

Enquiry into preferences between options for classes of retroreflection of retroreflective road sign materials

CEN/TC 226 WG3 has currently a dilemma regarding options for classes of retroreflection of retroreflective road sign materials and wishes to enquire on a national basis in the CEN member states. The options are presented and explained, and some consequences are accounted for, in the following.

Presentation of options:

- 1.a Keep “current test method” without classes in the standard,
- 1.b Keep “current test method” with the “old classes” plus “current classes”,
2. Introduce “new test method” and modified “old classes” plus “one new class”,
3. Introduce “new test method” and a sufficient number of “new classes”.

Explanations:

Options 1.a and 1.b refer to the “current test method” in which values of the coefficient of retroreflection, $R_A(\alpha, \beta)$ are measured for the relevant combinations of the observation angle α and the entrance angle β with the components of β given by ($\beta_1 = \beta, \beta_2 = 0^\circ$). This reflects the test method of EN 12899-1:2007.

Options 2 and 3 refer to the “new test method” in which the retroreflection is represented by calculated values of the coefficient of retroreflection, $R_{A,C}(\alpha, \beta)$ obtained in a procedure that involves thorough testing of at least one white material of a family of materials. The purpose of thorough testing is to ensure that the retroreflection is available in practical driving situations and to establish properties of symmetry.

Option 1.b calls for the “old classes” which are the classes RA1 and RA2 of EN 12899-6:2007 and “current classes” defined in national standards/regulations as compiled in relevant CUAP’s or drafts of EAD’s.

Option 2 and 3 refer to “new classes” which are classes constructed on the basis of constant luminance with some allowance for the peculiarities of the materials. Final proposals for such classes are not yet available, but will include classes R1, R2 and R3. The classes R1 and R2 will relate to the current RA1 and RA2 but are modified in line with the new test method. The class R3 is a “new class” with or without subclasses.

Option 2 calls for “one new class”. This class R3 does not have subclasses and, therefore, the values of the coefficient of retroreflection, $R_{A,C}(\alpha, \beta)$ must be low enough at all angle combinations so that all higher performing retroreflective sheeting materials with widely different patterns and/or levels of retroreflection can meet it.

Option 3 is to have a sufficient number of “new classes” meaning that class R3 will have enough subclasses to provide an acceptable representation of the different patterns and/or levels of retroreflection specified from higher performing retroreflective sheeting materials today. It is expected that there will be three subclasses R3A, R3B and R3C.

Consequences of the options:

- 1.a National standards/regulations can be maintained and can be revised with proper notification (e.g. modify or create additional classes).
- 1.b National standards/regulations can be maintained (if the national classes are listed in the new standard), but probably cannot be revised.
2. National standards/regulations must eventually be adapted to the use of classes R1, R2 and R3. In this option road administrations cannot select between materials in class R3 with different properties.
3. National standards/regulations must eventually be adapted to the use of classes R1, R2, R3A, R3B and R3C meaning, for instance, that road administrations can select between materials in class R3 by means of the subclasses.