SLOVENSKI STANDARD
SIST EN 1111:2017/oprA1:2021

01-maj-2021

Sanitarne armature - Termostatski mešalni ventili (PN 10) - Splošna tehnična specifikacija

Sanitary tapware - Thermostatic mixing valves (PN 10) - General technical specification

Sanitärarmaturen - Thermostatische Mischer (PN 10) - Allgemeine technische Spezifikation

Robinetterie sanitaire - Mitigeurs thermostatiques (PN 10) - Spécifications techniques générales

Ta slovenski standard je istoveten z: **EN 1111:2017/prA1**

ICS:

91.140.70	Sanitarne naprave	Sanitary installations

SIST EN 1111:2017/oprA1:2021 **en,fr,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

DRAFT
EN 1111:2017

prA1

April 2021

ICS 91.140.70

English Version

Sanitary tapware - Thermostatic mixing valves (PN 10) - General technical specification

Robinetterie sanitaire - Mitigeurs thermostatiques (PN 10) - Spécifications techniques générales

Sanitärarmaturen - Thermostatische Mischer (PN 10) - Allgemeine technische Spezifikation

This draft amendment is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 164.

This draft amendment A1, if approved, will modify the European Standard EN 1111:2017. If this draft becomes an amendment, CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for inclusion of this amendment into the relevant national standard without any alteration.

This draft amendment was established by CEN in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.

Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

Warning : This document is not a European Standard. It is distributed for review and comments. It is subject to change without notice and shall not be referred to as a European Standard.

EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Contents

Page

European foreword

This document (EN 1111:2017/prA1:2021) has been prepared by Technical Committee CEN/TC 164 “Water supply”, the secretariat of which is held by AFNOR.

This document is currently submitted to the CEN Enquiry.

1 Modification to Subclause 13.2.2.1

Replace entire subclause:

"The measurement is made at the maximum available flow rate going from cold to hot and then from hot to cold. For the measurement a TMV, as supplied, or the outlet pipework, as defined in A.3, is used.

If the TMV is equipped with water saving accessories or aerators not complying with the flow rates specified in EN 246, the flow rate test and acoustic test shall be made with the mixing valve as delivered by the manufacturer.

Single sequential valves shall be adjusted to be able to attain a maximum 44 °C. Starting at full cold (off) slowly adjust to 44 °C and then return to 34 °C.

Other device control systems (e.g. push-buttons, touch screens, etc.) shall be tested by a method that ensures the correlation between outlet temperature and flow rate can be suitably recorded. The procedure is subject to agreement between manufacturer and test laboratory."

with:

"The measurement is made at the maximum available flow rate going from cold to hot and then from hot to cold. For the measurement a TMV, as supplied or, for valves without integral atmospheric discharge, with the outlet pipework as defined in A.3 is used.

If the TMV is equipped with water saving accessories or aerators not complying with the dimensions specified in EN 246, the flow rate test and acoustic test shall be made with the mixing valve as delivered by the manufacturer.

Single sequential valves shall be adjusted to be able to attain a maximum 44 °C. Starting at full cold (off) slowly adjust to 44 °C and then return to 34 °C.

Other device control systems (e.g. push-buttons, touch screens, etc.) shall be tested by a method that ensures the correlation between outlet temperature and flow rate can be suitably recorded. The procedure is subject to agreement between manufacturer and test laboratory.".

2 Modification to Subclause 13.5.1.3

Replace entire subclause: "

a) Starting from full hot determine the reference points in the following sequence: (38 ± 0,5) °C, (36 - 1) °C, (40 - 1)°C

b) apply and maintain the initial settings shown in Table 8 and allow water to flow until the outlet temperature has stabilized;

c) start recording the mixed water temperature versus time;

d) within 1 s adjust the temperature control device to read ϑ_{mix} = (36 - 1) °C;

e) allow the outlet temperature to stabilize;

f) restore the settings in b);

g) within 1 s adjust the temperature control device to read ϑ_{mix} = (40 - 1) °C;

h) upon temperature stabilization stop recording mixed water temperature versus time."

with: "

a) Apply and maintain the initial inlet settings shown in Table 8 and allow water to flow for period of maximum 30 s

b) starting from full hot, determine the position of the temperature control for the set temperatures in the following sequence:

T1 : (38-1) °C,

T2 : (36-1) °C, and record the corresponding mixed water temperature measured (ϑ_2),

T3 : (40-1) °C, and record the corresponding mixed water temperature measured (ϑ_3);

c) set the temperature control into the position T1 and allow the mixed water temperature to stabilize for period of maximum 30 s;

d) start recording the mixed water temperature (ϑ_{mix}) versus time;

e) within 1 s set the temperature control to the position T2;

f) allow the mixed water temperature (ϑ_{mix}) to stabilize for period of maximum 30 s;

g) set the temperature control into the position T1 and allow the mixed water temperature (ϑ_{mix}) to stabilize for period of maximum 30 s;

h) within 1 s set the temperature control to the position T3;

i) allow the mixed water temperature (ϑ_{mix}) to stabilize for period of maximum 30 s, stop recording the mixed water temperature versus time.".

3 Modification to Subclause 13.5.1.5

Replace entire subclause:

"The mixed water temperature ϑ_{mix} shall not differ from the set temperatures ϑ_0 for a duration (t_2 - t_1) longer than 1s with an amplitude of more than ϑ_x = 3K.

t_3 = 5 s after disturbing the respective equilibrium the mixed water temperature shall not differ by more than 2K from the set temperatures nor oscillate in excess of 1 ϑ_{PP}.

NOTE If this is done with single sequential control valves (Type 3) the flow rate will also change i.e. not maintaining Table 8 conditions."

with:

"The mixed water temperature (ϑ_{mix}) shall not differ more than 3 K from the respective set temperature (ϑ_2 or ϑ_3) for a duration longer than 1s ($t_2 - t_1$, respectively $t_7 - t_6$). Maximum 5 s (t_3, respectively t_8) after disturbing the respective equilibrium the mixed water temperature (ϑ_{mix}) shall not differ by more than 2 K from the set temperatures (ϑ_2 or ϑ_3) nor oscillate in excess of 1 K (ϑ_{PP}).

NOTE 1 See also informative graph included in Figure 1.

NOTE 2 If this is done with single sequential control valves (Type 1) the flow rate will also change i.e. not maintain Table 8 conditions.".

Add also Figure 2: "

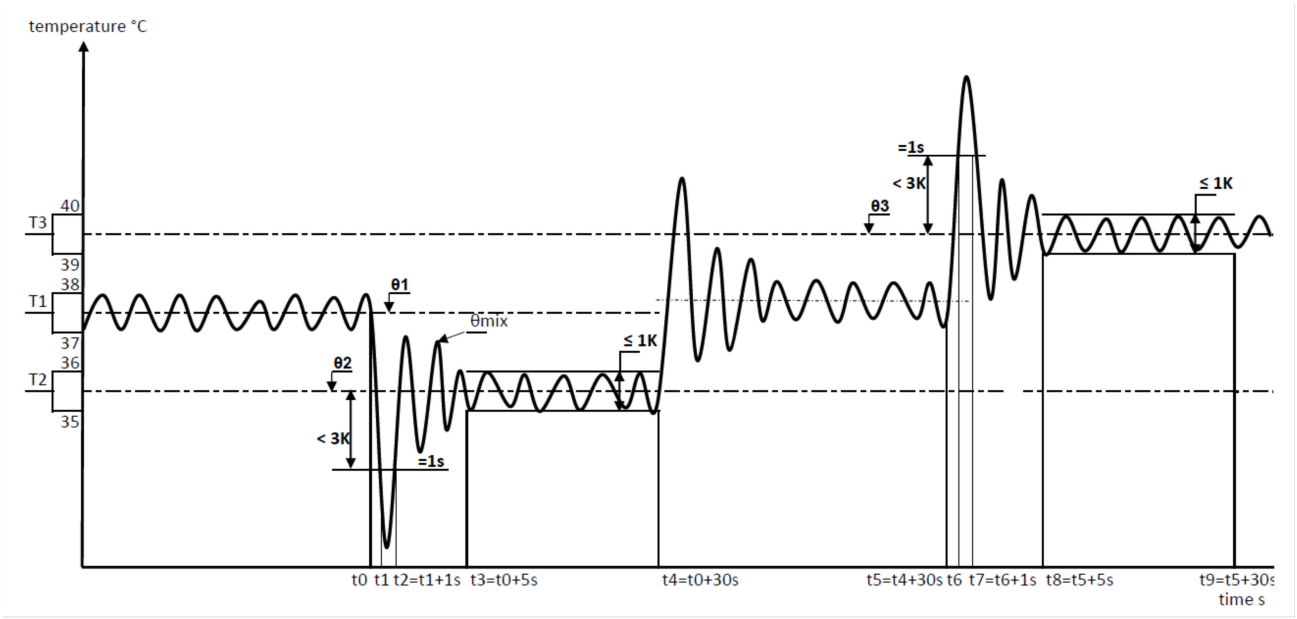

Figure 1 — Temperature control operation".

Update the figure numbering and the related cross references throughout the document.

4 Modification to Subclause 13.5.2.3

Replace entire subclause: "

a) Apply and maintain the initial settings shown in Table 8 and allow water to flow until the outlet temperature has stabilized;

b) Start recording mixed water temperature versus time.

c) Within (5 to 6) s adjust the flow control of the valve under test to deliver 50 % of the flow rate according to a), in case the tested valve has no flow control the outlet pipework A.3 or A.4 shall be used instead.

d) Upon temperature stabilization stop recording mixed water temperature versus time."

with: "

a) Apply and maintain the initial settings shown in Table 8; and allow the mixed water temperature (ϑ_{mix}) to stabilize for maximum 30 s;

b) start recording the mixed water temperature (ϑ_{mix}) versus time;

c) within (5 to 6) s reduce the flow rate to deliver (45 to 55) % of the initial flow rate according to a), In case the tested valve has no flow control the outlet pipework A.3 or A.4 shall be used instead;

d) allow the mixed water temperature (ϑ_{mix}) to stabilize for period of maximum 30 s, stop recording the mixed water temperature versus time latest at 60 s.".

5 Modification to Subclause 13.5.2.5

Replace entire subclause:

"After 30 s the mixed water temperature shall not differ from the set temperature by more than 2 K nor oscillate in excess of 1 ϑ pp."

with:

"After 30 s, the mixed water temperature (ϑ_{mix}) shall not differ by more than 2 K from the set temperature nor oscillate in excess of 1K (ϑ_{PP})."

and add the following Note:

"NOTE See also informative graph included in Figure 2.".

Add also Figure 2: "

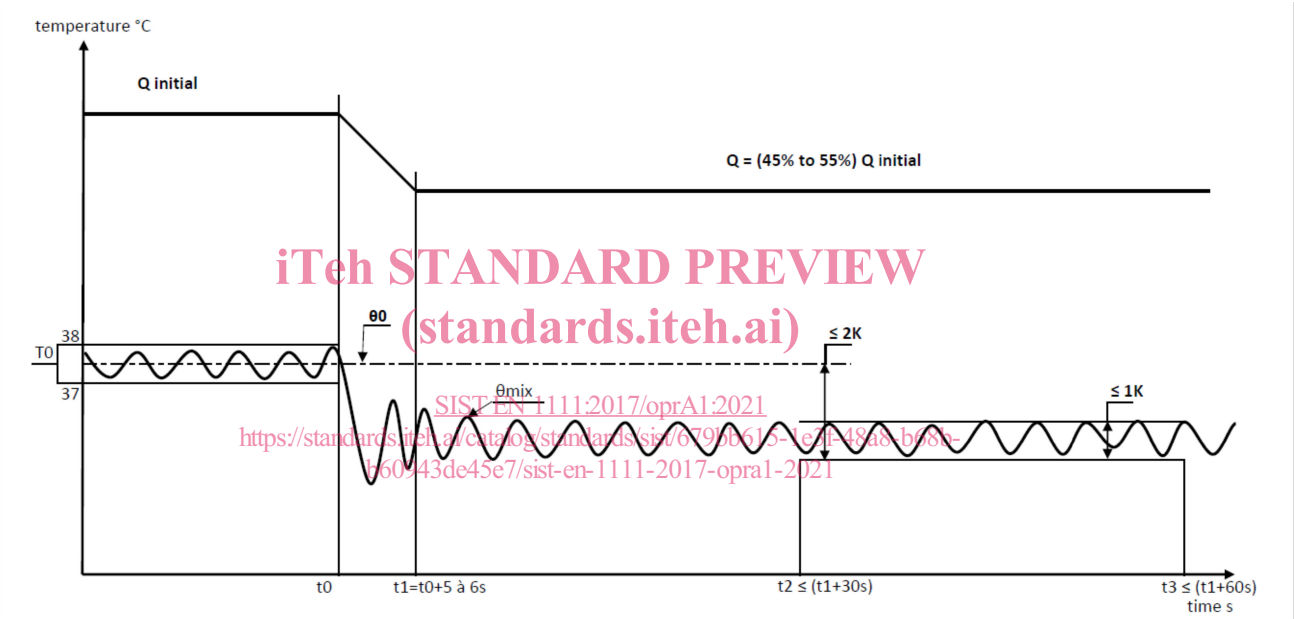

Figure 2 — Flow rate reduction".

Update the figure numbering and the related cross references throughout the document.

6 Modification to Subclause 13.5.4.4.2

Replace entire subclause:

"The mixed water temperature ϑmix shall not differ from the set temperature ϑ0 with more than 3 K for a duration longer than 1 s (t_2-t_1).

t_3 = 5 s after disturbing the respective equilibrium (t_0) the mixed water temperature shall not differ by more than 2 K from the set temperatures (ϑ_0) nor oscillate in excess of 1 ϑ pp."

with:

"After a pressure reduction, the mixed water temperature (ϑ_{mix}) shall not differ more than 3 K from the set temperature (ϑ_0) for a duration longer than 1 s.

Maximum 5 s after a pressure reduction, the mixed water temperature (ϑ_{mix}) shall not differ by more than 2 K from the set temperature (ϑ_0) nor oscillate in excess of 1 K (ϑ_{PP})."

and add the following Note: "

NOTE See also informative graph included in Figure 3.*".*

Add also Figure 3: "

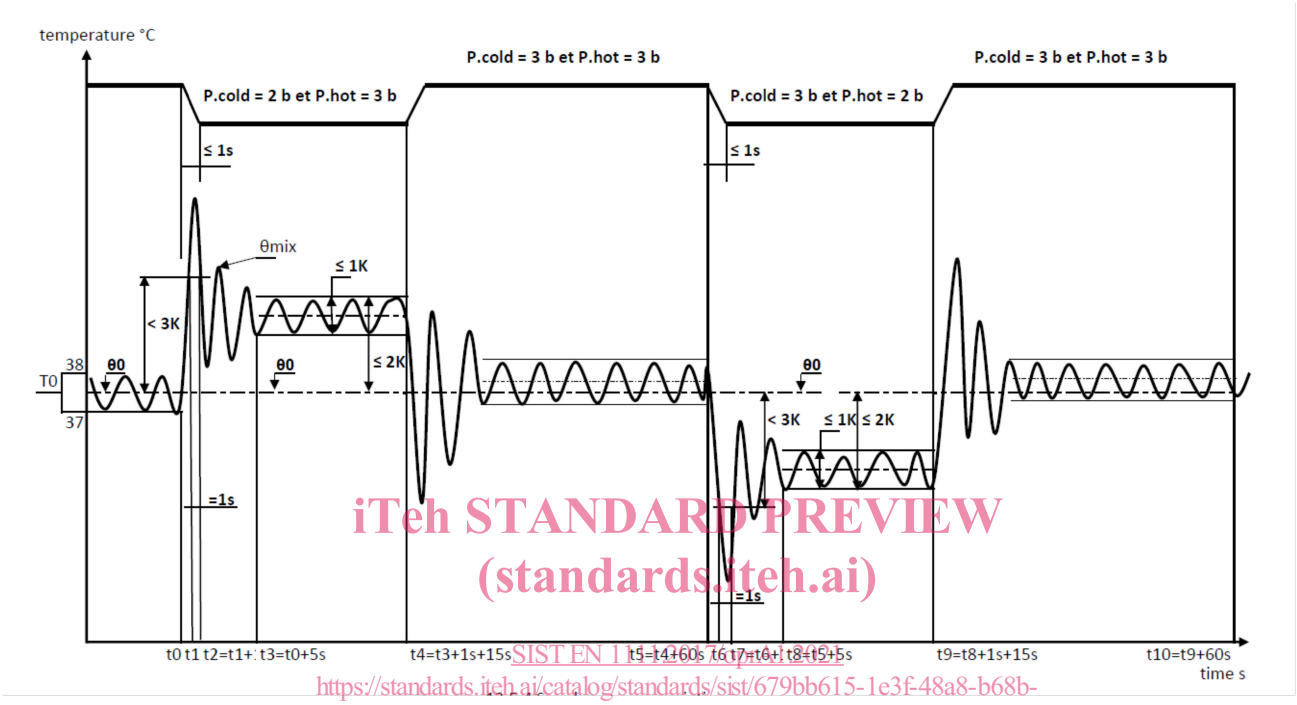

Figure 3 — Supply pressure variation".

Update the figure numbering and the related cross references throughout the document.

7 Modification to Subclause 13.5.5.2

Replace entire subclause: "

a) Apply and maintain the initial settings shown in Table 8 and allow water to flow until the outlet temperature has stabilized;

b) Start recording outlet temperature versus time.

c) Reduce the hot supply temperature by (10 ± 1) °C within 10 s and maintain this condition for at least 30 s.

d) Restore the hot supply temperature within 10 s and maintain this condition for 40 s.

e) Stop recording outlet temperature versus time."

with: "

a) Apply and maintain the initial settings shown in Table 8 and allow the mixed water temperature (ϑ_{mix}) to stabilize for maximum 30 s;