II

(Acts whose publication is not obligatory)

COMMISSION

COMMISSION DIRECTIVE

of 20 July 1979

adapting to technical progress Council Directive 71/127/EEC on the approximation of the laws of the Member States relating to the rear-view mirrors of motor vehicles

(79/795/EEC)

THE COMMISSION OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community,

Having regard to Council Directive 70/156/EEC of 6 February 1970 on the approximation of the laws of the Member States relating to the type-approval of motor vehicles and their trailers [1], as last amended by Directive 78/547/EEC [2], and in particular Articles 11, 12 and 13 thereof,

Having regard to Council Directive 71/127/EEC of 1 March 1971 on the approximation of the laws of the Member States relating to the rear-view mirrors of motor vehicles [3],

Whereas, in the light of the experience gained and in view of the present state of technology, it is now possible to make the relevant provisions fuller, more stringent and better adapted to actual test conditions;

Whereas Council Directive 71/127/EEC provides that specifications on external rear-view mirrors adjustable from the driving position are to be drawn up as soon as technological development permits;

Whereas the measures provided for in this Directive are in accordance with the opinion of the Committee on the Adaptation to Technical Progress of Directives for the Removal of Technical Barriers to Trade in the Motor Vehicles Sector,

HAS ADOPTED THIS DIRECTIVE:

Article 1

Directive 71/127/EEC is hereby amended as follows:

1. The last subparagraph of Article 3 (2) is amended to read as follows:

   'There shall be failure to conform to the approved type, within the meaning of the first subparagraph, where the requirements of item 2 of Annex I are not observed.'

2. Article 7 is replaced by the following:

   '1. With effect from 1 February 1980, no Member State may, on grounds relating to rear-view mirrors:

   (a) — refuse, in respect of a type of motor vehicle, to grant EEC type-approval, to issue the document referred to in the last indent of Article 10 (1) of Directive 70/156/EEC, or to grant national type-approval, or

   — prohibit the entry into service of the vehicles,

   if the rear-view mirrors of this type of vehicle or of these vehicles comply with the provisions of this Directive;

   (b) — refuse, in respect of a type of rear-view mirror, to grant EEC component

(1) OJ No L 42, 23. 2. 1970, p. 1.
(2) OJ No L 168, 26. 6. 1978, p. 39.
(3) OJ No L 68, 22. 3. 1971, p. 1.

type-approval or national type-approval, if these rear-view mirrors comply with the provisions of this Directive, or

— prohibit the placing on the market of rear-view mirrors which bear the EEC component type-approval mark laid down in this Directive.

2. With effect from 1 October 1981 a Member State:

(a) — shall not issue the document referred to in the last indent of Article 10 (1) of Directive 70/156/EEC in respect of a type of vehicle of which the rear-view mirrors do not comply with the provisions of this Directive,

— may refuse to grant national type-approval in respect of a type of vehicle of which the rear-view mirrors do not comply with the provisions of this Directive;

(b) — shall not grant EEC component type-approval in respect of a type of rear-view mirror if the latter does not comply with the provisions of this Directive,

— may refuse to grant national component type-approval in respect of a type of rear-view mirror if the latter does not comply with the provisions of this Directive.

3. With effect from 1 October 1984 Member States:

— may prohibit the entry into service of vehicles of which the rear-view mirrors do not comply with the provisions of this Directive,

— may prohibit the placing on the market of rear-view mirrors which do not bear the EEC component type-approval mark laid down in this Directive.'

3. Annexes I, II and III are replaced by Annexes I, II, III and IV to this Directive.

Article 2

Member States shall bring into force the provisions necessary to comply with this Directive not later than 1 February 1980. They shall forthwith inform the Commission thereof.

Article 3

This Directive is addressed to the Member States.

Done at Brussels, 20 July 1979.

For the Commission

Étienne DAVIGNON

Member of the Commission

ANNEX I

1. DEFINITIONS

1.1. 'Rear-view mirror' means any device intended to give, within the field of vision defined in item 3.4, a clear view to the rear, excluding complex optical systems such as periscopes.

1.2. 'Interior rear-view mirror' means a device as defined in item 1.1 which can be fitted in the passenger compartment of a vehicle.

1.3. 'Exterior rear-view mirror' means a device as defined in item 1.1 which can be mounted on the external surface of a vehicle.

1.4. 'Additional rear-view mirror' means a rear-view mirror other than a device of the type defined in item 1.1 which can be fitted to the inside or outside of the vehicle provided that it complies with the provisions of item 2 other than 2.1.1, 2.2 and 2.3.4.

1.5. 'Rear-view mirror type' means devices which do not differ in respect of the following essential characteristics:

1.5.1. the dimensions and radius of curvature of the rear-view mirror's reflecting surface:

1.5.2. the design, shape or materials of the rear-view mirrors, including the connection with the bodywork.

1.6. 'Class of rear-view mirrors' means all devices having one or more common characteristics or functions. Interior rear-view mirrors are grouped in Class I. Additional interior rear-view mirrors are grouped in Class Is.

Exterior rear-view mirrors are grouped in Classes II and III.

Additional exterior rear-view mirrors are grouped in Classes IIs and IIIs.

1.7. 'r' means the average of the radii of curvature measured over the reflecting surface, in accordance with the method described in item 2 of Appendix 1 to this Annex.

1.8. 'The principal radii of curvature at one point on the reflecting surface (r_i)' means the values obtained with the apparatus defined in Appendix 1, measured on the arc of the reflecting surface passing through the centre of the mirror parallel to the segment b, as defined in item 2.2.2.1, and on the arc perpendicular to this segment.

1.9. 'The radius of curvature at one point on the reflecting surface (r_p)' means the arithmetical average of the principal radii of curvature r_i and r'_i, i. e.:

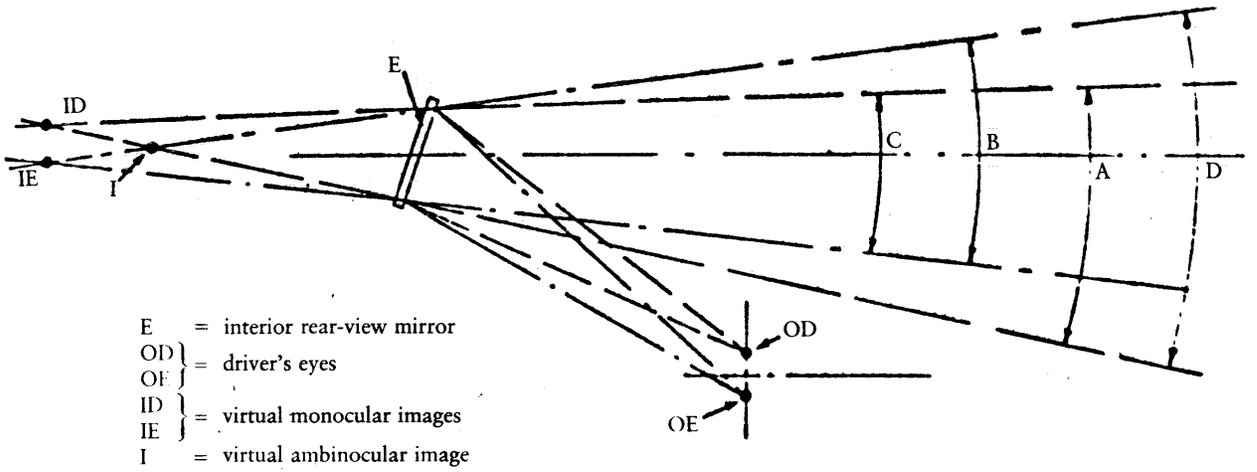
$$r_p = \frac{r_i + r'_i}{2}$$

1.10. 'Centre of the mirror' means the centroid of the visible area of the reflecting surface.

1.11. 'The radius of curvature of the constituent parts of the rear-view mirror' means the radius 'c' of the arc of the circle which most closely approximates to the curved form of the part in question.

1.12. 'The driver's ocular points' means two points 65 mm apart and 635 mm vertically above point R of the driver's seat as defined in Annex IV. The straight line joining these points runs perpendicular to the vertical longitudinal median plane of the vehicle. The centre of the segment joining the two ocular points is in a vertical longitudinal plane which must pass through the centre of the driver's designated seating position, as specified by the vehicle manufacturer.

1.13. 'Ambinocular vision' means the total field of vision obtained by the superimposition of the monocular fields of the right eye and the left eye (see diagram below).



E = interior rear-view mirror
OD, OE = driver's eyes
ID, IE = virtual monocular images
I = virtual ambinocular image
A = angle of vision of left eye
B = angle of vision of right eye
C = binocular angle of vision
D = ambinocular angle of vision

1.14. 'Type of vehicle as regards rear-view mirrors' means motor vehicles which are identical in respect of the following basic features:

1.14.1. the bodywork features which reduce the field of vision;

1.14.2. the coordinates of point R;

1.14.3. the prescribed positions and types of rear-view mirror.

1.15. 'Vehicles of categories M_1, M_2, M_3, N_1, N_2 and N_3' means those defined in Annex I to Directive 70/156/EEC.

2. PROVISIONS RELATING TO EEC COMPONENT TYPE-APPROVAL OF REAR-VIEW MIRRORS

2.1. General specifications

2.1.1. All rear-view mirrors must be adjustable.

2.1.2. The edge of the reflecting surface must be enclosed in a holder which, on its perimeter, must have a value 'c' $\geq 2{\cdot}5$ mm at all points and in all directions. If the reflecting surface projects beyond the holder, the radius of curvature 'c' on the edge of the projecting part must be not less than 2·5 mm and the reflecting surface must return into the holder under a force of 50 N applied to the point of greatest projection, relative to the holder, in a horizontal direction approximately parallel to the longitudinal median plane of the vehicle.

2.1.3. When the rear-view mirror is mounted on a plane surface, all parts, irrespective of the adjustment position of the device, including those parts remaining attached to the support after the test provided for in 2.4.2, which are in potential, static contact with a sphere either 165 mm in diameter in the case of an interior rear-view mirror or 100 mm in diameter in the case of an exterior rear-view mirror, must have a radius of curvature 'c' of not less than 2·5 mm.

2.1.3.1. Edges of fixing holes or recesses of which the diameter or longest diagonal is less than 12 mm are exempt from the radius requirements of item 2.1.3 provided that they are blunted.

2.1.4. The attachment device on the vehicle must be so designed that a cylinder with a 50 mm radius, having as its axis the axis, or one of the axes, of pivot or rotation which ensure deflection of the rear-view mirror in the direction of impact concerned, passes through at least part of the surface to which the device is attached.

2.1.5. The parts of exterior rear-view mirrors referred to in items 2.1.2 and 2.1.3 which are made of a material with a Shore A hardness not exceeding 60 are exempt from the relevant provisions.

2.1.6. In the case of those parts of interior rear-view mirrors which are made of a material with a Shore A hardness of less than 50 and which are mounted on a rigid support, the requirements of items 2.1.2 and 2.1.3 shall only apply to the support.

2.2. **Dimensions**

2.2.1. *Interior rear-view mirrors* (Class I)

The dimensions of the reflecting surface must be such that it is possible to inscribe thereon a rectangle one side of which is 4 cm and the other 'a' cm in length, where

$$a = 15 \text{ cm} \times \frac{1}{1 + \frac{1\,000}{r}}$$

2.2.2. *Exterior rear-view mirrors* (classes II and III)

2.2.2.1. The dimensions of the reflecting surface must be such that it is possible to inscribe therein:

— a rectangle 4 cm high the base length of which, measured in centimetres, has the value 'a',

— a segment which is parallel to the height of the rectangle and the length of which, expressed in centimetres, has the value 'b'.

2.2.2.2. The minimum values of 'a' and 'b' are given in the table below:

Class of rear-view mirror	Categories of vehicles for which the rear-view mirrors are designed	a	b
II	M_2, M_3, N_2 and N_3	$\frac{17}{1 + \frac{1\,000}{r}}$	20
III	M_1 and N_1	$\frac{13}{1 + \frac{1\,000}{r}}$	7

2.3. **Reflecting surface and coefficients of reflection**

2.3.1. The reflecting surface of a rear-view mirror must be either flat or spherically convex.

2.3.2. *Differences between the radii of curvature*

2.3.2.1. The difference between r_i or r'_i and r_p at each reference point must not exceed 0·15 r.

2.3.2.2. The difference between any of the radii of curvature (r_{p1}, r_{p2}, and r_{p3}) and r must not exceed 0·15 r.

2.3.2.3. When r is not less than 3 000 mm, the value of 0·15 r quoted in items 2.3.2.1 and 2.3.2.2 is replaced by 0·25 r.

2.3.3. The value of 'r' must be not less than:

— 1 800 mm for Class II rear-view mirrors,

— 1 200 mm for Class I and III rear-view mirrors.

2.3.4. The value of the normal coefficient of reflection, as determined according to the method described in Appendix 2 to this Annex, must be not less than 40 %.

If the mirror has two positions ('day' and 'night'), the 'day' position must allow the colours of the signals used for road traffic to be recognized. The value of the normal coefficient of reflection in the 'night' position must be not less than 4 %.

2.3.5. The reflecting surface must retain the characteristics laid down in item 2.3.4 in spite of prolonged exposure to adverse weather conditions in normal use.

2.4. **Tests**

2.4.1. The reaction of rear-view mirrors to impact and bending on the holder fixed to the stem or support shall be tested in the manner described in items 2.4.2 and 2.4.3.