

「國際車輛安全法規調和推動規劃案-第二群組」
檢測基準草案討論會議(四)-重型貨車與長型拖車用後方標識牌
會議紀錄

- 一、 開會時間：中華民國 104 年 12 月 8 日星期二 上午 10 時
- 二、 開會地點：本中心 A103 會議室
- 三、 會議主席：許志成 處長
- 四、 會議記錄：黃聖智
- 五、 出席人員：如簽到表
- 六、 會議結論：

(一) 完成基準「重型貨車與長型拖車用後方標識牌」草案討論，綜合意見如下：

參考 UN 原文內容，增訂條文：「2.7.2 螢光之顏色：車輛安全檢測基準項目「車輛燈光與標誌檢驗規定」之螢光之白晝光定義。」

(二) 關於本項基準之檢測能量，請各檢測機構依下列辦理：

1. 財團法人車輛研究測試中心代表於會中表示目前無 CIE 標準光源 D₆₅之色度測試、雨淋模擬及電動清洗等試驗之檢測能量；另針對光度試驗，其表示設備僅能容納 25.4 公分受驗件，惟依 UN R70 條文，並無要求受驗件尺寸，其應以與製成品相同材質、型式之樣品提供為原則。上開請財團法人車輛研究測試中心再行確認。
2. 請各檢測機構針對無檢測能量部分再進行確認，若確認無檢測能量，請於會後一週內提供後續建置意願與規劃，以利本中心提報交通部作為後續法規推行之參考。

七、 散會(上午 11 時 40 分)

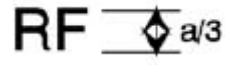
項次	法規名稱	修訂法規內容	新增之法規項目	頁碼	UN 版本別	內容摘要
1	七十〇、 <u>反光識別材料</u> -重型貨車與長型拖車用後方標識牌(草案)		◎	1	UN R70 REAR MARKING PLATES FOR HEAVY AND LONG VEHICLES 01 S9 (draft)	參考 UN R70 01 S9 版，研擬本項基準實施時間、名詞釋義、認定原則及測試標準等。
2	三之四、車輛燈光與標誌檢驗規定	◎		39	R48 05 2011/02/24 UN R70 REAR MARKING PLATES FOR HEAVY AND LONG VEHICLES 01 S9(draft)	參考 UN R70 01 S9 版，新增重型貨車與長型拖車用後方標識牌之安裝相關規定。

ECE R70 REAR MARKING PLATES FOR HEAVY AND LONG VEHICLES 01 S9 draft 重型貨車與長型拖車用後方標識牌

增/修內容	原內容	修訂國內法規條文草案	對應國內法規條文
1. Scope and purpose 1.1. Articulated vehicles of category M, classes II and III; 1.2. Vehicles of categories N2 with a maximum mass exceeding 7.5 tonnes and N3, except tractors for semi-trailers; 1.3. Vehicles of category O1, O2 and O3 exceeding 8.0 m in length; 1.4. Vehicles of category O4. 13. Transitional provisions 13.1. As from the official date of entry into force of Supplement 3 to the 01 series of amendments, no Contracting Party applying this Regulation shall refuse to grant approvals under this Regulation as amended by Supplement 3 to the 01 series		<u>七十〇、<u>反光識別材料</u>-重型貨車與長型拖車用後方標識牌(草案)</u> <u>1. 實施時間及適用範圍：</u> <u>1.1 中華民國〇年〇月〇日起，使用於下列車輛之新型式<u>反光識別材料</u>-重型貨車與長型拖車用後方標識牌，及中華民國〇年〇月〇日起，使用於下列車輛之各型式<u>反光識別材料</u>-重型貨車與長型拖車用後方標識牌，其應符合本項規定。</u> <u>1.1.1 總重量逾七・五噸之 N2 類車輛與 N3 類車輛；曳引車除外。</u> <u>1.1.2 全長逾八公尺之 O1、O2 與 O3 類車輛。</u> <u>1.1.3 O4 類車輛。</u>	

增/修內容	原內容	修訂國內法規條文草案	對應國內法規條文
of amendments. 13.2. As from 24 months after the date of entry into force of Supplement 3 to the 01 series of amendments, Contracting Parties applying this Regulation shall grant approvals only if the type of rear marking plates to be approved meets the requirements of this Regulation as amended by Supplement 3 to the 01 series of amendments. 13.3. Contracting Parties applying this Regulation shall not refuse to grant extensions of approval to a preceding version of this Regulation, up to Supplement 2 to the 01 series of amendments. 13.4. No Contracting Party applying this Regulation shall refuse a type of rear marking plates approved under this Regulation as amended by Supplement 3 to the 01 series of amendments. 13.5. As from the official date of entry into force of Supplement 3 to the 01 series of amendments, no Contracting Party applying this Regulation shall prohibit the fitting on a vehicle of rear marking plates approved under this Regulation as amended by Supplement 3 to the 01 series of amendments. 13.6. Contracting Parties applying this			

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Regulation shall continue to allow the fitting on a vehicle of rear marking plates approved under preceding version of the Regulation up to Supplement 2 to the 01 series of amendments during the 48 months period which follows the date of entry into force of Supplement 3 to the 01 series of amendments. 13.7. Upon the expiration of a period of 48 months after the date of entry into force of Supplement 3 to the 01 series of amendments, Contracting Parties applying this Regulation may prohibit the fitting on vehicles registered in their territories for the first time, of rear marking plates which do not meet the requirements of this Regulation as amended by Supplement 3 to the 01 series of amendments.			
2. Definitions 2.1. For the purpose of these provisions, the following definitions shall apply: 2.1.1. "Rear marking plate", a plate faced with retro-reflective and fluorescent material or devices intended to increase the visibility and permit easy identification of heavy and long vehicles;		<u>2.名詞釋義：</u> <u>2.1 反光識別材料-重型貨車與長型拖車用後方標識牌：其屬反光識別材料類型之一，係指符合 2.1.1 規格標示，且表面為反光材料(Retro-reflective material)/裝置，及螢光材料(Fluorescent material) /裝置，其目的為提昇重型貨車與長型拖車</u>	

增/修內容	原內容	修訂國內法規條文草案	對應國內法規條文
		<u>之可見度及辨識度。</u>	
4. MARKINGS 4.1. Every plate submitted for approval shall bear: 4.1.1. The trade name or mark of the applicant; 4.1.2. On the plates whose retro-reflective system is not omni-rotational, the word "TOP" is inscribed horizontally on the part of the plates which is intended to be the highest part of the plate when mounted on the vehicle. 4.2. The markings shall be applied on either the retro-reflective or the fluorescent area of the plate, or on the edge, and must be visible from the outside when the marking plate is fitted on the vehicle. 4.3. The markings shall be clearly legible and shall be indelible. 5. APPROVAL 5.1. If the marking plates submitted for approval in accordance with paragraph 4. above meet the requirements of this Regulation, approval for this type of marking plate shall be granted. 5.2. An approval number shall be assigned to each type approved. Its first two digits (at present 01) shall indicate the series of		<u>2.1.1 規格標示</u> <u>2.1.1.1 係指包含以下清晰可見且不可被輕易除去之標示：</u> <u>2.1.1.1.1 廠牌(或其識別)。</u> <u>2.1.1.1.2 若非全方位性之反光標識牌，應於標識牌安裝於車上時，其最高位置上標示「TOP」，以有助於標識牌之正確裝設。</u> <u>2.1.1.1.3 符合本規範之後方標識牌，若為：</u> <u>(a)類型一或類型二(反光材料與螢光材料)，以 RF 表示，</u> <u>(b)類型三或類型四 (均為反光材料)，以 RR 表示。(如圖示，其中 a 至少五公釐)</u> <u>例：</u> 	

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amendments incorporating the most recent major technical amendments made to the Regulation at the time of issue of the approval. The symbol above the circle indicates the classes of rear marking plate, "RF" in case of classes 1 and 2 (retro-reflective and fluorescent materials) and "RR" in the case of class 3 and 4 (retro-reflective only materials). The same Contracting Party may not assign the same number to another type of rear marking plate. ... 5.4. Every marking plate conforming to a type approved under this Regulation shall bear, in addition to the marking prescribed in paragraph 4.1: 5.4.1. An international approval mark consisting of: 5.4.1.1. A circle surrounding the letter "E" followed by the distinguishing number of the country which has granted approval; 4/ 5.4.1.2. An approval number. 5.5. The approval mark shall be clearly legible and shall be indelible. 5.6. Annex 3 to this Regulation gives an example of the arrangement of the approval mark.			
2.1.2. "Sample unit", a complete, finished marking plate ready to be mounted on a		<u>2.2 受驗代表件：由供實車安裝之標識牌成品上所取，具代表性之試片。</u>	

增/修內容	原內容	修訂國內法規條文草案	對應國內法規條文
vehicle and representative of current production; 2.1.3. Classes of rear marking plates Class 1: Rear marking plates for heavy motor vehicles (trucks and tractors) with red fluorescent and yellow retro-reflective alternative stripes. Class 2: Rear marking plates for long vehicles (trailers and semi-trailers) with red fluorescent border and yellow retro-reflective centre. Class 3: Rear marking plates for heavy motor vehicles (trucks and tractors) with red retro-reflective and yellow retro-reflective alternative stripes. Class 4: Rear marking plates for long vehicles (trailers and semi-trailers) with red retro-reflective border and yellow retro-reflective centre. Class 5: Rear marking plates for motor vehicles or trailers with red and white retroreflective alternative stripes. 2.2. Retro-reflection Reflection in which radiation is returned in directions close to the direction from which it came, this property being maintained even over wide variations of the direction of the incident radiation: 2.2.1. "Retro-reflective material", a surface		<u>2.3 後方標識牌類型</u> <u>類型一：供重型機動車輛(貨車及兼供曳引之貨車)用之後方標識牌，其以紅色螢光及黃色反光材料之間隔條紋構成。</u> <u>類型二：供長型車輛(拖車及半拖車)用之後方標識牌，其以紅色螢光材料為邊框，以黃色反光材料為底。</u> <u>類型三：供重型機動車輛(貨車及兼供曳引之貨車)用之後方標識牌，其以紅色反光材料與黃色反光材料之間隔條紋構成。</u> <u>類型四：供長型車輛(拖車及半拖車)用之後方標識牌，其以紅色反光材料為邊框，以黃色反光材料為底。</u> <u>類型五：供機動車輛或拖車用之後方標識牌，其以紅色反光材料及白色反光材料之間隔條紋構成。</u> <u>2.4 原向反射(Retro-reflection)</u> <u>係指光於接近其入射方向被反射回復。於入射光方向有大範圍變化之情況下，此特性仍應能保持。</u>	

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or device from which, when directionally irradiated, a relatively large portion of the incident radiation is retro-reflected; 2.2.2. "Retro-reflecting device", an assembly ready for use and comprising one or more retro reflecting optical units; 2.3. Geometric definitions (See Annex 1, figure 1) 2.3.1. "Reference centre", a point on or near a retro-reflective area which is designated to be the centre of the device for the purpose of specifying its performance; 2.3.2. "Illumination axis", a line segment from the reference centre to the light source; 2.3.3. "Observation axis", a line segment from the reference centre to the photometer head; 2.3.4. "Observation angle (symbol alpha)", the angle between the illumination axis and the observation axis. The observation angle is always positive and, in the case of retro reflection, is restricted to small angles. Maximum range: $0 \leq \alpha \leq 180$ degrees ; 2.3.5. "Observation half-plane", the half-plane which originates on the illumination axis and which contains the observation axis;		<u>2.4.1 反光材料 (即反光識別材料): 於定向入射光下, 原向反射大部分入射光之一種表面或裝置。</u> <u>2.4.2 反光裝置: 由一個或多個反射光學單元組成之成品。</u> <u>2.5 幾何定義</u> <u>2.5.1 基準中心: 反光表面上或鄰近其表面之點, 作為裝置性能確認之中心。</u> <u>2.5.2 照明軸: 基準中心至光源之線段 (Line segment)。</u> <u>2.5.3 觀測軸: 基準中心至光度計頭之線段。</u> <u>2.5.4 觀測角(α): 照明軸與觀測軸間之夾角, 觀測角為正數, 在反射的情況下, 觀測角限於小角度, 最大範圍為: $0 \leq \alpha \leq 180$ 度。</u> <u>2.5.5 觀測半平面: 原點於照明軸上, 並包含觀測軸之半平面。</u>	

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2.3.6. "Reference axis", a designated line segment originating on the reference centre which is used to describe the angular position of the retro-reflector; 2.3.7. "Entrance angle (symbol beta)", the angle from the illumination axis to the reference axis. The entrance angle is usually not larger than 90 degrees but, for completeness, its full range is defined as $0 \leq \beta \leq 180$ degrees In order to specify the orientation in full, this angle is characterized by two components, β_1 and β_2; 2.3.8. "First axis", an axis through the reference centre and perpendicular to the observation half-plane; 2.3.9. "First component of the entrance angle (symbol β_1)", the angle from the illumination axis to the plane containing the reference axis and the first axis. Range: $-180 \text{ degrees} \leq \beta_1 \leq 180 \text{ degrees}$; 2.3.10. "Second component of the entrance angle (symbol β_2)", the angle from the plane containing the observation half-plane to the reference axis. Range: $-90 \text{ degrees} \leq \beta_2 \leq 90 \text{ degrees}$; 2.3.11. "Second axis", an axis through the reference centre and perpendicular to both the first axis and the reference axis. The		<u>2.5.6 基準軸：原點於基準中心，用來描述反射角度位置。</u> <u>2.5.7 入射角(β)：照明軸與基準軸間之夾角。入射角通常不大於九〇度，然為完整性，定義其整個範圍為 $0 \leq \beta \leq 180$ 度。為完整描述方向，β 角由 β_1 和 β_2 兩個分量來呈現。</u> <u>2.5.8 第一軸：通過基準中心，且垂直於觀測半平面之軸線。</u> <u>2.5.9 入射角第一分量(β_1)：自照明軸，至包含基準軸與第一軸之平面間夾角。其範圍為 $-180 \leq \beta_1 \leq 180$ 度。</u> <u>2.5.10 入射角第二分量(β_2)：自包含觀察半平面之平面，至基準軸間之夾角。其範圍為 $-90 \leq \beta_2 \leq 90$ 度。</u> <u>2.5.11 第二軸：通過基準中心，且垂直於第一軸與基準軸之軸線。當-90</u>	

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positive direction of the second axis lies in the observation half-plane when $-90 \text{ degrees} < \beta_1 < 90 \text{ degrees}$; as shown in Annex 1, figure 1; 2.3.12. "Angle of rotation epsilon", angle through which the sample is turned about its mean vertical from any arbitrarily established position counterclockwise (+epsilon) or clockwise (-epsilon) viewed in the direction of illumination. If retro-reflective materials or devices have a marking (e.g. TOP), this marking governs the starting position. The angle of rotation epsilon lies in the range $-180 \text{ degrees} < \epsilon \leq 180 \text{ degrees}$. 2.4. Definition of photometric terms 2.4.1. "Coefficient of retro-reflection (R')", the quotient of the coefficient of luminous intensity R of a plane retro-reflecting surface by its area A. The symbol is R' $(R' = \frac{I}{E_{\perp} \cdot A}).$ The coefficient (R') is expressed in candelas per lux per m² (cd.lx⁻¹.m⁻²); 2.4.2. "Angular diameter of the retro-reflector sample (symbol eta)", the angle subtended by the greatest dimension		<u>$< \beta_1 < 90 \text{ 度}$，第二軸之正方向位於觀測半平面內；如圖一。</u> <u>2.5.12 旋轉角：受驗件環繞其垂直軸線，從任一位置起轉動角度。當從照射方向觀察時，逆時針方向為正(+ϵ)，順時針方向為負(-ϵ)。若反光材料或裝置上具有標示（如：TOP 標示），則該標誌即為起始位置。轉動角 ϵ 的範圍為 $-180 < \epsilon \leq 180 \text{ 度}$。</u> <u>2.6 光度</u> <u>2.6.1 反射係數(R')：於一平坦反射表面，其發光強度 R 除以面積 A 而得之商。</u> $(R' = \frac{I}{E_{\perp} \cdot A}).$ <u>反射係數 R' 之單位為 $\text{cd}/(\text{lx} \cdot \text{m}^2)$；</u> <u>2.6.2 受驗反光件之角直徑(Angular diameter，η)：於光源中心或受光器</u>	

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of the retro-reflective sample, either at the centre of the source of illumination or at the centre of the receiver; 2.4.3. "Luminance factor", the ratio of the luminance of the body considered to the luminance of a perfect diffuser under identical conditions of illumination and observation. 2.4.4. "Colour of the reflected light of the device" The definitions of the colour of the reflected light are given in paragraphs 2.30. and 2.31. of Regulation No. 48. 2.5. Fluorescence 2.5.1. When certain substances are brought near to a source of ultraviolet or blue radiations, they emit radiations which are nearly always of longer wave-length than those producing the effect. This phenomenon is called fluorescence. By day and in twilight, fluorescent colours are brighter than normal colours because they reflect part of the light falling upon them, and in addition they emit light. At night they are not brighter than ordinary colours. 2.5.2. "Colour of the fluorescent light of the device" The definitions of the colour of the fluorescent light are given in paragraph 2.32. of Regulation No. 48. 2.6. Description of goniometer		<u>中心，所得受驗反光件最大尺寸之對向角。</u> <u>2.6.3 發光率(Luminance factor)：於相同照明與觀察條件下，被觀察物體之亮度與理想漫射體亮度(luminance of a perfect diffuser)之比率。</u> <u>2.6.4 反射光色：反射光顏色定義，應依照本基準項次「車輛燈光與標誌檢驗規定」規定。</u> <u>2.7 螢光</u> <u>2.7.1 某些物質靠近紫外線或藍色輻射時，其發出之光線波長比入射光波長更長，此現象稱為螢光。此等材料能自行發光，亦能反射部分入射光，故於白天和微光條件下，散發之螢光色較原入射光色更為明亮；惟於夜間，散發之螢光色未較入射光色明亮。</u> <u>2.7.2 螢光之顏色：</u> <u>車輛安全檢測基準項目「車輛燈光與標誌檢驗規定」之螢光之白晝光定義。</u>	

增/修內容	原內容	修訂國內法規條文草案	對應國內法規條文
A goniometer which can be used in making retro-reflection measurements in the CIE geometry is illustrated in Annex 1, figure 2. In this illustration, the photometer head is arbitrarily shown to be vertically above the source. The first axis is shown to be fixed and horizontal and is situated perpendicular to the observation half-plane. Any arrangement of the components which is equivalent to the one shown can be used.			
2.7. Definition of "type" Rear marking plates of different types means marking plates which differ in such essential respects as: 2.7.1. The trade name or mark; 2.7.2. The characteristics of the retro-reflective material; 2.7.3. The characteristics of the fluorescent material; 2.7.4. The parts affecting the properties of the retro-reflective material or devices. 2.7.5. Differences in the shape and dimensions of the rear marking shall not constitute a different type		<u>3. 反光識別材料-重型貨車與長型拖車用後方標識牌之適用型式及其範圍認定原則：</u> <u>3.1 廠牌相同。</u> <u>3.2 反光材料之特性相同。</u> <u>3.3 螢光材料之特性相同。</u> <u>3.4 影響反光材料/裝置屬性之部位相同。</u> <u>3.5 後方標識牌形狀與尺寸之不同，可不視為不同型式。</u>	
3. Application for approval 3.1. The application for approval of a type of rear marking plate shall be submitted by the holder of the trade name or mark,		<u>4. 一般規定</u> <u>4.1.申請者應至少提供5.1要求之後方標識牌代表件數量，及下列文件予檢測機構，確認後方標識牌與文件</u>	

增/修內容	原內容	修訂國內法規條文草案	對應國內法規條文
or if necessary by his duly accredited representative, and shall be accompanied by: 3.1.1. Drawings, in triplicate, sufficiently detailed to permit identification of the type. The drawings shall show geometrically the position in which the marking plate is to be fitted to the rear end of the vehicle. They shall also show the position intended for the approval number and the identification symbol in relation to the circle of the approval mark; 3.1.2. A brief description giving the technical specifications of the materials of which the retroreflective areas are made; 3.1.3. A brief description giving the technical specifications of the materials of which the fluorescent areas are made; 3.1.4. Samples of the retro-reflective and of the fluorescent areas; the number of samples to be submitted is specified in Annex 4. 3.2. The Competent Authority shall verify the existence of satisfactory arrangements for ensuring effective control of the conformity of production before type approval is granted. 6. General specifications 6.1. Retro-reflective/fluorescent or		<u>內容一致。</u> <u>4.1.1.可辨別標識牌之圖示及/或照片，圖上應標明標識牌於實車尾部之安裝樣態。</u> <u>4.1.2 標識牌內反光材料之簡要技術規格說明。</u> <u>4.1.3 標識牌內螢光材料之簡要技術規格說明。</u> <u>4.2 反光/螢光標識牌或純反光標識牌</u>	

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retro-reflective only marking plates shall be so constructed that they function satisfactorily and will continue to do so in normal use. In addition, they shall not have any defect in design or manufacture that is detrimental to their efficient operation or to their maintenance in good condition. 6.2. The components of retro-reflective/fluorescent or retro-reflective only marking plate(s) shall not be capable of being easily dismantled. 6.3. The means of attachment of the rear marking plate must guarantee a stable and durable connection between the rear marking plate and the rear end of vehicles, for instance by screws, rivets or adhesives. 6.4. The outer surface of the retro-reflective/fluorescent or retro-reflective only marking plate(s) shall be easy to clean. The surface shall therefore not be rough and any protuberances it may exhibit shall not prevent easy cleaning.		<u>之構造，應能使其功能正常展現，並持續於正常狀態。其設計或製造出之成品，不應有任何會危害運作效率或影響良好狀態維持之缺陷。</u> <u>4.3 反光/螢光標識牌或純反光標識牌之組件應為不易拆卸。</u> <u>4.4 後方標識牌與車尾間之連結方式，應穩固且耐久，例如使用螺絲、鉚釘或黏著劑。</u> <u>4.5 反光/螢光標識牌或純反光標識牌之外表面，應易於清潔；表面不應粗糙，且任何可能之突出(Protuberances)均不應妨礙易於清潔之特性。</u>	
Annex 4 TEST PROCEDURE 1. Two large chevron rear marking plates for trucks and tractors and two large rear marking plates for trailers and		<u>5.試驗程序</u> <u>5.1 貨車(包括兼供曳引者)用後方標識牌申請者，應提供兩組大型波浪條紋形(Chevron)後方標識牌予檢測機</u>	

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semi-trailers (or their equivalent in smaller plates) shall be supplied to the testing laboratory for the various tests to be conducted. 2. The test samples shall be representative of current production, fabricated in accordance with the recommendations of the manufacturer of the retro-reflective or retro-reflective/fluorescent materials or devices. 3. After verification of the general specifications (paragraph 6. of the Regulation) and the specifications of shape and dimensions (Annex 5) the samples shall be subjected to the heat resistance test described in Annex 9 to this Regulation, prior to the tests described in Annexes 6, 7 and 8. 4. The photometric and colorimetric measurements may be made on the same sample. 5. For the other tests, samples which have not undergone any testing should be used.		<u>構;拖車與半拖車用後方標識牌申請者，應提供兩組大型後方標識牌(或其對等車輛之較小標識牌) 予檢測機構，以進行各種試驗。</u> <u>5.2 受驗件應為成品之代表件，並為依反光或反光/螢光材料或裝置製造廠之建議而裝配製造之成品。</u> <u>5.3 受驗件經 4.一般規定及 6. 形狀與尺寸規定之試驗後，其應先進行 10.耐熱性試驗，再進行 7.、8.及 9.規定之試驗。</u> <u>5.4 光度及色度量測可於同一個受驗件上進行。</u> <u>5.5 其它試驗應使用尚未進行過任何試驗之受驗件。</u>	
7. SPECIAL SPECIFICATIONS (TESTS) 7.1. Rear marking plate(s) shall also satisfy the conditions as to shape and stripe slope and the colorimetric, photometric, physical and mechanical requirements set forth in Annexes 5 to 12 to this Regulation.		<u>6.形狀與尺寸規定</u>	

增/修內容	原內容	修訂國內法規條文草案	對應國內法規條文
Annex 5 SPECIFICATIONS OF SHAPE AND DIMENSIONS SHAPE AND DIMENSIONS OF RETRO-REFLECTIVE/FLUORESCENT REAR MARKING PLATE(S) 1. Shape The plates shall be rectangular in shape for mounting at the rear of vehicles. 2. Pattern For mounting on trailers and semi-trailers, the plates shall have a yellow retro-reflective background with a red fluorescent or retro-reflective border; For mounting on non-articulated vehicles (tractors or trucks), the plates shall be of the chevron type with alternate, oblique stripes of yellow retro-reflective and red fluorescent or retro-reflective materials or devices. For mounting of Class 5 devices on non-articulated vehicles, the retro-reflective material shall be made with alternate, oblique stripes of white and red colour. 3. Dimensions The minimum total summarized length of a set of rear marking plates consisting only of one, two or four marking plates with retro-reflective and fluorescent materials shall be 1,130 mm, the maximum total		<u>6.1形狀</u> <u>裝設於車輛後方之標識牌應為矩形。</u> <u>6.2圖案(Pattern)</u> <u>裝設於拖車或半拖車之標識牌，應以黃色反光材料/裝置為底，紅色螢光或反光材料/裝置為邊框。</u> <u>裝設於非聯結車輛(貨車或兼供曳引之貨車)之標識牌，應以波浪形、斜條紋之黃色反光材料/裝置，及紅色螢光或反光材料/裝置間隔配置。</u> <u>裝設於非聯結車輛之類型五裝置，其應以斜條紋白色反光材料及紅色反光材料間隔配置。</u> <u>6.3尺寸</u> <u>由反光材料及螢光材料組成，一片式、兩片式或四片式之一組後方標識牌，其總長度不應小於一一三〇公釐，且不應大於二三〇〇公釐。</u>	

增/修內容	原內容	修訂國內法規條文草案	對應國內法規條文
length shall be 2,300 mm. 3.1. The width of a rear marking plate shall be: For trucks and tractors: 140 +/- 10 mm. For trailers and semi-trailers: 200 ⁺³⁰₋₅ mm. 3.2. The length of each rear marking plate in a set consisting of two plates for trucks and tractors, as illustrated in figures 1(b) and 1(c) of Annex 12, may be reduced, to a minimum of 130 mm, provided that the width is increased such that the area of each marking is at least 735 cm², does not exceed 1,725 cm² and the marking plates are rectangular. Class 5 devices shall incorporate a minimum of 9 standard areas as described in para. 3.4. below on large vehicles with available mounting space, but may be reduced to a minimum of 4 standard areas on vehicles with limited mounting space. 3.3. The width of the red fluorescent border of the rear marking plates for trailers and semitrailers shall be 40 mm +/- 1 mm. 3.4. The slope of the oblique stripes of the chevron band shall be 45 degrees +/- 5 degrees. The width of the stripes shall be 100 mm +/- 2.5 mm. Prescribed shapes, patterns and dimensional features are		<u>6.3.1 每片後方標識牌寬度</u> <u>貨車及兼供曳引之貨車：一四〇（正負一〇）公釐。</u> <u>全拖車及半拖車：二〇〇（正三〇，負五）公釐。</u> <u>6.3.2 如圖二(b)、(c)所示，貨車及兼供曳引之貨車其後方標識牌組合為兩片式者，每片後方標識牌長度可減至一三〇公釐，惟應增加標識牌寬度，致每片標識牌面積不小於七三五平方公分，且不大於一七二五平方公分；標識牌應為矩形。</u> <u>於大型車輛之可安裝空間內，類型五裝置應包含至少九個如 6.3.4 所述之標準面積；惟若車輛之可安裝空間有限，可減少為至少四個標準面積。</u> <u>6.3.3 全拖車與半拖車之後方標識牌，紅色螢光之邊框寬度應為四〇（正負一）公釐。</u> <u>6.3.4 波浪形斜條紋之斜率應為四五（正負五）度。條紋寬度為一〇〇（正負二·五）公釐。如圖二、圖三所示之形狀、圖案及尺度特性。</u>	

增/修內容	原內容	修訂國內法規條文草案	對應國內法規條文
illustrated in figures 1 and 2 of Annex 12 to this Regulation. Class 5 retro-reflective materials shall consist of red and white diagonal stripes each 100 mm wide sloping outwards and downwards at 45 deg. The basic standard area is a square of 141 mm in length subdivided diagonally into a white half and red half, which represents one standard area. Prescribed shapes, patterns and dimensional features of Class 5 devices are illustrated in figure 3 of Annex 12 to this Regulation. 3.5. Rear marking plates or Class 5 devices supplied in sets shall form matching pairs. Annex 6 COLORIMETRIC SPECIFICATIONS 1. Rear marking plates for heavy vehicles and trailers shall be composed of yellow retro reflective and red retro-reflective or yellow retro-reflective and red fluorescent materials or devices. 2. Yellow, red or white retro-reflective material 2.1. When measured with a spectrophotometer in accordance with the provisions of CIE document No. 15 (1971) and illuminated with the CIE		<u>類型五反光材料應由紅色條紋及白色條紋構成，每個條紋寬度一〇〇公釐、向外且向下傾斜四五度。基本標準面積係指邊長一四一公釐、且紅色與白色斜切對半分佈之正方形。</u> <u>類型五裝置形狀、圖案及尺度特性，應如圖四之一所示。</u> <u>6.3.5 多片式組合內之各後方標識牌或類型五裝置，應兩相對稱。</u> <u>7.色度規範</u> <u>7.1 重型貨車與長型拖車用後方標識牌，應由黃色反光材料/裝置與紅色反光材料/裝置，或黃色反光材料/裝置與紅色螢光材料/裝置組成。</u> <u>7.2.黃色、紅色或白色反光材料</u> <u>7.2.1 將CIE標準光源D₆₅以相對於法線之四五度方向照射全新之受驗件，且沿著方向(照射角四五度/觀測角0度之幾何條件)觀測；以CIE第</u>	

增/修內容	原內容	修訂國內法規條文草案	對應國內法規條文
Standard illuminant D65 at an angle of 45 degrees to the normal and viewed along the normal (45/0 geometry), the colour of the material in new condition shall be within the limits according to paragraph 2.31. of Regulation No. 48. Table 1: Chromaticity co-ordinates x and y 【請參考下列表格】 2.1.1. Luminance factor for (a) Yellow colour shall be ≥ 0.16. (b) Red colour shall be ≥ 0.03. (c) White colour shall be ≥ 0.25. 2.2. When illuminated by the CIE Standard Illuminant A at an entrance angle $\beta_1 = \beta_2 = 0$ degrees or, if this produces a colourless surface reflection, an angle $\beta_1 = \pm 5$ degrees, $\beta_2 = 0$ degrees, and measured at an observation angle of $20'$, the colour of the material in new condition shall be within the limits according to paragraph 2.30. of Regulation No. 48. Table 2: Chromaticity co-ordinates x and y 【請參考下列表格】		<u>15 號(1971)規定之分光光度計(spectrophotometer)測量得反光材料之顏色，應於本基準「車輛燈光與標誌檢驗規定」--反射光之白晝光色所要求之邊界內。</u> <u>表一 X和Y色度座標</u> <u>【請參考下列表格】</u> <u>7.2.1.1 發光率</u> <u>(a)黃色應大於或等於0.16。</u> <u>(b)紅色應大於或等於0.03。</u> <u>(c)白色應大於或等於0.25。</u> <u>7.2.2 將 CIE 標準光源 A 以入射角 β_1 與 β_2 均為零之方向照射全新之受驗件，若此情況之反射光為無色，則以入射角 β_1 為正/負五度、β_2 為零之方向照射，且沿著20分角之觀測角所測量得之顏色，應於本基準「車輛燈光與標誌檢驗規定」--反射光之夜間光色所要求之邊界內。</u> <u>表二 X和Y色度座標</u> <u>【請參考下列表格】</u>	

增/修內容	原內容	修訂國內法規條文草案	對應國內法規條文
Note: The question of the night-time colours of retro-reflective materials is at present being studied by CIE TC 1.6; the above limits are therefore only provisional and will be revised later after CIE TC 1.6 has completed its work. 3. Red fluorescent material 3.1. When measured with a spectrophotometer in accordance with the provisions of CIE document No. 15 (1971) and illuminated polychromatically with the CIE Standard Illuminant D₆₅ at an angle 45 degrees to the normal and viewed along the normal (geometry 45/0), the colour of the material in new condition shall be within the limits according to paragraph 2.32. of Regulation No. 48. Table 3 【請參考下列表格】 3.1.1. "Luminance factor for red colour shall be ≥ 0.30. 4. Compliance with the colorimetric specification shall be verified by a visual comparison test. If any doubt remains after this test, conformity with the colorimetric specification shall be verified by determining the trichromatic co-ordinates		<u>7.3.紅色螢光材料</u> <u>7.3.1 將 CIE 標準光源 D₆₅ 以相對於法線之四五度方向照射全新之受驗件，且沿著方向(照射角四五度/觀測角 0 度之幾何條件)觀測；以 CIE 第 15 號 (1971) 規定之分光光度計 (spectrophotometer) 測量得螢光材料之顏色，應於本基準「車輛燈光與標誌檢驗規定」--螢光之白晝光色所要求之邊界內。</u> <u>表三</u> <u>【請參考下列表格】</u> <u>7.3.1.1 紅色螢光材料發光率應大於或等於 0.30。</u> <u>7.4.符合色度規範者，應以視覺對比試驗加以驗證。</u> <u>完成試驗後，若有任何疑慮，應選定最具疑慮受驗件之三色座標，驗證色度規範之符合性。</u>	

增/修內容	原內容	修訂國內法規條文草案	對應國內法規條文
of the most doubtful sample.			
Annex 7 PHOTOMETRIC SPECIFICATIONS 1. Photometric properties 1.1. When illuminated with a CIE Standard Illuminant A and measured as recommended by CIE TC 2.3 (CIE Publication No. 54, 1982), the coefficient of retro-reflection R' in candelas per square metre per lux of the yellow, white or red retro-reflective area in new condition shall be at least as indicated in tables 1, 2 or 3, according to the class. Devices of class 1 and class 2 shall fulfil the values in table 1, devices of class 3 and class 4 those in table 2, devices of class 5 those in table 3. Table 1: Coefficient of retro-reflection R' [cd.m⁻².lx⁻¹] 【請參考下列表格】 Table 2: Coefficient of retro-reflection R' [cd.m⁻².lx⁻¹] 【請參考下列表格】 Table 3: Coefficient of retro-reflection R' [cd.m⁻².lx⁻¹] 【請參考下列表格】 1.2. The subtended angle at the sample shall not be larger than 80'. 1.3. Luminance factor The luminance factor beta shall be at least		<u>8.光度規範</u> <u>8.1光度特性</u> <u>8.1.1 類型一及類型二之反射係數，應符合表四內之數值，類型三及類型四之反射係數，應符合表五內之數值，類型五之反射係數，應符合表六內之數值。</u> <u>表四</u> <u>【請參考下列表格】</u> <u>表五</u> <u>【請參考下列表格】</u> <u>表六</u> <u>【請參考下列表格】</u> <u>8.1.2 於受驗件之對向角，不應大於80分。</u>	

增/修內容	原內容	修訂國內法規條文草案	對應國內法規條文
as indicated in table 4. Table 4: Luminance factor beta 【請參考下列表格】		<u>8.1.3 發光率應如表七所示。</u> <u>表七</u> <u>【請參考下列表格】</u>	
Annex 8 RESISTANCE TO EXTERNAL AGENTS 1. Resistance to weathering 1.1 Procedure - For each test, two specimens of a sample unit (see paragraph 2.1.2. of this Regulation) are taken. One specimen shall be stored in a dark and dry container for subsequent use as "reference unexposed specimen." The second specimen shall be subjected to a source of illumination in accordance with ISO Standard 105 - B02 - 1978, Section 4.3.1; the retro-reflective material shall be exposed until blue standard No. 7 has faded to No. 4 on the grey scale and the fluorescent material until blue standard No. 5 has faded to No. 4 on the grey scale. After the test, the specimen shall be washed in a dilute neutral detergent solution, dried and examined for conformity with the requirements specified in paragraphs 1.2. to 1.4. 1.2. Visual appearance - No area of the exposed specimen shall show any evidence of cracking, scaling, pitting, blistering, delamination, distortion,		<u>9.環境試驗</u> <u>9.1 耐候性試驗</u> <u>9.1.1 每次試驗應準備兩個受驗件，其中一個受驗件應存放於暗黑且乾燥之容器內，以作為「未試驗之參考件」。</u> <u>將第二個受驗件暴露於 ISO 105-B02-1978，第 4.3.1.節之光源;反光材料者，讓藍色標準編號 7 暴露衰退至灰色等級上之編號 4；螢光材料者，讓藍色標準編號 5 暴露衰退至灰色等級上之編號 4。試驗後，應於中性清潔劑溶液中洗滌受驗件，待乾燥後再依 9.1.2~9.1.4 之要求進行試驗。</u> <u>9.1.2 外觀試驗：目視檢查受驗件之照射區，應無任何龜裂、剝離、分裂、氣泡、分層、扭曲、白化、沾污、腐蝕。</u>	

增/修內容	原內容	修訂國內法規條文草案	對應國內法規條文
chalking, staining or corrosion. There shall be no shrinkage in excess of 0.5 per cent in any linear direction and no evidence of adhesion failure such as edge lifting from the substrate. 1.3. Colour fastness - The colours of the exposed specimen shall still meet the requirements specified in Annex 6. 1.4. Effect on the coefficient of retro-reflection of the retro-reflective material: 1.4.1. For this check, measurement shall be made only at an observation angle of 20' and an entrance angle of 5 degrees by the method given in Annex 7. 1.4.2. The coefficient of retro-reflection of the exposed specimen when dry shall be not less than 80 per cent of the value in Annex 7, table 1. 1.4.3. The specimen shall then be subjected to simulated rainfall as described in paragraph 7.7. of EN 13422(2004) (Vertical road signs. Portable deformable warning devices and delineators. Portable road traffic signs. Cones and cylinders) and its coefficient of retroreflection under this condition shall be not less than 90 per cent of the value obtained when measured in dry condition, as explained in paragraph 1.4.2. above. It is possible to		<u>於任何線性方向上，收縮量不應逾百分之 0.5，且應無黏著失效之跡象，例如底層邊緣翹起。</u> <u>9.1.3 不褪色性(Color fastness)：受驗件之受照射區色度仍應符合表一、表二及表三之要求。</u> <u>9.1.4 反光材料之反射係數影響：</u> <u>9.1.4.1 以 8.光度規範所列方法，進行觀測角 α 為二 0 分及入射角 β_2 為五度之反射係數量測。</u> <u>9.1.4.2 待受照射之受驗件乾燥後，測量反射係數，其不應小於前述表四之百分之八 0。</u> <u>9.1.4.3 依 EN 13422(2004)之 7.7 規定，進行受驗件之雨淋模擬試驗，並測量反射係數，其不應小於 9.1.4.2 量測值之百分之九 0。</u> <u>若能達到相同雨淋模擬效果(例如：受驗件表面之水分佈)，則可使用非 EN13422(2004) 之 7.7 規定噴嘴。</u>	

增/修內容	原內容	修訂國內法規條文草案	對應國內法規條文
use nozzles other than those described in paragraph 7.7. of EN 13422(2004) provided that the same performance (e.g. water distribution on the surface of the test sample) of the simulated rainfall is achieved. 2. Resistance to corrosion (ISO Standard 3768) 2.1. A specimen of the sample unit shall be subjected to the action of a saline mist for 48 hours comprising two periods of exposure of 24 hours each, separated by an interval of 2 hours during which the specimen is allowed to dry. The saline mist shall be produced by atomizing at a temperature of 35 +/- 2 degrees C a saline solution obtained by dissolving 5 parts by weight of sodium chloride in 95 parts of distilled water containing not more than 0.02 per cent of impurities. 2.2. Immediately after completion of the test, the sample shall show no sign of corrosion liable to impair the efficiency of the device. 2.2.1. The coefficient of 'Retro-reflection R' of the retro-reflective areas, when measured after a recovery period of 48 hours as specified in paragraph 1. of Annex 7, at an entrance angle of 5 degrees		9.2.耐腐蝕性試驗(ISO Standard 3768) 9.2.1 進行受驗件鹽水噴霧二四小時，停止二小時，可於此時對受驗件進行乾燥作業，再進行噴霧二四小時。 鹽水噴霧溫度應為攝氏三五(正負二)度，鹽水係由百分之五之氯化鈉與百分之九五蒸餾水調製而成，且蒸餾水之不純物（Impurities）應小於百分之0.0二。 9.2.2 試驗完成後，應立即確認受驗件無任何影響標識性能之腐蝕現象。四八小時之恢復時間後，清除表面之鹽水殘留物，並依前述8.光度規範所列	

增/修內容	原內容	修訂國內法規條文草案	對應國內法規條文
and an observation angle of 20', shall be not less than the value in Annex 7, table 1. Before measuring, the surface shall be cleaned to remove salt deposits from the saline mist. 3. Resistance to fuels A section of a sample unit not less than 300 mm long shall be immersed in a mixture of n-heptane and toluol, 70 per cent and 30 per cent by volume, for one minute. After removal, the surface shall be wiped dry with a soft cloth and shall not show any visible change which would reduce its effective performance. 4. Bonding strength (in the case of adhesive materials) 4.1. The adhesion of retro-reflective materials shall be determined after 24 hours curing time by utilizing a 90-degree peel on a tensile strength testing machine. 4.2. The adhesion of laminated or coated retro-reflective and fluorescent materials shall be determined. 4.3. The coated materials, of whatever kind, shall not be removable without tools or without damaging the material. 4.4. The laminated materials (adhesive films) shall need a force of at least 10 N per 25 mm width, at a speed of 300 mm per minute, to be removed from the		<u>方法測量反射係數 R'。在入射角 β_2 為五度，和觀測角 α 為二〇分之條件下，其不應小於表四。</u> <u>9.3 耐燃油性試驗：準備長度至少三〇〇公釐之受驗件，將其浸入百分之七〇正庚烷(n-heptane)與百分之三〇甲苯(Toluol)之混合液內一分鐘，取出後用軟布將表面擦乾，目視檢查受驗件表面，其應無影響有效性之變化。</u> <u>9.4 黏著強度試驗(適用於使用黏著劑之材料)</u> <u>9.4.1 反光材料經過二四小時硬化後，由張力試驗機施以九〇度方向剝離試驗，確認黏著強度。</u> <u>9.4.2 應確認反光材料及螢光材料之膠合層(Laminated)或塗層(Coated)黏著強度。</u> <u>9.4.3 無論何種類型之材料，均不應於未使用工具或未造成材料損壞下被輕易剝除。</u> <u>9.4.4 至少需要施加一〇牛頓力/二五公釐寬，且施力速度為每分鐘三〇〇</u>	

增/修內容	原內容	修訂國內法規條文草案	對應國內法規條文
substrate. 5. Resistance to water A section of a sample unit not less than 300 mm long shall be immersed in distilled water at a temperature of 23 +/- 5 degrees C for a period of 18 hours; it shall then be left to dry for 24 hours under normal laboratory conditions. After completion of the test, the section shall be examined. No part inside 10 mm from the cut edge shall show evidence of deterioration which would reduce the effectiveness of the plate. 6. Resistance to impact (except for plastics corner-cube reflectors) When a 25 mm diameter solid steel ball is dropped from a height of 2 m onto the retroreflective and fluorescent surfaces of a supported plate, at an ambient temperature of 23 +/- 2 degrees C, the material shall show no cracking or separation from the substrate at a distance of more than 5 mm from the impacted area.		<u>公釐之條件，始能將膠合層(黏著薄膜)從底層剝離。</u> <u>9.5 耐水性試驗</u> <u>將長度不小於三〇〇公釐之受驗件部位浸入攝氏溫度二三(正負五)度之蒸餾水內，持續一八小時後取出，於正常試驗室條件下晾乾二四小時。</u> <u>試驗結束後，檢查受驗件之浸入部位，於其距離切口一〇公釐內之任何部位上，不應出現會降低標識牌有效性之劣化。</u> <u>9.6 耐衝擊性試驗(塑膠反光片(plastics corner-cube reflectors)除外)</u> <u>於攝氏溫度二三(正負二)度環境溫度下，以直徑二五公釐之實心鋼球，自高度二公尺處，掉落至標識牌支撐架上之反光材料表面和螢光材料表面。材料應無裂痕，且於距離受衝擊區大於五公釐處之材料未與底層分離。</u>	

增/修內容	原內容	修訂國內法規條文草案	對應國內法規條文
7. Resistance to cleaning 7.1. Manual cleaning 7.1.2. A test sample smeared with a mixture of detergent lubricating oil and graphite shall be easily cleaned without damage to the retro-reflective surface or fluorescent surface when wiped with a mild aliphatic solvent such as n-heptane, followed by washing with a neutral detergent. 7.2. Power washing 7.2.1. When subjected to a continuous spraying action for 60 seconds on the test component in its normal mounting conditions, a test sample shall show no damage to the retroreflective surface or delamination from the substrate or separation from the sample mounting surface under the following set-up parameters: (a) Water/wash solution pressure 8 +/- 0.2 MPa; (b) Water/wash solution temperature 60 degrees - 5 degrees C; (c) Water/wash solution flow rate 7 +/- 1 l/min; (d) The tip of the cleaning wand to be positioned at distance of 600 +/- 20 mm away from the retro-reflective surface; (e) Cleaning wand to be held at no greater angle than 45 degrees from perpendicular		<u>9.7 耐清洗性試驗</u> <u>9.7.1 手動清洗：將潤滑油與黑墨之混合液塗抹於受驗件表面，先以溫和脂類溶劑(如正庚烷)擦拭，再用中性洗滌劑清洗後，污漬應被輕易清除且其不損害反光面或螢光面。</u> <u>9.7.2 電動清洗：依照下述參數及其正常安裝狀態下，連續六〇秒噴灑於受驗件，受驗件之反射面應無任何損壞或從底層脫落或自受驗件安裝面脫落。</u> <u>9.7.2.1 混合液 (Water/wash solution) 壓力：八 (正負〇・二)MPa。</u> <u>9.7.2.2 混合液溫度：攝氏六〇 (正〇，負五)度。</u> <u>9.7.2.3 混合液流動速率：每分鐘七 (正負一)公升。</u> <u>9.7.2.4 清洗棒前端與該反光面距離：六〇〇(正負二〇)公釐。</u> <u>9.7.2.5 清洗棒之固定角度：與反光面之垂直線間之夾角，不應大於四五度。</u> <u>9.7.2.6 產生寬扇型樣式噴灑之四〇度噴嘴。</u>	

增/修內容	原內容	修訂國內法規條文草案	對應國內法規條文
to the retro-reflective surface; (f) 40 degree nozzle creating wide fan pattern.			
Annex 9 RESISTANCE TO HEAT 1. A section of a sample unit not less than 300 mm long shall be kept for 12 hours (in the case of moulded plastics reflectors this time shall be 48 hours) in a dry atmosphere at a temperature of 65 +/- 2 degrees C, after which the sample shall be allowed to cool for 1 hour at 23 +/- 2 degrees C. It shall then be kept for 12 hours at a temperature of - 20 +/- 2 degrees C. 1.1. The sample shall be examined after a recovery time of 4 hours under normal laboratory conditions. 2. After this test, no cracking or appreciable distortion of the surfaces, particularly of the optical units, shall be evident.		<u>10 耐熱性試驗</u> <u>10.1 耐熱性：將長度不小於三〇〇公釐之受驗件部位，靜置於攝氏六五正負二度之乾空氣中一二小時後(模塑之塑膠反光材料 (Moulded plastics reflectors)靜置時間應為四八小時)，再將其靜置於攝氏二三(正負二)度之乾空氣中冷卻一小時，接著置於攝氏零下二〇(正負二)度之乾空氣中一二小時。</u> <u>10.1.1 於試驗室正常環境條件下經過四小時恢復時間後，檢查受驗件。</u> <u>10.2 試驗後，光學元件之表面應無斷裂或明顯變形。</u>	
Annex 10 RIGIDITY OF THE PLATES 1. The rear marking plate shall be placed on two supports in such a way that the supports are parallel to the shorter edge of the plate and the distance from either support to the adjacent edge of the plate shall not exceed L 10, where L is the greater overall dimension of the plate.		<u>11.標識牌硬度試驗</u> <u>11.1 將後方標識牌放置於兩個支撐架上，支撐架連線與標識牌較短邊平行，且與標識牌各鄰近邊緣之距離不應超過一〇分之 L(L 為標識牌長邊之長度)，接著於標識牌上置放鉛袋或乾沙袋，直到均勻分布壓力一·五千牛頓/平方公尺，再測量兩支撐架</u>	

增/修內容	原內容	修訂國內法規條文草案	對應國內法規條文
The plate shall then be loaded with bags of shot or of dry sand to a uniformly distributed pressure of 1.5 kN/m². The deflection of the plate shall be measured at a point midway between the supports. 2. When tested as described in paragraph 1. above, the maximum deflection of the plate under the test load shall not exceed one twentieth of the distance between the supports in paragraph 1. and the residual deflection after removal of the load shall not exceed one fifth of the measured deflection under load.		<u>中間位置處之偏移量。</u> 【原文” L 10” ，似乎不正確，故經查 R70 之前版本，此部分內容為” L/10” ，為求謹慎詢問 RDW 及 VCA，兩家機構表示應為” L/10” 。】 <u>11.2 上述情況下，標識牌之最大偏移值，不應逾兩支撐架間距之二〇分之一。將負載卸除後，殘留之偏移值不應逾負載時所測量得偏移值之五分之一。</u>	
Annex 11 STABILITY IN TIME OF THE OPTICAL PROPERTIES 1/ OF REAR MARKING PLATES 1. The authority which granted approval shall have the right to check the stability in time of the optical properties of a type of rear marking plate in service. 2. The Competent Authorities of countries other than the country in which approval was granted may carry out similar checks in their territory. If a type of rear marking plate in use exhibits a systematic defect, the said authorities shall transmit to the authority which granted approval, with a request for its opinion, any components removed for examination.		【會員國內內容不納入國內基準】	

增/修內容	原內容	修訂國內法規條文草案	對應國內法規條文
3. In the absence of other criteria, the concept of "systematic defect" of a type of rear marking plate in use shall be interpreted in conformity with the intention of paragraph 6.1. of this Regulation.			
Annex 12 Figure 1: REAR MARKING PLATES (CLASS 1 AND CLASS 3) 【請參考下列表格】 Figure 2: REAR MARKING PLATES (CLASS 2 AND CLASS 4) 【請參考下列表格】 Figure 3a 【請參考下列表格】 Figure 3b.: Example for a plate design 【請參考下列表格】		圖二：類型一及類型三後方標識牌 圖三：類型二及類型四後方標識牌 圖四之一：標識牌設計範例 圖四之二：標識牌設計範例	
Annex 13 MINIMUM REQUIREMENTS FOR CONFORMITY OF PRODUCTION CONTROL PROCEDURES 1. GENERAL 1.1. The conformity requirements shall be considered satisfied from a mechanical and geometric standpoint, if the differences do not exceed inevitable manufacturing deviations within the requirements of this Regulation. 1.2. With respect to photometric performances, the conformity of		【品質一致性要求，修訂內容不影響國內基準】	

增/修內容	原內容	修訂國內法規條文草案	對應國內法規條文
mass-produced rear marking plates shall not be contested if, when testing photometric performances of any rear marking plate chosen at random, no measured value deviates unfavourably by more than 20 per cent from the values prescribed in this Regulation. 1.3. The chromaticity coordinates shall be complied with. 2. MINIMUM REQUIREMENTS FOR VERIFICATION OF CONFORMITY BY THE MANUFACTURER For each type of rear marking plate the holder of the approval mark shall carry out at least the following tests, at appropriate intervals. The tests shall be carried out in accordance with the provisions of this Regulation. If any sampling shows non-conformity with regard to the type of test concerned, further samples shall be taken and tested. The manufacturer shall take steps to ensure the conformity of the production concerned. 2.1. Nature of tests Tests of conformity in this Regulation shall cover the photometric and colorimetric characteristics and the test of weather resistance of these characteristics. 2.2. Methods used in tests			

增/修內容	原內容	修訂國內法規條文草案	對應國內法規條文
2.2.1. Tests shall generally be carried out in accordance with the methods set out in this Regulation. 2.2.2. In any test of conformity carried out by the manufacturer, equivalent methods may be used with the consent of the Competent Authority responsible for approval tests. The manufacturer is responsible for proving that the applied methods are equivalent to those laid down in this Regulation. 2.2.3. The application of paragraphs 2.2.1. and 2.2.2. requires regular calibration of test apparatus and its correlation with measurements made by a Competent Authority. 2.2.4. In all cases the reference methods shall be those of this Regulation, particularly for the purpose of administrative verification and sampling. 2.3. Nature of sampling Samples of rear marking plates shall be selected at random from the production of a uniform batch. A uniform batch means a set of rear marking plates of the same type, defined according to the production methods of the manufacturer. The assessment shall in general cover series production from individual factories. However, a manufacturer may group			

增/修內容	原內容	修訂國內法規條文草案	對應國內法規條文
together records concerning the same type from several factories, provided these operate under the same quality system and quality management. 2.4. Measured and recorded photometric characteristics The sampled rear marking plate shall be subjected to photometric measurements at the points and chromaticity coordinates provided for in the Regulation. 2.5. Criteria governing acceptability The manufacturer is responsible for carrying out a statistical study of the test results and for defining, in agreement with the Competent Authority, criteria governing the acceptability of his products in order to meet the specifications laid down for verification of conformity of products in paragraph 9.1. of this Regulation. The criteria governing the acceptability shall be such that, with a confidence level of 95 per cent, the minimum probability of passing a spot check in accordance with Annex 14 (first sampling) would be 0.95.			
Annex 14 MINIMUM REQUIREMENTS FOR SAMPLING BY AN INSPECTOR 1. GENERAL 1.1. The conformity requirements shall be		【檢查人員採樣的最低要求，修訂內容不影響國內基準。】	

增/修內容	原內容	修訂國內法規條文草案	對應國內法規條文
considered satisfied from a mechanical and a geometric standpoint, in accordance with the requirements of this Regulation, if any, if the differences do not exceed inevitable manufacturing deviations. 1.2. With respect to photometric performance, the conformity of mass-produced rear marking plates shall not be contested if, when testing photometric performances of any rear marking plate chosen at random: 1.2.1. no measured value deviates unfavourably by more than 20 per cent from the values prescribed in this Regulation. 1.2.2. Rear marking plates with apparent defects are disregarded. 1.3. The chromaticity coordinates shall be complied with. 2. FIRST SAMPLING In the first sampling four rear marking plates are selected at random. The first sample of two is marked A, the second sample of two is marked B. 2.1. The conformity is not contested 2.1.1. Following the sampling procedure shown in figure 1 of this annex the conformity of mass-produced rear marking plates shall not be contested if the deviation of the measured values of			

增/修內容	原內容	修訂國內法規條文草案	對應國內法規條文
the rear marking plates in the unfavourable directions are: 2.1.1.1. sample A A1: one rear marking plate: 0 per cent one rear marking plate: not more than 20 per cent A2: both rear marking plates: more than 0 per cent but not more than 20 per cent go to sample B 2.1.1.2. sample B B1: both rear marking plates: 0 per cent 2.2. The conformity is contested 2.2.1. Following the sampling procedure shown in figure 1 of this annex the conformity of mass-produced rear marking plates shall be contested and the manufacturer requested to make his production meet the requirements (alignment) if the deviations of the measured values of the rear marking plates are: 2.2.1.1. sample A A3: one rear marking plate: not more than 20 per cent one rear marking plate: more than 20 per			

增/修內容	原內容	修訂國內法規條文草案	對應國內法規條文
cent but not more than 30 per cent 2.2.1.2. sample B B2: in the case of A2 one rear marking plate: more than 0 per cent but not more than 20 per cent one rear marking plate: not more than 20 per cent B3: in the case of A2 one rear marking plate: 0 per cent one rear marking plate: more than 20 per cent but not more than 30 per cent 2.3. Approval withdrawn Conformity shall be contested and paragraph 10. applied if, following the sampling procedure in figure 1 of this annex, the deviations of the measured values of the rear marking plates are: 2.3.1. sample A A4: one rear marking plate: not more than 20 per cent one rear marking plate: more than 30 per cent A5: both rear marking plates: more than 0 per cent			

增/修內容	原內容	修訂國內法規條文草案	對應國內法規條文
2.3.2. sample B B4: in the case of A2 one rear marking plate: more than 0 per cent but not more than 20 per cent one rear marking plate: more than 20 per cent B5: in the case of A2 both rear marking plates: more than 20 per cent B6: in the case of A2 one rear marking plate: 0 per cent one rear marking plate: more than 30 per cent 3. REPEATED SAMPLING In the cases of A3, B2, B3 a repeated sampling, third sample C of two rear marking plates and fourth sample D of two rear marking plates, selected from stock manufactured after alignment, is necessary within two months time after the notification. 3.1. The conformity is not contested 3.1.1. Following the sampling procedure shown in figure 1 of this annex the conformity of mass-produced rear marking plates shall not be contested if			

增/修內容	原內容	修訂國內法規條文草案	對應國內法規條文
the deviations of the measured values of the rear marking plates are: 3.1.1.1. sample C C1: one rear marking plate: 0 per cent one rear marking plate: not more than 20 per cent C2: both rear marking plates: more than 0 per cent but not more than 20 per cent go to sample D 3.1.1.2. sample D D1: in the case of C2 both rear marking plates: 0 per cent 3.2. The conformity is contested 3.2.1. Following the sampling procedure shown in figure 1 of this annex the conformity of mass-produced rear marking plates shall be contested and the manufacturer requested to make his production meet the requirements (alignment) if the deviations of the measured values of the rear marking plates are: 3.2.1.1. sample D			

增/修內容	原內容	修訂國內法規條文草案	對應國內法規條文
D2: in the case of C2 one rear marking plate: more than 0 per cent but not more than 20 per cent one rear marking plate: not more than 20 per cent 3.3. Approval withdrawn Conformity shall be contested and paragraph 10 applied if, following the sampling procedure in figure 1 of this annex, the deviations of the measured values of the rear marking plates are: 3.3.1. sample C C3: one rear marking plate: not more than 20 per cent one rear marking plate: more than 20 per cent C4: both rear marking plates: more than 20 per cent 3.3.2. sample D D3: in the case of C2 one rear marking plate: 0 or more than 0 per cent one rear marking plate: more than 20 per cent			

增/修內容	原內容	修訂國內法規條文草案	對應國內法規條文
4. RESISTANCE TESTS Specimens of one of the rear marking plates of sample A, after sampling procedure in figure 1 of this annex, shall be tested according to the procedures described in Annexes 8 and 9 to this Regulation. The rear marking plate shall be considered acceptable if the tests were passed. However, if the tests on specimens of sample A did not pass the tests, the two rear marking plates of sample B shall be subjected to the same procedure and both shall pass the test. Figure 1			
Annex 15 GUIDELINES FOR INSTALLATION OF REAR MARKING PLATES ON HEAVY AND LONG VEHICLES 1. It is recommended to the Governments to apply on vehicles specified in paragraph 2. of this annex "Rear marking plates for heavy and long vehicles" conforming to this Regulation and the specific requirements relating to its scope in accordance with the guidelines given in this annex. 2. Scope The main purpose of these guidelines is to establish requirements for installation, arrangement, position and geometric		三之四、車輛燈光與標誌檢驗規定	三之四、車輛燈光與標誌檢驗規定

增/修內容	原內容	修訂國內法規條文草案	對應國內法規條文
visibility of rear marking plates on heavy and long vehicles as well as on special utility vehicles and trailers. It increases the visibility and permits an easy identification of these vehicles. 2.1. Heavy motor vehicles The installation of rear marking plates for heavy motor vehicles according to the provisions of this annex is required for vehicles of categories N2 with a maximum mass exceeding 7.5 tonnes and N3 with the exception of tractors for semi-trailers, and for articulated buses of classes II and III. The rear marking plates may also be installed on special utility vehicles of categories other than above. 2.2. Long vehicles The installation of rear marking plates for long vehicles, according to the provisions of this annex, is required for the following vehicles: Categories O1 to O3 - trailers / semi-trailers exceeding 8 m in length (including the drawbar) All vehicles of category O4.			
		6.14 車身標示用反光標識：適用於 M2、M3、N 及 O 類車輛，且所使用之反光標識應符合本基準中「反光識別材料」之規定。	6.14 車身標示用反光標識：適用於 M2、M3、N 及 O 類車輛，且所使用之反光標識應符合本基準中「反光識別材料」之規定。

增/修內容	原內容	修訂國內法規條文草案	對應國內法規條文
		... 6.14.3.1.7 車輛後方之反光識別材料距離煞車燈應大於二〇〇公釐。 <u>6.14.3.1.8 安裝 6.23 規定之重型貨車與長型拖車用後方標識牌，可視為車輛後方反光標識之一部份，來計算反光標識長度及其與車輛側邊間隔距離。</u>	... 6.14.3.1.7 車輛後方之反光識別材料距離煞車燈應大於二〇〇公釐。
		6.18 反光標識：前方為白色，側方為白色或黃色，後方為紅色或黃色。所使用之反光標識應符合本基準中「反光識別材料」之規定。 ... 6.18.7 其他要求 ... 6.18.7.4 安裝 <u>6.23 規定之重型貨車與長型拖車用</u>後方標識牌，可視為車輛後方反光標識之一部份，來計算反光標識<u>長度</u>及其與車輛側邊間隔<u>距離</u>。	6.18 反光標識：前方為白色，側方為白色或黃色，後方為紅色或黃色。所使用之反光標識應符合本基準中「反光識別材料」之規定。 ... 6.18.7 其他要求 ... 6.18.7.4 <u>車輛製造廠</u>安裝<u>的</u>後方標<u>示</u>牌，可視為車輛後方反光標識之一部份，來計算反光標識<u>的長度</u>及其與車輛側邊間隔<u>的距離</u>。
		6.5.5.1.2.2當光源之總目標發光量超過二〇〇〇流明時： 6.5.5.1.2.2.1 依照空車時之前霧燈沿參考軸方向外表面下緣之距地高(公尺)(h)，前霧燈明暗截止線垂直傾角於<u>10</u>要求之所有負載狀態，應自動維持於下述範圍內：	6.5.5.1.2.2當光源之總目標發光量超過二〇〇〇流明時： 6.5.5.1.2.2.1 依照空車時之前霧燈沿參考軸方向外表面下緣之距地高(公尺)(h)，前霧燈明暗截止線垂直傾角於<u>6.23</u>要求之所有負載狀態，應自動維持於下述範圍內：

增/修內容	原內容	修訂國內法規條文草案	對應國內法規條文
		10. 近光光束頭燈垂直方向變化確認之負載狀態 10.1 乘客每人應以七十五公斤計算。 10.2 各類車輛之負載條件： 10.2.1 M1類車輛 10.2.1.1 近光頭燈之光束角度，應依下述之負載條件執行： 10.2.1.1.1 駕駛座有一人時； 10.2.1.1.2 駕駛座有一人及前座距<u>駕駛座</u>最遠處之乘客一人時； 10.2.1.1.3 駕駛座有一人、前座距<u>駕駛座</u>最遠處之乘客一人時及最後排所有座位有人時； 10.2.1.1.4 所有座位有人時； 10.2.1.1.5 所有座位有人，以及行李廂內均勻分佈負載，以獲得後軸或前軸(若行李廂在前方)之設計軸重負載。若車輛有前方及後方行李廂，則應適當分佈額外負載，以獲得設計軸重負載；<u>惟</u>若已達設計總重，則行李廂之負載設置應以達到該設計總重時為限； 10.2.1.1.6 <u>駕駛座</u>以及行李廂均勻分佈負載，以獲得對應軸之設計軸重負載。<u>惟</u>若已達設計總重，則行李廂之負載設置應以達到該設計總重時為限。 10.2.1.2 決定上述負載條件時，應考量由申請者宣告之任何負載限制。 10.2.2 M2及M3類之車輛：	6.23 近光光束頭燈垂直方向變化確認之負載狀態 6.23.1 乘客每人應以七十五公斤計算。 6.23.2 各類車輛之負載條件： 6.23.2.1 M1類車輛 6.23.2.1.1 近光頭燈之光束角度，應依下述之負載條件執行： 6.23.2.1.1.1 駕駛座有一人時； 6.23.2.1.1.2 駕駛座有一人及前座距<u>駕駛者</u>最遠處之乘客一人時； 6.23.2.1.1.3 駕駛座有一人、前座距<u>駕駛者</u>最遠處之乘客一人時及最後排所有座位有人時； 6.23.2.1.1.4 所有座位有人時； 6.23.2.1.1.5 所有座位有人，以及行李廂內均勻分佈負載，以獲得後軸或前軸(若行李廂在前方)之設計軸重負載。若車輛有前方及後方行李廂，則應適當分佈額外負載，以獲得設計軸重負載；<u>然而</u>，若已達設計總重，則行李廂之負載設置應以達到該設計總重時為限； 6.23.2.1.1.6 <u>駕駛者</u>以及行李廂均勻分佈負載，以獲得對應軸之設計軸重負載。<u>然而</u>，若已達設計總重，則行李廂之負載設置應以達到該設計總重時為限。 6.23.2.1.2 決定上述負載條件時，應考

增/修內容	原內容	修訂國內法規條文草案	對應國內法規條文
		近光頭燈之光束角度，應依下述之負載條件執行： <u>10.2.2.1</u> 車輛無負載及駕駛座有一人時； <u>10.2.2.2</u> 依其各軸設計軸重等比例地於前軸和後軸設置負載(以先達到者為準)，使車輛負載後之每軸有設計軸重負載或直到車輛設計總重。 <u>10.2.3</u> 有負載平台之N類車輛： <u>10.2.3.1</u> 近光頭燈之光束角度，應依下述之負載條件執行： <u>10.2.3.1.1</u> 車輛無負載及駕駛座有一人時； <u>10.2.3.1.2</u> 駕駛座有一人，以及設置負載分佈於後軸上，以獲得設計軸重負載，或車輛設計總重(以先達到者為準)，但前軸負載應不超過前軸空重與前軸設計載重百分之二五之總和。相反的，當負載平台在前方時，前軸應依上述考量。 <u>10.2.4</u> 無負載平台之N類車輛： <u>10.2.4.1</u> 曳引車： <u>10.2.4.1.1</u> 聯結器上無負荷且無負載之車輛以及駕駛座有一人時； <u>10.2.4.1.2</u> 駕駛座有一人：後軸最大負載所對應曳引處設計負載時。 <u>10.2.4.2</u> 全拖車之兼供曳引大貨車： <u>10.2.4.2.1</u> 無負載且駕駛座有一人時； <u>10.2.4.2.2</u> 駕駛座有一人，且駕駛室內之所有其他座位皆有乘員時。	量由申請者宣告之任何負載限制。 <u>6.23.2.2</u> M2及M3類之車輛： 近光頭燈之光束角度，應依下述之負載條件執行： <u>6.23.2.2.1</u> 車輛無負載及駕駛座有一人時； <u>6.23.2.2.2</u> 依其各軸設計軸重等比例地於前軸和後軸設置負載(以先達到者為準)，使車輛負載後之每軸有設計軸重負載或直到車輛設計總重。 <u>6.23.2.3</u> 有負載平台之N類車輛： <u>6.23.2.3.1</u> 近光頭燈之光束角度，應依下述之負載條件執行： <u>6.23.2.3.1.1</u> 車輛無負載及駕駛座有一人時； <u>6.23.2.3.1.2</u> 駕駛座有一人，以及設置負載分佈於後軸上，以獲得設計軸重負載，或車輛設計總重(以先達到者為準)，但前軸負載應不超過前軸空重與前軸設計載重百分之二五之總和。相反的，當負載平台在前方時，前軸應依上述考量。 <u>6.23.2.4</u> 無負載平台之N類車輛： <u>6.23.2.4.1</u> 曳引車： <u>6.23.2.4.1.1</u> 聯結器上無負荷且無負載之車輛以及駕駛座有一人時； <u>6.23.2.4.1.2</u> 駕駛座有一人：後軸最大負載所對應曳引處設計負載時。 <u>6.23.2.4.2</u> 全拖車之兼供曳引大貨車： <u>6.23.2.4.2.1</u> 無負載且駕駛座有一人

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			時; 6.23.2.4.2.2 駕駛座有一人，且駕駛室內之所有其他座位皆有乘員時。
3. Number One, two, or four. 4. Arrangement Every rear marking shall be fitted such that the lower edge is horizontal. Every part of a rear marking shall lie within 5 degrees of a transverse vertical plane at right angles to the longitudinal axis of the vehicle and shall face to the rear. The set of marking plates shall be arranged symmetrically with respect to the median longitudinal plane of the vehicle. The rear marking plates shall be type approved and meet the requirements of this Regulation with the following classification: (a) For heavy vehicles: Class 1 - alternate, oblique stripes of red fluorescent and yellow retro-reflective materials; Class 3 - alternate, oblique stripes of red retro-reflective and yellow retroreflective materials. (b) For long vehicles: Class 2 - yellow retro-reflective centre with a red fluorescent border; Class 4 - yellow retro-reflective centre with		<u>6.23 反光識別材料-重型貨車與長型拖車用後方標識牌</u> <u>6.23.1 所安裝之後方標識牌，應符合本基準中「<u>反光識別材料-重型貨車與長型拖車用後方標識牌</u>」之規定。</u> <u>6.23.2 數量</u> <u>至少一組符合本基準中「<u>反光識別材料-重型貨車與長型拖車用後方標識牌</u>」規定之一片式、二片式或四片式後方標識牌。</u> <u>6.23.3 配置方式</u> <u>每一片後方標識牌之固定，其較低之邊緣應呈水平。後方標識牌每個部位與橫切垂直面(與車輛縱向軸線成直角)之夾角，應為五度以內，並應面向朝後。成組之後方標識牌應以對稱於車輛縱向中心平面之方式配置。</u> <u>後方標識牌應被認證符合下列類型要求：</u> <u>(a)重型貨車</u> <u>類型一：以紅色螢光及黃色反光材料</u>	

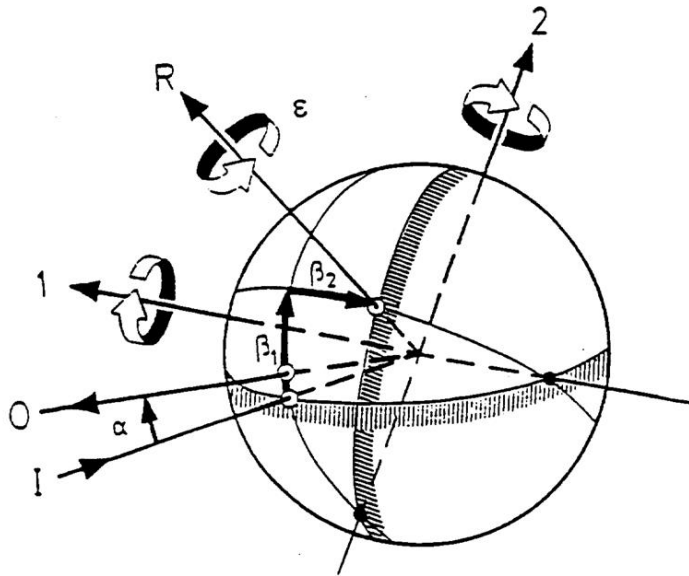
增/修內容	原內容	修訂國內法規條文草案	對應國內法規條文
a red retro-reflective border. (c) For special utility vehicles or trailers: Class 5 - red and white retro-reflective alternative stripes. 5. Position In width: No individual specifications In height: Above the ground, not less than 250 mm (lower edge), nor more than 2,100 mm (upper edge). 6. Geometric visibility Horizontal angle: 30 degrees inwards and outwards Vertical angle: 15 degrees above and below the horizontal Orientation: rearwards.		<u>之間隔條紋構成。</u> <u>類型三：以紅色反光材料與黃色反光材料之間隔條紋構成。</u> <u>(b)長型拖車</u> <u>類型二：以紅色螢光材料為邊框，以黃色反光材料為底。</u> <u>類型四：以紅色反光材料為邊框，以黃色反光材料為底。</u> <u>(c)特種功能車輛或拖車</u> <u>類型五：以紅色反光材料及白色反光材料之間隔條紋構成。</u> <u>6.23.4 安裝位置</u> <u>橫向：無特殊規定。</u> <u>縱向：下緣距地高不小於二五〇公釐，上緣距地高不大於二一〇〇公釐。</u> <u>6.23.5 幾何可視性</u> <u>水平角：朝內朝外各三〇度。</u> <u>垂直角：朝上朝下各一五度。</u> <u>投射方向：朝後。</u>	
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配合上述 VSTD 重型貨車與長型拖車用後方標識牌新增7.2.2及7.3.1，新增VSTD 034 條文2.21及2.23。	2.30. Night-time Colour of the light retro-reflected from a device excluding retro-reflective tires according to Regulation No. 88 2.30.1. "White" means the chromaticity	<u>2.38 反射光之夜間光色：</u> <u>2.38.1白色，指反射光之光色座標(x,y)於下列色度範圍邊界內：</u>	

增/修內容	原內容	修訂國內法規條文草案	對應國內法規條文																																																																																																												
	coordinates (x,y)⁴ of the light reflected that lie inside the chromaticity areas defined by the boundaries: <table><tr><td>W₁₂</td><td>blue boundary:</td><td>y = 0.843 - 1.182 x</td></tr><tr><td>W₂₃</td><td>violet boundary</td><td>y = 0.489 x + 0.146</td></tr><tr><td>W₃₄</td><td>yellow boundary</td><td>y = 0.968 - 1.010 x</td></tr><tr><td>W₄₁</td><td>green boundary</td><td>y = 1.442 x - 0.136</td></tr></table> With intersection points: <table><tr><td></td><td>x</td><td>y</td></tr><tr><td>W₁</td><td>0.373</td><td>0.402</td></tr><tr><td>W₂</td><td>0.417</td><td>0.350</td></tr><tr><td>W₃</td><td>0.548</td><td>0.414</td></tr><tr><td>W₄</td><td>0.450</td><td>0.513</td></tr></table> 2.30.2. "Yellow" means the chromaticity coordinates (x,y)⁴ of the light reflected that lie inside the chromaticity areas defined by the boundaries: <table><tr><td>Y₁₂</td><td>green boundary</td><td>y = x - 0.040</td></tr><tr><td>Y₂₃</td><td>the spectral locus</td><td></td></tr><tr><td>Y₃₄</td><td>red boundary</td><td>y = 0.200 x + 0.268</td></tr><tr><td>Y₄₁</td><td>white boundary</td><td>y = 0.970 - x</td></tr></table> With intersection points:spectral locus <table><tr><td></td><td>x</td><td>y</td></tr><tr><td>Y₁</td><td>0.505</td><td>0.465</td></tr><tr><td>Y₂</td><td>0.520</td><td>0.480</td></tr><tr><td>Y₃</td><td>0.610</td><td>0.390</td></tr><tr><td>Y₄</td><td>0.585</td><td>0.385</td></tr></table> 2.30.3. "Amber" means the chromaticity coordinates (x,y)⁴ of the light reflected that lie inside the chromaticity areas defined by	W ₁₂	blue boundary:	y = 0.843 - 1.182 x	W ₂₃	violet boundary	y = 0.489 x + 0.146	W ₃₄	yellow boundary	y = 0.968 - 1.010 x	W ₄₁	green boundary	y = 1.442 x - 0.136		x	y	W ₁	0.373	0.402	W ₂	0.417	0.350	W ₃	0.548	0.414	W ₄	0.450	0.513	Y ₁₂	green boundary	y = x - 0.040	Y ₂₃	the spectral locus		Y ₃₄	red boundary	y = 0.200 x + 0.268	Y ₄₁	white boundary	y = 0.970 - x		x	y	Y ₁	0.505	0.465	Y ₂	0.520	0.480	Y ₃	0.610	0.390	Y ₄	0.585	0.385	<table><tr><td>W₁₂</td><td>藍色邊界</td><td>y = 0.843 - 1.182x</td></tr><tr><td>W₂₃</td><td>紫蘿蘭色邊界(violet)</td><td>y = 0.489x + 0.146</td></tr><tr><td>W₃₄</td><td>黃色邊界</td><td>y = 0.968 - 1.010x</td></tr><tr><td>W₄₁</td><td>綠色邊界</td><td>y = 1.442x - 0.136</td></tr></table> 【紫色(Purple) vs. 紫蘿蘭色 (violet) 紫色(Purple)較接近紅色；紫蘿蘭色 (violet)較接近藍色。】 於交叉位置 <table><tr><td></td><td>x</td><td>y</td></tr><tr><td>W₁</td><td>0.373</td><td>0.402</td></tr><tr><td>W₂</td><td>0.417</td><td>0.350</td></tr><tr><td>W₃</td><td>0.548</td><td>0.414</td></tr><tr><td>W₄</td><td>0.450</td><td>0.513</td></tr></table> 2.38.2黃色，指反射光之光色座標(x,y) 於下列色度範圍邊界內： <table><tr><td>Y₁₂</td><td>綠色邊界</td><td>y = x - 0.040</td></tr><tr><td>Y₂₃</td><td>光譜所在位置</td><td></td></tr><tr><td>Y₃₄</td><td>紅色邊界</td><td>y = 0.200x + 0.268</td></tr><tr><td>Y₄₁</td><td>白色邊界</td><td>y = 0.970 - x</td></tr></table> 於交叉位置 <table><tr><td></td><td>x</td><td>y</td></tr><tr><td>Y₁</td><td>0.505</td><td>0.465</td></tr><tr><td>Y₂</td><td>0.520</td><td>0.480</td></tr><tr><td>Y₃</td><td>0.610</td><td>0.390</td></tr><tr><td>Y₄</td><td>0.585</td><td>0.385</td></tr></table>	W ₁₂	藍色邊界	y = 0.843 - 1.182x	W ₂₃	紫蘿蘭色邊界(violet)	y = 0.489x + 0.146	W ₃₄	黃色邊界	y = 0.968 - 1.010x	W ₄₁	綠色邊界	y = 1.442x - 0.136		x	y	W ₁	0.373	0.402	W ₂	0.417	0.350	W ₃	0.548	0.414	W ₄	0.450	0.513	Y ₁₂	綠色邊界	y = x - 0.040	Y ₂₃	光譜所在位置		Y ₃₄	紅色邊界	y = 0.200x + 0.268	Y ₄₁	白色邊界	y = 0.970 - x		x	y	Y ₁	0.505	0.465	Y ₂	0.520	0.480	Y ₃	0.610	0.390	Y ₄	0.585	0.385	
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Annex 1 Figure 1



1: First axis

2: Second axis

I: Illumination axis

O: Observation axis

R: Reference axis

alpha: Observation angle

beta1, beta2: Entrance angles

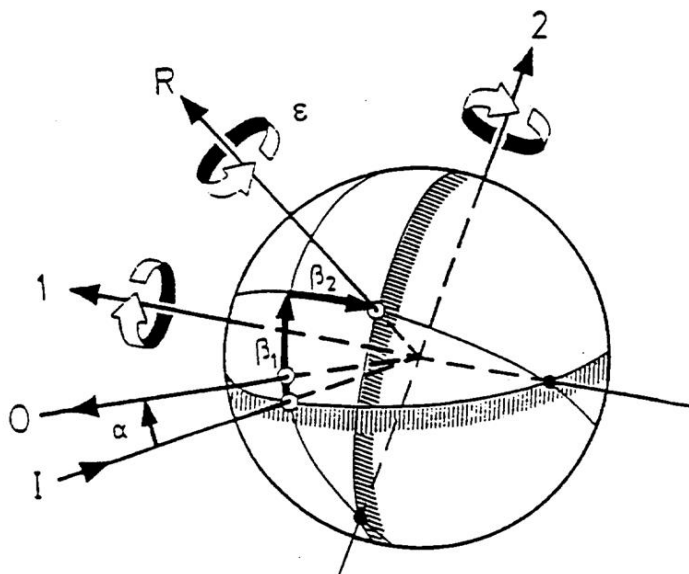
epsilon: Rotation angle

The CIE angular system for specifying and measuring retro-reflectors. The first axis is perpendicular to the plane containing the observation axis and the illumination axis. The second axis is perpendicular both to the first axis and to the reference axis. All axes, angles and directions of rotation are shown positive.

Notes: (a) The principal fixed axis is the illumination axis.

(b) The first axis is fixed perpendicular to the plane containing the observation and illumination axis.

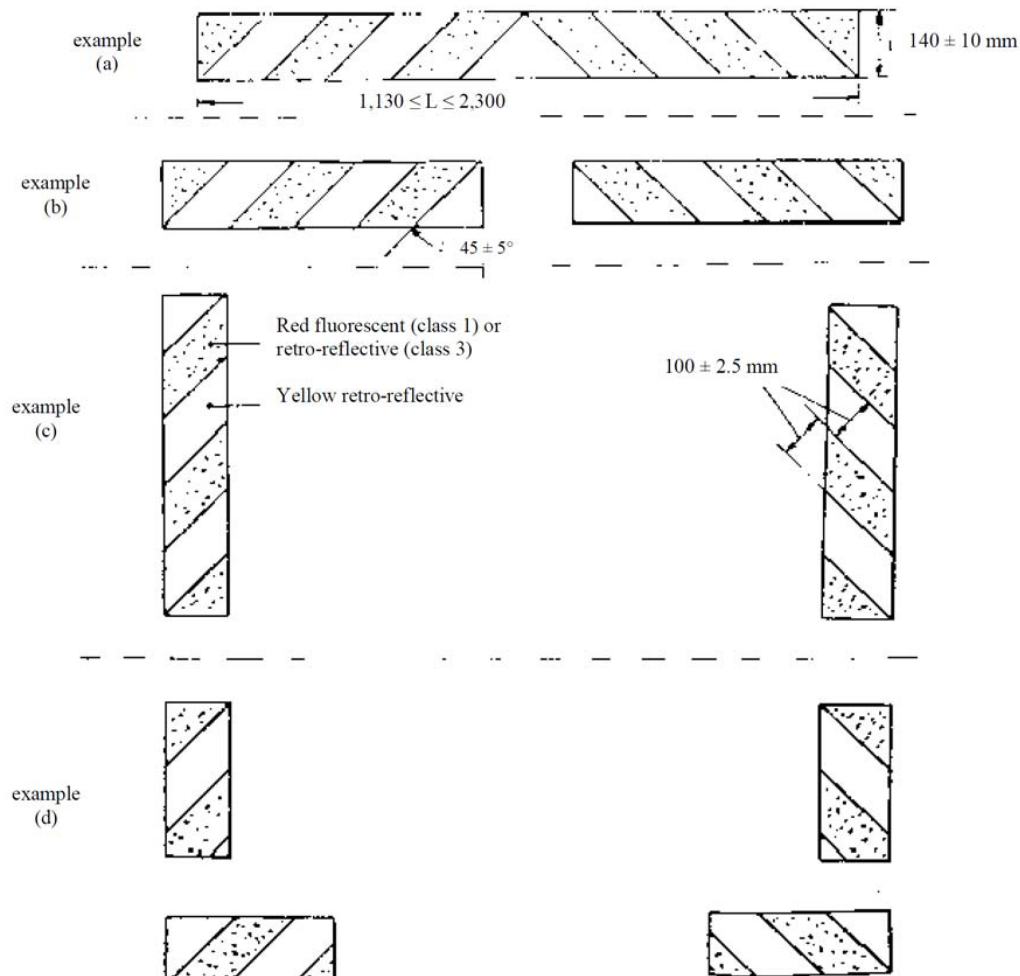
(c) The reference axis is fixed in retro-reflector and movable with beta1 and beta2.

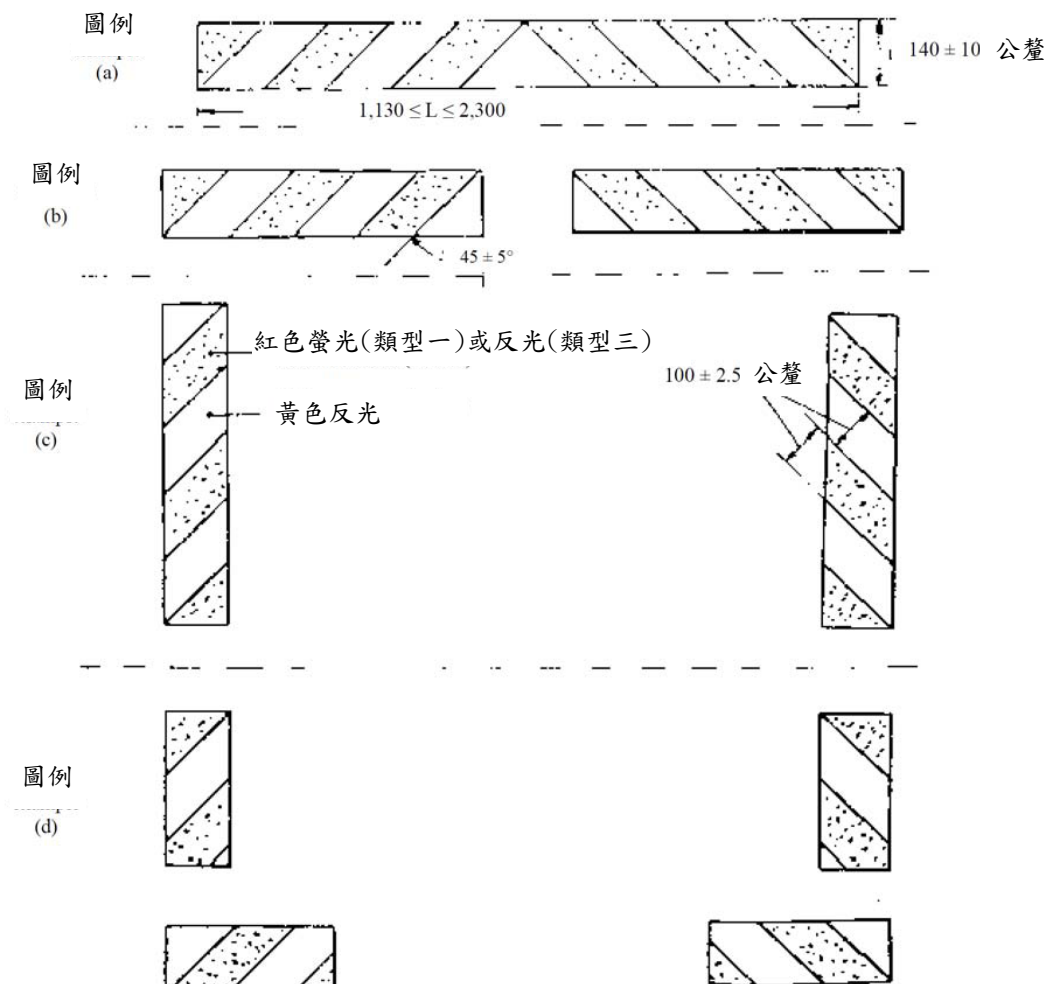


- 1: 第一軸, 固定垂直於觀測軸與入射軸所在平面;
 2: 第二軸, 同時垂直於第一軸與參考軸;
 I: 入射軸, 係基本固定軸;
 α : 觀測角;
 O: 觀測軸;
 β_1, β_2 : 入射角;
 R: 參考軸, 固定於反光材料上, 隨著 β_1, β_2 移動
 ε : 旋轉角

圖一：CIE 座標系統

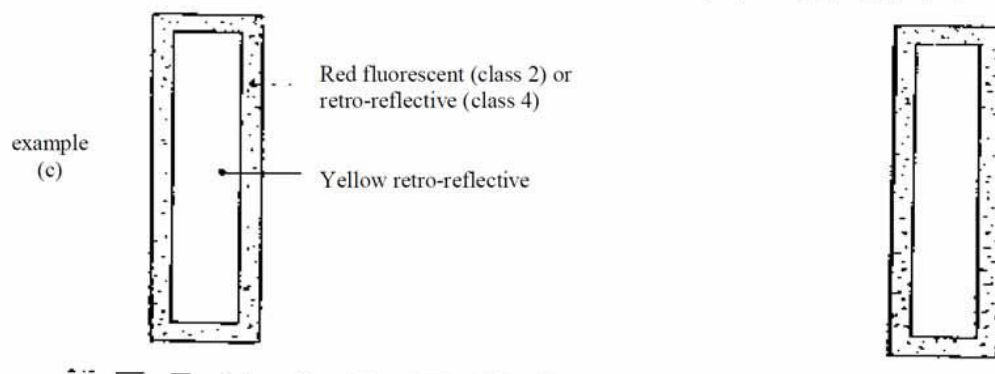
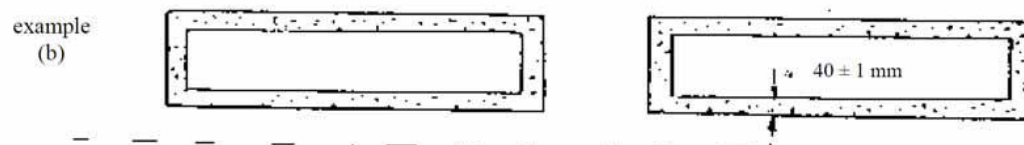
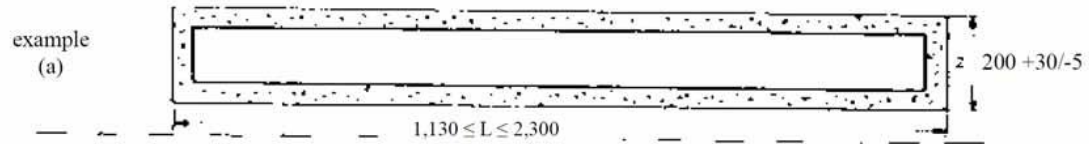
Annex 12 Figure 1 REAR MARKING PLATES (CLASS 1 AND CLASS 3)

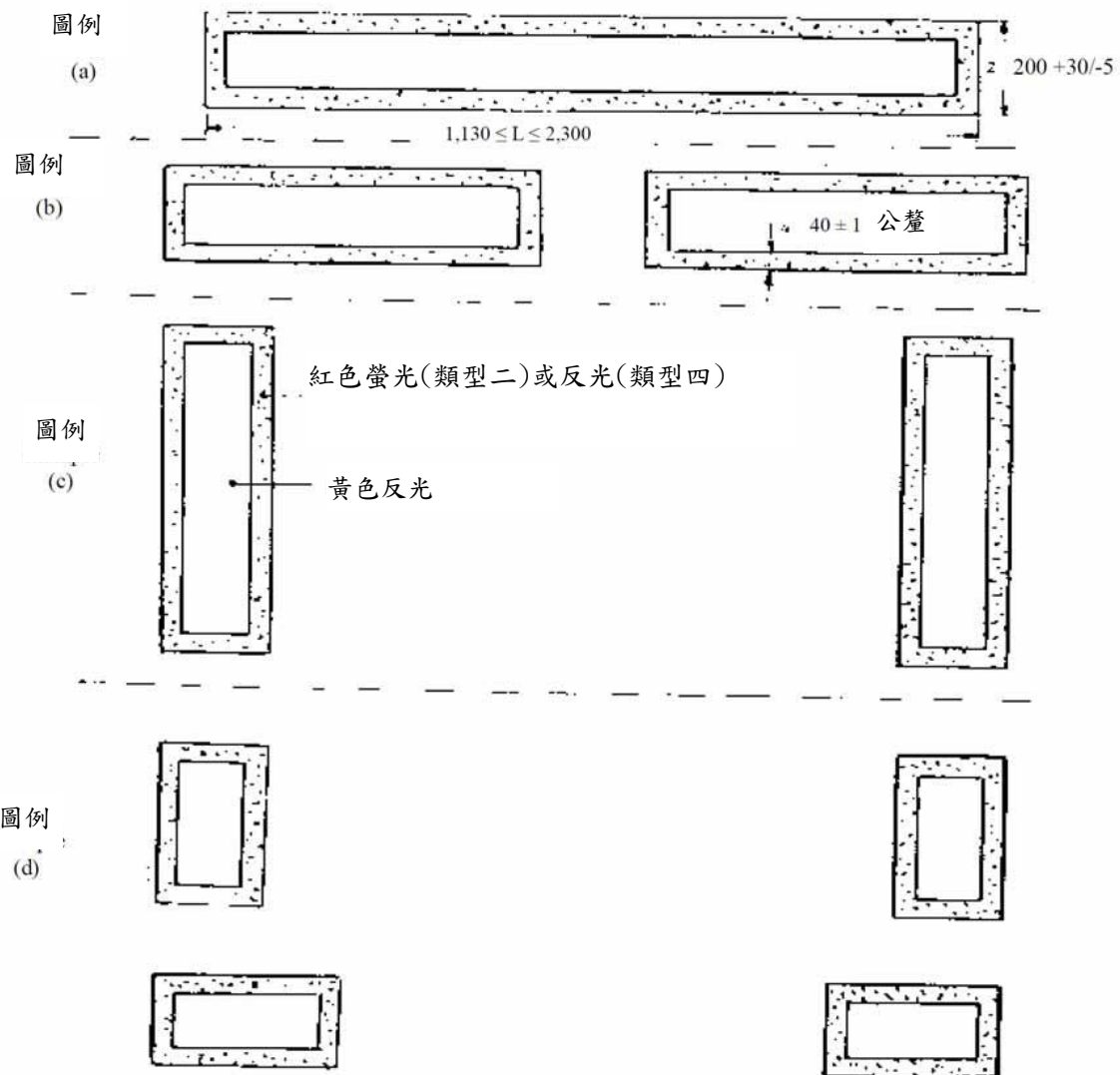




圖二 類型一、類型三後方標識牌

Annex 12 Figure 2 REAR MARKING PLATES (CLASS 2 AND CLASS 4)





圖三 類型二、類型四後方標識牌

Annex 12 Figure 3a

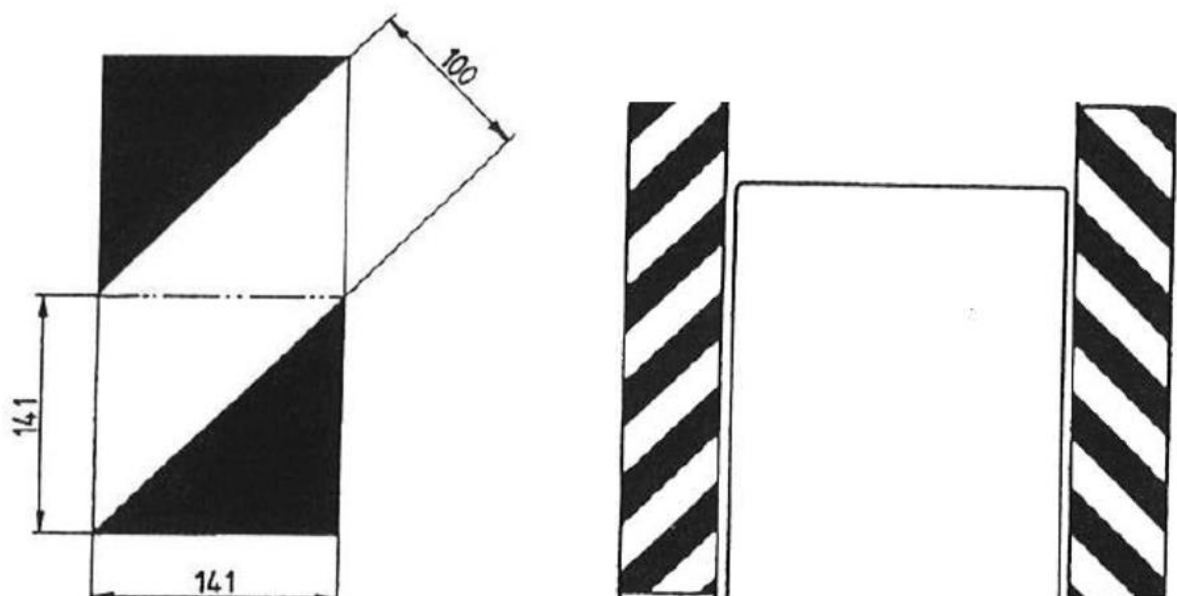
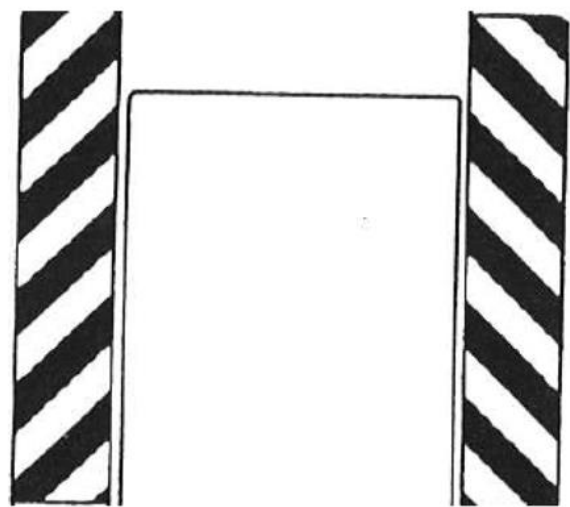
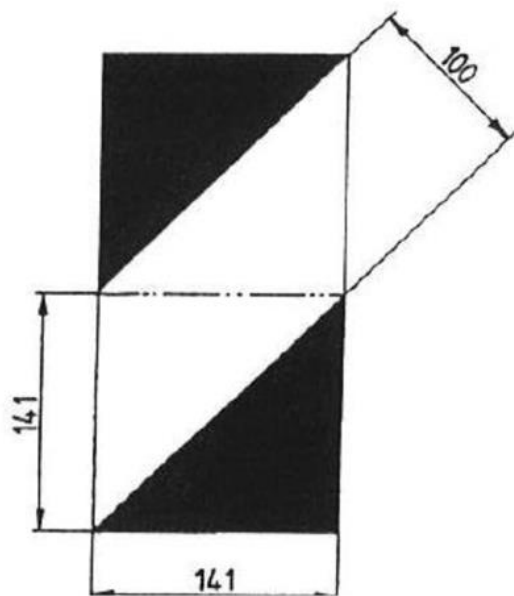
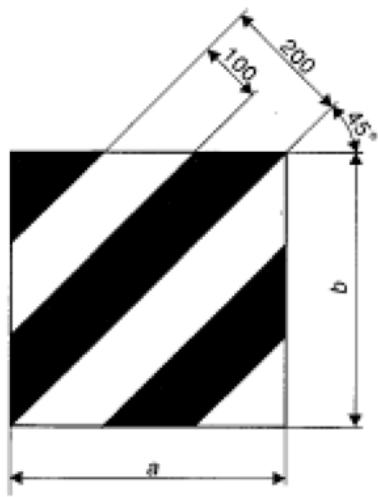
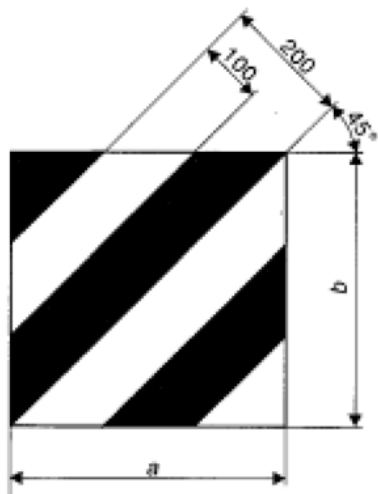


Figure 3b.: Example for a plate design



圖四之一 標識牌設計範例



圖四之二 標識牌設計範例

Annex 6 2.1

Table 1: Chromaticity co-ordinates x and y

Colour		1	2	3	4	Luminance factor beta
Yellow	x	0.545	0.487	0.427	0.465	≥ 0.16
	y	0.454	0.423	0.483	0.534	
Red	x	0.690	0.595	0.569	0.655	≥ 0.03
	y	0.310	0.315	0.341	0.345	

表一 X和Y色度座標

顏色		<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	發光率 β
<u>黃色</u>	<u>x</u>	<u>0.545</u>	<u>0.487</u>	<u>0.427</u>	<u>0.465</u>	≥ 0.16
	<u>y</u>	<u>0.454</u>	<u>0.423</u>	<u>0.483</u>	<u>0.534</u>	
<u>紅色</u>	<u>x</u>	<u>0.690</u>	<u>0.595</u>	<u>0.569</u>	<u>0.655</u>	≥ 0.03
	<u>y</u>	<u>0.310</u>	<u>0.315</u>	<u>0.341</u>	<u>0.345</u>	

Annex 6 2.2

Table 2: Chromaticity co-ordinates x and y

Colour		1	2	3	4
Yellow	x	0.585	0.610	0.520	0.505
	y	0.385	0.390	0.480	0.465
Red	x	0.720	0.735	0.665	0.643
	y	0.258	0.265	0.335	0.335

表二 X和Y色度座標

顏色		<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
<u>黃色</u>	<u>x</u>	<u>0.585</u>	<u>0.610</u>	<u>0.520</u>	<u>0.505</u>
	<u>y</u>	<u>0.385</u>	<u>0.390</u>	<u>0.480</u>	<u>0.465</u>
<u>紅色</u>	<u>x</u>	<u>0.720</u>	<u>0.735</u>	<u>0.665</u>	<u>0.643</u>
	<u>y</u>	<u>0.258</u>	<u>0.265</u>	<u>0.335</u>	<u>0.335</u>

Annex 6 3.1

Table 3

Colour		1	2	3	4	Luminance factor
Red	x	0.690	0.595	0.569	0.655	≥ 0.30
	y	0.310	0.315	0.341	0.345	

表三

顏色		<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	發光率
<u>紅色</u>	<u>x</u>	<u>0.690</u>	<u>0.595</u>	<u>0.569</u>	<u>0.655</u>	<u>≥0.30</u>
	<u>y</u>	<u>0.310</u>	<u>0.315</u>	<u>0.341</u>	<u>0.345</u>	

Annex 7 1.1

Table 1 Coefficient of retro-reflection R' [cd.m⁻².lx⁻¹]

Observation angle alpha [°]	Entrance angle beta [degrees]				
20'	beta ₁	0 degrees	0 degrees	0 degrees	0 degrees
	beta ₂	5 degrees	30 degrees	40 degrees	60 degrees
Coefficient R' [cd.m ⁻² .lx ⁻¹]	Colour: Yellow	300	180	75	10

表四

<u>觀測角α(度)</u>	<u>入射角β(度)</u>				
<u>20分</u>	<u>β₁</u>	<u>0度</u>	<u>0度</u>	<u>0度</u>	<u>0度</u>
	<u>β₂</u>	<u>5度</u>	<u>30度</u>	<u>40度</u>	<u>60度</u>
<u>R' [cd/(lx · m²)]</u>	<u>顏色：黃色</u>	<u>300</u>	<u>180</u>	<u>75</u>	<u>10</u>

Annex 7 1.1

Table 2 Coefficient of retro-reflection R' [cd.m⁻².lx⁻¹]

Observation angle alpha [']	Entrance angle beta [degrees]					
20'	beta ₁		0 degrees	0 degrees	0 degrees	0 degrees
	beta ₂		5 degrees	30 degrees	40 degrees	60 degrees
Coefficient R' [cd.m ⁻² .lx ⁻¹]	Colour:	Yellow	300	180	75	10
		Red	10	7	4	-

表五

<u>觀測角α(度)</u>	<u>入射角β(度)</u>					
<u>20分</u>	<u>β₁</u>	<u>0度</u>	<u>0度</u>	<u>0度</u>	<u>0度</u>	
	<u>β₂</u>	<u>5度</u>	<u>30度</u>	<u>40度</u>	<u>60度</u>	
<u>R' [cd/(lx · m²)]</u>	<u>顏色：</u>	<u>黃色</u>	<u>300</u>	<u>180</u>	<u>75</u>	<u>10</u>
		<u>紅色</u>	<u>10</u>	<u>7</u>	<u>4</u>	<u>-</u>

Annex 7 1.1

Table 3: Coefficient of retro-reflection R' [cd.m⁻².lx⁻¹]

Observation angle alpha [°]	Entrance angle beta [deg.]					
20'	beta ₁		0 deg.	0 deg.	0 deg.	0 deg.
	beta ₂		5 deg.	30 deg.	40 deg.	60 deg.
Coefficient R' [cd.m ⁻² .lx ⁻¹]	Colour:	White	450	200	90	16
		Red	120	30	10	2

表六

<u>觀測角α(度)</u>	<u>入射角β(度)</u>				
<u>20分</u>	<u>β₁</u>	<u>0度</u>	<u>0度</u>	<u>0度</u>	<u>0度</u>
	<u>β₂</u>	<u>5度</u>	<u>30度</u>	<u>40度</u>	<u>60度</u>

<u>R' [cd/(lx · m²)]</u>	<u>顏色：</u>	<u>白色</u>	<u>450</u>	<u>200</u>	<u>90</u>	<u>16</u>
		<u>紅色</u>	<u>120</u>	<u>30</u>	<u>10</u>	<u>2</u>

Annex 7 1.3

Table 4: Luminance factor beta

Colour	Luminance factor beta
Red	≥ 0.03
Yellow	≥ 0.16
White	≥ 0.25

表七 發光率β

<u>顏色</u>	<u>發光率β</u>
<u>紅色</u>	<u>≥0.03</u>
<u>黃色</u>	<u>≥0.16</u>
<u>白色</u>	<u>≥0.25</u>