

Motivation

for introduction of
approved

LED Substitute light sources

LED Retrofit light sources

Input by the experts of IEC

Justification

see also GRE/2017/21

Market

- An increasing number of (non approved) LED “retrofit” light sources is present in shops or available via internet
- There is no (adequate) market surveillance
- Internet sales is difficult to block

=> so **it happens !!**

Justification

see also GRE/2017/21

Market

Example:

C5W “LED retrofits”



www.ebay.co.uk/

2018-02-02: 6,797 results for “C5W LED”

www.amazon.de/

2018-02-02: 1-16 von mehr als 10.000 Ergebnissen oder Vorschlägen für "c5w led"

www.amazon.fr/

2018-02-02: 1-16 sur 793 résultats pour "c5w led"

www.bol.com/nl/

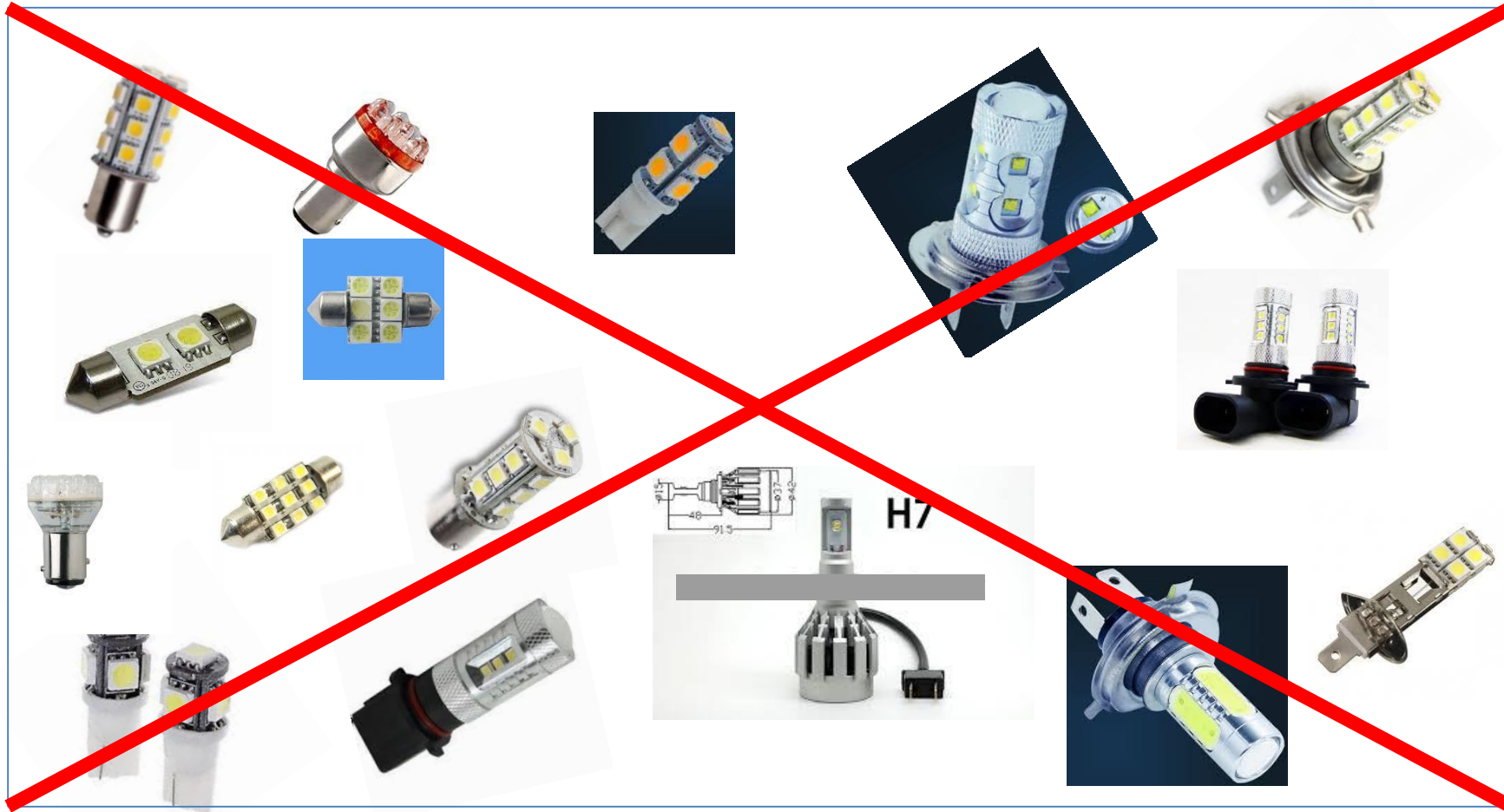
2018-02-02: 109 resultaten voor C5W LED

www.ebay.nl

2018-02-02: 210 resultaten voor C5W LED

Automotive LED “retrofits”

GRE-73-24



All of these product examples do **NOT** fulfill the photometric equivalence criteria !!

Justification

see also GRE/2017/21

Market

- The public is not aware that non-approved LED “retrofits” in vehicles
 - may bear a **safety risk**
 - are **not allowed**
 - may cause **vehicle issues and related cost**
- There is **no legal instrument to**
 - **discriminate** the good from the bad
 - **allow** legal and well performing LED retrofits

=> **Consumers** have **no legal access** to this **new technology**

=> **Manufacturers** applying the law have **no access to an active market**

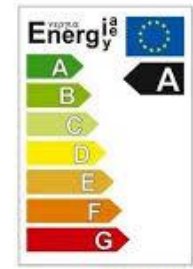
Justification

see also GRE/2017/21

Energy consumption and lifetime

- The public is
 - **stimulated** by governments to use **sustainable** lighting solutions like LEDs
 - **used to** LED retrofits in **general lighting** applications
- Studies show*
 - Too many vehicles with **failing** light sources -> **safety issue**
 - **Long-life** LED technology is seen as option to **increase traffic safety**

* NEW; ADAC study [published](#) December 2017



Justification

see also GRE/2017/21

Outcome GTB LED retrofit feasibility study

- Equivalent photometric performance was defined
- Additional requirements were defined
- Electrical and software configurations of vehicles (in use) were not standardized (for this purpose)
 - A positive list might overcome this, but
 - The details of “a positive list” could not be solved by GTB
- The use of LED retrofits is subject to national law
- However
 - The light sources should be approved
 - National solutions should be avoided

Justification

see also GRE/2017/21

GTB changed approach

- **Stopped** the LED retrofit feasibility study
- Continued with **LED substitutes**
- Approval according to UN regulations
 - Light sources
 - Lamps
 - Installation on the vehicles

But there is more....

- By allowing the use of **LED substitutes** in new lamps and vehicles
 - Standardised LED light sources can serve the **main stream** vehicles
 - Can serve a quicker **penetration** of LED light sources in the market
 - **Also other stakeholders** can benefit
 - **But the issues in the market are not addressed**
- The **specification** of the LED substitutes
 - Should not **block** a proper retrofit solution
 - Again, this would **not resolve the issues in the market**
- **LED Substitutes and LED retrofits are both necessary to serve new and existing vehicles**

LED substitutes – LED retrofits

Difference?

TFSR-01-04e

2.1.1.3.1. “*LED substitute light source*” means a LED light source of a category which has a counterpart light source category producing light by another light generating technology.”

xxx “*LED retrofit light source*” means a LED substitute light source used in lamps originally only approved for its counterpart filament light source category

➤ LED substitute light source is the same as a LED retrofit light source

➤ The only difference is its **application**

Holistic approach

TFSR-02-02

