

**AUTOMOTIVE INDUSTRY STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

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**Ambulance
(English Translation)**

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Foreword

This Document was drafted as per the rules specified in GB/T 1.1-2020 Directives for Standardization - Part 1. Rules for the Structure and Drafting of Standardizing Documents.

This Document replaced QC/T 798-2008 Multi-Layers Plastic Tubing for Automotive Fuel System. Compared with QC/T 798-2008, the major technical changes of this Document are as

follows besides the structural adjustments and editorial modifications.

--- Delete the application of pipe assemblies within the scope of this Document (see Clause

1 of this Edition; Clause 1 of the 2008 Edition);

--- Change the applicable temperature range for multilayer pipes (see Clause 1 of this Edition;

Clause 1 of the 2008 Edition);

--- Add the working media (see Clause 1 of this Edition);

--- Add a reference for corrugated pipe (see Clause 1 of this Edition);

--- Delete the definition of pipe assemblies (see Clause 3 of this Edition; 3.1 of the 2008 Edition);

--- Change the definition of multilayer pipes (see Clause 3 of this Edition; 3.2 of the 2008

Edition);

--- Add the definitions of solid-wall pipe and corrugated pipe (see Clause 3 of this Edition);

--- Change the identification (see Clause 4 of this Edition; Clause 9 of the 2008 Edition);

--- Change the specifications and dimensions of multilayer pipes (see Table 1 of this Edition; Clause 4 of the 2008 Edition);

--- Delete the general requirements (see Clause 6 of the 2008 Edition);

--- Change the technical requirements (see Table 2 of this Edition; Table 2 of the 2008 Edition);

--- Change the specimen length and quantity in the test methods (see Table 2 of this Edition;

Clause 7 of the 2008 Edition);

--- Change the test method for appearance (see 7.2 of this Edition; 7.2 of the 2008 Edition);

--- Change the test method for interlayer adhesion force (see 7.3 of this Edition; 7.11 of the

2008 Edition);

--- Change the requirements for the test tooling for yield and elongation at break (see Figure

4 of this Edition; Figure 5 of the 2008 Edition);

Multi-Layers Plastic Tubing for Automotive Fuel System

1 Scope

This Document specifies the identification, dimensions, technical requirements, inspection rules, packaging, transportation, and storage requirements for multilayer plastic fuel pipes for

automobiles (hereinafter referred to as "multilayer pipe"); and describes the test methods.

This Document applies to the manufacture, inspection, sale, and use of multilayer plastic fuel

pipes with an operating temperature between -40°C and +135°C, a working medium of gasoline

or gasoline vapor, and a maximum operating pressure not exceeding 0.7 MPa.

This Document applies to solid-wall pipe; for corrugated pipe, refer to the relevant test

methods

depending on the specific operating environment.

2 Normative References

The provisions in following documents become the essential provisions of this Document through reference in this Document. For the dated documents, only the versions with the dates

indicated are applicable to this Document; for the undated documents, only the latest version

(including all the amendments) is applicable to this Document.

GB/T 2828.1-2012 Sampling procedures for inspection by attributes - Part 1.Sampling schemes indexed by acceptance quality limit (AQL) for lot-by-lot inspection

GB/T 2918-2018 Plastics - Standard atmospheres for conditioning and testing

GB 18352.6-2016 Limits and measurement methods for emissions from light-duty vehicles (CHINA 6)

GB/T 19278-2018 General terms and their definitions of thermoplastic pipes, fittings and valves

QC/T 797 Material identification and marking of automotive plastic, rubber and thermoplastic elastomer parts

3 Terms and Definitions

For the purposes of this Document, the terms and definitions given in GB/T 19278-2018 and

the following apply.

3.1 Multilayer pipe

The pipe whose wall is composed of two or more layers of different materials or structures.

[SOURCE. GB/T 19278-2018, 2.2.4]

3.2 Solid-wall pipe

The pipe with a uniform annular cross-section and solid walls.

[SOURCE. GB/T 19278-2018, 2.2.2]

3.3 Corrugated pipe

The pipe with a series of parallel ridges and grooves.

4 Identification

The identification on multilayer pipes shall be clear, secure, and shall not damage the performance of the multilayer pipe. The identification information on multilayer pipes should include the following contents; see Figure 1 for an example.

- a) Specification. Generally, use nominal outer diameter x wall thickness;
- b) Material. Major visible materials shall be identified in accordance with QC/T 797;
- c) Production date. It shall include year, month, and day; the order and character format of year, month, and day are not limited;
- d) Others.

5 Dimension and Specification

Table 1 lists the dimensions of the multilayer pipes in this Document. The thickness and tolerances of each layer of the multilayer pipe can be determined through negotiation between

minimum value of the test results of 5 specimens is used as the calculated initial bursting strength at room temperature.

7.5.1.2.3 In the bursting strength test, fittings/connectors that do not affect the bursting strength

of the specimen shall be used. If the fitting/connector detaches from the specimen or bursts before the specimen bursts, the test data is invalid. If necessary, auxiliary fixtures shall be added to ensure the test is conducted effectively.

7.5.1.2.4 When performing tests according to the provisions of 7.7, 7.8, 7.9, 7.10, and 7.11, if

the connector detaches from the specimen or bursts before the specimen bursts or before the

required pressure level is reached, the test data is invalid. The specimen can be reused (by