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AUTOMOBILE INDUSTRY STANDARD
OF THE PEOPLE'S REPUBLIC OF CHINA

ICS 43.020

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QC/T 1158-2022

**Method of calculating comprehensive water consumption for
unit output of automobile products**

汽车产品单位产量综合水耗计算方法

Issued on: April 08, 2022

Implemented on: October 01, 2022

Issued by: Ministry of Industry and Information Technology of PRC

Announcement of Ministry of Industry and Information Technology of PRC

No.10 of 2022

The Ministry of Industry and Information Technology approved 555 industry standards, such as the "Regulations on mechanical design of chemical plant pipelines" (see Annex 1). Among them, it includes 4 chemical industry standards, 8 petrochemical industry standards, 5 non-ferrous metal industry standards, 3 building materials industry standards, 156 machinery industry standards (including pharmaceutical equipment), 45 automobile industry standards, 6 shipping industry standards, 48 aviation industry standards, 68 light industry standards, 103 textile industry standards, 6 packaging industry standards, 18 electronics industry standards, 85 communication industry standards. It has approved the amendment of one automobile industry standard of "Tail lifting lifts for vehicles" (see Annex 2). It has approved the foreign language versions of 11 industry standards, such as "Travel luggage and bags" (see Annex 3), including 8 light industry standards, 2 textile industry standards, 1 electronics industry standard. It has approved 79 industry standard samples including "Standard sample of Sorbitite content in high carbon steel wire rod" (see Annex 4), including 78 metallurgical industry standards and 1 non-ferrous metal industry. They are all hereby announced. The industry standard amendment list and industry standard samples will be implemented from the date of release.

The above chemical industry standards (engineering construction) and automobile industry standards are published by Beijing Science and Technology Press. The petrochemical industry standards are published by Sinopec Press. The non-ferrous metal industry standards (engineering construction) are published by China Planning Press. The building material standards are published by China Building Materials Industry Press. The machinery industry standards are published by Machinery Industry Press. The machinery (pharmaceutical equipment) industry standards, textile industry standards (including foreign language versions) and packaging industry standards are published by China Standard Publishing House. The ship industry standards are published under the organization by China Shipbuilding Industry Comprehensive Technical and Economic Research Institute. The aviation industry standards are published under the organization of the China Aviation Comprehensive Technology Research Institute. The light industry standard (including the foreign language version) is published by the China Light Industry Publishing House. The electronics industry standard (including the foreign language version) is published, under the organization of the China Electronics Institute of Technical Standardization. The communication industry standard is published by the People's Posts and Telecommunications Press.

Attachment: Number, standard name and implementation dates of 45 automotive industry standards

Ministry of Industry and Information Technology of the People's Republic of China

April 8, 2022

Annex:

Number, standard name and implementation dates of 45 automotive industry standards

No.	Standard No.	Standard name	Replaced standard No.	Date of implementation
177	QC/T 1157-2022	Method of calculating comprehensive energy consumption for unit output of automobile products		2022-10-01
178	QC/T 1158-2022	Method of calculating comprehensive water consumption for unit output of automobile products		2022-10-01
179	QC/T 1159-2022	Guidelines on evaluation of automobile industry green supply chain management		2022-10-01
180	QC/T 1160-2022	Guidelines on evaluation of whole vehicle manufacturing green factory in automobile industry		2022-10-01
181	QC/T 1161-2022	Technical specifications for green-design product assessment - Automobile		2022-10-01
182	QC/T 1162-2022	Honeycomb sandwich structure product for automobile exterior decoration parts		2022-10-01
183	QC/T 1163-2022	Automotive diesel engines - Reduction agent filter for selective catalytic reduction (SCR) system		2022-10-01
184	QC/T 1164-2022	Natural gas filter for road vehicle		2022-10-01
185	QC/T 1165-2022	Carbon canister air filter for gasoline passenger car		2022-10-01
186	QC/T 1166-2022	Streaming mirror view mirror for vehicle		2022-10-01
187	QC/T 1167-2022	Service brake dynamometer squeal noise test methods for passenger cars		2022-10-01
188	QC/T 1168-2022	Performance requirements and bench test methods for vehicle electric air compressor		2022-10-01
189	QC/T 463-2022	Technical requirements and bench test methods for automotive hydrodynamic torque converter assembly	QC/T 29033-1991 QC/T 557-1999 QC/T463-1999	2022-10-01
190	QC/T 792-2022	Motors and controllers for electric motorcycles and electric mopeds	QC/T 792-2007	2022-10-01
191	QC/T 1169-2022	Liquid crystal instrument for automobile		2022-10-01
192	QC/T 1170-2022	Performance film for automotive glass		2022-10-01
193	QC/T 1171-2022	Automotive paint protection film		2022-10-01
194	QC/T 804-2022	Instrument panel assembly and Console assembly for passenger cars	QC/T 804-2014	2022-10-01
195	QC/T 1016-2022	Door trim panel assembly for passenger cars	QC/T 1016-2015	2022-10-01
196	QC/T 768-2022	Toilet of passenger car	QC/T 768-2006	2022-10-01
197	QC/T 580-2022	Mounting dimensions of automobile transmission assembly	QC/T 580-1999	2022-10-01
198	QC/T 1172-2022	Performance requirements and test methods of exhaust muffler for vehicles air brake equipment		2022-10-01
199	QC/T 237-2022	Bench test methods for the performance of automobile parking brake	QC/T 237-1997	2022-10-01

No.	Standard No.	Standard name	Replaced standard No.	Date of implementation
200	QC/T 1173-2022	Road vehicles - Spark-plugs application test methods		2022-10-01
201	QC/T 1174-2022	High voltage fuse of electric vehicles		2022-10-01
202	QC/T 1175-2022	High voltage contactor for electric vehicles		2022-10-01
203	QC/T 1176-2022	Evaporator for automotive air conditioning		2022-10-01
204	QC/T 1177-2022	Condenser for automotive air conditioning		2022-10-01
205	QC/T 633-2022	The seats of passenger vehicles	QC/T 633-2009	2022-10-01
206	QC/T 80-2022	Road vehicles - Polyamide (PA) tubing for air braking systems	QC/T 80-2011	2022-10-01
207	QC/T 1178-2022	Motor vehicle and towed vehicle Pneumatic braking system - Tapped and male fitting		2022-10-01
208	QC/T 1179-2022	Specification for wheel bolts of automobile		2022-10-01
209	QC/T 869-2022	Short-cycle drawn arc welding stud	QC/T 869-2011	2022-10-01
210	QC/T 870-2022	Double end studs $b_m = 1.25d$	QC/T 870-2011	2022-10-01
211	QC/T 871-2022	Double end studs $b_m = 2d$	QC/T 871-2011	2022-10-01
212	QC/T 598-2022	Bolt-for projection welding on the bearing face	QC/T 598-1999	2022-10-01
213	QC/T 599-2022	Overhead projection weld bolts	QC/T 599-2013	2022-10-01
214	QC/T 624-2022	Rubber plugs	QC/T 624-2013	2022-10-01
215	QC/T 603-2022	Clips - Type A	QC/T 603-1999	2022-10-01
216	QC/T 604-2022	Clips - Type B	QC/T 604-1999	2022-10-01
217	QC/T 605-2022	Clips - Type C	QC/T 605-1999	2022-10-01
218	QC/T 606-2022	Clips - Type H	QC/T 606-1999	2022-10-01
219	QC/T 618-2022	Specification for plastic expansion nut	QC/T 618-2013	2022-10-01
220	QC/T 928-2022	Plastic cable and tubing clips with inter-fix hole	QC/T 928-2013	2022-10-01
221	QC/T 929-2022	Plastic cable and tubing clips with side-fix hole	QC/T 929-2013	2022-10-01

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Method of calculating comprehensive water consumption for unit output of automobile products

1 Scope

This document specifies the terms and definitions, statistical scope, calculation methods of comprehensive water consumption for unit output of automobile products.

This document is applicable to the calculation of comprehensive water consumption for unit output of automobile products.

2 Normative references

The contents of the following documents constitute the essential provisions of this document through normative references in the text. Among them, for dated references, only the version corresponding to the date applies to this document; for undated references, the latest version (including all amendments) applies to this document.

GB/T 21534-2021 Water saving - Terminology

GB 24789 General rules for equipping and managing of the water measuring instrument in water-use organization

3 Terms and definitions

The terms and definitions, as defined in GB/T 21534-2008, as well as the following terms and definitions, apply to this document.

3.1

Total comprehensive water consumption of automobile products

The amount of water, which is actually consumed during the entire production process of automobile products, within a certain measurement period.

3.2

Comprehensive water consumption for unit output of automobile products

Within a certain measurement period, the ratio -- of the comprehensive water consumption of automobile products TO the total amount of qualified products

4.3 Types of comprehensive water consumption statistics

The types of automobile comprehensive water consumption statistics include surface water (measured by water supply from water purification plants), groundwater, urban water supply projects, other water or water products purchased by enterprises from the market (such as steam, hot water, geothermal water, etc.). However, for steam, hot water, underground hot water and other heated water or aquatic products, that do not enter the unit product or use condensed water, they are not included in the statistics.

The types of comprehensive water consumption statistics for automobiles do not include seawater, brackish water, rainwater, reused water, which is taken by the enterprise itself, as well as the amount of water used by the enterprise for water products supplied to the market (such as steam, hot water, and geothermal water, etc.).

Note: Recycled water refers to the wastewater, which is generated by enterprises, as stipulated in 3.21 of GB/T 21534-2018, which is used directly or after treatment in a water unit or system.

4.4 Statistical cycle

The statistical cycle shall be a certain period of continuous production, which has a statistical cycle of at least no less than 12 natural months.

4.5 Statistics on the quantity of automobile products

The statistics of quantity of automobile products shall be the quantity of qualified automobile products, which are produced within the statistical cycle.

5 Calculation method

5.1 Calculation method of comprehensive water consumption of automobile products

5.1.1 Calculation method of water intake in production system

The water consumption Q_1 of the production system, in the production process of automobile products, is calculated according to formula (1):

$$Q_1 = Q_A + Q_B + Q_C + Q_D \quad \dots\dots\dots (1)$$

Where:

Q_1 - The maximum value of water, which is taken from the production system, during the production of automobile products, in cubic meters (m^3);

Q_A - The numerical value of the water intake for the stamping process, in cubic meters (m^3)

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