GB

NATIONAL STANDARD OF THE

PEOPLE'S REPUBLIC OF CHINA

ICS 43.040.40; 83.140.40

G 42

GB/T 30313-2013

High temperature intake air rubber hose and hose assemblies for auto brake system

汽车制动系统高温输气橡胶 软管及软管组合件

Issued on: December 31, 2013 **Implemented on: September 01, 2014**

Issued by: General Administration of Quality Supervision, Inspection and Quarantine;
Standardization Administration of the People's Republic of China.

Table of Contents

High temperature intake air rubber hose and hose assemblies for auto brake system

1 Scope

This Standard specifies the classification, structure and materials, dimensions and tolerances, minimum bending radius, technical requirements, test frequency and marking of high temperature intake air rubber hose and hose assemblies for auto brake system.

This Standard applies to the hose assembly for intaking high temperature compressed air, which connects the automobile pneumatic brake system air pump to the air storage tank. The maximum working pressure is 1 MPa; the internal and external temperature range is -40 °C ~ +250 °C.

2 Normative references

The following documents are indispensable for the application of this document. For dated references, only the dated version applies to this document. For undated references, the latest edition (including all amendments) applies to this document.

GB/T 1690, Rubber, vulcanized or thermoplastic - Determination of the effect of liquids

GB/T 5563, Rubber and Plastics Hoses and Hose Assemblies - Hydrostatic Testing

GB/T 9573, Rubber and plastics hoses and hose assemblies - Methods of measurement of the dimensions of hoses and the lengths of hose assemblies

GB/T 10125, Corrosion tests in artificial atmospheres - Salt spray tests

GB/T 24134-2009, Rubber and plastics hoses - Assessment of ozone resistance under static conditions

3 Classification

Hoses are divided into two types according to the applicable temperature:

Take a 450 mm long hose or hose assembly and stretch it longitudinally at a rate of 25 mm/min ± 2.5 mm/min until the hose is separated from the joint or the hose is broken. The load shall not be less than 1 100 N when the nominal inner diameter is 6.3 mm and below; the load shall not be less than 1 500 N when the nominal inner diameter is above 6.3 mm.

7.5 Temperature resistance

7.5.1 High temperature resistance

The hose assembly after the verification pressure test in 7.2 is subjected to 72 h ± 2 h hot air aging according to the following environmental conditions:

-- Type 1, 200 °C;

-- Type 2, 250 °C;

Park the sample in the experimental environment for 2 h; then, perform the test according to 7.2; there shall be no leakage.

7.5.2 Low temperature resistance

The hose assembly through the verification pressure test in 7.2 shall be frozen for 72 h ± 2 h in a -40 °C environment, and then parked in the experimental environment for 2 h, and then tested according to 7.2. There shall be no leakage.

7.6 Environmental resistance

7.6.1 Oil

Test according to GB/T 1690; prepare the sample from the inner lining layer; immerse in ASTM IRM 903 oil at 100 °C ± 2 d for 72 h ± 2 h; take it out; then, perform the measurement. The volume expansion shall not exceed 100%.

7.6.2 Ozone

Take out the inner lining layer of the hose assembly; test it under the conditions where the ozone pressure is (100 ± 10) MPa according to Method 1 of GB/T 24134-2009; use a 7x magnifying glass to observe. The hose shall not be cracked.

7.6.3 Salt spray test

Perform the test according to GB/T 10125. Support or hang the hose assembly at an angle of 15° ~ 30° from the vertical to expose it to the salt spray for 24 h ± 1 h. After this exposure, the joint shall have no metal corrosion except for the red rust in the marking embossing and wrinkle deformation parts. White rust products are acceptable.

8 Test frequency

Inspection is divided into type test, production acceptance test and routine test.

Type test and routine test shall be carried out in accordance with Appendix A.

Type tests are those tests that confirm that the design of a specific hose produced by a specific method meets the requirements of this Standard. The test shall be carried out at most every other year or whenever the manufacturing method or material used changes. The type test shall include all types of hoses of all specifications.

Routine tests are those tests required for each finished hose before leaving the factory.

Production acceptance tests are those tests that are recommended to control manufacturing quality (see Appendix B). The number of tests specified in Appendix B is for guidance only.

9 Marking

9.1 The surface of the hose shall have the following obvious marks that are not easy to fall off:

a) identification of the hose manufacturer;

b) hose name;

c) number of this national standard;

d) type of the hose;

e) nominal inner diameter of the hose;

f) date of manufacture (year and month).

Example:

This is an excerpt of the PDF (Some pages are marked off intentionally)

------ The End ------