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**GOVERNMENT NOTICES • GOEWERMENTSKENNISGEWINGS**

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**DEPARTMENT OF TRADE, INDUSTRY AND COMPETITION**

NO. 159

1 March 2021

**NATIONAL REGULATOR FOR COMPULSORY SPECIFICATIONS ACT  
(Act No. 5 of 2008), AS AMENDED THROUGH LEGAL METROLOGY ACT (Act  
No. 9 of 2014)****COMPULSORY SPECIFICATION FOR SAFETY REQUIREMENTS OF GENERAL  
SERVICE LAMPS (GSLs) - VC 9110**

I, Ebrahim Patel, the Minister of Trade, Industry and Competition, hereby under section 13(4)(a) of the National Regulator for Compulsory Specifications Act, 2008 (Act 5 of 2008), and, on the recommendation of the National Regulator for Compulsory Specifications (NRCS), publish the proposal to declare the compulsory specification set out in the attached schedule, as a compulsory specification for the safety performance of general service lamps.

Any person, who wishes to comment on this proposal to declare the Compulsory Specification concerned, shall submit their comments, in writing, to the Chief Executive Officer, National Regulator for Compulsory Specifications, Private Bag X 25, Brooklyn, 0075, on or before the date two (2) months after the publication of this notice.



**Ebrahim Patel,**  
**Minister of Trade, Industry and Competition**

## SCHEDULE

### VC 9110 - COMPULSORY SPECIFICATION FOR SAFETY REQUIREMENTS OF GENERAL SERVICE LAMPS (GSLs)

#### 1 SCOPE

This compulsory specification covers the safety requirements for general lighting directional and non-directional lamps of all shapes and finishes; using incandescent, halogen, fluorescent, light emitting diode (LED), and other light source technologies (not including high-intensity discharge lamps) with consideration of the standards referenced in clause 3 of this compulsory specification.

#### 2 DEFINITIONS

**2.1** For the purposes of this document, the definitions in standards referred in section 4 of this compulsory specification, shall apply.

**2.2 In addition, the following definitions shall apply:**

**2.2.1 applicant:** the manufacturer or importer seeking approval for GSL(s). The applicant shall be an existing legal entity within the Republic of South Africa.

**2.2.2 approval:** confirmation by the NRCS that a particular GSL(s) satisfies the requirements of this compulsory specification.

**2.2.3 arithmetical mean:** the average of a set of numerical values, calculated by adding them together and dividing by the **number of terms in the set**.

**2.2.4 declaration report:** a report that is issued by an accredited conformity assessment body, indicating the equivalence of standards.

**2.2.5 directional lamp (DL):** a lamp which has a beam angle (as defined in IEC 61341:1994 and measured in accordance with CIE S025:2015) of no more than 90 degrees in at least one plane and that being in at least one plane for an asymmetric beam lamp. These lamps are also known as reflector lamps and are commonly installed in recessed cans or track lighting.

- 2.2.6 family:** a group of lamps, luminaires, light modules or drivers with the same brand name that has essentially identical: (1) physical characteristics and construction, (2) system design and performance, and (3) quality and safety characteristics. Any variation within a family of models shall have little or no effect on the efficacy and performance of those models.
- 2.2.7 fluorescence or fluorescent light source (FL):** the phenomenon or a light source using an electric gas discharge of the low-pressure mercury type in which most of the light is emitted by one or more layers of phosphors excited by the ultraviolet radiation from the discharge. Fluorescent light sources may have one ('single-capped') or two ('double-capped') connections ('caps') to their electricity supply. For the purposes of this Regulation, magnetic induction light sources are also considered as fluorescent light sources.
- 2.2.8 gas discharge:** a phenomenon where light is produced, directly or indirectly, by an electric discharge through a gas, plasma, metal vapour or mixture of gases and vapours.
- 2.2.9 general service lamp (GSL):** includes a light source that meets the requirements of section 1.1 of VC 9108.
- 2.2.10 halogen lamp:** gas-filled lamp containing halogens or halogen compounds, the filament being of tungsten.
- 2.2.11 high-intensity discharge:** 'high intensity discharge' (HID) means an electric gas discharge in which the light-producing arc is stabilised by wall temperature and the arc chamber has a bulb wall loading in excess of 3 Watts per square centimetre. 'Gas discharge' means a phenomenon where light is produced, directly or indirectly, by an electric discharge through a gas, plasma, metal vapour or mixture of gases and vapours. For the purpose of this Regulation, HID light sources are limited to metal halide, high-pressure sodium and mercury vapour types.

**2.2.12 incandescence:** emission of optical radiation by the process of thermal radiation. In light sources incandescence is typically produced by the passage of an electric current through a threadlike resistive conductor ('filament') which creates heat.

**2.2.13 lamp:** a light source made in order to produce an optical radiation, usually visible. Note: The term "lamps" is often referred to as a globe, bulb or light bulb.

**2.2.14 lamp cap:** that part of a lamp which provides connection to the electrical supply by means of a lampholder or lamp connector and, in most cases, also serves to retain the lamp in the lampholder.

**Note 1:** The term base is also used in both the United Kingdom and the US to denote an integral part of a lamp envelope which has been so shaped that it fulfils the function of a cap. It may engage either a holder or a connector, depending on other design features of the lamp- and holder system.

**Note 2:** The cap of a lamp and its corresponding holder are generally identified by one or more letters followed by a number which indicates approximately the principal dimension (generally the diameter) of the cap in millimeters.

**2.2.15 light emitting diode (LED):** a technology in which light is produced from a solid state device embodying a p-n junction of inorganic material or organic material. This latter case is also known as 'organic light emitting diode' (OLED). In both cases the junction emits optical radiation when excited by an electric current.

**2.2.16 luminaire:** an apparatus which distributes, filters or transforms the light transmitted from one or more lamps and which includes, except the lamps themselves, all the parts necessary for fixing and protecting the lamps and, where necessary, circuit auxiliaries together with the means for connecting them to the electric supply.

- 2.2.17 model:** refers to all the units in a product line from the same manufacturer, sold under the same brand name, and which are identical except for a serial number or other identifying mark. Any variation within a product line of models shall have no effect on the efficacy and performance of those models and shall only be due to natural manufacturing variation observed within otherwise identical units.
- 2.2.18 non-directional lamp (NDL):** a general service lamp that is not a directional lamp.
- 2.2.19 NRCS:** National Regulator for Compulsory Specifications as established by the National Regulator for Compulsory Specifications Act, 2008 (Act No. 5 of 2008).
- 2.2.20 proof of approval:** a Letter of Authority (LoA) issued by the NRCS, which confirms that a particular GSL(s) satisfies the requirements of this compulsory specification.
- 2.2.21 valid test report:** a copy of an original test report.

### **3. GENERAL REQUIREMENTS**

- 3.1** The applicant shall ensure that each model of GSL(s) has been approved and successfully registered by the NRCS before offering it for sale, or import, or supply in accordance with the requirements of Annex A.
- 3.2** The applicant shall inform the NRCS of any change in design or materials affecting any mandatory requirement in terms of this compulsory specification. In the event of such change(s) the NRCS may, at its discretion, demand that the applicant submits a new application for approval.
- 3.3** The applicant shall, on request, provide the NRCS, within five (5) working days, with satisfactory proof of compliance in respect of any model of GSL(s) included in the scope of this compulsory specification.
- 3.4** Failure to provide such proof shall constitute reasonable grounds for suspicion of non-compliance with the requirements of this compulsory specification.

**3.5** All GSL(s) shall comply with the requirements of this compulsory specification with respect to safety as set out in Section 4.

#### **4. SAFETY REQUIREMENTS**

Safety specifications for all non-LED GSLs that are currently regulated will continue to apply:

- 4.1** Tungsten filament lamps shall comply with the requirements of SANS 60432-1, Tungsten filament lamps for domestic and similar general lighting purposes- Safety specifications.
- 4.2** Tungsten halogen lamps shall comply with the requirements of **SANS 60432-2**, *tungsten halogen lamps for domestic and similar general lighting purposes- safety specification* or **SANS 60432-3**, *tungsten halogen lamps (non-vehicle)- Safety specification*.
- 4.3** Single-capped fluorescent lamps shall comply with the safety requirements of **SANS 61199**, *Single -capped fluorescent lamps safety specifications* or SANS 60968, *Self-ballasted lamps for general lighting services - Safety requirements*.
- 4.4** Self-ballasted LED-lamps shall comply with the safety requirements of **SANS 62560**, *Self-ballasted LED-lamps for general lighting services by voltage > 50 V - Safety specification*.
- 4.5** Semi-integrated LED-lamps shall comply with the safety requirements of **SANS 62838**, *LEDsi-lamps for general lighting services with supply voltages not exceeding > 50 V a.c .r.m.s or 120 V ripple free d.c.- Safety specification*.
- 4.6** All GSLs shall comply with the photobiological risk requirements in Table 1:

Table 1: photobiological risk requirements

Metric	Mandatory Requirements
Photobiological risk group (blue light and UV hazard)	For the blue light hazard: RG0 or RG1 are allowed. If an LED uses a UV-based LED chip, then it must meet UV RG0 and RG1. The risk group (RG) is assessed at 200 mm from the lamp using the general methodology of IEC 62471 and the particular prescriptions of IEC TR 62778.



## **5. EQUIVALENCE OF STANDARDS**

- 5.1** Standards issued by different standardization bodies such as ISO and EN, will only be accepted if it is proven, in the form of a declaration report from an accredited conformity assessment body, that they are technically equivalent to the relevant South African National Standard or other relevant standard as provided in Section 4.
- 5.2** The applicant shall be responsible for obtaining such a declaration report. Proof of conformity with such a standard shall be accepted as conformity with the corresponding South African National Standard or other relevant standard as provided in Section 4.

## **6. CONFORMITY TO NEW EDITIONS OF REFERENCED STANDARDS**

- 6.1** For the purposes of this compulsory specification, a new edition of a referenced standard shall become effective twelve (12) months from the date of publication as a South African National Standard.
- 6.2** New products, or products resubmitted for approval because of a change in design or materials, shall in all cases be evaluated against the requirements of the latest edition of any referenced standard.
- 6.3** When a new edition of a referenced standard is published, products originally approved in accordance with the previous edition of that standard may have their approval extended for up to five (5) years from the effective date of the new standard, subject to the requirements of Annex A, unless declared otherwise by the Minister.

## **7. EVIDENCE OF CONFORMITY TO REQUIREMENTS**

With respect to the safety requirements (section 3), a valid test report issued by an appropriately accredited and internationally recognized body being a member of an IAF/ILAC/IECEE mutual recognition scheme in accordance with the NRCS's conformity assessment policy, shall be submitted to the NRCS as proof of conformity with the safety requirements of this compulsory specification.

## **8. IMPLEMENTATION PHASES**

The compulsory specification shall be effective in accordance with the following phases:

### **a) Phase 1:**

Twelve (12) months after the publication of the final notice for duration of three (3) years. Products that are already in the market and approved by the NRCS for safety requirements are to comply with this compulsory specification twelve (12) months after the publication of the final notice.

### **b) Phase 2:**

Thirty-six (36) months after the publication of the final notice. Products that are already in the market and approved by the NRCS for safety requirements are to comply with this compulsory specification thirty-six (36) months after the publication of the final notice.

## **ANNEXURE A - APPROVAL OF GENERAL SERVICE LAMP (GSL)**

### **(Normative)**

#### **A1. APPLICATION FOR APPROVAL**

An application for approval of each model of GSL (or family of GSL) intended for sale shall include A.1.1 to A.1.5 inclusive:

- A1.1** Details of the model(s) of GSL(s) for which approval is sought and the standard(s) to which it is claimed to conform;
- A1.2** Details of the manufacturing plant(s) in which the GSL model is produced;
- A1.3** Identification markings and other information appearing on the product;
- A1.4** Any reasonable additional information in order to clarify the above that may be requested by the NRCS.
- A1.5** For new applications:
  - a)** Proof of conformity as described in Section 6 of this compulsory specification, with all the safety requirements of this compulsory specification set out in Section 3.2, issued less than 36 months before the date of submission to the NRCS;
  - b)** Declaration that all submitted information relates to the model of GSL detailed in this application for safety approval
- A1.6** For renew applications: Three (3) months prior to expiry of the Letter of Authority (LOA), an application for a new LOA may be granted, provided that a declaration that all the current conditions of the product safety certification are met for the model of GSL detailed in this application for safety approval.

**A2. APPROVAL**

- A2.1** The NRCS shall assess the evidence of conformity supplied by the applicant and shall decide to grant approval or not, at its sole discretion.
- A2.2** The NRCS shall assign a unique number to each approval
- A2.3** The NRCS shall issue a Letter of Authority (LOA) certificate for each successful application, to the applicant, when all the requirements have been met.
- A2.4** The approval granted with respect to each model of GSL that is pursuant to this compulsory specification may be withdrawn at any time, after the manufacturer has been notified in writing, if the requirements have not been met or maintained.