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KES

Cellular Rubber Material

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Explanation

1. Scope of Application

This standard shall specify the cellular rubber material that is using for vehicle.

2. Kinds

2.1 Kinds

Cellular rubber material is classified into the following 4 kinds.

2.1.1 Kind R (Non oil resistance rubber)

The oil resistance is not required to natural rubber, synthetic rubber, and rubbers that are made of rubber materials or mixtures of such rubber materials.

2.1.2 Kind SB (Oil resistance rubber, low expansion property)

Synthetic rubber and rubbers that air made of rubber materials or mixtures of such rubber materials have the resistance to the organic liquid and is expanded in low degree in the oil.

2.1.3 Kind SC (Oil resistance rubber, middle expansion property)

Synthetic rubber and rubbers that air made of rubber materials or mixtures of such rubber materials have the resistance to the organic liquid and is expanded in middle degree in the oil.

2.1.4 Kind T (Heat resistance rubber)

Synthetic rubber and rubbers that air made of rubber materials or mixtures of such rubber materials have the resistance to the high temperature.

2.2 Grade

A grade that is composed in two units is indicated to the each kind. First unit represents the kind of cellular rubber and second one represents the degree of hardness. (If second unit is large, it means that material is hard.)

Fist unit

- 1 ----- Sponge rubber
- 2 ----- Extension rubber

Second unit

0-5

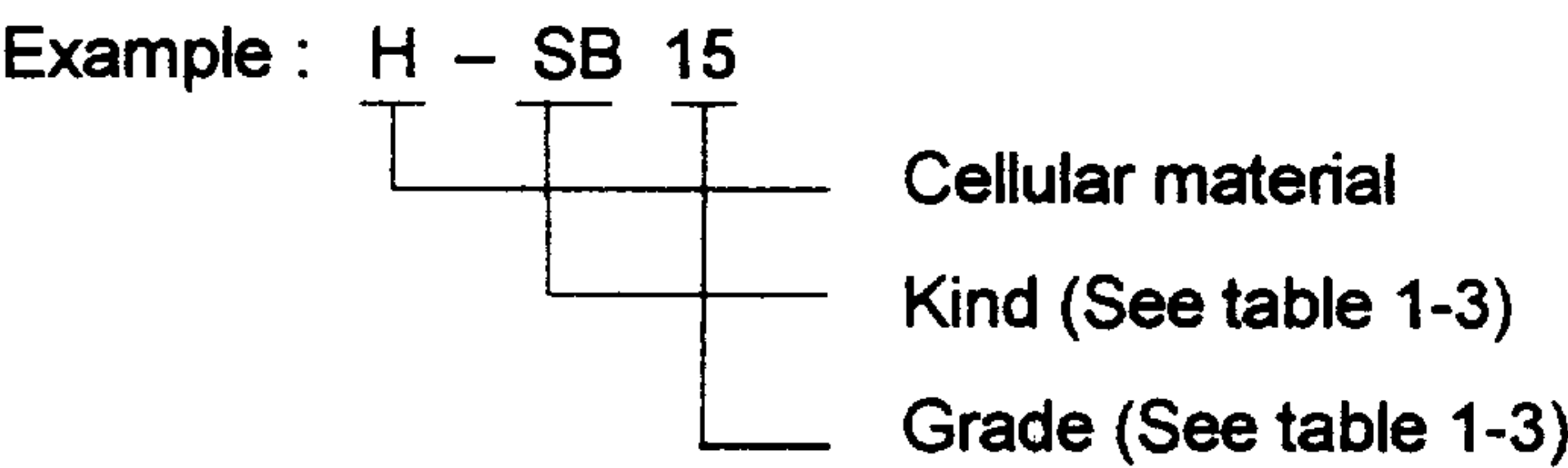
2.3 Additional performance

Those have additional performance except 2.1, 2.2.

3. Method of expression

3.1 Expression method of basic performance

3.1.1 Composition of basic performance signal

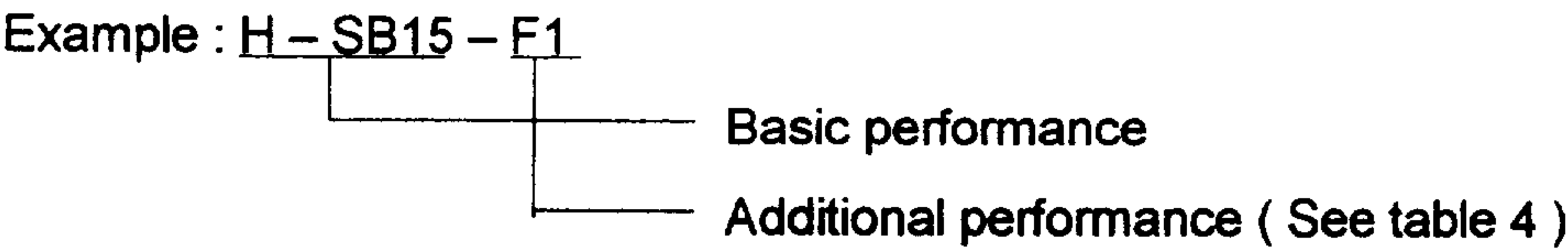


3.1.2 Contents of classification signal

Kind			Grade	
			First unit	Second unit
Kind		Signal	Signal of cellular signal	Signal of hardness degree (When load-25%)
Non oil resistance		R	1 : Sponge rubber 2 : Extension rubber	0, 1, 2 3, 4, 5
Oil Resistance	Low expansion property in oil	SB		
	Low expansion property in oil	SC		
Heat resistance		T		

3.2 Expression method of additional performance

3.2.1 Composition of additional performance signal



- Notes**
1. The signal of additional performance is given after that of basic performance. The signal of basic performance is connected with that of additional performance by “ - ”.
 2. The signal of additional performance is composed of additional signal and additional value.

3.2.2 Content and signal of additional performance

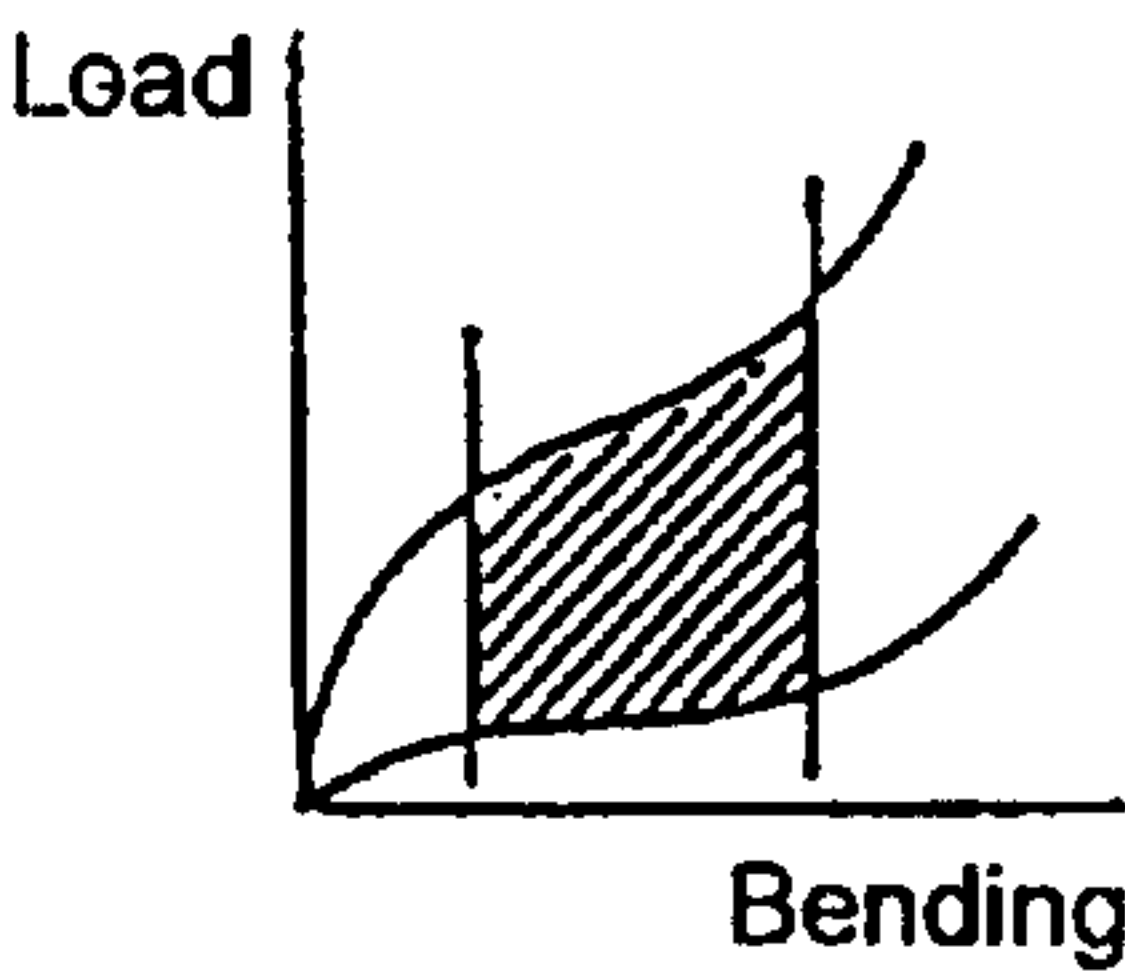
The signal and content of additional performance is as in table 4. The other performance that is not expressed with A-Y and 1-9 is expressed with the signal of special performance.

(1) Special performance signal (Z)

If a special performance except those that are in table 4 is regulated, “Z” is used as additional signal, and contents should be expressed in the specification column.

Example : H-SB15-Z

(Specification) Z : The relation between load and bending should be inside the area that is showed in the following graph.



(2) Special performance signal (O)

If the specification that is in table 4 is changed, the quoted signal in table 4 is used as additional signal, and “O” is used as additional value. And the contents are expressed in the specification column.

Example : H – SB15 – F0
(Specification) F0 : Compression bending change at low temperature, less than 30% at – 55 °C .

4. Quality

The quality of bubble rubber material follows the test method regulated in table 5, and follows the basic performance regulated in table 1-3. If additional performance is indicated, it follows table 4 or the specification of drawing.

Table 1 Basic performance (No.1 : Sponge rubber except T)

Signal	Compression load (limit) g.f/cm ² {Kpa}	Heat resistance (Compression bending change) (Limit),%	Oil resistance (Volume change) (Limit), %	Compression Permanent altered, Max %
H-R10	36-143 {3.5-14}	± 20	—	15
H-R11	143-357 {14-35}	± 20	—	15
H-R12	357-642 {35-63}	± 20	—	15
H-R13	642-928 {63-91}	± 20	—	15
H-R14	928-1213 {91-119}	± 20	—	15
H-R15	1213-1713 {119-168}	± 20	—	15
H-SB10	36-143 {3.5-14}	± 20	-25 ~ +10	40
H-SB11	143-357 {14-35}	± 20	-25 ~ +10	40
H-SB12	357-642 {35-63}	± 20	-25 ~ +10	40
H-SB13	642-928 {63-91}	± 20	-25 ~ +10	40
H-SB14	928-1213 {91-119}	± 20	-25 ~ +10	40
H-SB15	1213-1713 {119-168}	± 20	-25 ~ +10	40
H-SC10	36-143 {3.5-14}	± 20	-25 ~ +10	50