extension of the right to use the NF mark**

When holders apply for an extension of the NF mark to new models or modified models, they shall file the list of models for which the extension of the mark is requested, in support of the application.

The holder shall then submit the necessary samples for the tests defined in Table 3.

## Part 4 Thermostatic mixers

### 4.1 Applicant/Holder production quality requirement

#### 4.1.1 Nature and frequency of inspections

##### 4.1.1.1 In-production inspection

The applicant/holder shall verify that the functions escribed in the product standard NF EN 1111 and the complementary technical specifications (see Part 2 in Article 2.2 of the NF077 certification reference system) are fulfilled.

However, procedures and equipment different from those described in the standards may be used.

The inspection operations during production and sampling procedures are specified in Table 1.

**Table 1 - Inspection during production**

Function tested	"Inspection" option	Non-certified ISO 9001 "Quality control" option	ISO 9001 certified "Quality Management" option
Marking – Identification	Inspection of the first and last items of each batch		Quality documentation
Supply of materials and components	- Identification for each batch or certificate of conformity of the supplier - Inspections	- Identification for each batch or certificate of conformity of the supplier - Inspections	
Standardised dimensions	Sample 1 <sup>a</sup>		Quality documentation
Visible surfaces after coating	100% of items		Quality documentation
Coating quality	1 item/month/material/type of coating		Quality documentation
- Sealing (obturator) - Presence of flow rates	100% of items		100% of items
Calibration of the stop	100% of items		100% of items
Safety test	100% of items		Quality documentation
Packaging	Sample 1 <sup>a</sup>		Quality documentation
<sup>a</sup> Sample 1: For each manufacturing order, sampling of the first and the last item and at least 1% of each batch.			

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**4.1.1.2 Inspection of finished products**

The testing apparatus and inspection procedures used to inspect finished products in the factory laboratory or an external laboratory shall comply with the requirements of the NF EN 1111 standard and complementary technical specifications (see Part 2 of Article 2.2 of the NF077 certification reference system).

However, different procedures and apparatus may be used as long as the results are equivalent, and contingent upon CSTB's agreement.

The products to be inspected are sampled at the end of the assembly lines (after packaging) or upon entry into the warehouse.

The finished product inspection operation types and sampling procedures are set out in the Table 2.

**Table 2 - Inspection operations on finished products**

Inspection point	"Quality Control" option	Non-certified ISO 9001 "Quality control" option	ISO 9001 certified "Quality Management" option
Marking – Identification (§7; §2.6.1*)	At least 2 items/type of mixing valve/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Dimensional characteristics (§9; §2.6.3*)	At least 2 items/type of mixing valve/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Sealing characteristics (obturator, cross-feed, diverter, spout) (§12*)	At least 2 items/type of mixing valve/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Hydraulic characteristics Flow rate (§13.2) Sensitivity (§13.3) Reliability (§13.4) Temperature stability (§13.5) Required for ECAU/EChAU ratings <sup>c</sup> Safety test (§2.6.7.5*) End stop effectiveness (§2.6.7.6*) Accuracy of displayed temperature (§2.6.7.7*) Water saving (§2.6.7.1 or §2.6.7.3*) Energy saving (§2.6.7.2 or §2.6.7.4*)	At least 2 items/type of mixing valve/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Pressure resistance characteristics (§14)	At least 2 items/type of mixing valve/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Operating device resistance characteristics (§15)	At least 2 items/type of mixing valve/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Mechanical endurance characteristics (§16; §2.6.10*)	1 test/type of mixing valve/half year	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Protection against water pollution (§10)	Quality documentation <sub>a</sub>	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Packaging	At least 2 items/type of mixing valve/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Resistance to alternating pressures (§2.6.12*)	1 test/type of mixing valve/half year	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
<sup>*</sup> §2.6.1/§2.6.3/§2.6.7/§2.6.10/§2.6.12 of Technical Document 077-04 <sup>a</sup> Sampling plan accepted by CSTB and subject to revision. <sup>b</sup> In this table, when the column "ISO 9001 certified Quality Management Option" is filled in by "Quality Documentation", this means that the applicant/holder has examined the need for a sampling plan. Such examination may result in no testing if design control provides evidence of compliance with product specifications. In this case, the auditor must audit the design to ensure control of the system. <sup>c</sup> For ECAU/EChAU ratings, applicants/holders must be able to conduct all of the tests in their laboratory or have a subcontracting agreement with a laboratory.			

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### 4.2 Procedures for Inspections Carried Out by CSTB

#### 4.2.1 Types of products

The different types of devices that are inspected by the auditing body(ies) and tested by the laboratory(ies) of the mark are thermostatic mixers under NF EN 1111 and complementary technical specifications (see part 2 of Article 2.2 of the NF077 certification reference system).

A product is designated by:

- body type;
- head type;
- cartridge type;
- diverter type;
- connection method.

A product can vary:

- in range if only the operating device or the height/depth of the spout is changed;
- if another coating or accessories are provided without any technical influence on the product.

#### 4.2.2 Nature of the inspections and tests

The inspections and tests are carried out in accordance with the requirements of the NF EN 1111 standard and this document.

**Table 3**

Test No.	Type of test
1	Verification of markings
2	Materials: Only the coating quality and appearance
3	Verification of dimensional characteristics
4	Inspection of valve assembly sealing (upstream and downstream of the obturator, spout, diverter)
5	Hydraulic characteristics
6	Characteristics of mechanical behaviour under pressure
7	Mechanical endurance (head, cartridge, diverter, swivel spout)
8	Resistance of the operating device to tightening torque
9	Acoustic characteristics
10	Resistance to alternating pressure variations
11	Water saving characteristics (flow rate and operating force of "hard point" for C2 or flow rate for Ch2)
12	Energy saving characteristics (C3 or Ch 3)

The following correlations are applied in order to avoid repeating tests on components common to several products.

Test No.	Type of product inspections
1	All products
2	2 items per type of material
3, 5, 6, 10, 11 and 12	All products per type of body, head, cartridge and spout
4 and 7	1 product per head type 1 product per cartridge type 1 product per diverter type 1 product per spout type
8	1 product per type of operating device
9	3 products per type of body, head and cartridge
Tests No. 10, No. 11 and No. 12 are only conducted for ECAU/EChAU ratings.	

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**4.2.3 Sampling**

**4.2.3.1 For admission**

All testing shall be carried out in the laboratory/laboratories of the mark, or under its (their) responsibility.

The applicant shall provide the laboratory with samples necessary for the tests in accordance with the instructions provided in the “Admission” column in Table 3.

All the nominal dimensions covered by the application are tested.

Additional tests will be carried out to cover any variants.

**4.2.3.2 For follow-up**

All testing shall be carried out in the laboratory/laboratories of the mark, or under its (their) responsibility.

On a half-year basis, the auditor or manager shall collect or request from the holder the samples required for the tests indicated in Table 4.

**Table 4**

Test No.	Type of inspections of the products sampled
1	All products sampled for the 1st half year and the 2nd half year
2	2 products per type of material for the 1st half year and the 2nd half year
3, 5, 11 and 12	3 products with a 150 mm centre-to-centre distance (1S bath shower and shower and 2S shower) for the 1st half year 3 single-hole type products (bath shower, washbasin and sink) for the 2nd half year (if there is no single-hole product, then 1 1S shower product with a 150 mm centre-to-centre distance)
4.6 and 7	1 product per head type for the 1st half year or 2nd half year 1 product per thermostatic cartridge type for the 1st half year or 2nd half year 1 product per diverter type for the 1st half year or 2nd half year 1 product per spout type for the 1st half year or 2nd half year
8	1 product with a 150 mm centre-to-centre distance or single hole type product for the 1st half year or 2nd half year
10	1 product with a 150 mm centre-to-centre distance (2S bath shower or shower) for the 1st half year 1 single-hole type product (washbasin or sink) for the 2nd half year (if there is no single-hole product, then 1 1S shower product with a 150 mm centre-to-centre distance)
9	*
* The acoustic tests are valid for 5 years. Tests No. 10, 11 and 12 are only conducted for ECAU/EChAU ratings.	

**4.2.4 Extension of the right to use the NF mark**

When holders apply for an extension of the NF mark to new models or modified models, they shall file the list of models for which the extension of the mark is requested, in support of the application.

The holder shall then submit the necessary samples for the tests defined in Table 3.

## Part 5 Self-closing valves

### 5.1 Applicant/Holder production quality requirement

#### 5.1.1 Nature and frequency of inspections

##### 5.1.1.1 In-production inspection

The manufacturer shall verify that the functions described in the NF EN 816 and NF EN 12541 product standards and the complementary technical specifications (see Part 2 in Article 2.2 of the NF077 certification reference system) are fulfilled.

However, procedures and equipment different from those described in the standards may be used.

The inspection operations during production and sampling procedures are specified in Table 1.

**Table 1 - Inspection during production**

Function tested	“Inspection” option	Non-certified ISO 9001 “Quality Management” option	ISO 9001 certified “Quality Management” option
Marking – Identification	Inspection of the first and last items of each batch	Quality documentation	
Supply of materials and components	- Identification for each batch or certificate of conformity of the supplier - Inspections	- Identification for each batch or certificate of conformity of the supplier - Inspections	
Standardised dimensions	Sample 1 <sup>a</sup>	Quality documentation	
Visible surfaces after coating	100% of items	Quality documentation	
Coating quality	1 item/month/material/type of coating	Quality documentation	
- Sealing (obturator, cross-feed) - Presence of flow rates - Timing	100% of items	100% of items	
Pressure resistance	At least 1 item/type/day	Quality documentation	
Packaging	Sample 1 <sup>a</sup>	Quality documentation	
<sup>a</sup> Sample 1: For each manufacturing order, sampling of the first and the last item and at least 1% of each batch.			



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**5.1.1.2 Inspection of finished products**

The testing apparatus and inspection procedures used to inspect finished products in the factory laboratory or an external laboratory shall comply with the requirements of standards NF EN 816 and NF EN 12541 and complementary technical specifications (see Part 2 of Article 2.2 of the NF077 certification reference system).

However, different procedures and apparatus may be used as long as the results are equivalent, and contingent upon CSTB's agreement.

The products to be inspected are sampled at the end of the assembly lines (after packaging) or upon entry into the warehouse.

The finished product inspection operation types and sampling procedures are set out in the Table 2.

**Table 2 - Inspection operations on finished products**

Inspection point	"Quality Control" option	Non-certified ISO 9001 "Quality Management" option	ISO 9001 certified "Quality Management" option
Marking – Identification (§5)	At least 2 items/type of tap/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Dimensional characteristics (§8; §2.6.3*)	At least 2 items/type of tap/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Sealing characteristics (obturator) (§9)	At least 2 items/type of tap/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Pressure resistance characteristics (§10)	At least 2 items/type of tap/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Hydraulic characteristics (§11) Required for EChAU rating <sup>c</sup> Hydraulic characteristics (§2.6.7*)	At least 2 items/type of tap/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Operating force (§12)	At least 2 items/type of tap/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Mechanical endurance characteristics (§13; §2.6.9*)	1 test/type of tap/half year	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Protection against water pollution (§7)	Quality documentation <sup>a</sup>	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Packaging	At least 2 items/type of tap/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Resistance to alternating pressures (§2.6.12)	1 test/type of mixing valve/half year	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
<sup>*</sup> §2.6.3/§2.6.7/§2.6.12 of Technical Document 077-05 <sup>a</sup> Sampling plan accepted by CSTB and subject to revision. <sup>b</sup> In this table, when the column "ISO 9001 certified Quality Management Option" is filled in by "Quality Documentation", this means that the applicant/holder has examined the need for a sampling plan. Such examination may result in no testing if design control provides evidence of compliance with product specifications. In this case, the auditor must audit the design to ensure control of the system. <sup>c</sup> For ECAU/EChAU ratings, applicants/holders must be able to conduct all of the tests in their laboratory or have a subcontracting agreement with a laboratory.			

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## 5.2 Procedures for Inspections Carried Out by CSTB

### 5.2.1 Types of products

The different types of products that are inspected by the auditing body(ies) and tested by the laboratory(ies) of the mark are timed taps subject to standards NF EN 816 and NF EN 12541 and complementary technical specifications (see part 2 of Article 2.2 of the NF077 certification reference system).

A product is designated by:

- body type;
- head type;
- cartridge type;
- connection method.

A product can vary:

- in range if only the operating device is changed;
- if another coating or accessories are provided without any technical influence on the product.

### 5.2.2 Nature of the inspections and tests

The inspections and tests are carried out in accordance with the requirements of the NF EN 816 standard and this document.

**Table 3**

Test No.	Type of test
1	Verification of markings
2	Materials: Only the coating quality and appearance
3	Verification of dimensional characteristics
4	Inspection of valve assembly sealing (upstream and downstream of the obturator, spout, diverter)
5	Hydraulic characteristics
6	Characteristics of mechanical behaviour under pressure
7	Mechanical endurance (head, cartridge, diverter, swivel spout)
8	Resistance of the operating device to tightening torque
9	Acoustic characteristics
10	Resistance to alternating pressure variations
11	Water saving characteristics (flow rate and operating force of "hard point" for C2 or flow rate for Ch2)

The following correlations are applied in order to avoid repeating tests on components common to several products.

Test No.	Type of product inspections
1	All products
2	2 items per type of material
3, 5 and 6	All products per type of body, head, cartridge and spout
4 and 7	1 product per head type 1 product per cartridge type 1 product per diverter type 1 product per spout type
8	1 product per type of operating device
9	3 products per type of body, head and cartridge
Tests No. 10 and No. 11 are carried out only for the EChAU rating.	

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**5.2.3 Sampling**

**5.2.3.1 For admission**

All testing shall be carried out in the laboratory/laboratories of the mark, or under its (their) responsibility.

The applicant shall provide the laboratory with samples necessary for the tests in accordance with the instructions provided in the "Admission" column in Table 3.

All the nominal dimensions covered by the application are tested.

Additional tests will be carried out to cover any variants.

**5.2.3.2 For follow-up**

All testing shall be carried out in the laboratory/laboratories of the mark, or under its (their) responsibility.

On a half-year basis, the auditor or manager shall collect or request from the holder the samples required for the tests indicated in Table 4.

**Table 4**

Test No.	Type of inspections of the products sampled
1	All products sampled for the 1st half year and the 2nd half year
2	2 items per type of material for the 1st half year and the 2nd half year
3, 4, 5, 6, 7.8 and 11	1 wall-mounted product for the 1st half year
	per head type
	per cartridge type
	1 single-hole product for the 2nd half year
10	per head type
	per cartridge type
	1 single-hole product for the 2nd half year
	per head type
9	per cartridge type
	*
*: The acoustic tests are valid for 5 years. Tests No. 10 and No. 11 are carried out only for the EChAU rating.	

**5.2.4 Extension of the right to use the NF mark**

When holders apply for an extension of the NF mark to new models or modified models, they shall file the list of models for which the extension of the mark is requested, in support of the application.

The holder shall then submit the necessary samples for the tests defined in Table 3.

## Part 6

# Extractable handsprays for sink and washbasin mixer taps

### 6.1 Applicant/Holder production quality requirement

#### 6.1.1 Nature and frequency of inspections

##### 6.1.1.1 In-production inspection

The applicant/holder shall verify that the functions described in the product standard NF EN 16145 and the complementary technical specifications (see Part 2 in Article 2.2 of the NF077 certification reference system) are fulfilled.

However, procedures and equipment different from those described in the standards may be used.

The inspection operations during production and sampling procedures are specified in Table 1.

**Table 1 - Inspection during production**

Function tested	"Inspection" option	Non-certified ISO 9001 "Quality control" option	ISO 9001 certified "Quality Management" option
Marking	Inspection of the first and last items of each batch	Quality documentation	
Supply of materials and components	- Identification for each batch or certificate of conformity of the supplier - Inspections	- Identification for each batch or certificate of conformity of the supplier - Inspections	
Standardised dimensions	Sample 1 <sup>a</sup>	Quality documentation	
Visible surfaces after coating	100% of items	Quality documentation	
Coating quality	1 item/month/material/type of coating	Quality documentation	
Hydraulic operating test	Sample 1 <sup>a</sup>	Quality documentation	
<sup>a</sup> Sample 1: For each manufacturing order, sampling of the first and the last item and at least 1% of each batch.			

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**6.1.1.2 Inspection of finished products**

The testing apparatus and inspection procedures used to inspect finished products in the factory laboratory or an external laboratory shall comply with the requirements of the NF EN 16145 standard and complementary technical specifications (see Part 2 of Article 2.2 of the NF077 certification reference system).

However, different procedures and apparatus may be used as long as the results are equivalent, and contingent upon CSTB's agreement.

The products to be inspected are sampled at the end of the assembly lines (after packaging) or upon entry into the warehouse.

The finished product inspection operation types and sampling procedures are set out in the Table 2.

**Table 2 - Inspection operations on finished products**

Inspection point	"Quality Control" option	Non-certified ISO 9001 "Quality control" option	ISO 9001 certified "Quality Management" option
Marking (§6)	At least 1 item/type/of handspray/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Dimensional characteristics (§8)	At least 1 item/type/of handspray/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Sealing characteristics (§9)	At least 1 item/type/of handspray/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Mechanical characteristics (§10; §2.6.5.1; §2.6.5.2*)	At least 1 item/type/of handspray/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Hydraulic characteristics (§11)	At least 1 item/type/of handspray/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Protection against water pollution (§12)	Quality documentation <sup>a</sup>	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Maintenance (§13)	At least 1 item/type/of handspray/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Rotating fitting (§14)	At least 1 item/type/of handspray/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Packaging	At least 1 item/type/of handspray/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
<sup>*</sup> §2.6.5.1/§2.6.5.2 of Technical Document 077-06 <sup>a</sup> Sampling plan accepted by CSTB and subject to revision. <sup>b</sup> In this table, when the column "ISO 9001 certified Quality Assurance Option" is filled in by "Quality Documentation", this means that the applicant/holder has examined the need for a sampling plan. Such examination may result in no testing if design control provides evidence of compliance with product specifications. In this case, the auditor must audit the design to ensure control of the system.			

## 6.2 Procedures for Inspections Carried Out by CSTB

### 6.2.1 Types of products

The different types of products that are inspected by the auditing body(ies) and tested by the laboratory(ies) of the mark are extractable handsprays for sink and washbasin mixer taps under NF EN 16145 and complementary technical specifications (see part 2 of Article 2.2 of the NF077 certification reference system).

A product is designated by:

- type of sanitary device;
- size of connection threads;
- flow rate class;
- acoustic class.

A product can vary:

- if another coating or accessories are provided if they do not have any technical influence on the product.

### 6.2.2 Nature of the inspections and tests

The inspections and tests are carried out in accordance with the requirements of the NF EN 16145 standard and this document.

**Table 3**

Test No.	Type of test
1	Verification of markings
2	Materials: Only the coating quality and appearance
3	Verification of dimensional characteristics
4	Leaktightness characteristics
5	Mechanical characteristics
6	Hydraulic characteristics
7	Acoustic characteristics
8	Maintenance
9	Rotating fitting

The following correlations are applied in order to avoid repeating tests on components common to several products.

Test No.	Type of product inspections
1	All products
2	2 items per type of material
3, 4, 5 and 6	1 product per sink handspray type
8	1 product per sink handspray type
7	3 products per type of sink handspray
9	1 product per type of rotating fitting

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**6.2.3 Sampling**

**6.2.3.1 For admission**

All testing shall be carried out in the laboratory/laboratories of the mark, or under its (their) responsibility.

The applicant shall provide the laboratory with samples necessary for the tests in accordance with the instructions provided in the "Admission" column in Table 3.

All the nominal dimensions covered by the application are tested.

Additional tests will be carried out to cover any variants.

**6.2.3.2 For follow-up**

All testing shall be carried out in the laboratory/laboratories of the mark, or under its (their) responsibility.

On a half-year basis, the auditor or manager shall collect or request from the holder the samples required for the tests indicated in Table 4.

**Table 4**

Test No.	Type of inspections of the products sampled
1	All products sampled for the 1st half year and the 2nd half year
2	2 items per type of material for the 1st half year and the 2nd half year
3, 4, 5 and 6	50% of products per type of sink handspray for the 1st half year
	50% of products per type of sink handspray for the 2nd half year
7	*
8	50% of products per type of sink handspray for the 1st half year
	50% of products per type of sink handspray for the 2nd half year
9	50% of products per type of rotating fitting for the 1st half year
	50% of products per type of rotating fitting for the 2nd half year
*: The acoustic tests are valid for 5 years.	

**6.2.4 Extension of the right to use the NF mark**

When holders apply for an extension of the NF mark to new models or modified models, they shall file the list of models for which the extension of the mark is requested, in support of the application.

The holder shall then submit the necessary samples for the tests defined in Table 3.

## Part 7

# Shower outlets for sanitary tapware

### 7.1 Applicant/Holder production quality requirement

#### 7.1.1 Nature and frequency of inspections

##### 7.1.1.1 In-production inspection

The applicant/holder shall verify that the functions described in the product standard NF EN 1112 and the complementary technical specifications (see Part 2 in Article 2.2 of the NF077 certification reference system) are fulfilled.

However, procedures and equipment different from those described in the standards may be used.

The inspection operations during production and sampling procedures are specified in Table 1.

**Table 1 - Inspection during production**

Function tested	"Inspection" option	Non-certified ISO 9001 "Quality control" option	ISO 9001 certified "Quality Management" option
Marking	Inspection of the first and last items of each batch	Quality documentation	
Supply of materials and components	- Identification for each batch or certificate of conformity of the supplier - Inspections	- Identification for each batch or certificate of conformity of the supplier - Inspections	
Standardised dimensions	Sample 1 <sup>a</sup>	Quality documentation	
Visible surfaces after coating	100% of items	Quality documentation	
Coating quality	1 item/month/material/type of coating	Quality documentation	
Hydraulic operating test	Sample 1 <sup>a</sup>	Quality documentation	
<sup>a</sup> Sample 1: For each manufacturing order, sampling of the first and the last item and at least 1% of each batch.			



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**7.1.1.2 Inspection of finished products**

The testing apparatus and inspection procedures used to inspect finished products in the factory laboratory or an external laboratory shall comply with the requirements of the NF EN 1112 standard and complementary technical specifications (see Part 2 of Article 2.2 of the NF077 certification reference system).

However, different procedures and apparatus may be used as long as the results are equivalent, and contingent upon CSTB's agreement.

The products to be inspected are sampled at the end of the assembly lines (after packaging) or upon entry into the warehouse.

The finished product inspection operation types and sampling procedures are set out in the Table 2.

**Table 2 - Inspection operations on finished products**

Inspection point	"Quality Control" option	Non-certified ISO 9001 "Quality control" option	ISO 9001 certified "Quality Management" option
Marking (§6)	At least 1 item/type/of handspray/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Dimensional characteristics (§8; §2.6.3*)	At least 1 item/type/of handspray/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Sealing characteristics (§9)	At least 1 item/type/of handspray/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Mechanical characteristics (§10; §2.6.5*)	At least 1 item/type/of handspray/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Hydraulic characteristics (§11)	At least 1 item/type/of handspray/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Maintenance (§13)	At least 1 item/type/of handspray/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Rotating fitting (§14)	At least 1 item/type/of handspray/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Packaging	At least 1 item/type/of handspray/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>

\* §2.6.3/§2.6.5 of Technical Document 077-07

<sup>a</sup> Sampling plan accepted by CSTB and subject to revision.

<sup>b</sup> In this table, when the column "ISO 9001 certified Quality Assurance Option" is filled in by "Quality Documentation", this means that the applicant/holder has examined the need for a sampling plan. Such examination may result in no testing if design control provides evidence of compliance with product specifications. In this case, the auditor must audit the design to ensure control of the system.

## 7.2 Procedures for Inspections Carried Out by CSTB

### 7.2.1 Types of products

The different types of products that are inspected by the auditing body(ies) and tested by the laboratory(ies) of the mark are shower outlets for sanitary tapware under NF EN 1112 and complementary technical specifications (see part 2 of Article 2.2 of the NF077 certification reference system).

A product is designated by:

- type of sanitary device;
- size of connection threads;
- flow rate class;
- acoustic class.

A product can vary:

- if another coating or accessories are provided if they do not have any technical influence on the product.

### 7.2.2 Nature of the inspections and tests

The inspections and tests are carried out in accordance with the requirements of the NF EN 1112 standard and this document.

**Table 3**

Test No.	Type of test
1	Verification of markings
2	Materials: Only the coating quality and appearance
3	Verification of dimensional characteristics
4	Leaktightness characteristics
5	Mechanical characteristics
6	Hydraulic characteristics
7	Acoustic characteristics
8	Maintenance
9	Rotating fitting

The following correlations are applied in order to avoid repeating tests on components common to several products.

Test No.	Type of product inspections
1	All products
2	2 items per type of material
3, 4, 5 and 6	1 product per shower outlet type
8	1 product per shower outlet type
7	3 products per shower outlet type
9	1 product per type of rotating fitting

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**7.2.3 Sampling**

**7.2.3.1 For admission**

All testing shall be carried out in the laboratory/laboratories of the mark, or under its (their) responsibility.

The applicant shall provide the laboratory with samples necessary for the tests in accordance with the instructions provided in the "Admission" column in Table 3.

All the nominal dimensions covered by the application are tested.

Additional tests will be carried out to cover any variants.

**7.2.3.2 For follow-up**

All testing shall be carried out in the laboratory/laboratories of the mark, or under its (their) responsibility.

On a half-year basis, the auditor or manager shall collect or request from the holder the samples required for the tests indicated in Table 4.

**Table 4**

Test No.	Type of inspections of the products sampled
1	All products sampled for the 1st half year and the 2nd half year
2	2 items per type of material for the 1st half year and the 2nd half year
3, 4, 5 and 6	50% of products per type of shower outlet for the 1st half year
	50% of products per type of shower outlet for the 2nd half year
7	*
8	50% of products per type of shower outlet for the 1st half year
	50% of products per type of shower outlet for the 2nd half year
9	50% of products per type of rotating fitting for the 1st half year
	50% of products per type of rotating fitting for the 2nd half year
*: The acoustic tests are valid for 5 years.	

**7.2.4 Extension of the right to use the NF mark**

When holders apply for an extension of the NF mark to new models or modified models, they shall file the list of models for which the extension of the mark is requested, in support of the application.

The holder shall then submit the necessary samples for the tests defined in Table 3.

## Part 8

# Shower hoses and extractable handspray hoses for sanitary tapware

### 8.1 Applicant/Holder production quality requirement

#### 8.1.1 Nature and frequency of inspections

##### 8.1.1.1 In-production inspection

The applicant/holder shall verify that the functions described in product standards NF EN 1113 and NF EN 16146 and the complementary technical specifications (see Part 2 in Article 2.2 of the NF077 certification reference system) are fulfilled.

However, procedures and equipment different from those described in the standards may be used.

The inspection operations during production and sampling procedures are specified in Table 1.

**Table 1 - Inspection during production**

Function tested	"Inspection" option	Non-certified ISO 9001 "Quality control" option	ISO 9001 certified "Quality Management" option
Marking	Inspection of the first and last items of each batch	Quality documentation	
Supply of materials and components	- Identification for each batch or certificate of conformity of the supplier - Inspections	- Identification for each batch or certificate of conformity of the supplier - Inspections	
Standardised dimensions	Sample 1 <sup>a</sup>	<b>Quality documentation</b>	
Visible surfaces after coating	100% of items	Quality documentation	
Coating quality	1 item/month/material/type of coating	Quality documentation	
<sup>a</sup> Sample 1: For each manufacturing order, sampling of the first and the last item and at least 1% of each batch.			

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**8.1.1.2 Inspection of finished products**

The testing apparatus and inspection procedures used to inspect finished products in the factory laboratory or an external laboratory shall comply with the requirements of standards NF EN 1113 and NF EN 16146 and complementary technical specifications (see Part 2 of Article 2.2 of the NF077 certification reference system).

However, different procedures and apparatus may be used as long as the results are equivalent, and contingent upon CSTB's agreement.

The products to be inspected are sampled at the end of the assembly lines (after packaging) or upon entry into the warehouse.

The finished product inspection operation types and sampling procedures are set out in the Table 2.

**Table 2 - Inspection operations on finished products**

Inspection point	"Quality Control" option	Non-certified ISO 9001 "Quality control" option	ISO 9001 certified "Quality Management" option
Marking (§5)	At least 2 items/type/of hose/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Materials (§2.6.2*)	At least 2 items/type/of hose/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Dimensional characteristics (§7)	At least 2 items/type/of hose/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Hydraulic characteristics (§8)	At least 2 items/type/of hose/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Mechanical and sealing characteristics (§9; §2.6.5.1; §2.6.5.2; §2.6.5.3; §2.6.5.4*)	At least 2 items/type of hose/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Rotating fitting (§10)	At least 2 items/type of hose/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Packaging	At least 2 items/type of hose/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>

\* §2.6.2/§2.6.5.1/§2.6.5.2/§2.6.5.3/§2.6.5.4 of Technical Document 077-08

a Sampling plan accepted by CSTB and subject to revision.

b In this table, when the column "ISO 9001 certified Quality Assurance Option" is filled in by "Quality Documentation", this means that the applicant/holder has examined the need for a sampling plan. Such examination may result in no testing if design control provides evidence of compliance with product specifications. In this case, the auditor must audit the design to ensure control of the system.

## 8.2 Procedures for Inspections Carried Out by CSTB

### 8.2.1 Types of products

The different types of products that are inspected by the auditing body(ies) and tested by the laboratory(ies) of the mark are hoses for sanitary tapware under NF EN 1113 and NF EN 16146 and complementary technical specifications (see part 2 of Article 2.2 of the NF077 certification reference system).

A product is designated by:

- type of sanitary device;
- size of connection threads and end fittings;
- length;
- casing material;
- end connection type.

A product can vary:

- if another coating, accessories or different sizes are provided if they do not have any technical influence on the product.

### 8.2.2 Nature of the inspections and tests

Inspections and tests are carried out in conformity with the specifications of standards NF EN 1113 and NF EN 16146 and this document.

**Table 3**

Test No.	Type of test
1	Verification of markings
2	Materials: Only the coating quality and appearance
3	Verification of dimensional characteristics
4	Hydraulic characteristics
5	Mechanical and sealing characteristics
6	Rotating fitting

The following correlations are applied in order to avoid repeating tests on components common to several products.

Test No.	Type of product inspections
1	All products
2	2 items per type of material
3, 4 and 5	8 sink products per type of material and 8 shower products per type of material
6	1 product per type of rotating fitting

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**8.2.3 Sampling**

**8.2.3.1 For admission**

All testing shall be carried out in the laboratory/laboratories of the mark, or under its (their) responsibility.

The applicant shall provide the laboratory with samples necessary for the tests in accordance with the instructions provided in the "Admission" column in Table 3.

All the nominal dimensions covered by the application are tested.

Additional tests will be carried out to cover any variants.

**8.2.3.2 For follow-up**

All testing shall be carried out in the laboratory/laboratories of the mark, or under its (their) responsibility.

On a half-year basis, the auditor or manager shall collect or request from the holder the samples required for the tests indicated in Table 4.

**Table 4**

Test No.	Type of inspections of the products sampled
1	All products sampled for the 1st half year and the 2nd half year
2	2 items per type of material for the 1st half year and the 2nd half year
3, 4 and 5	50% of sink products per type of material and 50% of shower products per type of material for the 1st half year
	50% of sink products per type of material and 50% of shower products per type of material for the 2nd half year
6	50% of products per type of rotating fitting for the 1st half year
	50% of products per type of rotating fitting for the 2nd half year

**8.2.4 Extension of the right to use the NF mark**

When holders apply for an extension of the NF mark to new models or modified models, they shall file the list of models for which the extension of the mark is requested, in support of the application.

The holder shall then submit the necessary samples for the tests defined in Table 3.

## Part 9

### Drainage devices

#### 9.1 Applicant/Holder production quality requirement

##### 9.1.1 Nature and frequency of inspections

###### 9.1.1.1 *In-production inspection*

The applicant/holder shall verify that the functions described in the product standard NF EN 274 and the complementary technical specifications (see Part 2 in Article 2.2 of the NF077 certification reference system) are fulfilled.

However, procedures and equipment different from those described in the standards may be used.

The inspection operations during production and sampling procedures are specified in Table 1.

**Table 1 - Inspection during production**

Function tested	"Inspection" option	Non-certified ISO 9001 "Quality control" option	ISO 9001 certified "Quality Management" option
Marking	Inspection of the first and last items of each batch	Quality documentation	
Supply of materials and components	- Identification for each batch or certificate of conformity of the supplier - Inspections	- Identification for each batch or certificate of conformity of the supplier - Inspections	
Standardised dimensions	Sample 1 <sup>a</sup>	Quality documentation	
Visible surfaces after coating	100% of items	Quality documentation	
Coating quality	1 item/month/material/type of coating	Quality documentation	
Packaging	100%	Quality documentation	
<sup>a</sup> Sample 1: For each manufacturing order, sampling of the first and the last item and at least 1% of each batch.			



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**9.1.1.2 Inspection of finished products**

The testing apparatus and inspection procedures used to inspect finished products in the factory laboratory or an external laboratory shall comply with the requirements of the NF EN 274 standard and complementary technical specifications (see Part 2 of Article 2.2 of the NF077 certification reference system).

However, different procedures and apparatus may be used as long as the results are equivalent, and contingent upon CSTB's agreement.

The products to be inspected are sampled at the end of the assembly lines (after packaging) or upon entry into the warehouse.

The finished product inspection operation types and sampling procedures are set out in the Table 2.

**Table 2 - Inspection operations on finished products**

Inspection point	"Quality Control" option	Non-certified ISO 9001 "Quality control" option	ISO 9001 certified "Quality Management" option
Materials (§4.3)	At least 2 items/type of drain/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Dimensional characteristics (§4.5; §2.6.3*)	At least 2 items/type of drain/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Hydraulic characteristics (§4.6; §2.6.4*)	At least 2 items/type of drain/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Sealing characteristics (§4.7)	At least 2 items/type of drain/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Marking (§5; see Part 1 Article 1.2 of this document)	At least 2 items/type of drain/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Packaging	At least 2 items/type of drain/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Drain endurance (§2.6.5.1; §2.6.5.2*)	At least 2 items/type of drain/half year	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Reaction to boiling oil (§2.6.5.8*)	At least 2 items/type of drain/half year	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
<sup>*</sup> §2.6.3/§2.6.4/§2.6.5.1/§2.6.5.2/§2.6.5.8 of Technical Document 077-09 <sup>a</sup> Sampling plan accepted by CSTB and subject to revision. <sup>b</sup> In this table, when the column "ISO 9001 certified Quality Assurance Option" is filled in by "Quality Documentation", this means that the applicant/holder has examined the need for a sampling plan. Such examination may result in no testing if design control provides evidence of compliance with product specifications. In this case, the auditor must audit the design to ensure control of the system.			

## 9.2 Procedures for Inspections Carried Out by CSTB

### 9.2.1 Types of products

The different types of products that are inspected by the auditing body(ies) and tested by the laboratory(ies) of the mark are drains under NF EN 274 and complementary technical specifications (see part 2 of Article 2.2 of the NF077 certification reference system).

A product is designated by:

- drain type (washbasin, bidet, sink, shower or bath);
- material type;
- control type.

A product can vary:

- if another coating or accessories are provided without any technical influence on the product.

### 9.2.2 Nature of the inspections and tests

Inspections and tests are carried out in conformity with the specifications of standards NF EN 274, NF EN 329 and NF EN 411 and this document.

**Table 3**

Test No.	Type of test
1	Materials: Only the coating quality and appearance
2	Verification of dimensional characteristics
3	Leaktightness characteristics
4	Hydraulic characteristics
5A	Thermal shock reaction
5B	Resistance to thermal shocks*
6	Marking verification
7	Reaction to boiling oil *

The following correlations are applied in order to avoid repeating tests on components common to several products.

Test No.	Type of product inspections
1	2 items per type of material
2, 3, 4 and 5	All products per drain type
6	All products
7	*
*: Test conducted only for ECAU rating	

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**9.2.3 Sampling**

**9.2.3.1 For admission**

All testing shall be carried out in the laboratory/laboratories of the mark, or under its (their) responsibility.

The applicant shall provide the laboratory with samples necessary for the tests in accordance with the instructions provided in the "Admission" column in Table 3.

All the nominal dimensions covered by the application are tested.

Additional tests will be carried out to cover any variants.

**9.2.3.2 For follow-up**

All testing shall be carried out in the laboratory/laboratories of the mark, or under its (their) responsibility.

On a half-year basis, the auditor or manager shall collect or request from the holder the samples required for the tests indicated in Table 4.

**Table 4**

Test No.	Type of inspections of the products sampled
6	All products sampled for the 1st half year and the 2nd half year
1	2 items per type of material for the 1st half year and the 2nd half year
2, 3 and 4	50% of products per type of drain for the 1st half year
	50% of products per type of drain for the 2nd half year
5A	50% of products per type of drain for the 1st half year
	50% of products per type of drain for the 2nd half year
5B	50% of products per type of drain for the 1st half year
	50% of products per type of drain for the 2nd half year
7	1 sink product per diameter type
*: Test conducted only for ECAU rating	

**9.2.4 Extension of the right to use the NF mark**

When holders apply for an extension of the NF mark to new models or modified models, they shall file the list of models for which the extension of the mark is requested, in support of the application.

The holder shall then submit the necessary samples for the tests defined in Table 3.

## Part 10

### Stop valves installed:

- upstream of a sanitary tapware system
- on a flushing cistern
- to supply a washing machine

### 10.1 Applicant/Holder production quality requirement

#### 10.1.1 Nature and frequency of inspections

##### 10.1.1.1 In-production inspection

The applicant/holder shall verify that the functions described in this document and the complementary technical specifications (see Part 2 in Article 2.2 of the NF077 certification reference system) are fulfilled.

However, procedures and equipment different from those described in this document may be used.

The inspection operations during production and sampling procedures are specified in Table 1.

**Table 1 - Inspection during production**

Function tested	"Inspection" option	Non-certified ISO 9001 "Quality control" option	ISO 9001 certified "Quality Management" option
Marking	Inspection of the first and last items of each batch	Quality documentation	
Supply of materials and components	- Identification for each batch or certificate of conformity of the supplier - Inspections	- Identification for each batch or certificate of conformity of the supplier - Inspections	
Dimensions	Sample 1 <sup>a</sup>	Quality documentation	
Visible surfaces after coating	100% of items	Quality documentation	
Coating quality	At least 2 items/type of tap/day	Quality documentation <sup>a</sup>	
Leaktightness	100%	100%	
Packaging	100%	Quality documentation	

<sup>a</sup> Sample 1: For each manufacturing order, sampling of the first and the last item and at least 1% of each batch.

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**10.1.1.2 Inspection of finished products**

The quality assurance procedures carried out as part of the finished product quality assurance operations in the factory's laboratory or in an external laboratory, and the test equipment used, shall comply with the provisions of this document.

However, different procedures and apparatus may be used as long as the results are equivalent, and contingent upon CSTB's agreement.

The products to be inspected are sampled at the end of the assembly lines (after packaging) or upon entry into the warehouse.

The finished product inspection operation types and sampling procedures are set out in the Table 2.

**Table 2 - Inspection operations on finished products**

Inspection point	"Quality Control" option	Non-certified ISO 9001 "Quality control" option	ISO 9001 certified "Quality Management" option
Marking (see body of Certification rules)	At least 2 items/type of tap/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Dimensional characteristics (§1.8*)	At least 2 items/type of tap/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Sealing characteristics (§1.9.2*)	At least 2 items/type of tap/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Mechanical strength characteristics (§1.9.3; §1.9.4*)	At least 2 items/type of tap/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Characteristics of resistance to alternate stress (§1.9.5*)	At least 2 items/type of tap/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Torsional strength characteristics (§1.9.6*)	At least 2 items/type of tap/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Endurance characteristics (§1.9.7*)	At least 2 items/type of tap/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Hydraulic characteristics (§1.9.8*)	At least 2 items/type of tap/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Packaging	At least 2 items/type of tap/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
<p>* §1.8/§1.9.2/§1.9.3/§1.9.4/§1.9.5/§1.9.6/§1.9.7/§1.9.8 of Technical Document 077-10</p> <p><sup>a</sup> Sampling plan accepted by CSTB and subject to revision.</p> <p><sup>b</sup> In this table, when the column "ISO 9001 certified Quality Assurance Option" is filled in by "Quality Documentation", this means that the applicant/holder has examined the need for a sampling plan. Such examination may result in no testing if design control provides evidence of compliance with product specifications. In this case, the auditor must audit the design to ensure control of the system.</p>			

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## 10.2 Procedures for Inspections Carried Out by CSTB

### 10.2.1 Types of products

The different types of products that are inspected by the auditing body(ies) and tested by the laboratory(ies) of the mark are stop valves under complementary technical specifications (see part 2 of Article 2.2 of the NF077 certification reference system).

A product is designated by:

- shape of construction (straight or angle);
- nominal diameter (DN);
- end connections;
- acoustic group;
- reference to this document (NF).

A product can vary:

- if another coating or accessories are provided without any technical influence on the product.

### 10.2.2 Nature of the inspections and tests

The inspections and tests are carried out according to the requirements of this document.

**Table 3**

Test No.	Type of test
1	Marking verification
2	Materials: Only the coating quality and appearance
3	Verification of dimensional characteristics
4	Leaktightness characteristics
5	Resistance to pressure
6	Mechanical tensile strength
7	Resistance to alternating pressure stress
8	Mechanical strength of the operating device
9	Obturator endurance
10	Hydraulic characteristics
11	Acoustic characteristics

The following correlations are applied in order to avoid repeating tests on components common to several products.

Test No.	Type of product inspections
1	All products
2	2 items per type of material
3, 4, 5 and 9	All products by obturator type
6	All products per connection type
7	All products per connection type
8	All products per type of operating device
10	All products per type of body and obturator
11	*
*: Test conducted every 5 years	

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**10.2.3 Sampling**

**10.2.3.1 For admission**

All testing shall be carried out in the laboratory/laboratories of the mark, or under its (their) responsibility.

The applicant shall provide the laboratory with samples necessary for the tests in accordance with the instructions provided in the "Admission" column in Table 3.

All the nominal dimensions covered by the application are tested.

Additional tests will be carried out to cover any variants.

**10.2.3.2 For follow-up**

All testing shall be carried out in the laboratory/laboratories of the mark, or under its (their) responsibility.

On a half-year basis, the auditor or manager shall collect or request from the holder the samples required for the tests indicated in Table 4.

**Table 4**

Test No.	Type of inspections of the sample products
1	2 items per type of material for the 1st half year and the 2nd half year
2, 3 and 4	50% of products per type of stop valve for the 1st half year
	50% of products per type of stop valve for the 2nd half year
5	All products sampled for the 1st half year and the 2nd half year
6	*
*: Test conducted every 5 years	

**10.2.4 Extension of the right to use the NF mark**

When holders apply for an extension of the NF mark to new models or modified models, they shall file the list of models for which the extension of the mark is requested, in support of the application.

The holder shall then submit the necessary samples for the tests defined in Table 3.

## Part 11 Multiway selectors

### 11.1 Applicant/Holder production quality requirement

#### 11.1.1 Nature and frequency of inspections

##### 11.1.1.1 In-production inspection

The applicant/holder shall verify that the functions described in this document and the complementary technical specifications (see Part 2 in Article 2.2 of the NF077 certification reference system) are fulfilled.

However, procedures and equipment different from those described in this document may be used.

The inspection operations during production and sampling procedures are specified in Table 1.

**Table 1 - Inspection during production**

Function tested	"Inspection" option	Non-certified ISO 9001 "Quality control" option	ISO 9001 certified "Quality Management" option
Marking	Inspection of the first and last items of each batch	Quality documentation	
Supply of materials and components	- Identification for each batch or certificate of conformity of the supplier - Inspections	- Identification for each batch or certificate of conformity of the supplier - Inspections	
Dimensions	Sample 1 <sup>a</sup>	Quality documentation	
Visible surfaces after coating	100% of items	Quality documentation	
Coating quality	At least 2 items/type of tap/day	Quality documentation <sup>a</sup>	
Leaktightness	100%	100%	
Packaging	100%	Quality documentation	
<sup>a</sup> Sample 1: For each manufacturing order, sampling of the first and the last item and at least 1% of each batch.			



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**11.1.1.2 Inspection of finished products**

The quality assurance procedures carried out as part of the finished product quality assurance operations in the factory's laboratory or in an external laboratory, and the test equipment used, shall comply with the provisions of this document.

However, different procedures and apparatus may be used as long as the results are equivalent, and contingent upon CSTB's agreement.

The products to be inspected are sampled at the end of the assembly lines (after packaging) or upon entry into the warehouse.

The finished product inspection operation types and sampling procedures are set out in the Table 2.

**Table 2 - Inspection operations on finished products**

Inspection point	"Quality Control" option	Non-certified ISO 9001 "Quality control" option	ISO 9001 certified "Quality Management" option
Marking (see body of Certification rules)	At least 2 items/type of tap/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Dimensional characteristics (§1.8*)	At least 2 items/type of tap/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Sealing characteristics (§1.9.2*)	At least 2 items/type of tap/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Mechanical strength characteristics (§1.9.3*)	At least 2 items/type of tap/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Hydraulic characteristics (§1.9.4*)	At least 2 items/type of tap/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Torsional strength characteristics (§1.9.5*)	At least 2 items/type of tap/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Endurance characteristics (§1.9.6; §2.7.4*)	At least 2 items/type of tap/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Packaging	At least 2 items/type of tap/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Characteristics of resistance to alternate stress (§2.6*)	At least 2 items/type of tap/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
<p>* §1.8/§1.9.2/§1.9.3/§1.9.4/§1.9.5/§1.9.6/§2.6/§2.7.4 of Technical Document 077-10</p> <p><sup>a</sup> Sampling plan accepted by CSTB and subject to revision.</p> <p><sup>b</sup> In this table, when the column "ISO 9001 certified Quality Assurance Option" is filled in by "Quality Documentation", this means that the applicant/holder has examined the need for a sampling plan. Such examination may result in no testing if design control provides evidence of compliance with product specifications. In this case, the auditor must audit the design to ensure control of the system.</p>			

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### 11.2 Procedures for Inspections Carried Out by CSTB

#### 11.2.1 Types of products

The different types of products that are inspected by the auditing body(ies) and tested by the laboratory(ies) of the mark are selectors under complementary technical specifications (see part 2 of Article 2.2 of the NF077 certification reference system) (in this document).

A product is designated by:

- type of selector;
- connection method.

A product can vary:

- in range if only the operating device is changed;
- if another coating or accessories are provided without any technical influence on the product.

#### 11.2.2 Nature of the inspections and tests

The inspections and tests are carried out in conformity with the specifications established in Articles 1 and 2 of this document.

**Table 3**

Test No.	Type of test
1	Verification of markings
2	Materials: only the coating quality and appearance
3	Verification of dimensional characteristics
4	Inspection of selector sealing (upstream and downstream of the obturator, selection of outlets)
5	Hydraulic characteristics
6	Characteristics of mechanical behaviour under pressure
7	Mechanical endurance (obturator; selection of outlets)
8	Resistance of the operating device to tightening torque
9	Acoustic characteristics
10	Resistance to alternating pressure variations
11	Characteristics of the operating force
12	Water saving characteristics

The following correlations are applied in order to avoid repeating tests on components common to several products.

Test No.	Type of product inspections
1	All products
2	2 products per type of material
3, 5, 6, 11 and 12	1 product per obturator type
4 and 7	1 product per obturator type
8	1 product per obturator type
9	3 products per obturator type
10	1 product per obturator type
Tests No. 10, No. 11 and No. 12 are carried out only for the ECAU rating.	

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**11.2.3 Sampling**

**11.2.3.1 For admission**

All testing shall be carried out in the laboratory/laboratories of the mark, or under its (their) responsibility.

The applicant shall provide the laboratory with samples necessary for the tests in accordance with the instructions provided in the "Admission" column in Table 3.

All the nominal dimensions covered by the application are tested.

Additional tests will be carried out to cover any variants.

**11.2.3.2 For follow-up**

All testing shall be carried out in the laboratory/laboratories of the mark, or under its (their) responsibility.

On a half-year basis, the auditor or manager shall collect or request from the holder the samples required for the tests indicated in Table 4.

**Table 4**

Test No.	Type of inspections of the products sampled
1	All products sampled for the 1st half year and the 2nd half year
2	2 products per type of material for the 1st half year and the 2nd half year
3, 5, 6, 11 and 12	50% of products per type of obturator for the 1st half year or 2nd half year
	50% of products per type of obturator for the 1st half year or 2nd half year
4, 6 and 7	50% of products per type of obturator for the 1st half year
	50% of products per type of obturator for the 2nd half year
8	50% of products per type of obturator for the 1st half year
	50% of products per type of obturator for the 2nd half year
9	*
10	50% of products per type of obturator for the 1st half year
	50% of products per type of obturator for the 2nd half year
*: The acoustic tests are valid for 5 years. Tests No. 10, No. 11 and No. 12 are carried out only for the ECAU rating.	

**11.2.4 Extension of the right to use the NF mark**

When holders apply for an extension of the NF mark to new models or modified models, they shall file the list of models for which the extension of the mark is requested, in support of the application.

The holder shall then submit the necessary samples for the tests defined in Table 3.

## Part 12

# Automatic diverter family H and type C

### 12.1 Applicant/Holder production quality requirement

#### 12.1.1 Nature and frequency of inspections

##### 12.1.1.1 In-production inspection

The applicant/holder shall verify that the functions described in the product standard NF EN 14506 and the complementary technical specifications (see Part 2 in Article 2.2 of the NF077 certification reference system) are fulfilled.

However, procedures and equipment different from those described in the standards may be used.

The inspection operations during production and sampling procedures are specified in Table 1.

**Table 1 - Inspection during production**

Function tested	"Inspection" option	Non-certified ISO 9001 "Quality control" option	ISO 9001 certified "Quality Management" option
Marking – Identification	Inspection of the first and last items of each batch	Quality documentation	
Supply of materials and components	- Identification for each batch or certificate of conformity of the supplier - Inspections	- Identification for each batch or certificate of conformity of the supplier - Inspections	
Standardised dimensions	Sample 1 <sup>a</sup>	Quality documentation	
Visible surfaces after coating	100% of items	Quality documentation	
Coating quality	1 item/month/material/type of coating	Quality documentation	
- Sealing (diverter)	100% of items	100% of items	
Packaging	Sample 1 <sup>a</sup>	Quality documentation	
<sup>a</sup> Sample 1: For each manufacturing order, sampling of the first and the last item and at least 1% of each batch.			

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**12.1.1.2 Inspection of finished products**

The testing apparatus and inspection procedures used to inspect finished products in the factory laboratory or an external laboratory shall comply with the requirements of the NF EN 14506 standard and complementary technical specifications (see Part 2 of Article 2.2 of the NF077 certification reference system).

However, different procedures and apparatus may be used as long as the results are equivalent, and contingent upon CSTB's agreement.

The products to be inspected are sampled at the end of the assembly lines (after packaging) or upon entry into the warehouse.

The finished product inspection operation types and sampling procedures are set out in the Table 2.

**Table 2 - Inspection operations on finished products**

Inspection point	"Quality Control" option	Non-certified ISO 9001 "Quality control" option	ISO 9001 certified "Quality Management" option
Dimensional characteristics (§4)	At least 2 items/type of diverter/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Marking – Identification (§6)	At least 2 items/type of diverter/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Sealing characteristics (§10.4)	At least 2 items/type of diverter/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Mechanical endurance characteristics (§10.5)	1 test/type of diverter/half year	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Vacuum test characteristics (§10.6)	1 test/type of diverter/half year	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Packaging	At least 2 items/type of diverter/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
<sup>a</sup> Sampling plan accepted by CSTB and subject to revision. <sup>b</sup> In this table, when the column "ISO 9001 certified Quality Management Option" is filled in by "Quality Documentation", this means that the applicant/holder has examined the need for a sampling plan. Such examination may result in no testing if design control provides evidence of compliance with product specifications. In this case, the auditor must audit the design to ensure control of the system.			

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## 12.2 Procedures for Inspections Carried Out by CSTB

### 12.2.1 Types of products

The different types of products that are inspected by the auditing body(ies) and tested by the laboratory(ies) of the mark are HC automatic diverters under NF EN 14506 and complementary technical specifications (see part 2 of Article 2.2 of the NF077 certification reference system)

A product is designated by:

- diverter type;
- connection method.

A product can vary:

- in range if only the operating device is changed;
- if another coating or accessories are provided without any technical influence on the product.

### 12.2.2 Nature of the inspections and tests

The inspections and tests are carried out in accordance with the requirements of the NF EN 14506 standard and Article 1 of this document.

**Table 3**

Test No.	Type of test
1	Verification of markings
2	Materials: only the coating quality and appearance
3	Verification of dimensional characteristics
4	Inspection of valve assembly sealing (upstream and downstream of the obturator, spout, diverter)
5	Mechanical endurance (diverter)
6	Vacuum test inspection
7	Acoustic characteristics

The following correlations are applied in order to avoid repeating tests on components common to several products.

Test No.	Type of product inspections
1	All products
2	2 products per type of material
3	All products by diverter type
4 and 6	1 product per diverter type
7	1 product per type of body, head and cartridge

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**12.2.3 Sampling**

**12.2.3.1 For admission**

All testing shall be carried out in the laboratory/laboratories of the mark, or under its (their) responsibility.

The applicant shall provide the laboratory with samples necessary for the tests in accordance with the instructions provided in the "Admission" column in Table 3.

All the nominal dimensions covered by the application are tested.

Additional tests will be carried out to cover any variants.

**12.2.3.2 For follow-up**

All testing shall be carried out in the laboratory/laboratories of the mark, or under its (their) responsibility.

On a half-year basis, the auditor or manager shall collect or request from the holder the samples required for the tests indicated in Table 4.

**Table 4**

Test No.	Type of inspections of the products sampled
1	All products sampled for the 1st half year and the 2nd half year
2	2 products per type of material for the 1st half year and the 2nd half year
3, 4, 5 and 6	50% of products per type of diverter for the 1st half year
	50% of products per type of diverter for the 2nd half year
7	*
*: The acoustic tests are valid for 5 years. Test No. 6 is also conducted for the ECAU rating.	

**12.2.4 Extension of the right to use the NF mark**

When holders apply for an extension of the NF mark to new models or modified models, they shall file the list of models for which the extension of the mark is requested, in support of the application.

The holder shall then submit the necessary samples for the tests defined in Table 3.

## Part 13

# Electronic closing and opening valves

### 13.1 Applicant/Holder production quality requirement

#### 13.1.1 Nature and frequency of inspections

##### 13.1.1.1 In-production inspection

The applicant/holder shall verify that the functions described in the product standard NF EN 15091 and the complementary technical specifications (see Part 2 in Article 2.2 of the NF077 certification reference system) are fulfilled.

However, procedures and equipment different from those described in the standards may be used.

The inspection operations during production and sampling procedures are specified in Table 1.

**Table 1 - Inspection during production**

Function tested	"Inspection" option	Non-certified ISO 9001 "Quality control" option	ISO 9001 certified "Quality Management" option
Marking – Identification	Inspection of the first and last items of each batch	Quality documentation	
Supply of materials and components	- Identification for each batch or certificate of conformity of the supplier - Inspections	- Identification for each batch or certificate of conformity of the supplier - Inspections	
Standardised dimensions	Sample 1 <sup>a</sup>	Quality documentation	
Visible surfaces after coating	100% of items	Quality documentation	
Coating quality	1 item/month/material/type of coating	Quality documentation	
- Sealing (obturator, cross-feed) - Presence of flow rates	100% of items	100% of items	
Packaging	Sample 1 <sup>a</sup>	Quality documentation	
<sup>a</sup> Sample 1: For each manufacturing order, sampling of the first and the last item and at least 1% of each batch.			



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**13.1.1.2 Inspection of finished products**

The testing apparatus and inspection procedures used to inspect finished products in the factory laboratory or an external laboratory shall comply with the requirements of the NF EN 15091 standard and complementary technical specifications (see Part 2 of Article 2.2 of the NF077 certification reference system).

However, different procedures and apparatus may be used as long as the results are equivalent, and contingent upon CSTB's agreement.

The products to be inspected are sampled at the end of the assembly lines (after packaging) or upon entry into the warehouse.

The finished product inspection operation types and sampling procedures are set out in the Table 2.

**Table 2 - Inspection operations on finished products**

Inspection point	"Quality Control" option	Non-certified ISO 9001 "Quality control" option	ISO 9001 certified "Quality Management" option
Marking – Identification (§4)	At least 2 items/type of tap/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Operating safety (§4.5.5)	At least 1 items/type of tap/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Sealing characteristics (obturator) (§4.6)	At least 2 items/type of tap/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Pressure resistance characteristics (§4.7)	At least 2 items/type of tap/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Dimensional characteristics (§5.2)	At least 2 items/type of tap/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Hydraulic characteristics: Flow rate (§5.3; §6.6; §7.5)	At least 2 items/type of tap/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Water hammer (§5.4; §2.6.11*)	At least 1 items/type of tap/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Mechanical endurance characteristics (§5.5; §2.6.12; §6.8; §2.6.19; §7.7; §2.6.23*)	1 test/type of tap/half year	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Protection against water pollution (§4.4 ;§7.6)	Quality documentation <sup>a</sup>	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Detection characteristics (§2.6.8*)	At least 2 items/type of tap/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Packaging	At least 2 items/type of tap/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
<p>* §2.6.8/§2.7.11/§2.6.12/§2.6.19; §2.6.23 of Technical Document 077-13  <sup>a</sup> Sampling plan accepted by CSTB and subject to revision.  <sup>b</sup> In this table, when the column "ISO 9001 certified Quality Management Option" is filled in by "Quality Documentation", this means that the applicant/holder has examined the need for a sampling plan. Such examination may result in no testing if design control provides evidence of compliance with product specifications. In this case, the auditor must audit the design to ensure control of the system.</p>			

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## 13.2 Procedures for Inspections Carried Out by CSTB

### 13.2.1 Types of products

The different types of products that are inspected by the auditing body(ies) and tested by the laboratory(ies) of the mark are electronic opening and closing valves under NF EN 15091 and complementary technical specifications (see part 2 of Article 2.2 of the NF077 certification reference system)

A product is designated by:

- body type;
- cartridge type;
- supply type;
- connection method.

A product can vary:

- in range if only the operating device or the height/depth of the spout is changed;
- if another coating or accessories are provided without any technical influence on the product.

### 13.2.2 Nature of the inspections and tests

The inspections and tests are carried out in accordance with the requirements of the NF EN 817 standard and this document.

**Table 3**

Test No.	Type of test
1	Verification of markings
2	Materials: Only the coating quality and appearance
3	Verification of dimensional characteristics
4	Inspection of valve assembly sealing (upstream and downstream of the obturator)
5	Hydraulic characteristics
6	Characteristics of mechanical behaviour under pressure
7	Mechanical endurance (cartridge)
8	Acoustic characteristics
9	Operating safety
10	Water hammer
11	Detection characteristic

The following correlations are applied in order to avoid repeating tests on components common to several products.

Test No.	Type of product inspections
1	All products
2	2 items per type of material
3, 5, 6, 9, 10 and 11	All products per type of body and cartridge
4 and 7	1 product per cartridge type
8	products per type of body and cartridge

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**13.2.3 Sampling**

**13.2.3.1 For admission**

All testing shall be carried out in the laboratory/laboratories of the mark, or under its (their) responsibility.

The applicant shall provide the laboratory with samples necessary for the tests in accordance with the instructions provided in the "Admission" column in Table 3.

All the nominal dimensions covered by the application are tested.

Additional tests will be carried out to cover any variants.

**13.2.3.2 For follow-up**

All testing shall be carried out in the laboratory/laboratories of the mark, or under its (their) responsibility.

On a half-year basis, the auditor or manager shall collect or request from the holder the samples required for the tests indicated in Table 4.

**Table 4**

Test No.	Type of inspections of the products sampled
1	All products sampled for the 1st half year and the 2nd half year
2	2 products per type of material for the 1st half year and the 2nd half year
3, 4, 5, 6, 7, 9, 10 and 11	1 washbasin type product for the 1st half year (battery-powered)
	1 washbasin type product for the 2nd half year (mains power supply)
8	*
*: The acoustic tests are valid for 5 years. Test No. 11 is carried out only for ECAU/EChAU ratings.	

**13.2.4 Extension of the right to use the NF mark**

When holders apply for an extension of the NF mark to new models or modified models, they shall file the list of models for which the extension of the mark is requested, in support of the application.

The holder shall then submit the necessary samples for the tests defined in Table 3.

## Part 14 Flow controllers

### 14.1 Applicant/Holder production quality requirement

#### 14.1.1 Nature and frequency of inspections

##### 14.1.1.1 In-production inspection

The applicant/holder shall verify that the functions described in the product standard NF EN 246 and the complementary technical specifications (see Part 2 in Article 2.2 of the NF077 certification reference system) are fulfilled.

However, procedures and equipment different from those described in the standards may be used.

The inspection operations during production and sampling procedures are specified in Table 1.

**Table 1 - Inspection during production**

Function tested	“Inspection” option	Non-certified ISO 9001 “Quality control” option	ISO 9001 certified “Quality Management” option
Marking – Identification	Inspection of the first and last items of each batch	Quality documentation	
Supply of materials and components	- Identification for each batch or certificate of conformity of the supplier - Inspections	- Identification for each batch or certificate of conformity of the supplier - Inspections	
Standardised dimensions	Sample 1 <sup>a</sup>	Quality documentation	
Visible surfaces after coating	100% of items	Quality documentation	
Coating quality	1 item/month/material/type of coating	Quality documentation	
Presence of flow rates	100% of items	100% of items	
Packaging	Sample 1 <sup>a</sup>	Quality documentation	
<sup>a</sup> Sample 1: For each manufacturing order, sampling of the first and the last item and at least 1% of each batch.			

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**14.1.1.2 Inspection of finished products**

The testing apparatus and inspection procedures used to inspect finished products in the factory laboratory or an external laboratory shall comply with the requirements of the NF EN 246 standard and complementary technical specifications (see Part 2 of Article 2.2 of the NF077 certification reference system).

However, different procedures and apparatus may be used as long as the results are equivalent, and contingent upon CSTB's agreement.

The products to be inspected are sampled at the end of the assembly lines (after packaging) or upon entry into the warehouse.

The finished product inspection operation types and sampling procedures are set out in the Table 2.

**Table 2 - Inspection operations on finished products**

Inspection point	"Quality Control" option	Non-certified ISO 9001 "Quality control" option	ISO 9001 certified "Quality Management" option
Marking – Identification (§5; §1.6.1)	At least 2 items/type of tap/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Dimensional characteristics (§7)	At least 2 items/type of tap/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Hydraulic characteristics: Flow rate (§8.2; §8.3; §1.9.2)	At least 2 items/type of tap/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Characteristics of mechanical behaviour at high temperatures (§9; §1.9.3)	1 test/type of tap/half year	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Mechanical behaviour characteristics of plastic material of regulator (§10; §1.9.3)	1 test/type of tap/half year	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Mechanical endurance characteristics (§1.9.4)	1 test/type of tap/half year	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Packaging	At least 2 items/type of tap/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
<p>* §1.6.1/§1.9.2/§1.9.3/§1.9.4 of Technical Document 077-14  <sup>a</sup> Sampling plan accepted by CSTB and subject to revision.  <sup>b</sup> In this table, when the column "ISO 9001 certified Quality Management Option" is filled in by "Quality Documentation", this means that the applicant/holder has examined the need for a sampling plan. Such examination may result in no testing if design control provides evidence of compliance with product specifications. In this case, the auditor must audit the design to ensure control of the system.</p>			

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## 14.2 Procedures for Inspections Carried Out by CSTB

### 14.2.1 Types of products

The different types of products that are inspected by the auditing body(ies) and tested by the laboratory(ies) of the mark are flow controllers under NF EN 246 and complementary technical specifications (see part 2 of Article 2.2 of the NF077 certification reference system)

A product is designated by:

- controller type;
- connection method.

A product can vary:

- if another coating or accessories are provided without any technical influence on the product.

### 14.2.2 Nature of the inspections and tests

The inspections and tests are carried out in accordance with the requirements of the NF EN 817 standard and this document.

**Table 3**

Test No.	Type of test
1	Verification of markings
2	Materials: Only the coating quality and appearance
3	Verification of dimensional characteristics
5	Hydraulic characteristics
6	Mechanical behaviour characteristics
7	Acoustic characteristics (by flow controller type)
8	Mechanical endurance (by flow controller type)

The following correlations are applied in order to avoid repeating tests on components common to several products.

Test No.	Type of product inspections
1	All products
2	2 items per type of material
3, 5, 8	All products per type of flow controller
6	1 product per type of flow controller
7	3 products per type of flow controller

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**14.2.3 Sampling**

**14.2.3.1 For admission**

All testing shall be carried out in the laboratory/laboratories of the mark, or under its (their) responsibility.

The applicant shall provide the laboratory with samples necessary for the tests in accordance with the instructions provided in the "Admission" column in Table 3.

All the nominal dimensions covered by the application are tested.

Additional tests will be carried out to cover any variants.

**14.2.3.2 For follow-up**

All testing shall be carried out in the laboratory/laboratories of the mark, or under its (their) responsibility.

On a half-year basis, the auditor or manager shall collect or request from the holder the samples required for the tests indicated in Table 4.

**Table 4**

Test No.	Type of inspections of the products sampled
1	All products sampled for the 1st half year and the 2nd half year
2	2 products per type of material for the 1st half year and the 2nd half year
3	1 washbasin type product (for the 1st half year) and 1 urinal or washbasin type product (for the 2nd half year)
3, 5 and 8**	50% of products per type of controller for the 1st half year
	50% of products per type of controller for the 2nd half year
6	50% of products per type of controller for the 1st half year
	50% of products per type of controller for the 2nd half year
8	*
*: The acoustic tests are valid for 5 years.	
**: Test No. 8 is carried out only for the ECAU rating	

**14.2.4 Extension of the right to use the NF mark**

When holders apply for an extension of the NF mark to new models or modified models, they shall file the list of models for which the extension of the mark is requested, in support of the application.

The holder shall then submit the necessary samples for the tests defined in Table 3.

## Part 15 ECAU-M rating for medical tapware

### 15.1 Applicant/Holder production quality requirement

#### 15.1.1 Nature and frequency of inspections

##### 15.1.1.1 In-production inspection

The applicant/holder shall verify that the functions described in product standards NF EN 817, NF EN 1111 and NF EN 15091 and the complementary technical specifications (see Part 2 in Article 2.2 of the NF077 certification reference system) are fulfilled.

However, procedures and equipment different from those described in the standards may be used.

The inspection operations during production and sampling procedures are specified in Table 1.

**Table 1 - Inspection during production**

Function tested	"Inspection" option	Non-certified ISO 9001 "Quality control" option	ISO 9001 certified "Quality Management" option
Marking – Identification	Inspection of the first and last items of each batch	Quality documentation	
Supply of materials and components	- Identification for each batch or certificate of conformity of the supplier - Inspections	- Identification for each batch or certificate of conformity of the supplier - Inspections	
Standardised dimensions	Sample 1 a	Quality documentation	
Visible surfaces after coating	100% of items	Quality documentation	
Coating quality	1 item/month/material/type of coating	Quality documentation	
- Sealing (obturator, cross-feed) - Presence of flow rates	100% of items	100% of items	
Packaging	Sample 1 a	Quality documentation	
<sup>a</sup> Sample 1: For each manufacturing order, sampling of the first and the last item and at least 1% of each batch.			



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**15.1.1.2 Inspection of finished products**

The testing apparatus and inspection procedures used to inspect finished products in the factory laboratory or an external laboratory shall comply with the requirements of standards NF EN 817, NF EN 1111 and NF EN 15091 and complementary technical specifications (see Part 2 of Article 2.2 of the NF077 certification reference system).

However, different procedures and apparatus may be used as long as the results are equivalent, and contingent upon CSTB's agreement.

The products to be inspected are sampled at the end of the assembly lines (after packaging) or upon entry into the warehouse.

The finished product inspection types and sampling procedures are established in Tables 2A, 2B and 2C.

**Table 2A - Finished product inspection of mechanical mixers**

Inspection point	"Quality Control" option	Non-certified ISO 9001 "Quality control" option	ISO 9001 certified "Quality Management" option
Marking – Identification (§4; §2.6.1*; §2.6.3**)	At least 2 items/type of mixing valve/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Dimensional characteristics (§6; §2.6.3*; §2.6.5**)	At least 2 items/type of mixing valve/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Sealing characteristics (obturator, cross-feed, diverter, spout) (§8*)	At least 2 items/type of mixing valve/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Pressure resistance characteristics (§9)	At least 2 items/type of mixing valve/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Hydraulic characteristics: Flow rate (§10.6; §2.6.8**) Sensitivity (§10.7; §2.6.8**) Required for ECAU/EChAU ratings <sup>c</sup> Reliability (§2.6.7.6*) Constant temperature (§2.6.7.7 and §2.6.7.8*) Water saving (§2.6.7.1/ §2.6.7.2 or §2.6.7.4) Energy saving (§2.6.7.3 or §2.6.7.5)	At least 2 items/type of mixing valve/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Operating device resistance characteristics (§11; §2.6.9**)	At least 1 items/type of mixing valve/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Mechanical endurance characteristics (§12; §2.6.7.2; §2.6.10**)	1 test/type of mixing valve/half year	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Protection against water pollution (§13)	Quality documentation <sup>a</sup>	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Packaging	At least 2 items/type of mixing valve/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Resistance to alternating pressures (§2.6.12)	1 test/type of mixing valve/half year	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Material ageing test (§2.6.7**)	1 test/type of tap/after tap design	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
<p>* §2.6.3/§2.6.5/§2.6.7/§2.6.9/§2.6.12 of Technical Document 077-03  ** §2.6.3/§2.6.5/§2.6.7/§2.6.8/§2.6.9/§2.6.10 of Technical Document 077-15  <sup>a</sup> Sampling plan accepted by CSTB and subject to revision.  <sup>b</sup> In this table, when the column "ISO 9001 certified Quality Management Option" is filled in by "Quality Documentation", this means that the applicant/holder has examined the need for a sampling plan. Such examination may result in no testing if design control provides evidence of compliance with product specifications. In this case, the auditor must audit the design to ensure control of the system.  <sup>c</sup> For ECAU/EChAU ratings, applicants/holders must be able to conduct all of the tests in their laboratory or have a subcontracting agreement with a laboratory.</p>			

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**Table 2B - Finished product inspection of thermostatic mixers**

Inspection point	“Quality Control” option	Non-certified ISO 9001 “Quality control” option	ISO 9001 certified “Quality Management” option
Marking – Identification (§7; §2.6.1*; §2.6.5**)	At least 2 items/type of mixing valve/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Dimensional characteristics (§9; §2.6.3*; §2.6.5**)	At least 2 items/type of mixing valve/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Sealing characteristics (obturator, cross-feed, diverter, spout) (§12*)	At least 2 items/type of mixing valve/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Hydraulic characteristics Flow rate (§13.2; §2.6.8**) Sensitivity (§13.3; §2.6.8**) Reliability (§13.4) Temperature stability (§13.5) Required for ECAU/EChAU ratings <sup>c</sup> Safety test (§2.6.7.5*) End stop effectiveness (§2.6.7.6*) Accuracy of displayed temperature (§2.6.7.7*) Water saving (§2.6.7.1 or §2.6.7.3*) Energy saving (§2.6.7.2 or §2.6.7.4*)	At least 2 items/type of mixing valve/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Pressure resistance characteristics (§14)	At least 2 items/type of mixing valve/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Operating device resistance characteristics (§15; §2.6.9**)	At least 2 items/type of mixing valve/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Mechanical endurance characteristics (§16; §2.6.10/§2.6.10**)	1 test/type of mixing valve/half year	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Protection against water pollution (§10)	Quality documentation <sup>a</sup>	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Packaging	At least 2 items/type of mixing valve/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Resistance to alternating pressures (§2.6.12)	1 test/type of mixing valve/half year	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Material ageing test (§2.6.7**)	1 test/type of tap/after tap design	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
<p>* §2.6.1/§2.6.3/§2.6.7/§2.6.12 of Technical Document 077-04  ** §2.6.3/§2.6.5/§2.6.7/§2.6.8/§2.6.9/§2.6.10 of Technical Document 077-15  <sup>a</sup> Sampling plan accepted by CSTB and subject to revision.  <sup>b</sup> In this table, when the column “ISO 9001 certified Quality Management Option” is filled in by “Quality Documentation”, this means that the applicant/holder has examined the need for a sampling plan. Such examination may result in no testing if design control provides evidence of compliance with product specifications. In this case, the auditor must audit the design to ensure control of the system.  <sup>c</sup> For ECAU/EChAU ratings, applicants/holders must be able to conduct all of the tests in their laboratory or have a subcontracting agreement with a laboratory.</p>			

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**Table 2C - Finished product inspection of electronic closing and opening valves**

Inspection point	“Quality Control” option	Non-certified ISO 9001 “Quality control” option	ISO 9001 certified “Quality Management” option
Marking – Identification (§4; §2.6.3*)	At least 2 items/type of tap/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Operating safety (§4.5.5)	At least 1 items/type of tap/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Sealing characteristics (obturator) (§4.6)	At least 2 items/type of tap/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Pressure resistance characteristics (§4.7)	At least 2 items/type of tap/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Dimensional characteristics (§5.2; §2.6.5**)	At least 2 items/type of tap/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Hydraulic characteristics: Flow rate (§5.3; §6.6; §7.5; §2.6.8**)	At least 2 items/type of tap/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Water hammer (§5.4; §2.6.11*)	At least 1 items/type of tap/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Mechanical endurance characteristics (§5.5; §2.6.12; §6.8; §2.6.19; §7.7; §2.6.23*; §2.6.10**)	1 test/type of tap/half year	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Protection against water pollution (§4.4; §7.6)	Quality documentation <sup>a</sup>	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Detection characteristics (§2.6.8*)	At least 2 items/type of tap/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Packaging	At least 2 items/type of tap/day	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
Material ageing test (§2.6.7**)	1 test/type of tap/after tap design	Quality documentation <sup>a</sup>	Quality documentation <sup>b</sup>
<p>* §2.6.8/§2.7.11/§2.6.12/§2.6.19; §2.6.23 of Technical Document 077-13  ** §2.6.3/§2.6.5/§2.6.7/§2.6.8/§2.6.9/§2.6.10 of Technical Document 077-15  <sup>a</sup> Sampling plan accepted by CSTB and subject to revision.  <sup>b</sup> In this table, when the column “ISO 9001 certified Quality Management Option” is filled in by “Quality Documentation”, this means that the applicant/holder has examined the need for a sampling plan. Such examination may result in no testing if design control provides evidence of compliance with product specifications. In this case, the auditor must audit the design to ensure control of the system.</p>			

## 15.2 Procedures for Inspections Carried Out by CSTB

### 15.2.1 Types of products

The different types of products that are inspected by the auditing body(ies) and tested by the laboratory(ies) of the mark are single taps and mixers (under NF EN 200, Articles 1 and 2 of this document)

A product is designated by:

- product family type (mechanical, thermostatic mixer and electronic opening and closing valve)
- model type (washbasin, shower, bath shower)

A product can vary:

- in range if only the operating device or the height/depth of the spout is changed;
- if another coating or accessories are provided without any technical influence on the product.

### 15.2.2 Nature of the inspections and tests

The inspections and tests are carried out in accordance with the requirements of the NF EN 200 standard and this document.

**Table 3**

Test No.	Type of test
1	Verification of markings
2	Materials: Only the coating quality and appearance
3	Verification of dimensional characteristics
4	Inspection of valve assembly sealing (upstream and downstream of the obturator, spout, diverter)
5	Characteristics of mechanical behaviour under pressure
6	Hydraulic characteristics
7	Resistance of the operating device to tightening torque
8	Mechanical endurance (cartridge, head, diverter, swivel spout)
9	Acoustic characteristics
10	Resistance to alternating pressure variations
11	Material ageing test

The following correlations are applied in order to avoid repeating tests on components common to several products.

Test No.	Type of product inspections
1	All products
2	2 items per type of material
3, 5, 6 and 10	All products per type of body, cartridge/head and spout
4 and 8	1 product per cartridge type 1 product per head type 1 product per diverter type 1 product per spout type
7	1 product per type of operating device
9	3 products per type of body and cartridge/head
11	1 product per product family type

Tests No. 10 and No. 11 are carried out only for the ECAU rating.

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**15.2.3 Sampling**

**15.2.3.1 For admission**

All testing shall be carried out in the laboratory/laboratories of the mark, or under its (their) responsibility.

The applicant shall provide the laboratory with samples necessary for the tests in accordance with the instructions provided in the "Admission" column in Table 3.

All the nominal dimensions covered by the application are tested.

Additional tests will be carried out to cover any variants.

**15.2.3.2 For follow-up**

All testing shall be carried out in the laboratory/laboratories of the mark, or under its (their) responsibility.

On a half-year basis, the auditor or manager shall collect or request from the holder the samples required for the tests indicated in Table 4.

**Table 4**

Test No.	Type of inspections of the products sampled
1	All products sampled for the 1st half year and the 2nd half year
2	2 items per type of material for the 1st half year and the 2nd half year
4 and 8	1 product per cartridge type for the 1st half year or 2nd half year 1 product per head type for the 1st half year or 2nd half year 1 product per diverter type for the 1st half year or 2nd half year 1 product per spout type for the 1st half year or 2nd half year
3, 5, 6 ,7 and 10	1 product with a 150 mm centre-to-centre distance (for the 1st half year) and 1 single-hole product (for the 2nd half year, the product is a single-hole bath shower product, if any; otherwise, another model)
9	*
11	*1 product per product family type
*: The acoustic tests are valid for 5 years. Tests No. 10 and No. 11 are carried out only for the ECAU rating.	

**15.2.4 Extension of ECAU-M rating**

When holders apply for an extension of the ECAU-M rating to new models or modified models, they shall file the list of models for which the extension of the rating is requested, in support of the application.

The holder shall then submit the necessary samples for the tests defined in Table 3.