



Introductory Guide to the Gulf Technical Regulation for Low Voltage Electrical Equipment and Appliances

AN APPLICANT GUIDE
EDITION 1.0

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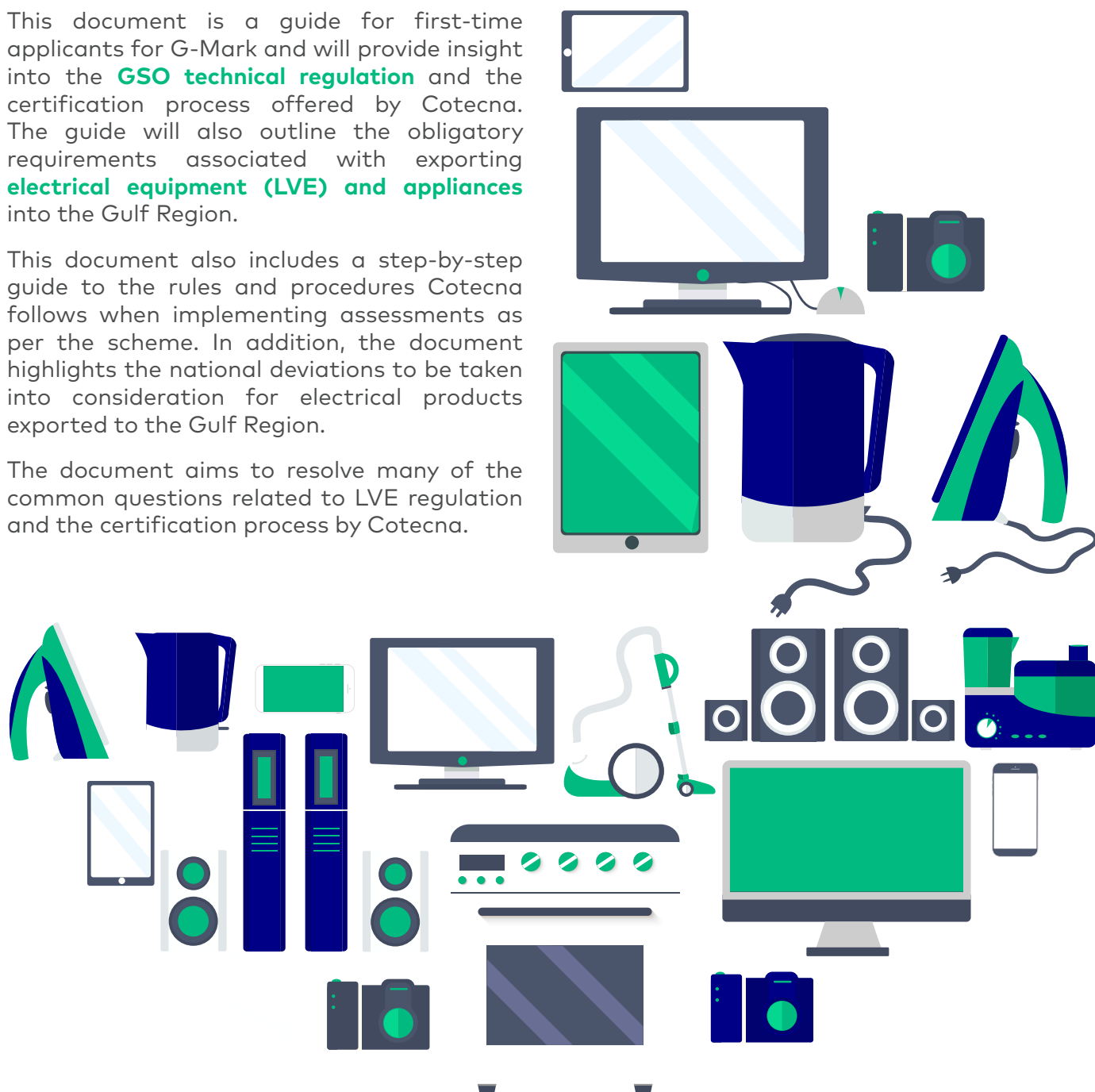
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SUMMARY

This document is a guide for first-time applicants for G-Mark and will provide insight into the **GSO technical regulation** and the certification process offered by Cotecna. The guide will also outline the obligatory requirements associated with exporting **electrical equipment (LVE) and appliances** into the Gulf Region.

This document also includes a step-by-step guide to the rules and procedures Cotečna follows when implementing assessments as per the scheme. In addition, the document highlights the national deviations to be taken into consideration for electrical products exported to the Gulf Region.

The document aims to resolve many of the common questions related to LVE regulation and the certification process by Cotecna.



INTRODUCTION

GSO AND GCC

The **GCC Standardization Organization (GSO)** is a Regional Standardization Organization (RSO) established by a GCC Supreme Council resolution (22nd Session, Muscat, Oman, 30-31 December 2001). GSO launched in May 2004 with the governments of the United Arab Emirates, Bahrain, Saudi Arabia, Oman, Qatar, and Kuwait as its members.

The GSO mission is to assist the **Gulf Cooperation Council (GCC)** States to achieve the objectives set forth in the GCC Charter and in the GCC Economic Agreement.

GSO will achieve this by unifying the various standardization activities and by monitoring implementation and compliance in cooperation and coordination with the standardization bodies in its member states (NSBs). In addition, GSO aims to develop the production and service sectors, foster intra-GCC trade, protect consumers, the environment and public health. At the same time, enhancing the GCC economy, its competitiveness and meet the requirements of the Gulf Custom Union and Gulf Common Market.

G-MARK IN GCC MEMBER STATES

In its 10th meeting (Muscat, 24 May 2009), the GSO Board of Directors approved the Technical Regulation for the Gulf Conformity Mark. In pursuit of reducing technical barriers to trade and facilitate the free movement of commodities across borders within the GCC states. **The Gulf Conformity Mark** was devised as the principle means of realizing the GCC goals. The mark is not a quality mark, but rather a symbol that signifies the conformity of products to the bare minimum essential requirements for health, safety and the environment. For products that are subject to the GCC Technical Regulations, the GCC conformity mark is compulsory.

For the purposes of harmonisation (and as with other regulatory and safety requirements defined in schemes or programs from other international or national organisations), the G-Mark program is similar in design to regulatory programs operated out of Europe. For instance, the mandatory CE marking process, which follows the new Directive Principals approach. Among these, a mandatory modular route for Type Certification product conformity conducted via an accredited and appointed Notified Body (Accreditation by the Gulf Accreditation Centre – GAC).

Source for all GSO technical Regulation:

<https://www.gso.org.sa/en/conformity/gcc-conformity-assessment-scheme>



UNDERSTANDING GSO BD-142004-01 FOR LVE

BD-142004-01

Since July 1st, 2016, manufacturers and importers of electrical products exported to Gulf Cooperation Council (GCC) countries need to comply with the Gulf Technical Regulation for Low Voltage Electrical Equipment and Appliances (BD-142004-01). Products designated to List (2) of the regulation include home appliances like [air conditioners](#), [refrigerators](#), [kitchen appliances](#), [heaters](#), [socket outlets](#) and [battery chargers](#). These products require certification and the Gulf Conformity Mark (G-Mark) from a GSO Notified Body like [Cotecna](#).



**GCC Standardization Organization
GSO**

**Gulf Technical Regulation
for Low Voltage Electrical Equipment and
Appliances**

Note:

**Only the Arabic version of this Regulation is authentic
in law and is applicable where there are differences
with this translation**

The ESRs (Equivalent Series Resistance) detail the safety objectives for Electrical, Electronic Appliances (EEA) within the voltage range specified above, with emphasis placed on meeting hazard protection concepts within product(s) design. In summary, the design and manufacture standards of EEA are to be met before affixing the G-Mark.

These hazard protection concepts in brief are:

PHYSICAL The essential electrical characteristics of the product are identifiable and have instructions for use (including Arabic translation), with considerations to be made for the design, manufacturability and life cycle capability of the product.

ELECTRICAL Adequate protection against electric shock or physical injury via direct or indirect contact.

THERMAL The product design should ensure that resultant temperature (excessive heat) arcs, radiation, and electromagnetic influences do not cause harm to individuals, property, or the environment.

MECHANICAL Prevent non-electrical hazards such as shock/impact or other influences that will cause physical harm.

CONSTRUCTION The product is designed correctly using suitable materials and electrical insulation and considers foreseeable misuse conditions.

SUPPLY Electrical characteristics of each GCC member country are considered. (See table below)

	UNITED ARAB EMIRATES	KINGDOM OF BAHRAIN	KINGDOM OF SAUDI ARABIA	SULTANATE OF OMAN	STATE OF QATAR	STATE OF KUWAIT	REPUBLIC OF YEMEN
Rated Voltage (Volt)	230/400±10%/6%	230/400±6%	127/220±5 For domestic and commercial use 220/380±5 For industrial use	240/415±6%	240/415±6%	240/415±6%	240/415±6%
Frequency (Hertz)	50 Hz ±0.5 (1%)	50 Hz ±0.5 (1%)	60 Hz ±0.1	50 Hz ±0.5 (1%)	50 Hz ±0.5 (1%)	50 Hz ±0.5 (1%)	50 Hz
Type and shape of the plugs and sockets	C/D/G	G	G	C/G	D/G	C/G	A/D/G

Note: Type and shape of the plugs and sockets shall be reviewed from the IEC website www.iec.ch.



MANUFACTURER OBLIGATIONS

In the design, manufacturing and subsequent market placement of low voltage electrical products intended for the GCC, and requiring the G-Mark, all manufacturers shall ensure their product(s) meets the requirements set out in the Technical Regulation BD-1420004-01.

GSO regulates LVEs based on two categories. The first category called "List 1" consists of products that do not require certification by a notified body. Instead, manufacturers must self-comply during the production process. However, LVE List 2 products are subject to conformity assessment by notified bodies like Cotecna. The products under List 1 are yet to be unannounced, therefore the full scope of products to be regulated under these terms is still unclear. However, the conformity requirements have been disclosed under BD-142004-01.

As per Annex (3) of the Technical Regulation, in summary the manufacturer should provide:

- > A Technical Documentation file for each model or product range
- > A risk analysis/assessment report relating to the products within the series range
- > The technical file shall contain third-party test report(s) from a Notified Body, GAC, or ILAC-accredited laboratory (ILAC Lab - Manufacturers 17065 accredited lab only), or a CB Test Report (CBTR), and CB Test Certificate (CBTC) through the IECEE system
- > Additional documentation such as a detailed description of the product with conceptual design and manufacturing drawings
- > The location address of product manufacture and storage
- > **A list of the Gulf IEC standards applied** in full or in part to the product regarding manufacturing procedures and processes. For List 1 products, manufacturers must have a system in place, typically a factory quality control system, to ensure that products are being manufactured and assembled in a controlled manner. This includes production line testing to confirm the product quality and integrity to maintain conformity within the design intent. Once all these elements have been satisfactorily completed and the product been registered in the electronic registration system, the manufacturer can affix the proper G-Marking along with the correct registration number to the product and draw up a written **Declaration of Conformity**.

CONFORMITY ASSESSMENT PROCEDURE

STEP #	STEP TITLE	STEP DESCRIPTION
01	Request for Shipment Certificate/Gulf Type Examination Certificate (GCTS) from applicant	Importer/Manufacturer requests Cotecna for Product Certification related to Gulf Marking.
02	Cotecna sends an RFC form to the applicant	Cotecna receives the enquiry and sends the applicant information about the Conformity Assessment and a Request for Conformity (RFC) form for the applicant to fill and send back.
03	Receipt and review of completed Application Form and other supporting documents	Cotecna receives completed RFC Form and other related mandatory documents (Invoice, Packing List, Test Report) from Applicant. Cotecna reviews the legibility and completeness of the documents received and clarifies discrepancies, if any, with the applicant.
04	Defining the certification scope & requirements	Cotecna Technical Team defines the certification requirements and methods, considering the product, product type, brand, model(s), the reputation of the applicant and provides a certification plan including but not limited to sampling, testing, inspection to the applicant.
05	Communication of certification requirements	Where sampling, testing and inspection are required, Cotecna will communicate the required intervention, including quotations, and will confirm the eligibility and qualification of the parties providing the intervention service.
06	Payment registration and collection	Upon acceptance of the quotation by the applicant, Cotecna issues a local invoice, collects the fee from the applicant and begins the certification process.
07	Testing	When applicable, the Technical Team that conducted the initially preliminary review, evaluates and approves the supporting Test Report(s) provided by an accredited Lab.
08	Evaluation	A Technical Officer (who is not part of the evaluation process) will further review all the information and results related to evaluation and might request for corrective actions or clarification if there is insufficient information.
09	Review and certification decision	If the test and inspection results are satisfactory, the Technical Officer will approve the certification issuance and Cotecna will update the GSO Data Base accordingly.
10	Issuance of Certificate	Cotecna issues the G-Mark Certificate to the client, along with the GCTS logo bearing the QR code, to be placed on the product.

TECHNICAL FILE CONTENT

- a. The Manufacturer is responsible for preparing the Technical Documentation needed to assess the conformity of electrical equipment to the relevant requirements and shall include an adequate analysis and assessment of the associated risk(s).
- b. The Technical Documentation shall specify the applicable requirements and cover for the assessment, the design, manufacturer, and operation of electrical equipment. The Technical Documentation shall, wherever applicable, contain at least the following elements:
 - 1. A general description of the electrical equipment.
 - 2. A detailed description with conceptual design and manufacturing drawings, including a list of components, materials, sub-assemblies, and circuits used in the electrical equipment.
 - 3. Descriptions and explanations necessary for the understanding of those drawings and schemes and the operation of electrical equipment.
 - 4. The addresses of the places of manufacture and storage of the electrical equipment.
 - 5. A list of the **Gulf or IEC Standards** applied in full or in part, and descriptions of the solutions adopted to meet the essential requirements of the Gulf Technical Regulations highlighting where those Gulf or IEC Standards have not been applied. In the event of partly applied Gulf Standards, the Technical Documentation shall specify the parts, which have been applied.
 - 6. Results of design calculations made, examinations carried out and so on.
 - 7. A description of the conformity assessment procedure followed.
- c. The Technical Documentation should be in Arabic. If it is not possible, documents in English can be submitted after receiving approval from the **competent national authorities** in the importing GCC State.
- d. Following a reasoned request from the importing country's Market Surveillance Authority, the Manufacturer shall provide a translation of the relevant parts of the Technical Documentation in the Arabic language.
- e. The competent national authorities may fix a deadline when requesting the manufacturer or importer to provide the Technical Documentation or Arabic translation. The deadline is usually **20 working days** unless a shorter deadline is justified in the case of serious and immediate risk.
- f. If the Manufacturer or the Importer does not comply with the requirements of points (c), (d) and (e) of this section, the Market Surveillance Authorities may require it to have a test performed by a Notified Body at its own expense within a specified period to verify the compliance of the electrical equipment with the homologated standards and the safety and electromagnetic compatibility requirements set out in the technical regulation.

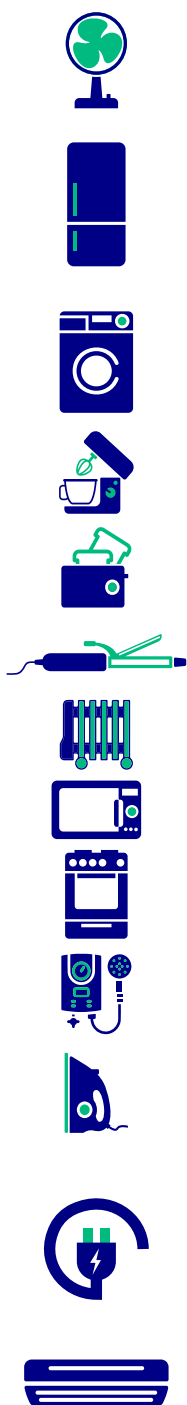
REGULATED PRODUCTS

LIST 2 (TC 143307-01)

The document scope of application applies to Low Voltage Electrical Equipment and Appliances List 1 and List 2 Regulated Products.

NOTE: As the product under List 1 are yet to be announced, the full scope of products to be regulated under these terms is not known. However, the conformity requirements have been drawn up under BD-142004-01.

NOTE: List (1) is determined to be electrical product which is classified as low risk and so a self-declaration routed by the manufacturer can be made on affixing the 'GCTS' and drawing up a Declaration of Conformity before placing the product on the market. List (1) products are yet to be published by GSO.



PRODUCT NAME	HS CODES
Domestic Electrical Fans	84 14 51 10 84 14 51 20 84 14 59 00
Refrigerators, freezers and other refrigerating or freezing equipment	84 18 10 00 84 18 21 00 84 18 29 00 84 18 30 00 84 18 40 00
Centrifugal clothes dryers and clothes washing machines, including machines which both wash and dry	84 21 12 00 84 50 11 00 84 50 12 00 84 50 19 00
Food grinders and mixers, fruit or vegetable juice extractors.	85 09 40 00
Toasters	85 16 72 00
Electro-thermic hair-dressing apparatus and hand dryers	85 16 31 00 85 16 32 00 85 16 33 00
Domestic electric heating apparatus	85 16 29 10
Microwave ovens	85 16 50 00
Other ovens; cookers, cooking plates, boiling rings, grillers and roasters	85 16 60 00
Electric instantaneous or storage water heaters and immersion heaters	85 16 10 10
Electric smoothing irons	85 16 40 00
Plugs, socket outlets, adaptors, cord extension sets and chargers	85 44 42 21 85 44 42 29 85 36 69 10 85 36 69 20 85 36 90 91 85 04 40 13
Air conditioners	84 15 10 10 84 15 10 20

GULF CONFORMITY TRACKING SYSTEM

A platform for Notifying Bodies to document all products which are subject to its procedures. GSO Conformity Tracking Symbol (GCTS) will be generated by this system. The competent Authorities in GSO member states has the right to use this system by scanning the GCTS. Children's Toys and Low Voltage Equipment and Appliances Gulf Technical Regulations and its corresponding product scope are to obtain certification through this system.

BRIEF HISTORY

1st JULY 2016

Official launch of the GSO Certificate Tracking System. Mandatory to affix GCTS to the Notifying Bodies Certificates

1st JANUARY 2017

GCTS for products generated by the system

1st APRIL 2017

Mandatory to affix GCTS on the products

It aims to:

- > Meet the requirements of GCC common market and enhance competitiveness and economic growth.
- > Enhance the requirements for the placement of safe products in GCC markets for consumer protection.
- > Improve the mechanisms of conformity assessment of products through the GSO Certificate Tracking System (GCTS System).
- > Transparent rules in accordance with best international practices for designated Conformity Assessment Bodies.
- > Define rules for using GSO Conformity Tracking Symbol "GCTS" on products and certificates.
- > Make the system available to all competent authorities in GSO member states.

GCTS SHALL BE AFFIXED ON THE:

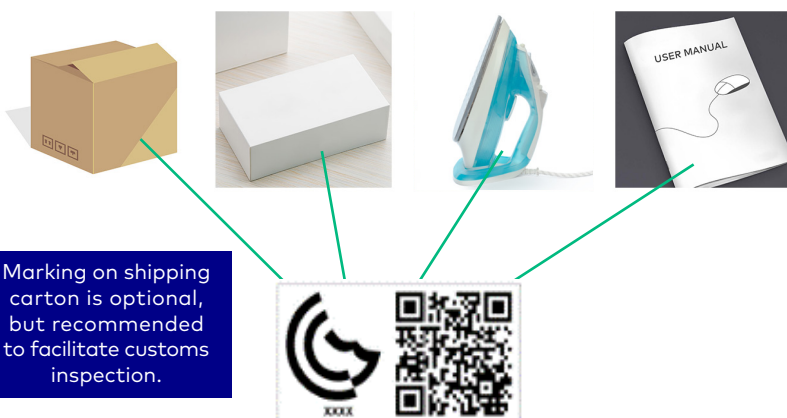
PRODUCTS

SHIPPING
CARTON

GIFT BOX/
RETAIL PACKAGING

PRODUCT
(LABEL)

USER
INSTRUCTIONS



CERTIFICATES



GSO RULES FOR THE USE OF THE GSO CONFORMITY TRACKING SYMBOL (GCTS)

GCTS Placement

GSO Regulations may require the GCTS to be affixed on the body, rating plate or product marking label. The GCTS can be attached to the product body only if the rating plate or label do not have enough space for the symbol to be attached. The attached GCTS must comply with the details on the table below in addition to being clearly visible, legible, permanent (indelible and/or not easy to remove) and readable by a scanner or reader application of a smartphone.

1. Gulf Conformity Marking (G-Mark logo):

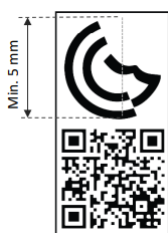


2. The QR Code tracking the product:



Case	On Product	On Packaging	On Accompanying Documents
Product dimensions and/or nature allow marking of GCTS			Optional Optional
Product dimensions not allowing marking of complete GCTS			Optional Optional
Product not possible to be marked at all			Optional Optional

Dimensions and colour settings



GSO RULES FOR THE USE OF THE GSO CONFORMITY TRACKING SYMBOL (GCTS)

Enlargement or Reduction of GCTS for Products

The elements of the GCTS should be considered as a single entity for purposes of enlargement or reduction as shown.



Positive and Negative Versions

Positive Version	Negative Version
	
	
	

Note:

The GCTS must be visible on the outside surface or under an easily accessible part (one that does not require a tool to access), and permanent (indelible and/or not easy to remove).

COTECNA ACCEPTANCE OF TEST REPORTS

Cotecna accepts test reports based on the GSO Technical Regulation

- > Test report from a third-party laboratory which is accredited from either GAC or any accreditation body signatory of Mutual Recognition Agreement (MRA) of the International Laboratory Accreditation Cooperation (ILAC) or the Multilateral Recognition Arrangement (MLA) of the International Accreditation Forum (IAF).
- > Test report from a Notified Body.
- > Test report from a manufacturer's in-house laboratory which is accredited from either GAC or any accreditation body signatory of Mutual Recognition Agreement (MRA) of the International Laboratory Accreditation Cooperation (ILAC) or the Multilateral Recognition Arrangement (MLA) of the International Accreditation Forum (IAF) and fulfil the requirements stated in article 22 of the GSO Technical Regulation on LVE (BD-142004-01).
- > Conformity Body Test Report (CBTR) issued by a CB Testing Laboratory (CBTL) and CB Test Certificate (CBTC) issued by an issuing and recognizing National Certification Body (NCB) through the IECEE CB Scheme.



G-MARK LVE CERTIFICATE

Registration aims to ensure that the tracking of products bearing the G-Mark and all models bearing the G-Mark undergo registration. There is an associated registration cost which has been fixed at the amount of 500 SR (Saudi riyals) per certificate each year. Appendix 8 Gulf Conformity Tracking System (GCTS) requires the G-Mark and QR code configuration on all low voltage electrical products to be sold in the GCC region.



Gulf Type Examination Certificate

Type Certificate No.: AE-GSO-GTEC-XXXXXX Issuance date: DD/MM/YYYY
Expiry date: DD/MM/YYYY

Notified Body 00XX certifies that this Electrical Equipment has been found compliance with the essential Safety and Electromagnetic Compatibility requirements set forth in Low Voltage Equipment and Appliances Gulf Technical Regulations BD-142004-01 List (2) subjected to the Conformity Assessment Procedure set out in Annex (4).

Applicant:	
Manufacturer:	
Manufacturer Location:	
Country of Origin:	
Product Name / Description:	
Brand/Trademark:	
Model / Type Reference:	
Technical Data / Ratings:	
Test Report(s) / Issuance Date:	
Product Complies with Standards:	
National Deviations Checked:	
Issuing Notified Body:	
This Certificate:	
- Does not imply that the Notified Body has performed any surveillance or control of the manufacturer(s). - Applies only to the product(s) submitted and as detailed in the Technical Documentation File.	
The Manufacturer(s):	
- Shall ensure the manufacturing process assures compliance of production of the examined product(s) covered by this certificate. - Shall inform the Notified Body of any modifications made to the examined product(s); this may lead to additional assessment which may result to cancellation, amendment and/or re-issuance of this Gulf-Type Examination Certificate.	

Signature
Dexter Ramirez/Raymund Alvarez
Technical Officers
Date: DD/MM/YYYY

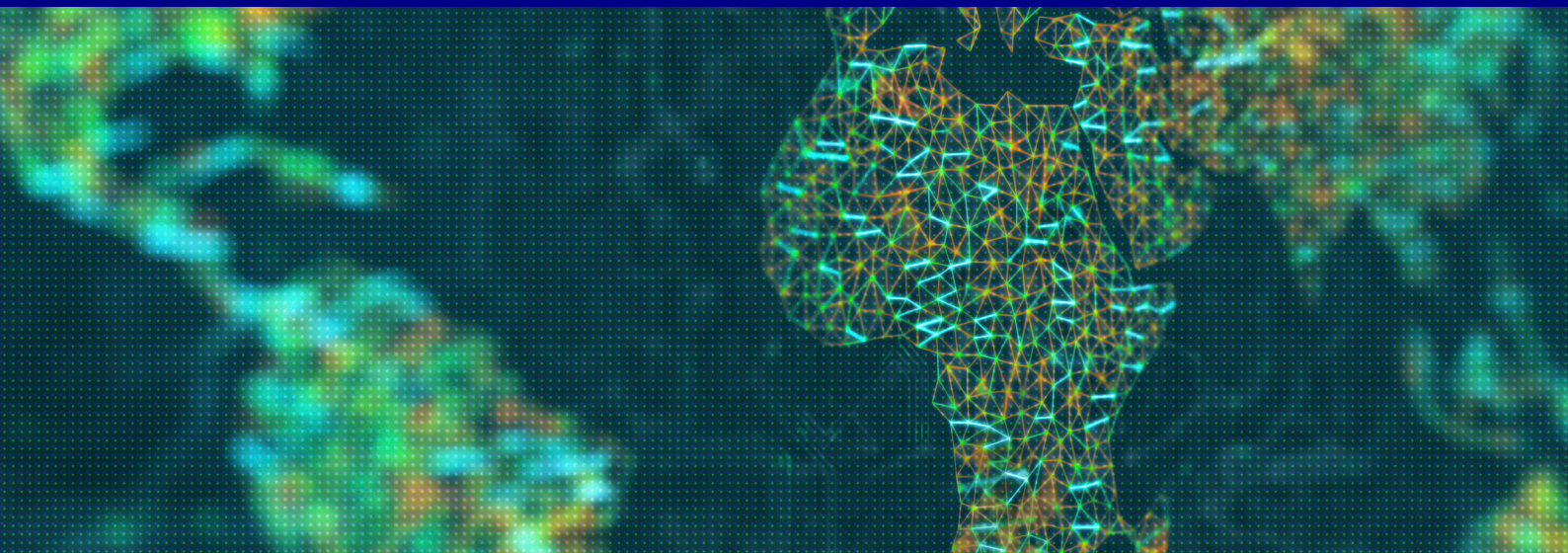


Fig. 2: Minimum dimensions of the GCTS for Certificates

This Certificate is for the exclusive use of COTECNA's client and is provided pursuant to the agreement between COTECNA and its client. COTECNA's responsibility and liability are limited to the terms and conditions of the agreement. COTECNA assumes no liability to any party other than to the client in accordance with the agreement, for any loss, expenses or damage occasioned using this Certificate. Only the client is authorized to permit copying or distribution of this Certificate. Any use of COTECNA name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by COTECNA. The observations and test/inspection results referenced in this Certificate are relevant only to the sample tested/inspected. This Certificate by itself does not imply that the material, product or service is or has ever been under an COTECNA certification program.

COTECNA Inspection SA (Dubai)
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WHY COTECNA

Cotecna is a leading provider of testing, inspection, and certification services. We offer solutions to facilitate trade and make supply chains safer and more efficient for our clients. Our technical expertise combined with the superior quality of our services and our ability to anticipate our clients' needs is what sets us apart.

What we offer our clients:

- > We go a step beyond: Dedicated agent to manage your files and understands your requirements
- > We are solutions minded: We provide technical advice, clear explanations and certification process trainings
- > **Customer Portal:** Innovative and digital customer centric approach to certification
- > **Remote inspection:** Efficient and cost reducing option for quicker inspection
- > Fast turn around time after receipt of final documents
- > We are a GAC- ISO/IEC 17065 Accredited Notified Body for Low-Voltage Electrical Equipment and Appliances

To learn if your product(s) is subject to GSO certification for export to the GCC or to get a free quote, please contact us on info@cotecna.ae

BIBLIOGRAPHY

BD-142004-01 – Gulf technical regulation for Low Voltage Electrical Equipment and Appliances

GSO – Rules for the use of the GSO conformity tracking symbol (GCTS) – Rev. 2.0

GSO official website – gso.org.sa