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Cycles - Retro-reflective devices

(ISO 6742-2:1985, Cycles - Lighting and retro-reflective
devices - Photometric and physical requirements - Part 2:

Retro-reflective devices, IDT)

自行车 反射装置

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Foreword

Clause 5, Clause 6, Clause 7, 8.2, 8.3, 8.4, 8.5, 8.7, 8.8, 9.2, 9.3, 9.4, 9.5, Clause 11 of this Standard are mandatory; the rest are recommendatory.

This Standard was drafted in accordance with the rules given in GB/T 1.1-2009.

This Standard uses translation method to identically adopt ISO 6742-2:1985 *Cycles - Lighting and retro-reflective devices - Photometric and physical requirements - Part 2: Retro-reflective devices*.

This Standard made the following editorial modifications:

- modified the name of the standard to “Cycles - Retro-reflective devices” in order to be consistent with existing standard series;
- in order to facilitate the use and more intuitively reflect the the technical parameters of various color reflector optical requirements, according to the provisions of 5.1 in ISO 6742-2:1985, ADDED yellow reflector light intensity coefficient Table 2 and red reflector light intensity coefficient Table 3 in 5.1 of this Standard, so it made a corresponding adjustment to the subsequent table numbers (see Clause 5, Clause 6, Clause 7);
- “3.2” quoted in 7.2.2.9 of ISO 6742-2:1985 was a typo so this Standard has corrected it to “5.2”.

The Chinese documents which have consistency with the international normative reference in this Part are as follows:

- GB 3565-2005, Safety requirements for bicycles (ISO 4210:1996, IDT)
- GB/T 3977-2008, Specification of colors (CIE 15:2004, NEQ)
- GB/T 3978-2008, Standard illuminants and geometric conditions (CIE 15:2004, NEQ)
- GB/T 3979-2008, Methods for the measurement of object color (CIE 15:2004, NEQ)

Attention is drawn to the possibility that some of the elements of this Standard may be the subject of patent rights. The issuing authority shall not be held responsible for identifying any or all such patent rights.

This Standard was proposed by China Light Industry Federation.

Cycles - Retro-reflective devices

1 Scope

This Standard specifies photometric and physical requirements for retro-reflective devices for fitting to cycles.

This Standard is applicable to retro-reflective devices intended to be used on public roads and, in particular, for use on cycles made in compliance with ISO 4210.

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.

ISO 3768, *Metallic coatings - Neutral salt spray test (NSS test)*

ISO 4210, *Cycles - Safety requirements of bicycles*

IEC Publication No.50 (45), *International Electrotechnical Vocabulary - Lighting*

CIE Publication No.15, *Colorimetry: Official recommendations of the International Commission on Illumination (CIE)*

3 Terms and definitions

For the purposes of this document, the definitions given below, together with those in IEC Publication No. 50(45) apply.

3.1 retro-reflective device; reflector

An assembly ready for use and comprising one or more retro-reflecting optical units.

3.2 wide angle reflector

Device providing retro-reflection through horizontal entrance angles of not less than 50° on either side of the reference axis.

the inflated tyre by abrasion with a wet, steel-bristle brush, tyre material will be removed with the retro-reflective material.

7.2.2.6 Impact resistance

When tested by the following method the retro-reflective material shall show no cracking or separation from the tyre outside a distance of half the width of the material from the point of impact.

Condition the test sample for 1 h at $-20\pm 5^{\circ}\text{C}$. Immediately after removal from the cold storage, place the sample on a solid support base and subject the retro-reflective area to an impact from a 25 mm diameter solid steel ball dropped from a height of 2 m.

7.2.2.6 Resistance to corrosion

After being tested by the method specified in ISO 3768 there shall be no evidence of corrosion of the retro-reflective material that would result in failure to meet 75% of the CIL values in table 5, at $\alpha = 0^{\circ}12'$ or $0^{\circ}20'$ and $\beta = -4^{\circ}$.

The duration of the test shall be 50 h comprising two periods of exposure of 24 h each, separated by an interval of 2 h during which time the sample is allowed to dry.

7.2.2.7 Resistance to fuel

Lightly rub the retro-reflective area of the test sample with a cotton cloth soaked in a test fuel composed of 70% n-heptane and 30% toluene (by volume).

After 5 min clean the retro-reflective area by washing in a detergent solution and rinse in clean water.

7.2.2.8 Resistance to lubricating oil

Lightly rub the retro-reflective area of the test sample with a cotton cloth soaked in a detergent lubricating oil. After 5 min wipe the area clean with a mild aliphatic solvent such as heptane and follow by washing with a neutral detergent and rinsing in clean water.

7.2.2.9 Water test

Immerse the test sample for 1 min in water at a temperature of $23\pm 5^{\circ}\text{C}$. 30 s after removal measure the CIL value for $\alpha = 0^{\circ}12'$ or $0^{\circ}20'$ and $\beta = -4^{\circ}$. The CIL value shall not be less than 50% of the minimum value in 5.2.

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