



SLOVENSKI STANDARD
SIST EN 304:1997/A2:2004
01-januar-2004

**Kotli za gretje - Pravila za preskušanje kotlov z razprševalnimi oljnimi gorilniki -
Dopolnilo A2**

Heating boilers - Test code for heating boilers for atomizing oil burners

Heizkessel - Prüfregeln für Heizkessel mit Ölzerstäubungsbrennern

Chaudières de chauffage - Règles d'essai pour les chaudières pour brûleurs à fioul à
pulvérisation

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Ta slovenski standard je istoveten z: EN 304:1992/A2:2003

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ICS:

91.140.10

SIST EN 304:1997/A2:2004

en,fr,de

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ICS 91.140.10

English version

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This amendment A2 modifies the European Standard EN 304:1992; it was approved by CEN on 3 April 2003.

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. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Management Centre or to any CEN member.

This amendment exists 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 Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and United Kingdom.

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

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Foreword

This document (EN 304:1992/A2:2003) has been prepared by Technical Committee CEN/TC 57 "Central heating boilers", the secretariat of which is held by DIN.

This Amendment to the European Standard EN 304:1992 shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by March 2004, and conflicting national standards shall be withdrawn at the latest by March 2004.

This Amendment to the European Standard EN 304:1992 specifies the additionally required heating-related tests and the deviating boundary conditions for low-temperature central-heating boilers. Its purpose is to complete, amend or shorten EN 304:1992. This does not affect the main standard.

WARNING : other requirements and other EU Directives may be applicable to the products falling within the scope of this European Standard.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and the United Kingdom.

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1 Scope

This European Standard applies to low-temperature boilers in accordance with EN 303-1/A1 and specifies the deviating boundary conditions for the heating-related tests on low-temperature boilers fired with liquid fuel.

5.8 Part-load Efficiency

Replace the text in the 2nd paragraph by the following:

It shall be checked whether the requirements of EN 303-2 and EN 303-2/A1:2003 have been met.

NOTE The boiler supply temperature is held constant with a maximum variation in this temperature of ± 1 K (for direct method) during the measurement period at the appropriate temperature levels as follows, where the mean temperature in all cases should be not less than those given in the Efficiency Directive 92/42/EC.

5.8.1.1 Operating mode No.1 (see EN 304:1992/A1:1998)

Add the following text at the end of the paragraph to supplement the temperature indication in 5.8.1.1, 2nd paragraph.:

Diverging from the normal condition the test on low-temperature boilers is carried out at $(37 \pm 1)^\circ\text{C}$ and the test on condensing boilers is carried out at $(27 \pm 1)^\circ\text{C}$.

5.8.1.2 Operating mode No.2 (see EN 304:1992/A1:1998)

Replace the temperature indication in 5.8.1.2, 4th paragraph by the following:

50°C for standard boilers and 40°C for low-temperature boilers. For condensing boilers a return temperature of 30°C has to be set.

5.8.2.1.1 Usefull efficiency at the nominal heat input at reduced average temperature (see EN 304:1992/A1:1998)

Replace the temperature indication „ $(60 \pm 1)^\circ\text{C}$ “ in 5.8.2.1.1 by the following:

$(60 \pm 2)^\circ\text{C}$ for standard boilers, $(50 \pm 2)^\circ\text{C}$ for low-temperature boilers and $(40 \pm 1)^\circ\text{C}$ for condensing boilers.

Replace the temperature indication „ $(40 \pm 1)^\circ\text{C}$ “ in 5.8.2.1.1 by the following:

$(40 \pm 1)^\circ\text{C}$ for standard boilers and $(30 \pm 1)^\circ\text{C}$ for low-temperature and condensing boilers.

Replace the temperature indication „ $(50 \pm 1)^\circ\text{C}$ “ in 5.8.2.1.1 by the following:

$(50 \pm 1)^\circ\text{C}$ for standard boilers, $(40 \pm 1)^\circ\text{C}$ for low-temperature boilers and $(35 \pm 1)^\circ\text{C}$ for condensing boilers.

5.8.2.1.2 Efficiency at the minimum controlled rate (see EN 304:1992/A1:1998)

Replace the temperature indication „ $(55 \pm 1)^\circ\text{C}$ “ in 5.8.2.1.2 by the following:

$(55 \pm 2)^\circ\text{C}$ for standard boilers, $(45 \pm 2)^\circ\text{C}$ for low-temperature boilers and $(40 \pm 1)^\circ\text{C}$ for condensing boilers.

Replace the temperature indication „ $(45 \pm 1)^\circ\text{C}$ “ in 5.8.2.1.2 by the following:

$(45 \pm 1)^\circ\text{C}$ for standard boilers, $(35 \pm 1)^\circ\text{C}$ for low-temperature boilers and $(20 \pm 1)^\circ\text{C}$ for condensing boilers.

Replace the temperature indication „(50 ± 1)°C“ in 5.8.2.1.2 by the following:

(50 ± 1)°C for standard boilers, (40 ± 1)°C for low-temperature boilers and (30 ± 1)°C for condensing boilers and (10 ± 1)°C for condensing boilers.

5.8.2.1.3 Standby loss (see EN 304:1992/A1:1998)

Replace the temperature indications „(30 ± 5)°C“ in 5.8.2.1.3 (4th and 5th paragraphs) by the following:

(30 ± 5)°C for standard boilers, (20 ± 5)°C for low-temperature boilers and (10 ± 1)°C for condensing boilers.

Replace the temperature indication „50 °C“ in 5.8.2.1.3, 8th paragraph by the following:

50°C for standard boilers, 40°C for low-temperature boilers and 30°C for condensing boilers.

Formula (2) in 5.8.2.1.3 becomes formula (2.1) and is limited to standard boilers by adding the following text:

„for standard boilers (see formula 2.1)“

Add the additional formulas 2.2 and 2.3 with the text added after formula 2.1:

$$P_s = P_m \left[\frac{20}{T - T_A} \right]^{1,25}$$

for low-temperature boilers (see formula 2.2) and

$$P_s = P_m \left[\frac{10}{T - T_A} \right]^{1,25}$$

for condensing boilers (see formula 2.3).

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5.8.2.2 Calculations (see EN 304:1992/A1:1998)

Replace the temperature indication „50 °C“ in 5.8.2.2 by the following:

50°C for standard boilers, 40°C for low-temperature boilers and 30°C for condensing boilers.