

KES

Ash Tray

KES D-C202

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1. Purpose

This standard has a purpose for standardization of the Ash Tray and assurance of appropriate quality.

2. Scope of Application

This standard applies to the Ash Tray for the automobile. (Hereinafter say Ash Tray).

3. Report for Evaluation Results

Evaluation results of quality for each step, from development to manufacture, shall be submitted to our company by indications in the supplement.

4. The Meaning of Terms

- (1) Inner case: The part of container which receives ashes of cigarette and cigarette - butts.
- (2) Lid: It is the part which becomes the surface when the ash tray is closed. It is separate from the inner case and is fixed to the outer case. It has a rotating hinge part, and is opened and closed with the lid assembly.
- (3) Outer case: It is the part which connects with the inner case and has a function which isolates the inside from the outside under the state when it is assembled with the inner case.
- (4) Stopper: It is the mechanism which prevents the inner case from detaching from the outer case when the ash tray is opened during normal usage. Usually it is molded with the fire cut or the part where the cigarette is rubbed as an assembly.
- (5) It is the steel plate which has the purpose of preventing the flame from reaching the outer case when the ash tray is opened.
- (6) Opening: It is the state of possible usage and the state of the stopper stopping by operating with the specified operating effort.

Evaluation Items		Evaluation Standard	Character-istics	Evaluation Methods
Removal of inner case		Must be less than 1.5kg·f {14.7N}	C	7.3.3
Opening speed of push type lid		Should be within 1.0 ^{+0.4} -0.7 It must be possible to open manually at -30 ± 5°C	C	7.3.4
Abnormal Sounds	Presence or not of abnormal Sounds	Must not produce abnormal sounds	B	7.4
Strength · Rigidity	Opposite load strength	Must be no emissions from inner case.		7.5.4
		Must be no breaks nor deformations of inner case, outer case and lid.		
		Must be no breaks of the stopper nor detachment from the stopper		
	Play strength of Lid	Must be a+b < 5 mm	C	7.5.2
	Stopper Guarantee	Must stop the inner case surely	B	7.5.3
	Fire extinguishing after evaluation of opposite load strength	Fire from cigarettes and combustibles must be extinguished. There must be no deformation of the inner case.	A	(7.2.1)
	Leakage of fumes after evaluation of opposite load strength	In accordance with a limited sample. (Photographs and visual inspections)	A	(7.2.2)
	Abnormal sounds after evaluation of opposite load strength	Sounds must not be produced	B	(7.4)
Durability	Operation durability	Must be no deformations of inner case, lid and outer case	B	7.6.1
		Must be no detachment of inner case and lid during the test		

Table 1

Characteristic Rank	Definitions
A Rank	What approaches risk to human life when a problem occurs or what has a risk of fire
AR Rank	What applies to regulations such as safety, emissions, etc.
B Rank	What becomes inability of driving by causing problems or what loses the original function of the automobile. What deteriorates perceptibly about parts characteristics
C Rank	C rank is the characteristic of anything other than A, AR, and B rank

Table 2

Evaluation Items			Evaluation Standard	Character-istics	Evaluation Methods			
Tightness	Five extinguishing		Fire from cigarettes and combustibles must be extinguished.	A	7.2.1			
			Must be no deformation of inner case					
	Leakage of fumes		In accordance with limited sample (Photographs and visual observations)	B	7.2.2			
Operational force	Operational forces for Opening and closing	Leading Type	1.0 ± 0.5 kg•f {9.8 ± 4.9N}	B	7.3.1			
			0.75 ± 0.25 kg f {7.35 ± 2.45N}					
			0.4 ± 0.25 kg f {3.92 ± 2.45N}					
			1.0 ± 0.5 kg f {9.8 ± 4.9N}					
		Push type A	1.2 ± 0.3 kg f {11.77 ± 2.94 N}					
			Closing force 0.75 ± 0.25kg f {7.35 ± 2.45N}					
		Push type B	Lock knob 0.2 ± 0.1 kg f {1.96 ± 0.98N}					
			Closing force 0.75 ± 0.25kg f {7.35 ± 2.45N}					
		Operation force for stopper or fire out				0.15 ^{+0.05} ₀ kgf {1.47 ^{+0.49} ₀ N}	C	7.3.2

- (7) Close: It means the position of ash tray disuse and the position where it is closed by specified operation force.
- (8) Operation: It is the state which opens and closes the inner case or lid.
- (9) F-type: Ash tray which usually is used by the driver

(10) R-type: Ash tray which usually is not used by the driver

5. Indicated specifications in specified drawing.

- (1) Open and close strokes or angle of the inner case
- (2) External conditions of inner case and outer case
- (3) Assembled state of ash tray
- (4) Shape open dimensions and lay-out conditions of Fire cut
- (5) Indication either coloring or painting of materials
- (6) Parts color
- (7) Painting scope (Only in case of painting)
- (8) Kinds, scope, depth of EMBO.
- (9) Required code of KES D-C030 (Interior and Exterior Plastic Parts).
- (10) Type name of ash tray, classification of F-type and R-type.

6. Evaluation Standard

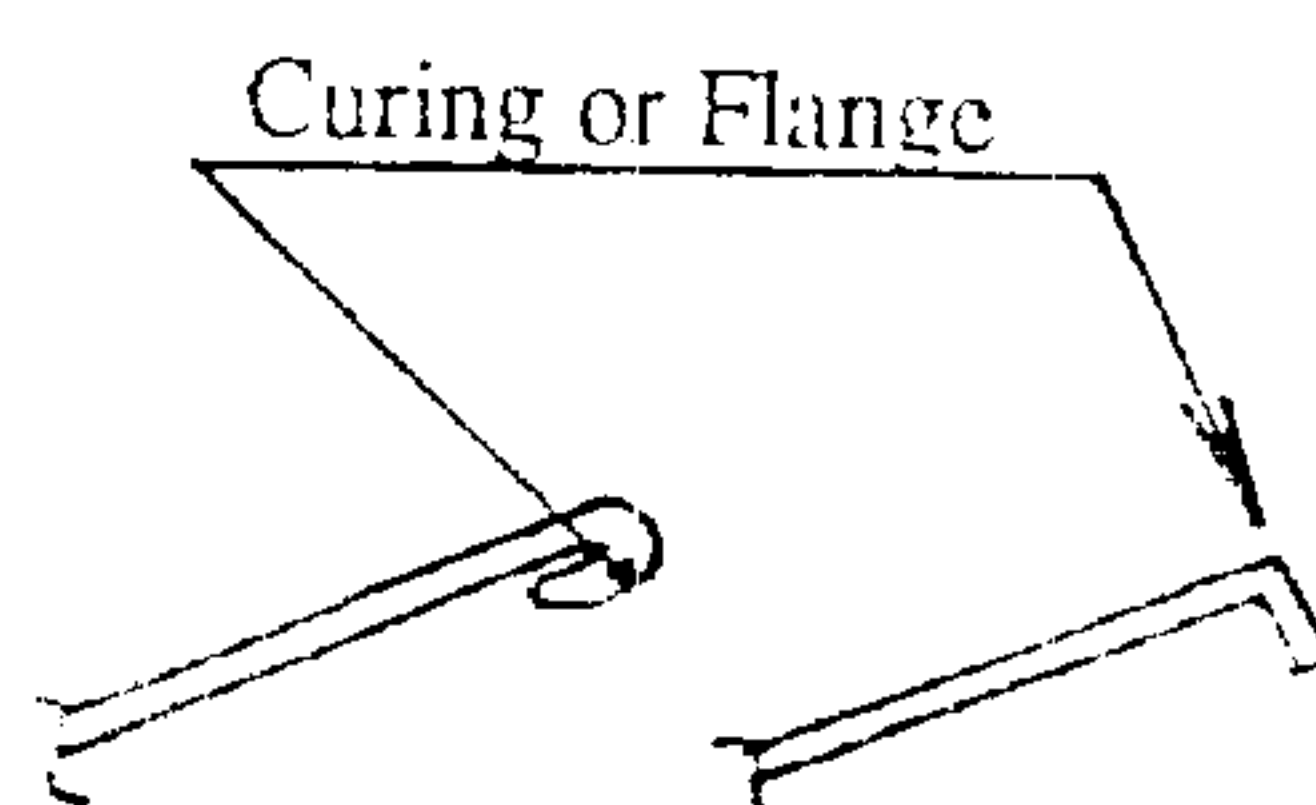
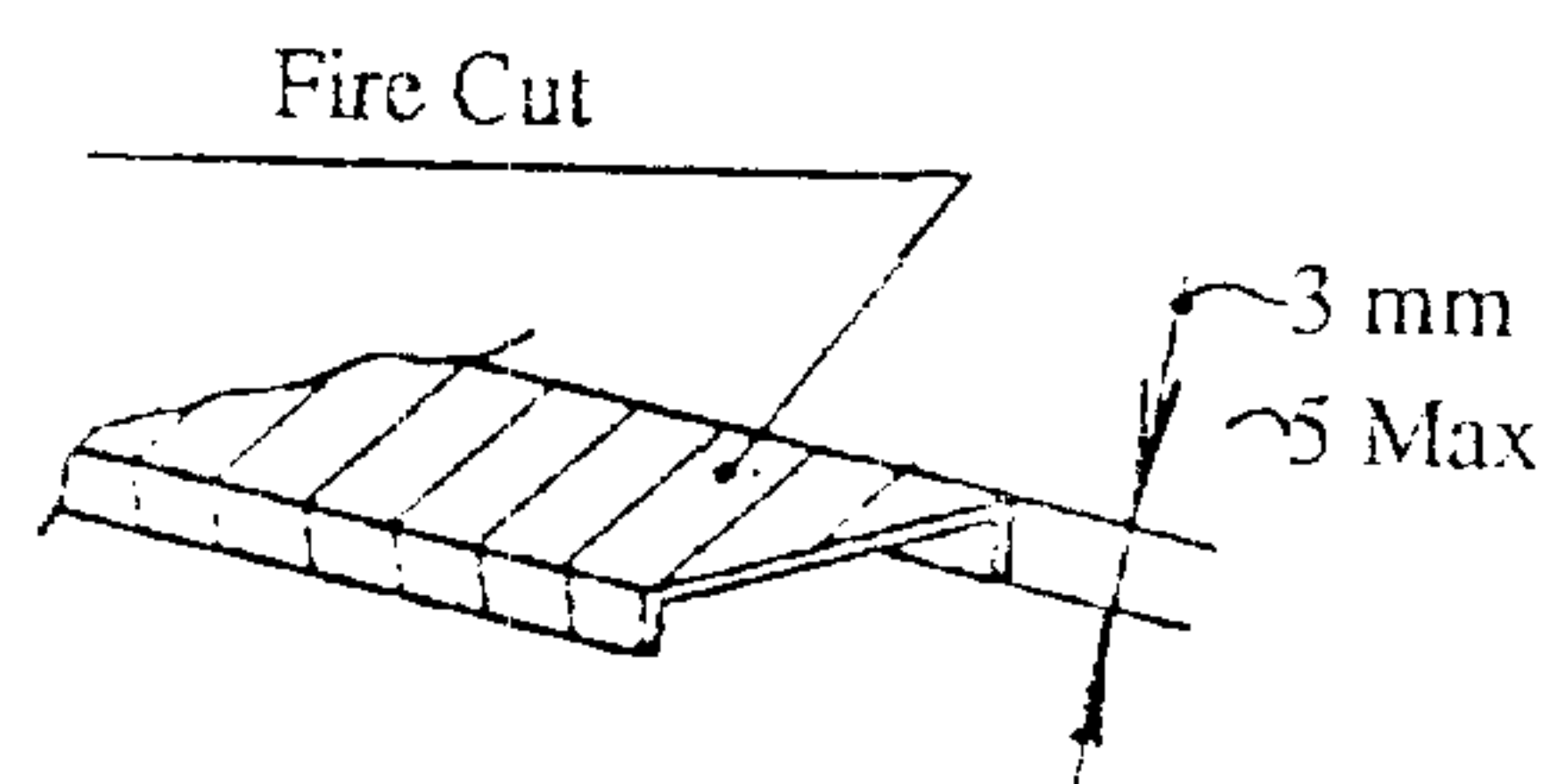
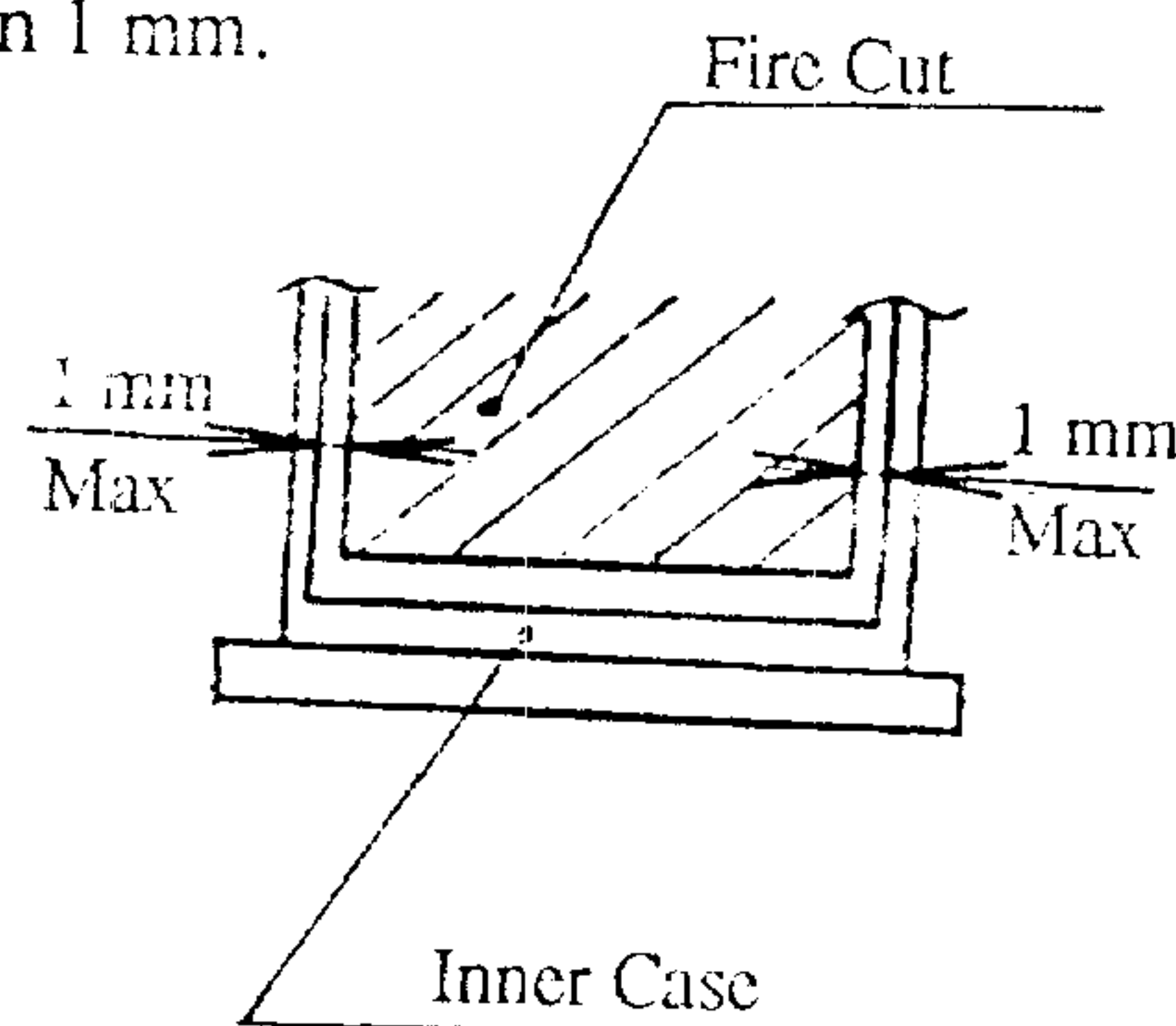
- (1) Evaluation standard for ash tray must be according to Table 2.
- (2) Characteristic rank must be according to KES Q-A002 (decesions of quality rank and operational points) and it is the same as the following Table 1.

Evaluation Items		Evaluation Standard	Character-istics	Evaluation Methods.
Durability	Durability of stopper	Must be no breaks nor detachments of stopper or fire cut.	B	7.6.2
	Fire extinguishing after evaluation of operation durability	Fire of cigarettes and combustibles must be extinguished. Must be no deformations of inner case	A	(7.2.1)
	Fume leakage after evaluation of operational durability	In accordance with limited sample. (photographs and visual observations)	B	(7.2.1)
	Operational force of opening and closing after evaluation of operational durability		B	(7.3.1)
	Lead Type	1.0 ± 0.5 kgf {9.8 ± 4.9N}		
	Rotation Type	0.75 ± 0.25 kgf {7.35 ± 2.45N}		
	Lid Type	0.4 ± 0.25 kgf {3.92 ± 2.45N}		
	Slide Type	1.0 ± 0.3 kgf {9.8 ± 4.9N}		

Evaluation Items		Evaluation Standard	Characteristics	Evaluation Methods
Durability	Push Type A	$1.2 \pm 0.3 \text{ kgf} \{11.77 \pm 2.94 \text{ N}\}$		
		Closing force $0.75 \pm 0.25 \text{ kgf} \{7.35 \pm 2.45 \text{ N}\}$		
	Push Type B	Lock knob $0.2 \pm 0.1 \text{ kgf} \{1.96 \pm 0.98 \text{ N}\}$		
		Closing force $0.75 \pm 0.25 \text{ kgf} \{7.35 \pm 2.45 \text{ N}\}$		
	Operational force of stopper or fire cut after evaluation of operation durability	$-0.05 \quad +0.49$ $0.15 \quad \text{kgf} \{1.47 \quad \text{N}\}$ $0 \quad 0$	C	(7.3.2)
	Detachment force of inner case after evaluation of operational durability	Must be less than $1.5 \text{ kgf} \{14.7 \text{ N}\}$	C	(7.3.4)
	Opening speed of push type lid after evaluation of operational durability	Must be less than $1.0 \quad +0.4 \text{ secs}$ -0.7	C	(7.3.4)
	Abnormal sounds after evaluation of operational durability	Must be no abnormal sounds	B	(7.4)
	Stopper guarantee after evaluation of stopper durability	Inner case must be stopped surely	B	(7.5.3)
Vibration resistance	Operational force of stopper or fire cut after test of stopper durability	$-0.05 \quad +0.49$ $0.15 \quad \text{kgf} \{1.47 \quad \text{N}\}$ $0 \quad 0$	C	(7.3.2)
	Detachments, Breaks, cracks	Must be no detachment of inner case. Must be no breaks nor cracks of inner case and outer case. Ash tray must not detach from ash tray panel.	B	7.7
	Fire extinguishing after evaluation of vibration resistance	Fire from cigarettes and combustibles must be extinguished. Must be no deformation of inner case.	A	(7.2.1)

Evaluation Items		Evaluation Standard	Character-istics	Evaluation Methods
Vibration resistance	Fume leakage after evaluation of vibration resistance	In accordance with limited sample. (photograprs and visual observations)	B	(7.2.2)
	Operational force of opening and closing after evaluation of vibration resistance		B	(7.3.1)
	Lead Type	$1.0 \pm 0.5 \text{ kgf} \{9.8 \pm 4.9 \text{ N}\}$		
	Rotation Type	$0.75 \pm 0.25 \text{ kgf} \{3.92 \pm 2.45\}$		
	Lid Type	$0.4 \pm 0.25 \text{ kgf} \{3.92 \pm 2.45 \text{ N}\}$		
	Side Type	$1.0 \pm 0.5 \text{ kgf} \{9.8 \pm 4.9 \text{ N}\}$		
	Push Type A	$1.2 \pm 0.3 \text{ kgf} \{11.77 \pm 2.49 \text{ N}\}$ Closing force $0.75 \pm 0.25 \text{ kgf} \{7.35 \pm 2.45 \text{ N}\}$		
	Push Type B	Lock knob $0.2 \pm 0.1 \text{ kgf} \{1.96 \pm 0.98 \text{ N}\}$ Closing force $0.75 \pm 0.25 \text{ kgf} \{7.35 \pm 2.45 \text{ N}\}$		
	Operating force of stopper or fire cut after evaluation of vibration resistance	$\begin{matrix} +0.15 & +0.49 \\ 0.15 & \text{kgf} \{1.47 & \text{N}\} \\ 0 & 0 \end{matrix}$	C	(7.3.2)
	Removal force of inner case after evaluation of vibration resistance	Must be less than $1.5 \text{ kgf} \{14.7 \text{ N}\}$	C	(7.3.3)
Combustion resistance	Opening speed of push type lid after evaluation of vibration resistance	$\begin{matrix} +0.4 \\ \text{Must be } 1.0 & \text{sec.} \\ -0.7 \end{matrix}$ It must be possible to open manually at $-30 \pm 5^\circ\text{C}$	C	(7.3.4)
	Abnormal sounds after evaluation of vibration resistance	Must be no abnormal sounds	B	(7.4)
	Burning degree	Ash tray must not be burned.	A	7.8

Evaluation Items		Evaluation Standard	Characteristics	Evaluation Methods
Rust-proofing	Presence or not of rust, bulging, peeling.	Must be no rust, bulging nor peeling of the face except section surface of steel plate.	B	7.9
Condition of fire cut		In opening state, opening place which is contacted by hand must not be at a sharp angle.		Visual check manual contact
		Must conform with lay-out condition which is indicated in specification drawings.		Drawing
		Clearance in direction of width between inner case and fire cut must be less than 1 mm.	A	Drawing
		Flange must be installed on both sides of the fire cut (minimum of 3 mm and maximum of 5 mm)	A	Drawing
		Curing or flange must be installed at front end of fire cut.	B	Drawing Visual check



Evaluation Items		Evaluation Standard	Characteristics	Evaluation Methods
Appearance	Burr	In accordance with limited sample	C	Visual check
	Contraction			
	Surface wave			
	Weld mark flash			
	Flow mark			
	Painting color	Must conform to painting color indicated in specification drawings. In accordance with provided standard board for color EMBO.	C	Visual check (In accordance with KS A 0065)
	Painting	Must conform to KES C-F001. (Automobile painting screens)	C	In accordance with KES T-M010
Material coloring	Must conform to color indicated in specification drawings.	C	Visual check (In accordance with KS A 0065)	
EMBO	Must conform to kinds, scope and depth of EMBO indicated in specification drawings. In accordance with provided standard board for color EMBO of our company.	C	Visual check (In accordance with KS A 0065)	
Environmental resistance		Quality base and test methods of interior and exterior plastic parts must conform to following specifications	B	In accordance with KES D-C030
	Short period heat resistance	Indicated in specification drawings		
	Long period heat resistance			
	Cold resistance			
	Repeating cold and heat resistance			
	Fluid resistance	Cr - I.O		
	Light resistance	Li - O.B		
	Heating fume resistance	In accordance with KES C-H001 (Heating Fume Resistance of Vehicle Inside Parts)	AR	In accordance with KES C-H001