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# AUTOMOBILE INDUSTRY STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

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QC/T 1098-2018

# Technical specification for powder metallurgy hub used in automotive clutch

汽车离合器用粉末冶金盘毂技术条件

Issued on: July 04, 2018 Implemented on: January 01, 2019

Issued by: Ministry of Industry and Information Technology of PRC

#### Annex:

# Number, standard name, implementation date of 11 automotive industry standards

No.Standard No.Standard nameReplaced standard number standard standard number standard standard number standard number standard standard number standard number standard number standard stan			Stariuarus		
101   QC/T 645- 2018   Tow truck   QC/T 645-2005   2019-01-01     102   QC/T 1094- 2018   General specification of lithium ion batteries for motorcycle starting   2019-01-01     103   QC/T 1095- 2018   Performance requirements and bench test methods of motor vehicle assist vacuum pump   2019-01-01     104   QC/T 788- 2018   Performance requirements and bench test methods of automobile pedal device   QC/T 788-2007   2019-01-01     105   QC/T 311- 2018   Performance requirements and bench test methods of motor vehicle brake master cylinder   QC/T 311-2008   2019-01-01     106   QC/T 564- 2018   Performance requirements and test methods for passenger car service brake   QC/T 564-2008   2019-01-01     107   QC/T 1096- 2018   Bench test methods of fatigue life for torsion beam rear axle of passenger cars   2019-01-01     108   QC/T 1097- 2018   Performance requirements and test methods of fatigue life for front axle horizontal module of passenger cars   2019-01-01     108   QC/T 491- 2018   Performance requirements and test methods   QC/T 491-1999   2019-01-01     109   QC/T 1098- 2018   Technical specification for powder metallurgy hub used in automotive clutch   2019-01-01     111   QC/T 1099- Specification for collapsible spacer used in   2019-01-01	No.	Standard No.	Standard name	•	
Tow truck  2018  General specification of lithium ion batteries for motorcycle starting  QC/T 1094- 2018  QC/T 1095- 2018  QC/T 788- 2018  Performance requirements and bench test methods of automobile pedal device  QC/T 311- 2018  QC/T 311- 2018  QC/T 311- 2018  QC/T 564- 2018  QC/T 564- 2018  QC/T 564- 2018  QC/T 1096- 2018  Bench test methods of fatigue life for torsion beam rear axle of passenger cars  QC/T 1097- 2018  QC/T 1097- 2018  QC/T 1097- 2018  QC/T 1098- 2019-01-01  QC/T 310-01-01  QC/T 310-01-01  QC/T 310-01-01  QC/T 310-01-01  QC/T 564-2008  QC/T 564-2008				standard number	implementation
2018     2018     2019-01-01     2	101	QC/T 645-	Tow truck	QC/T 645-2005	2019-01-01
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108 2018 horizontal module of passenger cars  2019-01-01  QC/T 491- Automobile shock absorber technique QC/T 491-1999 2019-01-01  2018 requirements and test methods QC/T 545-1999  110 QC/T 1098- Technical specification for powder metallurgy hub used in automotive clutch  QC/T 1099- Specification for collapsible spacer used in 2019-01-01		2018	beam rear axle of passenger cars		
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2018 hub used in automotive clutch  QC/T 1099- Specification for collapsible spacer used in 2019-01-01	110	QC/T 1098-	Technical specification for powder metallurgy		2019-01-01
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# Technical specification for powder metallurgy hub used in automotive clutch

### 1 Scope

- **1.1** This standard specifies the technical requirements and test methods for the powder metallurgy hub, which is used in the clutch driven plate assembly of passenger cars.
- **1.2** This standard applies to the powder metallurgy hub (hereinafter referred to as hub) for clutch driven disk assemblies of passenger cars.

#### 2 Normative references

The following documents are essential to the application of 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 standard.

GB/T 223.18 Methods for chemical analysis of iron, steel and alloy - The sodium thiosulfate separation iodometric method for the determination of copper content

GB/T 223.23 Iron, steel and alloy - Determination of nickel content - The dimethylglyoxime spectrophotometric method

GB/T 223.26 Iron, steel and alloy - Determination of molybdenum content - The thiocyanate spectrophotometric method

GB/T 223.69 Iron, steel and alloy - Determination of carbon contents - Gasvolumetric method after combustion in the pipe furnace

GB/T 223.73 Iron steel and alloy - Determination of iron contents - Titanium trichloride-potassium dichromate titration method

GB/T 3478.1 Straight cylindrical involute splines - Metric module side fit - Part 1: Generalities

GB/T 3478.5 Straight cylindrical involute splines - Metric module side fit - Part 5: Inspection

GB/T 5163 Sintered metal materials, excluding hardmetals - Permeable sintered metal materials - Determination of density, oil content, and open porosity

to the 6<sup>th</sup> grade accuracy, which is specified in GB/T 3478.1-2008. The accuracy grade can also be agreed between the supplier and the purchaser.

**3.4** The hub shall be subjected to the static torsion test,  $1 \times 10^6$  enhanced torsional endurance test or  $5 \times 10^6$  torsional endurance test, in accordance with the test conditions specified in 4.4.1.2 and 4.4.2.1. It is required that the parts must not fail, after the test.

#### 4 Detection method

#### 4.1 Chemical composition and physical properties

- **4.1.1** The carbon content shall be measured according to the method specified in GB/T 223.69.
- **4.1.2** The copper content shall be determined according to the method specified in GB/T 223.18.
- **4.1.3** The nickel content shall be determined according to the method specified in GB/T 223.23.
- **4.1.4** The molybdenum content shall be determined, according to the method specified in GB/T 223.26.
- **4.1.5** Iron content shall be determined according to the method specified in GB/T 223.73.
- **4.1.6** Density shall be determined, according to the method specified in GB/T 5163.
- **4.1.7** Hardness shall be determined, according to the method specified in GB/T 9097.1.

#### 4.2 Mechanical properties

- **4.2.1** For the tensile strength, prepare the tensile specimen, according to the method specified in GB/T 7963. Determine it according to the method specified in GB/T 7964.
- **4.2.2** For the impact toughness, prepare the impact specimen according to the method specified in GB/T 5318. Determine it according to the method specified in GB/T 9096.

#### 4.3 Tooth and spline accuracy

The precision of tooth and splines shall be determined, according to the method specified in GB/T 3478.5.

#### 4.4 Hub torsion test

4.4.1 Static torsion test of hub

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