

KES

Power Steering Hose and Hose Assemblies for Automobiles

KES T – I871

(EST.) 1991 – 01 – 23

Contents

1. Scope of Application
2. Purpose
3. Terminology
4. Types
5. Performance
6. Dimensions
7. External Appearance
8. Measurement/Testing Method
9. Verification

1. Scope of Application

This standard shall be applied for power steering hose and hose assemblies for power steering for automobiles.

Remark : As a reference the units and numbers indicated in { } are SI.

2. Purpose

This standard is to have proper quality by standardization of hose and hose assemblies.

3. Terminology

Terms used in this standard mean as following.

(1) High Pressure

One used for the circuits from the oil pressure hose to gearbox.

(2) Low Pressure

One used for the others than high pressure.

(3) High Expansion

One whose contents' change is big when compressing for high pressure.

(4) Low Expansion

One whose contents' change is small when compressing for high pressure.

(5) Rubber Pipe

Soft rubber pipe that is not enhanced by fiber or wire, etc.

4. Types

Hose and hose assembly types shall be classified by its usage and structure as table 1.

Table 1

Types			Usage			Structure	
			Circuit		Max. Pressure Used		
Type 1	# 1	80	High pressure	High expansion	80kg f /cm² {7.85 MPa}	Fiber reinforcement	Hose ass'y (No ass'y)
		90			90kg f /cm² {8.83 MPa}		
		105			105kg f /cm² {10.30 MPa}		
	# 2	70	Low expansion	70kg f /cm² {6.87 MPa}	Wire reinforcement		
		80		80kg f /cm² {7.85 MPa}			
		90		90kg f /cm² {8.83 MPa}			
	# 3	105		105kg f /cm² {10.30 MPa}			
	Type 2	# 1		18	Low pressure		
# 2		3	3kg f /cm² {0.29 MPa}				

Note(¹) It can be used with hose assembly.

Remark : Discuss and decide with each other for the case that type 2 #2 rubber pipe is used.

5. Performance

Follow item 8 testing method for performance of hose and hose assembly, and it shall satisfy table 2.

Table 2

Items		Types		Performance	Main Test Conditions		Testing Method Item No.
Durability of Hose and Hose assemblies	Water Pressure Test	1 type #1	80	There shall be no problem with water leakage expansion.	160kg f / cm ² {15.69Mpa}	Maintain for 3 minutes in this condition.	8.3.1(1)
			90		180kg f / cm ² {17.65Mpa}		
			105		210kg f / cm ² {20.59Mpa}		
		1 type #2	70		140kg f / cm ² {15.69Mpa}		
			80		160kg f / cm ² {15.69Mpa}		
			90		180kg f / cm ² {17.65Mpa}		
		1 type #3	105		210kg f / cm ² {20.59Mpa}		
		2 type #1	18		36kg f / cm ² {3.53Mpa}		
		2 type #2	3		6kg f / cm ² {5.88Mpa}		
	Length Change Test	1 type #1	80	-6 ~ 2 %	80kg f / cm ² {7.85Mpa}		8.3.1(2)
			90		90kg f / cm ² {8.83Mpa}		
			105		105kg f / cm ² {10.30Mpa}		
		1 type #2	70	-4 ~ 2%	70kg f / cm ² {6.87Mpa}		
			80		80kg f / cm ² {7.85Mpa}		
			90		90kg f / cm ² {8.83Mpa}		
		1 type #3	105		105kg f / cm ² {10.33Mpa}		
		2 type #1	18	-8 ~ 2%	18kg f / cm ² {1.77Mpa}		
		2 type #2	3		3kg f / cm ² {0.29Mpa}		