

KES

**Test Method of Vacuum
Brake Hoses for Automobiles**

KES T – 1893

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1. Scope of Application

This standard shall be applied for vacuum rubber hose (Hose from now on) used for vacuum servo oil pressure brake system for automobile.

Remark : The numbers indicated in { } as a reference are SI.

2. Types

It shall be divided into 3 types by their structure as table 1.

Table 1

Types	Structure
Type 1	Rubber layer
Type 2	Inside rubber layer, reinforcing layer
Type 3	Inside rubber layer, middle reinforcing layer, outside rubber layer

3. Quality

(1) Visual Appearance

Hose shall be flexible and flat, and its inside diameter and thickness shall be equal.
There shall be no harmful dents, air bubbles, and other defects for use.

(2) Performance

Test hoses according to 6.3 ~ 6.11, and it shall satisfy the regulations on table 2.

4. Shape

It shall be a straight or curved pipe.

5. Sizes

(1) Inside Diameter and Tolerance

It is the rule to follow table 3.

(2) Tolerance for Length

It shall follow table 4, and the curved pipe shall follow another agreement.

6. Measurement and Testing Method

(1) Inside Diameter Measurement

Follow the item 4.1.1 of KES T-K008 (Test method for rubber hose)

(2) Length Measurement

Measure the length of hose using JIS B 7516 (Straight Metal Rule) or

JIS B 7512 (Steel metal rule).

Table 2

Testing Items			Types	Performance	Important test conditions	Applying items
Pressure Resistance test	Failure test	Failure strength Kg f / cm ² {Mpa}	Type 1	More than 4 {0.39}	Pressing speed 70 kg f / cm ² / min {6.86 Mpa / min}	6.3
			Type 2	More than 24.6 {2.412}		
			Type 3			
	Negative pressure test	Outside diameter change mm	Type 1	More than 1.58	-600 mmHg for 5 min {87.99 Mpa for 5min}	6.4
			Type 2			
			Type 3			
Low temperature test			Type 1	There shall be no cracks and other problems.	-35 ± 2 °C for 70 h	6.5
			Type 2		-40 ± 2 °C for 70 h	
			Type 3			