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**SANS 151:2017**

Edition 8.1

# **SOUTH AFRICAN NATIONAL STANDARD**

## **Fixed electric storage water heaters**

**WARNING**

**This standard references other documents normatively.**

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**Table of changes**

<b>Change No.</b>	<b>Date</b>	<b>Scope</b>
Amdt 1	2017	Amended to add gas burners to the scope, to update normative references, to update safety requirements for gas water heaters, to revise materials requirements for water container shell, to update requirements for casing (outer cover) and cistern, to update requirements for pipe connectors, to update requirements for immersion heaters and thermostats, to update requirements for standing loss, to update requirements for mechanical strength test of water container, to update a note and requirements for standing loss test (standard, solar without associated solar collector, and heat pump water heaters), to update requirements for test for cathodic protection, to update requirements for tests of polyethylene lined steel storage containers on materials, construction methods and tests for hot water storage containers.

**Foreword**

This South African standard was prepared by National Committee SABS/TC 075, *Performance of household and similar electrical appliances*, in accordance with procedures of the SABS, in compliance with annex 3 of the WTO/TBT agreement.

This document was approved for publication in March 2017.

This document supersedes SANS 151:2015 (edition 8).

A vertical line in the margin shows where the text has been technically modified by amendment No. 1.

**Compliance with this document cannot confer immunity from legal obligations.**

**This document is referenced in the *Compulsory specification for hot water storage tanks for domestic use*, as published by Government Notice No. 362 (Government Gazette No. 37631 of 16 May 2014 and in the Regulations of the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993).**

Annexes A, B, D and E form an integral part of this document. Annexes C and F are for information only.

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## Fixed electric storage water heaters

### 1 Scope

**1.1** This standard specifies the characteristics of thermostatically controlled fixed electric storage water heaters intended for indoor and outdoor domestic use and for operation on a.c. supplies at voltages not exceeding 250 V for single-phase and 480 V for other appliances.

**1.2** This standard is applicable to fixed electric storage water heaters used in conjunction with collectors for solar water heating.

**1.3** This standard is applicable to fixed electric storage water heaters that are used in conjunction with a heat pump; and the heat pump and container comprise one integral unit.

**1.4** This standard is also applicable to non-electric storage water heaters that may be coupled to heat pumps, solar collectors or gas burners. **Amdt 1**

### 2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies. Information on currently valid national and international standards can be obtained from the SABS.

ASTM B843-13, *Standard specification for magnesium alloy anodes for cathodic protection.*

ASTM D1003-13, *Standard test method for haze and luminous transmittance of transparent plastics.*

ASTM D1693-15, *Standard test method for environmental stress-cracking of ethylene plastics.* **Amdt 1**

ASTM G154-16, *Standard practice for operating fluorescent ultraviolet (UV) lamp apparatus for exposure of nonmetallic materials.* **Amdt 1**

ISO 62, *Plastics – Determination of water absorption.*

ISO 75-1, *Plastics – Determination of temperature of deflection under load – Part 1: General test method.*

ISO 179-1, *Plastics – Determination of Charpy impact properties – Part 1: Non-instrumented impact test.*

ISO 179-2, *Plastics – Determination of Charpy impact properties – Part 2: Instrumented impact test.*