

High-Mounted Stop Lamp

KES

KES D-C042

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1. Scope of Application

This standard specifies the high mounted stop lamp for automobiles (hereinafter referred to as the "lamp").

2. Purpose

This standard aims at securing proper quality by standardizing specifications of the high-mounted stop lamp.

3. Report of Evaluation Result

The quality evaluation results at each stage from development to mass production shall be submitted to Kia according to the Appendix.

4. Definition of Terminology

(1) Lamp center

US specification Lens center

5. Specifications Indicated in Drawings

(1) Attaching condition : Mating parts and the tolerances, peripheral parts.

Note (1) In case that the condition due to the tolerance becomes the worst.

(2) Indication for attaching type (Whether the indoors attaching type or outdoors attaching type).

(3) Indication for grade of vibration test : Grade 4 (passenger car)

(4) When painting applied : Painting specification and its area

(5) When plating applied : Plating specification and its area

(6) Indication whether the painting color or material color and indication of part colors

(7) Type area and depth of grain

(8) Rigidity (as an indoor attaching type, it is the one that does not meet the evaluation standard because of the lamp construction)

(9) Indication for purchase source (required specification on chromium plating, zinc plating, etc. with respect to the purchase source)

(10) Indication whether window washer dripping test 7.6.2(2) is applied according to the chemical resistance standard

(11) Lamp rigidity of outdoor attaching type

(12) If rigidity required, bracket rigidity for assembling the rigid lamp

(13) Indication whether the open/close durability standard (7.6.3) is applied or not.

- (14) In case of indoors attaching type,
- (a) The tilt angle (θ), thickness, color and its transmissivity of the window glass. (Normal direction to the surface).
 - (b) Shape of an obstruction (wipe,spoiler etc.)which affects the luminous intensity distribution performance.
- (15) Indication the window washer to be used for automobiles.

6. Evaluation Standard

The evaluation standard of the lamp shall conform to the followings.

- (1) The outdoors attaching type shall conform to Table 1 and Table 2.
- (2) The indoors attaching type shall conform to Table 1 and Table 3.

Remark 1. The way of reading evaluation items and methods in Table 1,2 and 3 shall conform to the following example.

Evaluation Item			Evaluation Method	
Durability	Vibration resistance	First evaluation	7.5.1	First evaluation method
	• Operating force of slider	Second evaluation (Evaluation item tested after evaluating the vibration resistance)	• 7.3.1	Second evaluation method
	•• Noise	Third evaluation (Evaluation item tested after evaluating the operating force)	•• 7.3.7	Third evaluation method

Remark 2. The quality rank shall be represented by A, AR, B or C.

The definitions shall conform to KMS Q410001 (Determination and Procedure of Quality Ranking).

Table 1 (Common)

Evaluation Item		Evaluation Standard	Quality Rank	Evaluation Method
Basic Performance	Luminous intensity distribution performance	To satisfy Table 4.5.6	AR	7.2.1
	Color of lamp light and reflected light	Within the chromaticity range shown in Table 7	AR	7.2.2
	Light emitting and reflecting areas	The areas shown in Table 8 or more.	AR	Calculation
	Noise	No noise.	C	7.2.3
Strength	Lens strength	No split or crack on lens.	B	7.3.1
	Tightening strength	No breaking or idling of screw.	B	7.3.2
	Attaching strength of back cover	No slip-off of back cover.	B	7.3.3
Electrical Performance	Jumper start resistance	No smoking, deformation nor decoloration of plastic part. (The breaking of filament is permissible).	A	7.5.1
	Abnormal voltage resistance	No ignition (The breaking of filament is permissible).	A	7.5.2
	Insulation resistance	1M Ω or more of the insulation resistance	A	7.5.3
Surface Treatment	Paint film	To satisfy the specification in a drawing.	B	KES B-R001
	Plating	To satisfy the specification in a drawing.	B	KES C-F002
Appearance	Shrinkage	According to an acceptance sample.	B	Visual
	Weld	According to an acceptance sample.	B	Visual
	Parting line	The step in visible area shall be 0.3mm or less in vehicle conditions.	B	-
	Lighting feeling	According to an standard sample.	C	Visual
	Color, grain gloss	The paint color, material color, grain and gloss shall conform to an acceptable sample.	C	Visual
	Other appearance	No flaws, deformation unevenness, wrinkle or other defects.	B	Visual
	Damage in delivery	No deformation, damage nor slip-off.	C	-

Table 1 (Continued)

Evaluation Item		Evaluation Standard	Quality Rank	Evaluation Method
Others	Coupler	The housing lance type or lock part terminal type coupler shall be used. (Except cape terminal and direct insertion terminal)	C	-
	Lead strength	No damage, looseness nor solder separation.	B	7.7.1
	Marking	The followings shall be indelibly marked on the lamp: 1. Type No. 2. Manufacturer's name 3. Items necessary for certification 4. Bulb category name 5. DOT mark 6. SAE mark (SAE J 759) 7. Lot No. 8. Material (Except for the glass lens) 9. Assembly Tag	AR	Visual
	Molding of the material name	The material name # of the used materials shall be molded on the other side of the plastic parts except lens. In case of # name, the symbols used in vendor are permissible.	C	Visual

Table 2 (Outdoors attaching type)

Evaluation Item		Evaluation Standard	Quality Rank	Evaluation Method
Basic Performance	Water-proof, cloud-proof	1. No water intrusion into the lamp. No water intrusion in vehicle condition through the partition that separates the body from outside. 2. No cloud on lens inside face.	AR	7.2.4
	Insulation resistance	1 MΩ or more	A	7.2.3
	Corrosion resistance	No occurrence of rust on the portions easily seen in vehicle condition.	B	7.2.5
	Rigidity	1. The deflection of the tangible area only when lift gate or trunk lid is opened shall be 3.5mm or less. 2. The deflection of the tangible area even when lift gate or trunk lid is closed shall be 1mm or less. 3. However, the one not satisfying the above neither 1 nor 2 due to lamp construction shall be as indicated in a drawing.	B	7.2.6
	Air tightness	No water intrusion into the lamp. No water intrusion in vehicle condition through the partition that separates the body from outside. No air leakage.	B	7.2.7
Strength	Vibration resistance	No deformation, looseness, nor crack in structural part. No breakage of filament, malcontact nor other harmful defects.	B	7.3.4
	• Noise	No noise	C	7.2.3
	• Air tightness	No water intrusion into the lamp. No water intrusion in vehicle conditions through the partition that separates the body from outside. No air leakage.	B	7.2.7

Table 2 (Outdoors attaching type)

Evaluation Item		Evaluation Standard	Quality Rank	Evaluation Method
Strength	• Lead strength	No damage, looseness nor solder separation.	B	• 7.7.1
	Impact resistance	No deformation, looseness, nor crack in structural part. No breakage of filament, malcontact nor other harmful defects. (However, the breakage of filament is permissible.)	B	7.3.5
	• Noise	No noise.	C	• 7.2.3
	• Air tightness	No water intrusion into the lamp. No water intrusion in vehicle condition through the partition that separates the body from outside. No air leakage.	B	• 7.2.7
	Opening/closing durability (Apply this item only if required)	No deformation, looseness, nor crack in structural part. No breakage of filament, malcontact nor other harmful defects. (However, the breakage of filament is permissible.)	B	7.3.6
	• Noise	No noise	C	• 7.2.3
	• Air tightness	No water intrusion into the lamp. No water intrusion in vehicle condition through the partition that separates the body from outside. No air leakage.	B	• 7.2.7
	Short-term heat resistance	To satisfy KES D-C030, HS-02, A2, B1.	B	KES D-C030
Environmental Resistance	• Noise	No noise.	C	• 7.2.3
	• Air tightness	No water intrusion into the lamp. No water intrusion in vehicle condition through the partition that separates the body from outside. No air leakage.	B	• 7.2.7
	Long-term heat resistance	To satisfy KES D-C030, HS-02-E, A2, B1	B	KES D-C030
	• Noise	No noise	C	• 7.2.3

Table 2 (Continued)

Evaluation Item		Evaluation Standard	Quality Rank	Evaluation Method
Environmental Resistance	• Air tightness	No water intrusion into the lamp. No water intrusion in vehicle condition through the partition that separates the body from outside. No air leakage.	B	• 7.2.7
	Thermal shock resistance	To satisfy KES D-C030 Th-OCD, A2, B1.	B	KES D-C030
	• Noise	No noise	C	• 7.2.3
	• Air tightness	No water intrusion into the lamp. No water intrusion in vehicle condition through the partition that separates the body from outside. No air leakage.	B	• 7.2.4
	Lighting heat resistance	No deformation, looseness, or crack in structural part. No breakage of filament, malcontact or other harmful defects. (However, the breakage of filament is permissible)	B	7.4.1.1)
	Temperature resistance	No remarkable defect to affect the function on the lens, such as softening, crack, distortion, deterioration of luster.	B	7.4.2
	• Noise	No noise.	C	• 7.2.3
	• Air tightness	No water intrusion into the lamp. No water intrusion in vehicle condition through the partition that separates the body from outside. No air leakage.	B	• 7.2.7
	Wetherability (Applied only to material coloration)	To satisfy KES D-C030 We-O.C.	B	A test piece shall be the flat plate of 150 × 50mm
	Dust-proof	Drop in max. luminous intensity shall be 10% or less.	AR	7.4.3
	Ozone resistance	No occurrence of cracks on gasket in visible area in vehicle condition.	B	7.4.4

Table 2 (Continued)

Evaluation Item		Evaluation Standard	Quality Rank	Evaluation Method
Chemical Resistance	Stress cracking resistance	The degree of crack on the test piece in test liquid B shall be equivalent to or less than that on the test piece in test liquid A	C	7.6.1
	Liquid resistance	1. To satisfy KES D-C030 Cr-E.O. 2. No crack on lens. (When it is required.)	B	7.6.2
	• Air tightness	No water intrusion into the lamp. No water intrusion in vehicle condition through the partition that separates the body from outside. No air leakage.	B	7.2.7
Serviceability	Attachability for bulb socket	To be able to replace.	AR	With tools placed in a vehicle.
	Attaching and detaching torque of bulb socket	The attaching or detaching torque shall be 3-10kgf.cm (29.4-98.1N) cm. The bulb socket shall be soundly attached. No looseness after attaching.	B	-
Others	Protector	Protectors to be used on the attaching surface shall conform to the following performance. 1. In case of vinyl chloride: P-UC, AAZ, KBI, N1. 2. In case of rubber : KES B-L005 R-BH607, F3, J1, K2, L0, N1 However, hardness may be changed according to discussion	-	KES B-L005

Table 3 (Indoors attaching type)

Evaluation Item		Evaluation Standard	Quality Rank	Evaluation Method
Strength	Insulation resistance	1 MΩ or more	A	7.5.3
	Light leakage	No light leakage in the forward direction and in the side direction.	B	Visual Inspection
	Vibration resistance	No deformation, looseness, or crack in structural part. No breakage of filament, malcontact nor other harmful defects.	B	7.3.4
	• Noise	No noise	C	• 7.2.3
	• Lead strength	No damage, looseness nor solder separation.	B	• 7.7.1
	Impact resistance	No deformation, looseness, or crack in structural part. No breakage of filament, malcontact nor other harmful defects. (However, the breakage of filament is permissible.)	B	7.3.5
	• Noise	No noise.	C	• 7.2.3
	Opening/closing durability (Apply this item only if required)	No deformation, looseness, or crack in structure part. No breakage of filament, malcontact, or other harmful defects. (However the breakage of filament is permissible)	B	7.3.6
	• Noise	No noise	B	• 7.2.3
Environmental Resistance	Short-term heat resistance	To satisfy KES D-C030, HS-10, A2, C1.	B	KES D-C030
	• Noise	No noise.	C	• 7.2.3
	Long-term heat resistance	To satisfy KES D-C030, HS-1, 04, A2.	B	KES D-C030
	• Noise	No noise	C	• 7.2.3
	Thermal shock resistance	To satisfy KES D-C030, HS-2, 04, A2, C	B	KES D-C030
	• Noise	No noise	C	• 7.2.3

Table 3 (Continued)

Evaluation Item		Evaluation Standard	Quality Rank	Evaluation Method
Environmental Resistance	Lighting heat resistance	No deformation, looseness or crack in structural part. No breakage of filament, malcontact or other harmful defects. (However, the breakage of filament is permissible)	B	7.4.1 (2)
	Temperature resistance	No remarkable defect to affect the function on the lens, such as softening, crack, distortion, deterioration of luster.	B	7.4.2
	Noise	No noise.	C	7.4.3
	Light resistance (Applied only to material coloration)	To satisfy KES D-C030, Li-O.C.	B	A test piece shall be the flat plate of 150x50mm.
Serviceability	Attachability for back cover	1. The back cover shall be attached only in the condition specified in a drawing. 2. The looseness after attaching shall be 0.7mm or less.	B	-
	Attachability for bulb socket	To be able to replace	AR	With tools placed in a vehicle.
	Attaching and detaching torque of bulb socket	The attaching or detaching torque shall be 8-10 kgf(29.4-98.1N) · cm. The bulb socket shall be soundly attached. No looseness after attaching.	B	-
Others	Protector	1.To satisfy KES B-L005 R-CA607K.	B	KES B-L006
		2. Liquid such as the plasticizer for extender oil, process oil,etc.shall not be compounded.	C	-
		3.Decreasing in weight shall be 1% or less.	C	-
		4. To satisfy KES D-C030 Li-O.C, and there shall be no occurrence of blooming on a rubber surface.	C	KES D-C030
	Fogging resistance	No dulling on the glass surface.	C	7.7.2