

Louver

KES

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Remark



1. Purpose

This standard aims at securing proper quality by standardizing specifications of louver assembly.

2. Scope of Application

This standard specifies the louver assembly for automobile. (hereinafter referred to as the "louver")

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) Louver

Parts in assembled condition of such components indicated in drawings as horizontal fins, vertical fins, connecting rod, operating dial of fins, louver case, grille and screws, etc.

(2) Operating fin

Fin where operating part is set up. The direction of fins shown in Fig. 1 are adjusted by operating this fin.

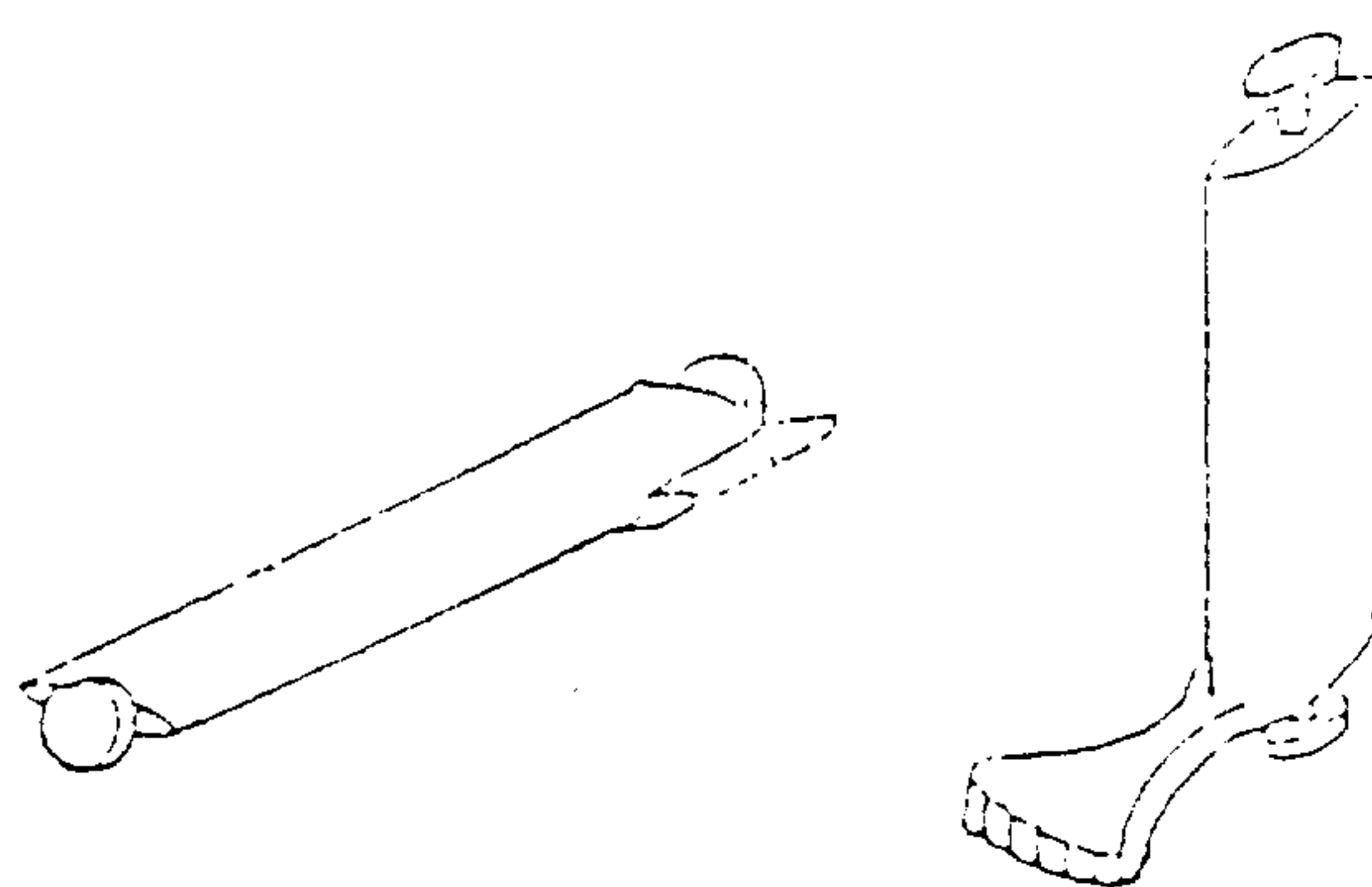


Fig. 1

(3) Dial

Operating part to adjust fin direction changing the rotary shafts of fin

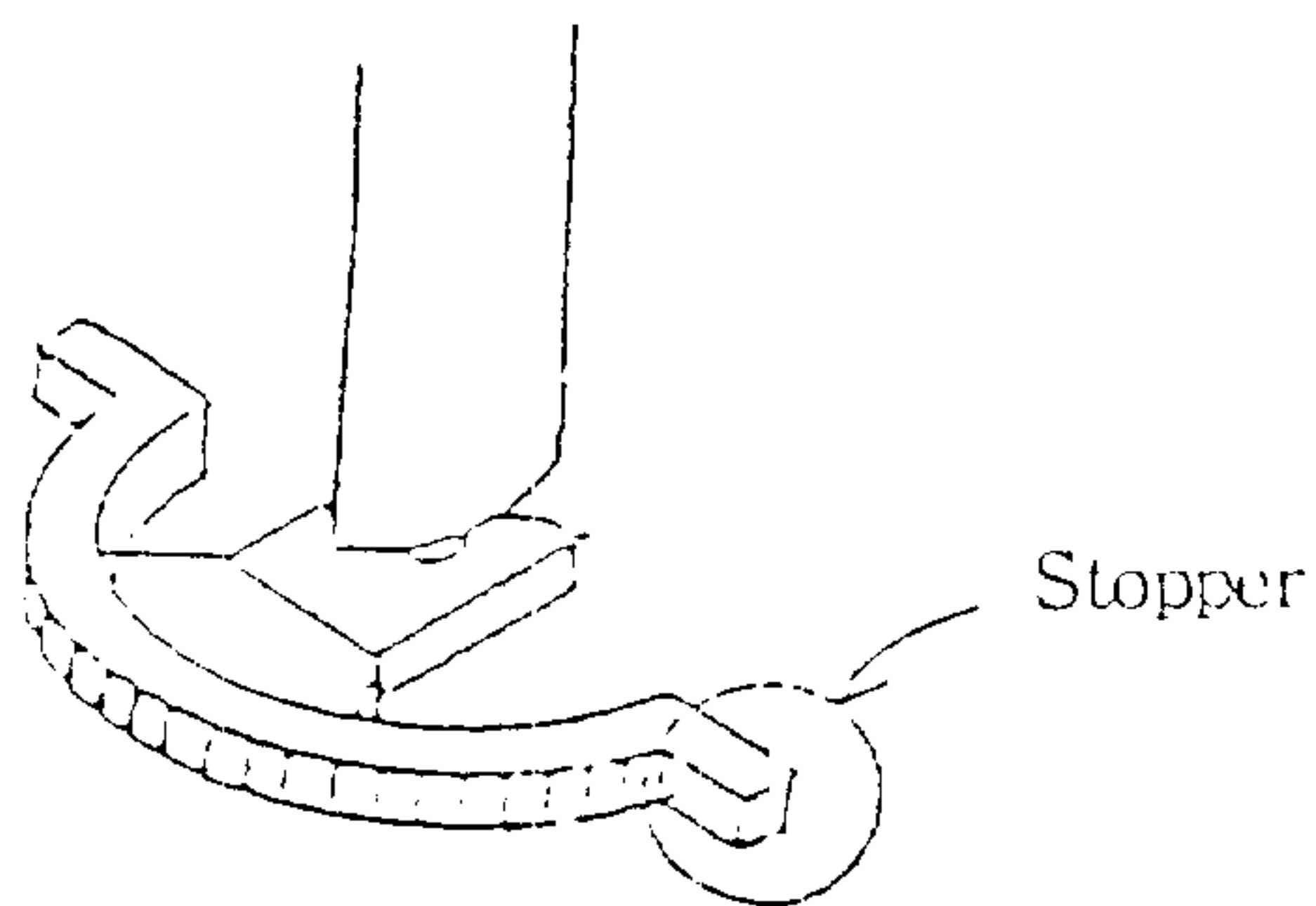


Fig. 2

(4) Stopper

To regulate operating angle of the fin such as Fig. 2 used in connecting rod

(5) Connecting rod

Rod where each fin is connected so that other fins are moved together according to the movement of operating fin

(6) Vertical fin

Fin with longitudinal direction is directed vertically

(7) Horizontal fin

Fin with longitudinal direction is directed horizontally

(8) Louver case

Case, attached to back side on louver assembly, for connection with duct and hold of fin

(9) Grille

Surface panel of louver

(10) Front side (surface)

Direction toward interior of the louver in vehicle condition

(11) Rear(rear face) side

Direction toward duct of louver in vehicle condition.

5. Specifications Indicated in Drawings

- (1) Evaluation item number to be evaluated.
- (2) Color of parts, and division of painting or material coloration.
- (3) Types of grain(emboss), depth of grain, grained range.
- (4) Fin operation angle.
- (5) Code for required specification of KES D-G008(Interior/Exterior Plastic Parts).
- (6) Maximum air flow applied to louver.

6. Evaluation Standard

The evaluation standard of the louver shall conform to Table 1.

Remark 1: The way of reading evaluation items and methods in Table 1 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

Evaluation Item			Evaluation standard	Quality Rank	Evaluation Method
Exter- nal appea- rance	Burr		To satisfy the standard of acceptance sample	C	Visual inspection
	Parting edge in the place within reach				
	Shrinkage				
	Wrinkle on surface				
	Welder mark				
	Flow mark				
	Paint color		To satisfy the painting color specified in the drawing	C	↑
	Painting		To satisfy KES B-R001	C	KES T-M010
	Material coloration		To be the same as the color specified in the drawing	C	Visual inspection
	Grain(wrinkle)		To satisfy type, range and depth of the grain specified in the drawing		
Opera- ting force	Fin operating force		0.25±0.15 kgf (2.45±1.47 N)	B	7.2.1
	Dial operating force		0.1±0.05 kgf (0.98±0.45 N)	B	7.2.2
Noise	Presence of noise		No noise	B	7.3
Holdi- ng force of fin	Wind direct- ion holding force	Normal temperature	No change of fin angle	B	7.4.1
		Low temperature		B	7.4.2
		High temperature		B	7.4.3

Table 1 (Continued)

Evaluation Item		Evaluation Standard		Quality Rank	Evaluation Method
Holdi- ng force of fin	Rigidity holding force	Not to occur	Falling-off of fin	B	7.4.4
			Damage in fin holding part		
			Damage on fin		
		Not to be seen	Chalking on fin holding part		
			Deformation of fin		
	Operating force after evaluating rigidity holding force	Fin: 0.25±0.15 kgf (2.45±1.47 N)		B	7.2.1
		Dial: 0.1±0.05 kgf(0.98±0.49 N)		B	7.2.2
	Noise after eval- uating rigidity holding force	No noise		B	7.3
Fin rigidity		2.5mm or less of deformation		B	7.5.1
Rigi- ty and stre- ngth	Stopper strength	Fin	Not to occur	B	7.5.2
			Damage or disconnection of stopper		
			Disconnection of connecting rod		
			Damage of louver case, de- fective stopping		
		Not to be seen	Deformation of stopper	B	7.5.2
			Chalking of stopper		
	Dial	Not to occur	Damage of stopper part Damage and deformation of rotary shaft	B	7.5.3
			Turning of stopper exceeding opening Damage of louver case		
		Not to be seen	Deformation of stopper and dial		
			Chalking of stopper		
			Chalking of dial surface		

Table 1 (Continued)

Evaluation Item			Evaluation Standard		Quality Rank	Evaluation Method	
Rigid-ity and stren-gth	Operating force after evaluating stopper strength	Fin	0.25±0.15 kgf (2.45±1.47 N)		B	7.2.1	
		Dial	0.1±0.05 kgf (0.98±0.49 N)		B	7.2.2	
	Noise after evaluating stopper strength		No noise		B	7.3	
Dura-bility	Operational durability	Fin	Not to occur	Damage of fin	B	7.6.1	
				Damage on dial			
				Falling-off fin			
				Falling-off of stopper			
		Dial		Damage of line rotary shaft	B	7.6.2	
				Damage of louver case			
				disconnection of connecting rod			
			Not to be seen	flaw on fin and dial	B	7.6.2	
				Chalking of fin holding part	B	7.6.2	
	Wind direction holding force after evaluating operating durab-ility	Normal temperature	No change of fin angle		B	7.4.1	
		Low temperature				7.4.2	
		High temperature				7.4.3	
	Noise after valuating operating durability		No noise		B	7.3	
	Operating force after evaluating operating durab-ility	Fin	0.25±0.15 kgf (2.45±1.47 N)		B	7.2.1	
Dial		0.1±0.05 kgf (0.98±0.49 N)			7.2.2		
Looseness in attachment part			No looseness of small screw No falling-off of fin		B	7.7.1	

Table 1 (Continued)

Evaluation Item				Evaluation Standard		Quality Rank	Evaluation Method
Vibration resistance	After evaluating vibration resistance	Wind direction holding force of fin	Normal temperature	No change of fin angle		B	7.4.1
			Low temperature			B	7.4.2
			High temperature			B	7.4.3
		Strength holding force of pin	Not to occur	Falling-off of fin	B	7.4.4	
				Failure of fin holding part			
				Failure of fin			
			Not be seen	Chalking of fin holding part	B	7.4.4	
				Deformation of fin			
		Holding force	Fin	0.25±0.15kgf (2.45±1.47 N)		B	7.2.1
			Dial	0.1±0.05kgf (0.98±0.49 N)			7.2.2
		Noise		No noise		B	7.3
Environmental resistance	Rigidity		To satisfy the specification of KES D-G008 To indicate in the drawing		B	KES D-G008	
	Short term heat resistance						
	Long term heat resistance						
	Cold resistance						
	Repeating cold-heat resistance						
	Liquid resistance						Cr-I.0
	Light fastness		Li-0.B				
	Fire resistance		To conform to KES C-H001(Fire resistance of car interior parts)		AR	KES C-H001	
	After evaluating environmental resistance	Wind direction holding force of fin at normal temperature		No change of fin angle		B	7.4.1
		Operating force	Fin	0.25±0.15 kgf (2.45±1.47 N)		B	7.2.1
Dial			0.1±0.05 kgf (0.98±0.49 N)		B	7.2.2	