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# JIS

## JAPANESE INDUSTRIAL STANDARD

# Flexible Metal Conduits

## JIS C 8309—1977

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JAPANESE INDUSTRIAL STANDARD J I S

# Flexible Metal Conduits

C 8309-1977
(Reaffirmed: 1983)

## 1. Scope

This Japanese Industrial Standard specifies flexible metal conduits, hereinafter referred to as the "flexible conduits", to be used for protecting wires in electrical wiring.

Remark: The units and numerical values given in { } in this standard are in accordance with the International System of Units (SI) and are appended for reference.

## 2. Classification

The flexible conduits are classified into the following 4 classes:

(1) Class 1 flexible metal conduit, hereinafter referred to as the "Class 1 flexible conduit".

(2) Class 1 PVC covered flexible metal conduit, hereinafter referred to as the "Class 1 PVC covered flexible conduit".

(3) Class 2 flexible metal conduit, hereinafter referred to as the "Class 2 flexible conduit".

(4) Class 2 PVC covered flexible metal conduit, hereinafter referred to as the "Class 2 PVC covered flexible conduit".

## 3. Performances

The performances of flexible conduits shall meet the performances given in Table 1 when the tests of 7. are carried out.

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Applicable Standards:

JIS C 2315-Vulcanized Fibre Sheet

JIS G 3141-Cold Rolled Carbon Steel Sheets and Strip

JIS H 0401-Methods of Test for Zinc Coating (Hot-Dipped) on Iron or Steel

JIS H 4000-Aluminium and Aluminium Alloy Sheets and Plates, Strip and Coiled Sheets

JIS K 6723-Plasticized Polyvinyl Chloride Compounds

JIS Z 2371-Methods of Salt Spray Testing

Table 1

| Item | Performance | Applicable clause for test method |
|---|---|---|
| Corrosion-proof | (1) No end point is reached.<br>(2) No iron rust nor blister appears. | 7.2 (1)<br>7.2 (2) 7.2 (3) |
| Tension | No opening appears at any part. | 7.3 |
| Compression | Diameter shall not increase or decrease by 30 % or more from the diameter before compression. | 7.4 |
| Electrical resistance | (1) Shall not exceed 0.02 Ω before the test of 7.6.<br>(2) Shall not exceed 0.03 Ω after the test of 7.6. | 7.5 |
| Bending | No crack nor breakage appears at any part. | 7.6 |
| Waterproof | (1) No remarkable expansion nor peel-off of fiber appears.<br>(2) No ingress of water in flexible conduit. | 7.7 (1)<br>7.7 (2) |
| Cold bend | No crack nor breakage of PVC appears. | 7.8 |
| Hot bend | No crack nor breakage of PVC appears. | 7.9 |
| Flame retardance | Flame shall go out naturally. | 7.10 |

## 4. Construction

4.1 Inside Surface of Flexible Conduit The inside surface of flexible conduit shall be smooth through its length, and be free from detrimental defects which damage covering of wire.

4.2 Winding of Strip

4.2.1 Class 1 Flexible Conduit The Class 1 flexible conduit shall be wound with a uniform pitch as illustrated in Fig. 1, and if splices are made in the strip they shall be perfectly welded and shall not remarkably increase the thickness or outside diameter of the flexible conduit or lessen the mechanical strength.

Fig. 1