

ENEC and ENEC+ certification

Door: Jaap Nuesink

justified or exaggerated requirement in street lighting procurement?



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Streetlighting



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Introduction

DEKRA


We will be the **global partner** for a **safe, secure and sustainable world**

Our Mission
The Mission describes our purpose for society.


We ensure **safety, security and sustainability** by the interplay of



technology & equipment




standards & practices




mindset & behavior


in the three areas of life



on the road




at work



at home


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Introduction

DEKRA




VEHICLE INSPECTION

Performing periodic and non periodic technical testing, as well as systematic emission tests for all kinds of vehicles.




CLAIMS & EXPERTISE

Delivering automotive and non-automotive claims services, vehicle appraisal and management services as well as loss adjusting for all possible damage.




PRODUCT TESTING

Testing and certifying a wide range of products such as consumer, industrial, medical, automotive and ICT products through a global network of state of art laboratories.




INDUSTRIAL INSPECTION

Supplying full service for building, facility, machinery, and infrastructure inspection, including material testing & inspection.




CONSULTING

Aiming to lead safety transformation at the workplace and business practices, within operations and processes as well as in the dynamic and rapidly changing digital era.




AUDIT

Offering independent audits, assessments and management system certifications according to international and national standards.



TRAINING


Providing solutions and services in a wide range of training, expert migration, language, integration and education.



TEMP WORK

Supporting know-how and experience in personnel-, solution-, event & logistic and human resources management.

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About me

Jaap Nuesink



Jacob Nuesink
Operational Manager
DEKRA Certification B.V.

Responsible for:

- Appliances
- Domestic Components
- Lighting
- Photometry

Make the world a little better every day.



LEAN
Blackbelt

Positions

- Operational Manager (Current)
- Team Lead
- Sales/Business development manager
- Global account manager
- Project manager
- Engineering manager
- Engineer



Book publications

Agenda

Certification

1. Certification
2. Procurement
3. Quality parameters to consider




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Certification

Certification

To certify is to declare that specific requirements are met.

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Certification


Certification

A certificate is a written declaration.
In a certificate we declare that specific requirements are met.

A certificate is:

- The result of certification
- To certify a certification process must be followed

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Certification process?

Certification

The certification process covers:

1. Evaluation according to requirements
2. Declaration

The requirements are laid down in a certification scheme.

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Certification scheme

Certification

A certification scheme contains rules, procedures and regulations for conformity assessment against a standard.

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Norms - Standards

Certification

A Norm or Standard is a document with agreements, specifications and criteria about a product, service or method.

Standards can be issued in companies, organizations, a consortium of organizations or standardization organization.

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Categorization of certification

Certification

	Certification type						
	1a	1b	2	3	4	5	6
Sampling							
Confirm compliance							
Review							
Certification decision							
Licensing							
Surveillance							
From open market							
From production							
Quality system with random sampling							
Inspection/evaluation production							

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Approval marks / Certification marks

Certification



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Certification mark?

Certification

A certification mark is a compact, visual, quality appraisal on a product or service, issued by a reliable source.

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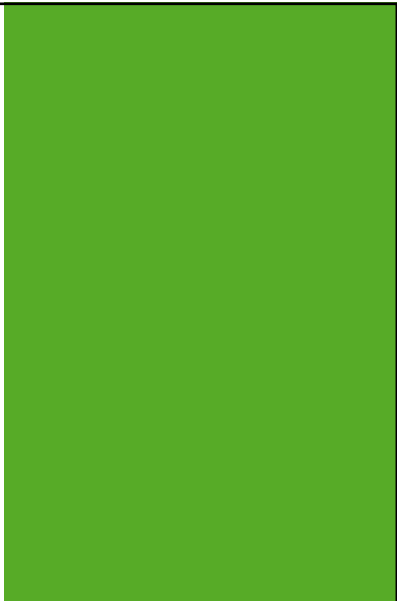
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Certification mark?

Certification

A certification mark is a compact, visual, quality appraisal on a product or service, issued by a reliable source.



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Certification marks

Certification

The slide displays several certification marks: EN EC (Energy Efficient Consortium), VDE (Verband der Elektrotechniker), CE (Conformité Européenne), PLUS EN EC 05 (Energy Efficient Consortium Plus), S (Safety), DEKRA GS geprüfte Sicherheit (DEKRA tested safety), LED PERFORMANCE DEKRA certified 2011 (Energy efficient, Lifetime confirmed, Stable light performance), and DEKRA C US (DEKRA Certified).

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Certification mark?

Certification

A certification mark is a compact, visual, quality appraisal on a product or service, issued by a reliable source.

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Quality

Certification

Quality is the level on which a product or service conforms to the requirements resulting from the intended use case.

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Certification marks

Certification



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Reliable source?

Certification

A reliable source is a source that provides data based on truth.

- Transparency
- Independent

Reliability is proven by means of accreditation.

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Accreditation

Certification

Accreditation simply means give trust.

RvA
(Dutch Council for accreditation)

<https://www.rva.nl/>

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Certification marks

Certification



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CB Certification scheme

Certification

- Owner: IECEE
- CI: NCB
- Testlab: CBTL
- Certificate: CB
- Subject matter: Electrotechnical products
- Standards: IEC
- Intended use: Exchange of test results between laboratories
- ISO type: 1a



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ENEC Certification scheme

Certification

- Owner: ETICS
- CI: ENEC CB
- Testlab: ENEC TL
- Certificate: ENEC certificate
- Subject matter: Electrotechnical products
- Standards: EN
- Intended use: Certification mark
- ISO type: 5



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ENEC + Certification scheme

Certification

- Owner: ETICS
- CI: ENEC CB
- Testlab: ENEC TL
- Certificate: ENEC certificate
- Subject matter: Electrotechnical products
- Standards: EN/IEC
- Intended use: Certification mark
- ISO type: 5



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DEKRA Mark Certification scheme

Certification

- Owner: DEKRA
- CI: DEKRA
- Testlab: DEKRA or via acceptance
- Certificate: DEKRA Mark certificate
- Subject matter: Products
- Standards: EN/IEC/Other
- Intended use: Certification mark
- ISO type: 5



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Evaluate a certificate

Certificatie

1. Content

- Used standards/rules/requirements
- Quality issue (what do you want to know)

2. Reliability

- Self declaration
- Third party testing
- Accredited third party testing

3. Certification process

- One shot?
- Which ISO type

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Example 1

Certification

Requirements

- European standards for electrical safety

Reliability

- Accreditation

Process

- ISO Type 5



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Example 2

Certification

Requirements

- Initial performance standards

Reliability

- Accreditation

Process

- ISO Type 5



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Example 3

Certification

Requirements

- European legislation

Reliability

- Self declaration

Process

- ISO Type 1a + addition



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Compared Certification



Self declaration

Legislation

Surveillance by authorities

Independent testing under accreditation.

Safety

Stringent market surveillance

Independent testing under accreditation.

Initial performance

Stringent market surveillance

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Procurement

Procurement

Steps to define what to do in procurement:

- What requirements do you want to set
- Level of compliance assurance (how much risk of non-compliance is acceptable)
- Available solutions for compliance assurance
- Make a choice based on the above (excl. or incl. additional measures)

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Example 1

Product safety

What requirements do you want to set?

- Product shall be safe and in compliance with legislative requirements
 - Main requirement Low Voltage Directive (2014/35/EU)

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Example 1

Product safety

Level of compliance assurance (how much risk of non-compliance is acceptable)

- High level of compliance is advisable since result of unsafe products can be severe.

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Example 1

Product safety

Available solutions for compliance assurance

- CE (Self declaration, confidence is minimal)
- CB certificate and report (Confidence is medium, ISO type 1a)
- ENEC certificate (Confidence is high, ISO type 5)
- Local safety certification mark (Confidence is high if ISO type 5)

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Example 1

Product safety

Make a choice based on the above (excl. or incl. additional measures)

- ✓ ENEC certificate (Confidence is high, ISO type 5)
- ✓ Local safety certification mark (Confidence is high if ISO type 5)
 - Note competition rules require that comparable marks are to be allowed as well.

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Example 2

Initial performance

What requirements do you want to set?

- Product photometric specifications shall be correct.

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Example 2

Initial performance

Level of compliance assurance (how much risk of non-compliance is acceptable)

- Medium level of compliance is advisable since result of non-compliant products can be corrected by means of a warranty claim.
- Medium level can lead to hassle when warranty claims are coming into play.

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Example 2

Initial performance

Available solutions for compliance assurance

- Self declaration (confidence is minimal)
- CB certificate and report (Confidence is medium, ISO type 1a)
- ENEC+ certificate (Confidence is high, ISO type 5)

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Example 2

Initial performance

Make a choice based on the above (excl. or incl. additional measures)

- ✓ ENEC certificate (Confidence is high, ISO type 5)
- ✓ CB certificate and report (Confidence is medium, ISO type 1a)

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Example 3

Life expectancy LED module

What requirements do you want to set?

- $L_{90}B_{50}$ @ 100.000 h

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Example 3

Life expectancy LED module

Level of compliance assurance (how much risk of non-compliance is acceptable)

- Medium level of compliance is advisable since result of non-compliant products can be corrected by means of a warranty claim.
 - This will prove to be difficult after f.e. 15 years. Supplier might no longer be existing and proofing non-compliance is difficult

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Example 3

Life expectancy LED module

Available solutions for compliance assurance

- Self declaration (confidence is minimal)
- ISTMT test report + TM21 report issued by manufacturer
- ISTMT test report + TM21 report issued by independent test institute
- ISTMT test report + TM21 report issued by independent accredited test institute

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Example 3

Life expectancy LED module

- ✓ Make a choice based on the above (excl. or incl. additional measures)
 - ✓ ISTMT test report + TM21 report issued by independent test institute
 - ✓ ISTMT test report + TM21 report issued by independent accredited test institute

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Qualitative parameters

Procurement

Considerations

1. Legal requirements
2. Safety
3. Performance

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CE Requirements

Procurement

CE

1. Low Voltage Directive (2014/35/EU)
2. EMC Directive (2014/30/EU)
3. RoHS (Restriction of Hazardous Substances 2011/65/EU)
4. SLR (Single Lighting Regulation (EU) 2019/2020)
5. Radio Equipment Directive (2014/53/EU)

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Qualitative parameters

Procurement

Safety

1. Electric

- Safety standard EN 60598
 - Electric shock hazard
 - Mechanical hazard
 - Thermal hazard
 - Fire hazard
 - Radiation hazard

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Qualitative parameters

Procurement

Safety

- ✓ Electric shock hazard
 - Touch safety
 - Isolation of unsafe voltages
 - Ingres protection (IP)
- ✓ Mechanical
 - Glass breakage
 - Wind force
 - Housing strength

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Qualitative parameters

Procurement

Safety

- ✓ Thermal
 - Component temperatures
 - Material temperature limits
 - Prolonged exposure to heat
 - Resistance to heat
 - Touch temperatures

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Qualitative parameters

Procurement

Safety

- ✓ Fire hazard
 - Ignition
 - Flame retardant
- ✓ Radiation
 - Photobiological safety
 - RG assessment

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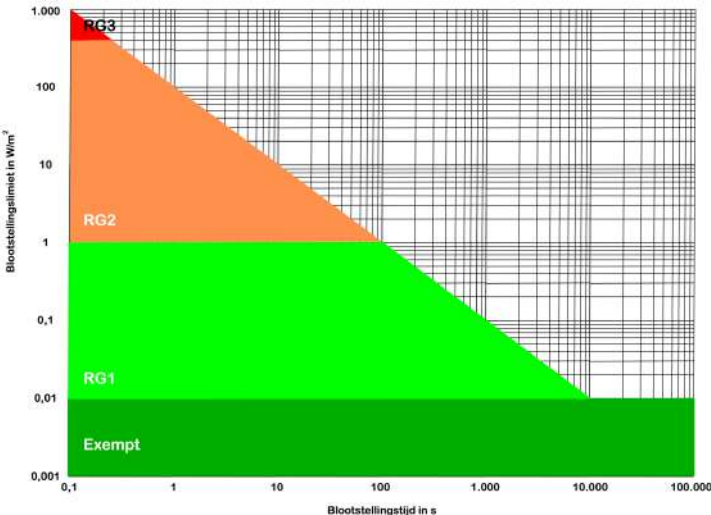


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On request Photobiological safety

Blue light hazard



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Qualitative parameters

Procurement

- Performance
- ✓ Photometric
- ✓ Electric
- ✓ Life expectancy

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Qualitative parameters

Procurement

Performance

- ✓ Photometric
 - Flux
 - Light distribution
 - CRI
 - CCT (Color temperature)
 - Efficacy

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Qualitative parameters

Procurement

Performance

- ✓ Electric
 - Power input
 - Power factor
 - Surge protection

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Qualitative parameters

Procurement

Performance

- ✓ Life expectancy
 - Lumen maintainance
 - Corrosion protection
 - UV protection

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Practical implementation

Procurement

Legal:

- Require CE declaration (Minimum)
 - Check if correct Directive and regulations are mentioned

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Practical implementation

Procurement

Safety/performance:

- Require ENEC / ENEC+
 - Check if product type is mentioned on the certificate
 - Check if ratings are correct
 - Check validity of the certificate

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Practical implementation

Procurement

Other:

- Request
 - Declaration in case of low risk in case of non-compliance
 - Proof of compliance by third party (accredited) testing for medium or high risk in case of non-compliance

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Practical implementation

Procurement

Check validity of certificates

- For example
 - <https://www.dekra-checkme.com/>
 - <https://www.enec.com/recherche.php?so c=ENEC&s=2>

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Practical implementation

Procurement

Check accreditations

- The Netherlands
 - <https://www.rva.nl/en/alle-geaccrediteerden/>
- Latvia
 - <https://ai.latak.gov.lv/index.php?lang=en>

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Practical implementation

Certificatie

1. Content

- Used standards/rules/requirements
- Quality issue (what do you want to know)

2. Reliability

- Self declaration
- Third party testing
- Accredited third party testing

3. Certification process

- One shot?
- Which ISO type

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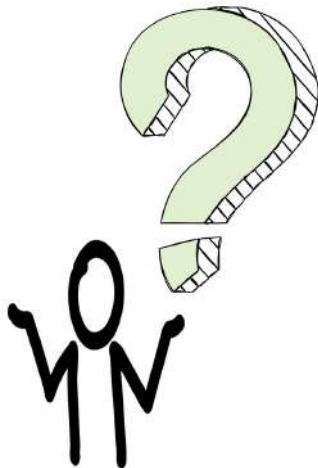
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Questions?

A question not asked is a door not opened



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