INTERNATIONAL STANDARD

ISO 9259

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Passenger cars — Windscreen wiper systems — Wiper arm-to-blade connections

Voitures particulières — Dispositifs d'essuie-glace — Fixations des balais d'essuie-glaces sur les porte-balais

Reference number
ISO 9259:1991(E)

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 9259 was prepared by Technical Committee ISO/TC 22, *Road vehicles*, Sub-Committee SC 3, *Electrical equipment*.

Annex A forms an integral part of this International Standard.

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Passenger cars — Windscreen wiper systems — Wiper arm-to-blade connections

1 Scope

This International Standard specifies the main dimensions and general requirements for windscreen wiper arm-to-blade connections.

The following connections are defined:

— hook connection (preferred type);

— Terel connection;

— pin on blade connection;

— pin on arm connection;

— twin screw connection.

It applies to wiper systems for passenger cars, but may also apply to other vehicles where no specific standard exists.

NOTE 1 For specially driven wiper systems, additional fastening means are required for the wiper arm-to-blade connections standardized.

2 Characteristics of hook sizes A1 and A2

Types A1 and A2 are the hook-type sizes for nominal arm sizes 8 mm × 3 mm and 9 mm × 3 mm. These are the preferred types: their application shall be mutually agreed between user and manufacturer.

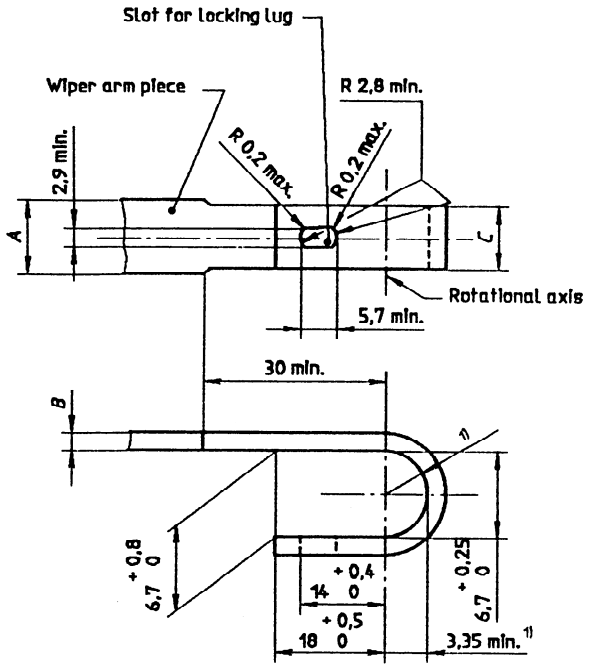
Details not specified are left to the manufacturer's choice.

2.1 Dimensions

2.1.1 Hook dimensions — Types A1 and A2

The dimensions of the hook on the wiper arm piece are given in figure 1 and table 1.

Dimensions in millimetres



1) It shall be possible to insert a cylinder of 6,7 mm diameter, the axis of which is coincident with the rotational axis, into this space.

Figure 1

Table 1

Dimensions in millimetres

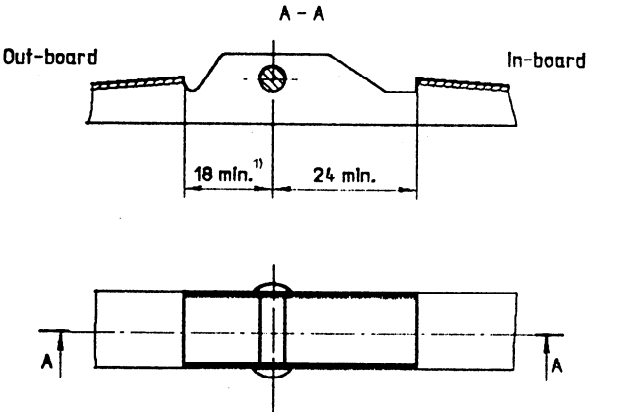
Connection type	Nominal arm size[1] ($A \times B$)	C $^{0}_{-0,15}$
A1	8 × 3	7,8
A2	9 × 3	8,8

1) In addition to the two sizes in table 1, three further sizes are shown in A.1 which cover present usage: in particular, size 9 mm × 4 mm is to be used if higher mechanical strength is required.

2.1.2 Wiper blade opening dimensions

See figure 2.

Dimensions in millimetres



1) The dimension of 17,8 min. is allowed for a phase-out period.

Figure 2

2.2 Clips for hook-type connections

The clip shall latch positively with the arm.

The arm-to-blade assembly shall meet the requirements given in clause 3.

3 General requirements for wiper arm-to-blade connections

3.1 Lateral angular movement

The lateral angular movement between the blade assembly and the arm when assembled shall not exceed that shown in figure 3.

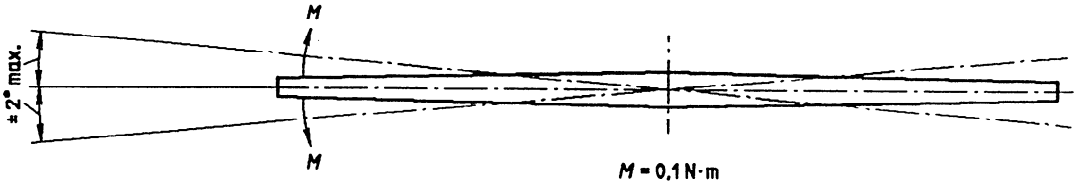


Figure 3

The angular deflection shall be measured between the arm and the main lever of the wiper blade to which the clip is assembled.

3.2 Rotational movement

The torque which is necessary to move the wiper blade, once installed, about its rotational axis on the wiper arm shall not exceed 0,1 N·m.

In addition, the position of the rotational axis on the blade shall be such as to ensure that the blade is free to move relative to the arm when operated on the vehicle.

Annex A
(normative)

Wiper arm-to-blade connections in current use in some countries

All wiper arm-to-blade connections specified in this annex shall meet the general requirements specified in 2.2 and clause 3.

A.1 Characteristics of hook sizes — Types B1, B2 and B3

Types B1, B2 and B3 are non-preferred hook sizes with the following nominal arm sizes:

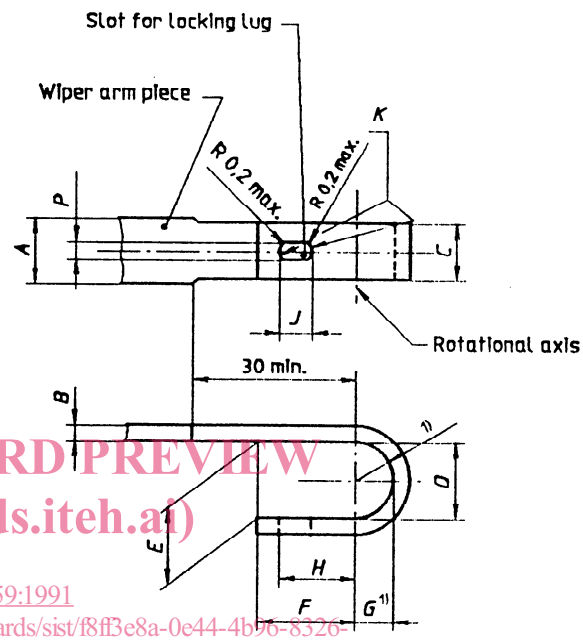
— Type B1: Hook for nominal arm size 7 mm × 2,2 mm

— Type B2: Hook for nominal arm size 9 mm × 2,5 mm

— Type B3: Hook for nominal arm size 9 mm × 4 mm

The dimensions of these types of connection are given in figures A.1 and A.2, and in table A.1.

Dimensions in millimetres



1) It shall be possible to insert a cylinder of diameter *D*, the axis of which is coincident with the rotational axis, into this space.

Figure A.1

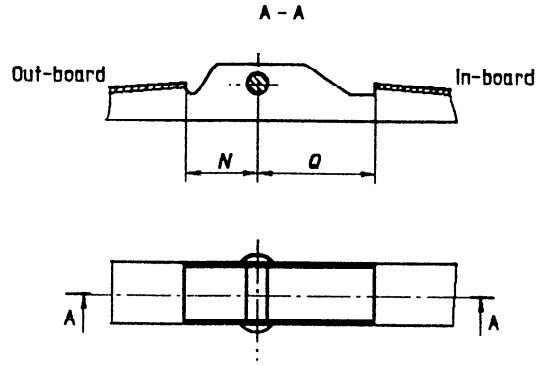


Figure A.2

Table A.1

Dimensions in millimetres

Connection type	Nominal arm size ($A \times B$)	C $^{0}_{-0,15}$	D $^{+0,25}_{0}$	E $^{+0,8}_{0}$	F $^{+0,5}_{0}$	G min.	H $^{+0,4}_{0}$	J min.	K min.	N [1] min.	P min.	Q min.
B1	7 × 2,2	6,8	5,7	5,7	18	2,85	14	4,8	2,4	18	2,1	20
B2	9 × 2,5	8,8	6,7	6,7	18	3,35	14	5,7	2,8	18	2,9	24
B3	9 × 4	8,8	10,7	10,7	21	5,4	17	5,7	2,8	26	3,5	24

1) The dimensions of 17,8 min. in place of 18 min., and 25,8 min. in place of 26 min. are allowed for a phase-out period.

A.2 Characteristics of Terel types — Types C1 and C2

A.2.1 Arm end dimensions

See figure A.3 and table A.2.

Dimensions in millimetres

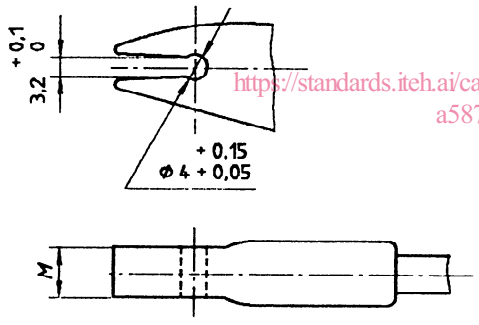


Figure A.3

A.2.2 Housing dimensions on wiper blade

See figure A.4 and table A.3.

Dimensions in millimetres

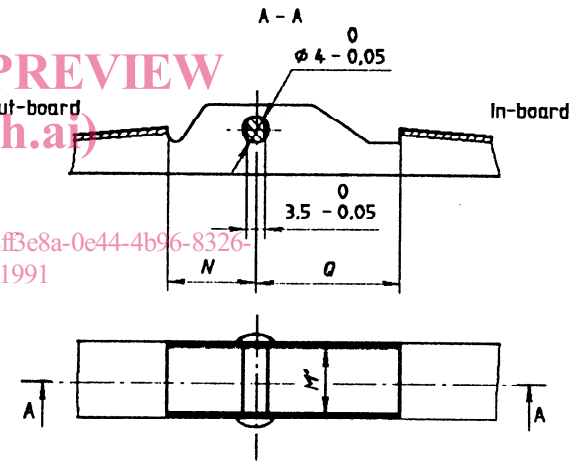


Figure A.4

Table A.2

Dimensions in millimetres

Connection type	M $^{0}_{-0,1}$
C1	9
C2	11

Table A.3

Dimensions in millimetres

Connection type	M' $^{+0,15}_{+0,05}$	N [1] min.	Q min.
C1	9	18	20
C2	11	18	24

1) The dimension 17,8 min. in place of 18 min. is allowed for a phase-out period.

A.3 Characteristics of pin on blade and pin on arm types — Types D1 and D2

A.3.1 Type D1 (pin on blade)

See figure A.5.

Dimensions in millimetres

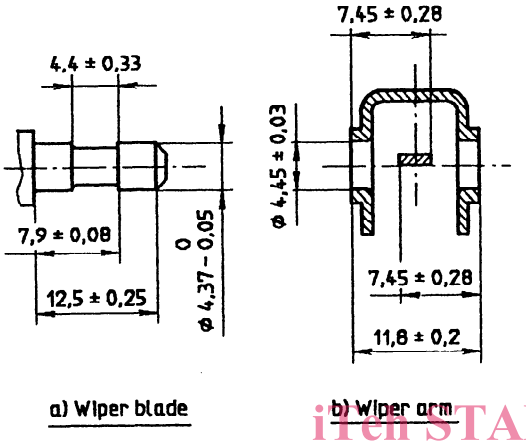


Figure A.5

A.3.2 Type D2 (pin on arm)

See figure A.6.

Dimensions in millimetres

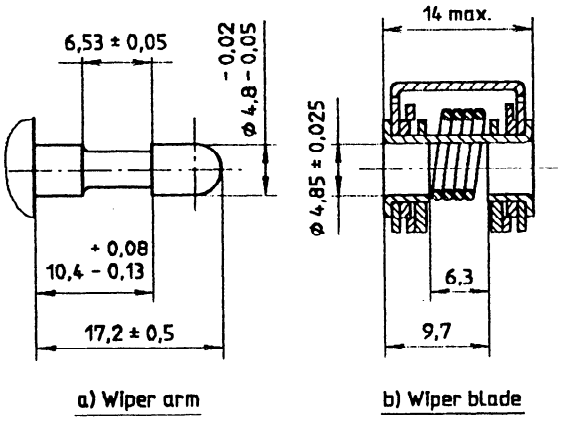


Figure A.6

A.4 Characteristics of twin screw types — Types E1 and E2

A.4.1 Type E1

See figure A.7.

Dimensions in millimetres

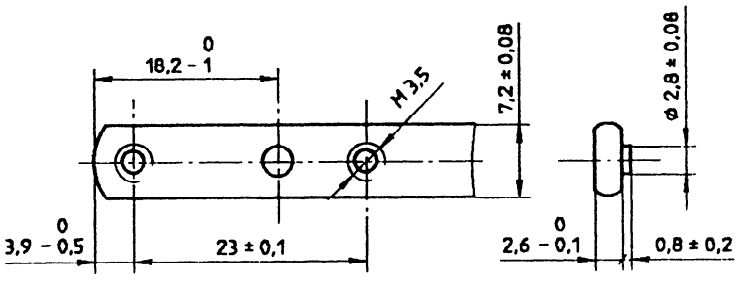


Figure A.7

A.4.2 Type E2

See figure A.8.

Dimensions in millimetres

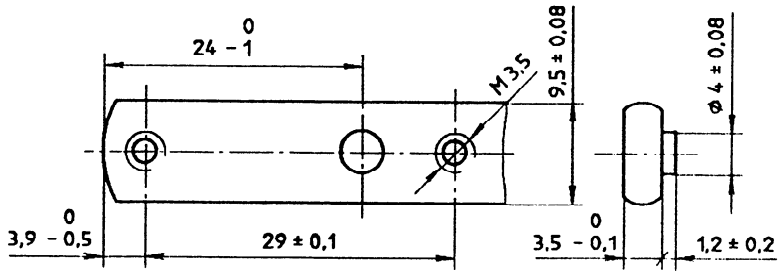


Figure A.8