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JIS C 8461-22 : 2005
(IEIEJ/JSA)

**Conduit systems for cable
management—Part 22 : Particular
requirements—Pliable conduit
systems**

ICS 29.120.10

Reference number : JIS C 8461-22 : 2005 (E)

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Foreword

This translation has been made based on the original Japanese Industrial Standard established by the Minister of Economy, Trade and Industry through deliberations at the Japanese Industrial Standards Committee according to the proposal of establishing a Japanese Industrial Standard submitted by The Institute of Electrical Installation Engineers of Japan (IEIEJ)/Japanese Standards Association (JSA) with the draft being attached, based on the provision of Article 12 Clause 1 of the Industrial Standardization Law.

Consequently **JIS C 8461-2-2** : 1999 is withdrawn and replaced with this Standard.

This Standard has been made based on **IEC 61386-22** : 2002 *Conduit systems for cable management—Part 22 : Particular requirements—Pliable conduit systems* for the purposes of making it easier to compare this Standard with International Standard; to prepare Japanese Industrial Standard conforming with International Standard; and to propose a draft of an International Standard which is based on Japanese Industrial Standard.

Attention is drawn to the possibility that some parts of this Standard may conflict with a patent right, application for a patent after opening to the public, utility model right or application for registration of utility model after opening to the public which have technical properties. The relevant Minister and the Japanese Industrial Standards Committee are not responsible for identifying the patent right, application for a patent after opening to the public, utility model right or application for registration of utility model after opening to the public which have the said technical properties.

JIS 8461 consists of the following 4 parts under the general title “*Conduit systems for cable management*”:

Part 1 : General requirements

Part 21 : Particular requirements—Rigid conduit systems

Part 22 : Particular requirements—Pliable conduit systems

Part 23 : Particular requirements—Flexible conduit systems

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

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Conduit systems for cable management— Part 22 : Particular requirements— Pliable conduit systems

Introduction This Japanese Industrial Standard has been prepared based on **IEC 61386-22** *Conduit systems for cable management—Part 22 : Particular requirements—Pliable conduit systems* published in 2002 as the first edition with some modifications of the technical contents, and shall be referred to along with **JIS C 8461-1** : 2005 *Conduit systems—Part 1 : General requirements*.

The portions underlined with dots are the matters in which the contents of the original International Standard have been modified. A list of modifications with the explanations is given in annex 1 (informative).

1 Scope The scope of this part of **JIS C 8461** includes the scope of **JIS C 8461-1** : 2005 (hereafter referred to as “part 1”) and the following.

This part of **JIS C 8461** specifies the particular requirements for pliable conduit systems including self-recovering conduit systems.

Remarks 1 Following **JIS** products come within the scope of this Standard.

JIS C 8309 Pliable metal conduits

JIS C 8350 Fittings for pliable metal conduits

JIS C 8411 Pliable plastics conduits

JIS C 8412 Fittings for pliable plastics conduits

2 The International Standard corresponding to this part of **JIS C 8461** is as follows.

In addition, symbols which denote the degree of correspondence in the contents between the relevant International Standard and **JIS** are IDT (identical), MOD (modified), and NEQ (not equivalent) according to **ISO/IEC Guide 21**.

IEC 61386-22:2002 *Conduit systems for cable management—Part 22 : Particular requirements—Pliable conduit systems*
(MOD)

2 Normative references Clause 2 of part 1 and the following apply.

JIS C 8305 : 1999 Rigid steel conduits

JIS C 8309 : 1999 Pliable metal conduits

JIS C 8350 : 1999 Fittings for pliable metal conduits

JIS C 8411 : 1999 Pliable plastics conduits

JIS C 8412 : 1999 Fittings for pliable plastics conduits

JIS C 8463 : 1999 Conduits for electrical purposes—Outside diameters of conduits for electrical installations and threads for conduits and fittings

3 Definitions For the purpose of this Standard, the definitions in clause **3** of part 1 apply.

4 General requirements Clause **4** of part 1 applies.

5 General conditions for tests Clause **5** of part 1 applies.

6 Classification Clause **6** of part 1 applies. However, 1 of **6.1.1**, 1 of **6.1.2**, 1 of **6.1.3**, 4 of **6.1.3**, 1 of **6.1.4** and 1 of **6.1.5** of part 1 do not apply.

Information : Pliable conduit systems according to 2 of **6.1.1** and 2 of **6.1.2** and classification 1X from **6.2.1**, table 1 are not allowed in France.

7 Marking and documentation Clause **7** of part 1 and the following apply.

7.1.101 The conduit shall be marked in accordance with **7.1** along its entire length at regular intervals of preferably 1 m but not longer than 3 m. Where this is technically impractical, the mark shall be on a label attached to the product at each end or on the packaging.

Compliance is checked by inspection.

7.1.102 The manufacturer shall document for the system the minimum inside diameter and the classification in accordance with clause **6**.

Compliance is checked by inspection.

8 Dimensions Clause **8** of part 1 shall be replaced as follows:

8.1 Threads shall comply with JIS C 8463 for metric conduits and with annex of JIS C 8305 for other conduits.

Outside diameters of non-metallic conduit shall comply with JIS C 8463 or JIS C 8411.

Outside diameters of metallic conduits shall comply with JIS C 8463.

Outside diameters of composite conduits shall comply with JIS C 8463 or JIS C 8309.

However, in case the conduits are designed to be installed only with terminating conduit fittings having threads complying with JIS C 8463, outside diameters of metallic and composite conduits need not comply with JIS C 8463 or JIS C 8309.

Compliance of metric conduits is checked by means of the gauges specified in JIS C 8463.

8.2 Threadable conduits and threadable conduit fittings, except terminating conduit fittings, shall comply with table 101. Non-threadable conduit fittings, except fittings which are part of a conduit system declaring tensile strength, shall comply with table 102. The minimum inside diameter of the conduit system shall be as declared by the manufacturer.

Compliance is checked by measurement.

Table 101 Thread lengths

Metric conduit			Thick steel conduit		Thin steel conduit	
Designation of screw thread	External thread	Internal thread	Designation of screw thread	External thread	Designation of screw thread	External thread
M	Minimum length mm	Minimum length mm	CTG	Minimum length mm	CTC	Minimum length mm
6	5.5	6.5	—	—	—	—
8	6.5	7.5	—	—	—	—
10	8.5	9.5	—	—	—	—
12	10.5	11.5	—	—	—	—
16	12.5	13.5	—	—	—	—
20	14.0	15.0	16	16.0	19	12.0
25	17.0	18.0	22	19.0	25	15.0
32	19.0	20.0	28	22.0	31	17.0
40	19.0	20.0	36	25.0	39	19.0
50	19.0	20.0	42	25.0	51	22.0
63	19.0	20.0	54	28.0	63	25.0
75	19.0	20.0	70	32.0	75	28.0
—	19.0	20.0	82	36.0	—	—
—	19.0	20.0	92	36.0	—	—
—	19.0	20.0	104	39.0	—	—
Remarks: M: Metric screw thread CTG: Thick steel conduit screw thread CTC: Thin steel conduit screw thread						

Table 102 Maximum entry diameter and minimum entry length details

Conduit type and designation						Maximum entry diameter mm						Minimum entry length mm
Metric conduit	Thick steel conduit	Thin steel conduit	Non-threadable conduit	Pliable plastics conduit	CD conduit	Metric conduit	Thick steel conduit	Thin steel conduit	Non-threadable conduit	Pliable plastics conduit	CD conduit	
6	—	—	—	—	—	6.5	—	—	—	—	—	6.0
8	—	—	—	—	—	8.5	—	—	—	—	—	8.0
10	—	—	—	—	—	10.5	—	—	—	—	—	10.0
12	—	—	—	—	—	12.5	—	—	—	—	—	12.0
16	—	—	—	14	14	16.5	—	—	—	22.5	20.0	16.0
20	G16	C19	E19	16	16	20.5	21.8	19.8	19.8	24.0	22.0	20.0
25	G22	C25	E25	22	22	25.5	27.3	26.1	26.1	31.8	28.8	25.0
32	G28	C31	E31	28	28	32.6	34.1	32.5	32.5	37.8	35.3	30.0
40	G36	C39	E39	36	36	40.7	42.7	38.8	38.8	46.8	43.3	32.0
50	G42	C51	E51	42	42	50.8	48.6	51.5	51.5	53.3	49.3	42.0
63	G54	C63	E63	54	54	63.9	60.4	64.4	64.3	65.8	61.3	50.0
75	G70	C75	E75	70	70	75.9	76.0	77.1	77.0	82.5	77.3	50.0
—	G82	—	—	82	82	—	88.7	—	—	96.2	90.3	50.0
—	G92	—	—	—	—	—	101.6	—	—	—	—	50.0
—	G104	—	—	—	—	—	114.3	—	—	—	—	50.0

9 Construction Clause 9 of part 1 applies.

10 Mechanical properties Clause 10 of part 1 and the following apply.

10.2 Compression test For self-recovering conduits, replace **10.2.4**, **10.2.5**, **10.2.6**, **10.2.7** and **10.2.8**, by the following.

10.2.101 The intermediate steel piece shall be subjected to a uniformly increasing compression force (N) reaching the force indicated in table 4 after (30 ± 3) s. The sample shall flatten by between 25 % and 50 % of its initial outside diameter.

If the sample flattens by less than 25 %, an additional test is carried out whereby the intermediate steel piece is lowered onto the sample at constant speed until the sample is flattened by (30 ± 3) % after (30 ± 3) s and the resultant force is measured.

A new sample is subjected to the uniformly increasing force (N) reaching the force measured above after (30 ± 3) s. The sample shall flatten by between 25 % and 50 % of its initial outside diameter.

The force and the intermediate steel piece shall then be removed. Fifteen minutes after removal, the outside diameter of the sample, where it has flattened, shall be measured again.

After the test, the difference between the initial outside diameter and the outside diameter of the flattened sample shall not exceed 10 % of the outside diameter,