

JAPANESE
INDUSTRIAL
STANDARD

Translated and Published by
Japanese Standards Association

JIS D 5710 : 1998

**Automotive parts—Wiper arms
and wiper blades**

ICS 43.040.60

Descriptors : road vehicles, private cars, windscreen wipers

Reference number : JIS D 5710 : 1998 (E)

D 5710 : 1998

Foreword

This translation has been made based on the original Japanese Industrial Standard revised by the Minister of International Trade and Industry through deliberations at Japanese Industrial Standards Committee in accordance with the Industrial Standardization Law. Consequently **JIS D 5710 : 1993** is replaced with **JIS D 5710 : 1998**.

In this revision, **ISO 9258** *Passenger cars—Wiper systems—Wiper blade length*, **ISO 9259** *Passenger cars—Windscreen wiper systems—Wiper arm-to-blade connections* and **ISO 9704** *Passenger cars—Wiper systems—Shaft ends and arm-holes* are basically employed.

Date of Establishment: 1963-11-01

Date of Revision: 1998-07-20

Date of Public Notice in Official Gazette: 1998-07-21

Investigated by: Japanese Industrial Standards Committee

Divisional Council on Aircraft and
Automobiles

JIS D 5710:1998, First English edition published in 1999-08
Second edition : 2002-04

Translated and published by: Japanese Standards Association
4-1-24, Akasaka, Minato-ku, Tokyo, 107-8440 JAPAN

In the event of any doubts arising as to the contents,
the original JIS is to be the final authority.

© JSA 1999, 2002

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from the publisher.

Printed in Japan

Automotive parts— Wiper arms and wiper blades

Introduction This Standard is the Japanese Industrial Standard prepared based on the corresponding International Standards indicated in Remarks of 1 Scope without modifying its technical contents of corresponding parts (the lateral angular movement and the rotational movement, the shape and dimensions of the clip, and the shape and dimensions of the arm head and pivot shaft among the performance), the shape and dimensions of the pin clip form which is not specified in the corresponding International Standards, and the items not specified in the corresponding International Standards (the performance other than the lateral angular movement and rotational movement, the appearance, the shape and dimensions of the arm, the testing method and the marking) are added as the Japanese Industrial Standard.

The parts underlined with dots in this Standard show the matters not given in the corresponding International Standards.

1 Scope This Japanese Industrial Standard specifies the wiper arms and wiper blades for automobiles (hereafter referred to as “arms” and “blades” respectively).

Remarks : The international standards corresponding to this Standard are as follows.

ISO 9258 : 1989 *Passenger cars—Wiper systems—Wiper blade length*

ISO 9259 : 1991 *Passenger cars—Windscreen wiper systems—Wiper arm-to-blade connections*

ISO 9704 : 1990 *Passenger cars—Wiper systems—Shaft ends and arm-holes*

Informative reference : This Standard specifies the matters necessary for the standard of the product to be used for a windshield of every automobile though the corresponding International Standards mainly specify the shape and dimensions of the arm and blades for automobiles.

2 Normative references The following standards contain provisions which, through reference in this Standard, constitute provisions of this Standard. The most recent editions of the standards indicated below shall be applied.

JIS B 0205 *Metric coarse screw threads*

JIS B 0209 *Limits of sizes and tolerances for metric coarse screw threads*

JIS D 0103 *Automobile parts—Devices and parts of electric equipment—Nomenclature*

JIS D 0201 *Automobile parts—General rules of electroplating*

JIS Z 2371 *Methods of neutral salt spray testing*

JIS Z 8741 *Specular glossiness—Methods of measurement*

3 Definitions The definitions of the terms to be used in this Standard shall be in accordance with the following in addition to **JIS D 0103**.

– **Wiper system** A system composed of the wiper motor, wiper link, arm and blade.

4 Classification The classification of arms, blades, and each combination part shall be as follows:

- a) The arm shall be classified into two types of a single arm type and a two arm type according to its shape.
- b) The blades shall be classified into two types of a curved surface type and a plane type according to its shape.
- c) The method of combination of arm and blade, (hereafter referred to as "clip"), shall be two types as shown in Attached Table 1.
- d) The method of combination of arm head and pivot shaft shall be as shown in Attached Table 2.

5 Performance

5.1 Pressing force of arm The pressing force at the head part of arm shall be not more than $\pm 10 \%$ of the nominal pressing force specified in Attached Fig. 1 as a rule according to the use division⁽¹⁾ of wiper system and the length of blade in the test of 8.1.

Note ⁽¹⁾ The use division means the divisions for low speed, high speed etc. in use of the wiper system.

5.2 Wiping performance In test of 8.2, the wiping performance of arm and blade shall be such that the arm and blade shall actuate smoothly and be free from remarkable vibration and abnormal noise, and the number of lines of unwiped water drops shall be not more than the value as shown in Table 1.

Table 1

Unit : pieces

Item	M zone			S zone		
	Hair line	Heavier line	Wide line	Hair line	Heavier line	Wide line
Wiping performance at the beginning	3	1	0	5	2	0
Wiping performance after endurance test	5	2	0	7	3	2

Remarks 1 The figures show the number of unwiped lines.

2 The cloudy unwiped parts near the inside and outside circumferences of wiping area and the turn point of blade due to the shape and the like of glass shall be excluded.

3 The terms used in Table 1 and those meanings shall be as follows:

Hair line: a very fine streak-like unwiped part of not more than 0.5 mm in width.

Heavier line: a fine streak-like unwiped part of not more than 1 mm in width.

Wide line: a belt-like unwiped part of about 1 mm to 20 mm in width. The part in which several hair lines and heavier lines have been gathered and the thin film-like unwiped part are included, too.

M zone: a wiping range of the slanting line part in the wiping area (Fig. 1) produced by the reciprocation of blade.

S zone: a wiping range except the M zone in Fig. 1.

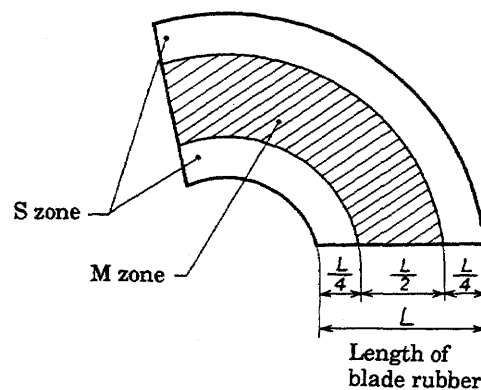


Fig. 1 Wiping area

5.3 Corrosion resistance The corrosion resistance of arm and blade shall be as follows when subjected to the test of 8.3.

- The arm and blade, on which the plating and painting have been applied, shall be free from corrosion harmful to mechanics and swelling or peeling. The plating and paint film shall not be discolored.
- The arm and blade made of stainless steel shall be free from corrosion harmful to mechanism. However, the partial pitting corrosions and more or less corrosions at the junction due to rivets and folds may be caused as far as they are not harmful.

5.4 Durability When subjected to the test of 8.4, the durability of arm and blade shall be as follows:

- In reciprocating actuation of 500 000 times the performance of blade shall comply with the requirements of 5.2 and comply with the wiping performance after the durability test of Table 1.
- In reciprocating actuation of 1 500 000 times, the change rate of the pressing force of arm shall be not more than 15 % of that before test and each part of arm and blade shall be free from remarkable looseness, clearance, and other harmful defects.

5.5 Lateral angular movement In the U-hook clip form arm, the measured lateral angular movement of the blade assembled to the arm, shall be in the range of 2° in single amplitude in terms of the angle when subjected to the test of 8.5.