SLOVENSKI STANDARD
SIST HD 489 S1:1999

01-julij-1999

Recommended dimensions for hexagonal and squre crimping-die cavities, identors, gauges, outer conductor crimp sleeves and centre contact crimp barrels for r. f. cables and connectors (IEC 60803:1984)

Recommended dimensions for hexagonal and square crimping-die cavities, identors, gauges, outer conductor crimp sleeves and centre contact crimp barrels for r.f. cables and connectors

Empfohlende Maße für sechseckige und quadratische Quetsch- und Kerbwerkzeuge, Lehren sowie Außenleiter- und Innenleiter-Quetschhülsen, für HF-Kabel und -Steckverbinder

Dimensions recommandées applicables aux mâchoires pour sertissage hexagonal et carré, mors, calibres, ferrules de sertissage pour conducteur extérieur et fûts à sertir pour contact central, destinés aux câbles et connecteurs pour fréquences radioélectriques

Ta slovenski standard je istoveten z: **HD 489 S1:1987**

ICS:

33.120.30	Radiofrekvenļ ni konektorji (RF)	R.F. connectors

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HD 489 S1

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RECOMMENDED DIMENSIONS FOR HEXAGONAL AND SQUARE CRIMPING-DIE CAVITIES, INDENTORS, GAUGES, OUTER CONDUCTOR CRIMP SLEEVES AND CENTRE CONTACT CRIMP BARRELS FOR R.F. CABLES AND CONNECTORS

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BODY OF THE HD

The Harmonization Document consists of:

- IEC 803 (1984) ed 1; IEC/SC 46D, not appended
- Endorsement Notice

This Harmonization Document was approved by CENELEC on 1987-03-05.

The English and French versions of this Harmonization Document are provided by the text of the IEC publication and the German version is the official translation of the IEC text. The German translation is not yet available.

According to the CENELEC Internal Regulations the CENELEC member National Committees are bound:

to announce the existence of this Harmonization Document at national level by or before 1987-09-15

to publish their new harmonized national standard by or before 1988-03-15

to withdraw all conflicting national standards by or before 1988-03-15.

Harmonized national standards are listed on the HD information sheet, which is available from the CENELEC National Committees or from the CENELEC Central Secretariat.

The CENELEC National Committees are the national electrotechnical committees of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxemburg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom.

ENDORSEMENT NOTICE
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IEC 803 (1984) first edition was ratified by the 51st Technical Board on 5 March 1987.

A typographical error has been noticed in Table AI on page 29 of IEC 803 :

In the fourth column "outer conductor" the dimension for die size H (first column) should read "8,4", not "0,40"

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

RECOMMENDED DIMENSIONS FOR HEXAGONAL AND SQUARE CRIMPING-DIE CAVITIES, INDENTORS, GAUGES, OUTER CONDUCTOR CRIMP SLEEVES AND CENTRE CONTACT CRIMP BARRELS FOR R.F. CABLES AND CONNECTORS

FOREWORD

1) The formal decisions or agreements of the I E C on technical matters, prepared by Technical Committees on which all the National Committees having a special interest therein are represented, express, as nearly as possible, an international consensus of opinion on the subjects dealt with.

2) They have the form of recommendations for international use and they are accepted by the National Committees in that sense.

3) In order to promote international unification, the I E C expresses the wish that all National Committees should adopt the text of the I E C recommendation for their national rules in so far as national conditions will permit. Any divergence between the I E C recommendation and the corresponding national rules should, as far as possible, be clearly indicated in the latter.

PREFACE

This standard has been prepared by Sub-Committee 46D: Connectors for R.F. Cables, of I E C Technical Committee No. 46: Cables, Wires and Waveguides for Telecommunication Equipment.

The text of this standard is based upon the following documents:

Six Months' Rule	Report on Voting
46D(CO)76	46D(CO)87

Further information can be found in the Report on Voting indicated in the table above.

The following publication is quoted in this standard:

Publication No. 96-2 (1961): Radio-frequency Cables, Part 2: Relevant Cable Specifications.

RECOMMENDED DIMENSIONS FOR HEXAGONAL AND SQUARE CRIMPING-DIE CAVITIES, INDENTORS, GAUGES, OUTER CONDUCTOR CRIMP SLEEVES AND CENTRE CONTACT CRIMP BARRELS FOR R.F. CABLES AND CONNECTORS

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1. Scope

This standard is applicable to r.f. cables and connectors.

It relates to the recommended dimensions for hexagonal and square crimping-die cavities, indentors, gauges, outer conductor crimp sleeves and centre contact crimp barrels.

SECTION ONE — DIMENSIONS OF DIE CAVITIES, GAUGES, CRIMP SLEEVES AND BARRELS

2. Object

Section One defines the dimensions of ranges of hexagonal dies for the crimp connection of inner and outer conductors of r.f. cables and connectors, together with details of square dies for alternative crimping of the inner conductor contacts.

It also includes the details for gauging the dies both for control during manufacture and in operational use.

The nine outer conductor hexagonal crimp die sizes standardized in the United States of America (where they are designated I-IX) are included. However, two additional die sizes have been included to complete the range and, to avoid misunderstandings, letter die sizes have been given to all eleven outer conductor die sizes covered by this standard.

Recommendations are included for the appropriate die sizes for cables covered by I E C Publication 96-2: Radio-frequency Cables, Part 2: Relevant Cable Specifications, and for the centre contacts of commonly used connector types, together with any limitations in the use of hexagonal centre conductor crimping where these are known to exist.

3. Dimensions des mâchoires

3.1 *Dimensions de l'empreinte pour conducteur extérieur* (dimensions originales en inches)

3. Die cavity dimensions

3.1 *Outer conductor crimp die dimensions* (inch dimensions are original)

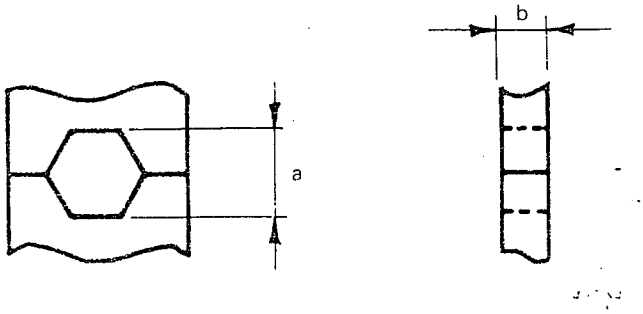

FIG. 1. — Dimensions des mâchoires pour conducteur extérieur (voir notes sous le tableau II).
Outer conductor crimp die dimensions (for notes, see below Table II).

TABLEAU I
TABLE I

Désignation des mâchoires Die designation	Dimension	mm		inch	
		Max.	Min.	Max.	Min.
A	a	2,74	2,59	0,108	0,102
	b	8,51	7,90	0,335	0,311
B	a	3,33	3,18	0,131	0,125
	b	8,51	7,90	0,335	0,311
C [1]	a	4,60	4,45	0,181	0,175
	b	8,10	7,90	0,319	0,311
[C]	a	4,60	4,45	0,181	0,175
	b	10,41	9,91	0,410	0,390
D [1]	a	5,49	5,33	0,216	0,210
	b	8,10	7,90	0,319	0,311
[D]	a	5,49	5,33	0,216	0,210
	b	10,41	9,91	0,410	0,390
E [1]	a	6,55	6,40	0,258	0,252
	b	8,10	7,90	0,319	0,311
[E]	a	6,55	6,40	0,258	0,252
	b	10,41	9,91	0,410	0,390
F	a	7,09	6,93	0,279	0,273
	b	10,41	9,91	0,410	0,390
G	a	8,31	8,15	0,327	0,321
	b	10,41	9,91	0,410	0,390
H	a	9,83	9,68	0,387	0,381
	b	10,41	9,91	0,410	0,390
I	a	10,97	10,82	0,432	0,426
	b	10,41	9,91	0,410	0,390
J	a	12,34	12,19	0,486	0,480
	b	10,41	9,91	0,410	0,390
K	a	13,59	13,44	0,535	0,529
	b	10,41	9,91	0,410	0,390

Voir notes sous le tableau II. For notes, see below Table II.

3.2 *Sertissage du conducteur central*

3.2.1 *Dimensions de la mâchoire pour sertissage hexagonal* (dimensions originales en inches)

3.2 *Centre conductor crimping*

3.2.1 *Hexagonal crimp die dimensions* (inch dimensions are original)

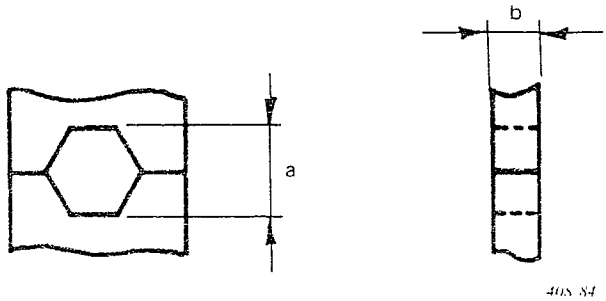

FIG. 2. — Dimensions des mâchoires pour sertissage hexagonal (voir notes sous le tableau II).
Hexagonal crimp die dimensions (for notes, see below Table II).

TABLEAU II
TABLE II

Désignation des mâchoires Die designation	Dimension	mm		inch	
		Max.	Min.	Max.	Min.
V	a	1,51	1,41	0.0594	0.0555
	b	3,10	2,90	0.122	0,114
W	a	1,74	1,64	0.0685	0,0646
	b	2,59	2,39	0,102	0,094
X	a	1,80	1,65	0.071	0,065
	b	2,62	2,11	0.103	0,083
Y	a	2,18	2,08	0.086	0,082
	b	2,59	2,39	0.102	0,094
Z[1]	a	2,62	2,46	0.103	0,097
	b	2,39	2,18	0.094	0,086
[Z]	a	2,62	2,46	0,103	0,097]
	b	3,30	2,79	0,130	0,110]

Notes 1. — Les tolérances choisies pour la fabrication des mâchoires peuvent être plus serrées que celles qui sont indiquées dans les tableaux I, II et III.

2. — Les dimensions a concernent toutes les cotes sur plats et sont vérifiées par calibre en contrôle de fabrication et avant l'expédition lorsque les mâchoires sont placées sur des supports de référence simulant la fixation dans un outil de sertissage.

Notes 1. — Limits chosen for die manufacture may be closer than those indicated in Tables I, II and III.

2. — Dimensions a apply to all across flats dimensions and are gauged for the control and inspection of dies during manufacture and before despatch whilst dies are located in reference jigs simulating location in crimping tool.

3. — Dimension a = Planéité inférieure à 8 µm; état de surface = poli.
4. — [+] signifie détails préférentiels.
[ ] signifie détails non-préférentiels.
5. — Les dimensions «entre coins» peuvent être dérivées de:

$$\frac{\text{cotes sur plats}}{0{,}866}$$

6. — Les détails du sertissage hexagonal du conducteur central du tableau II peuvent donner des performances non satisfaisantes avec un câble équipé de conducteurs intérieurs faits avec un matériau plus dur que le cuivre, par exemple acier recouvert de cuivre (voir câbles marqués [1] dans les tableaux AI-AVII).

3. — Dimension a = Flatness to be within 8 µm; surface texture = polished.
4. — [+] indicates preferred details.
[ ] indicates non-preferred details.
5. — The "across corners" dimensions may be derived from:

$$\frac{\text{across flats dimensions}}{0.866}$$

6. — The hexagonal centre conductor crimp details in Table II may not provide reliable performance with cable inner conductors made of materials harder than copper — e.g. copper-covered steel (see cables marked [1] in Tables AI-AVII).

3.2.2 *Dimensions des mâchoires pour sertissage carré* (dimensions métriques originales)

3.2.2 *Square crimp die dimensions* (metric dimensions are original)

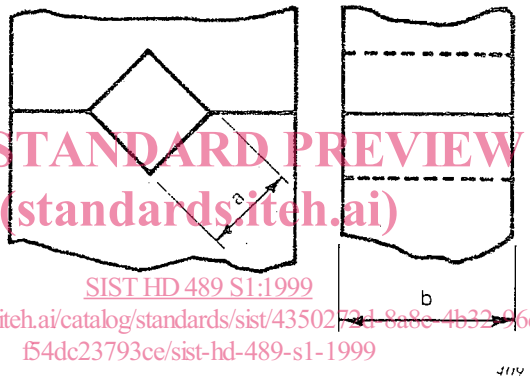

FIG. 3. — Dimensions des mâchoires pour sertissage carré (voir notes sous le tableau II — note 5 non applicable).
Square crimp die dimensions (for notes, see below Table II — Note 5 not applicable).

TABLEAU III
TABLE III

Désignation des mâchoires Die designation	Dimension	mm		inch	
		Max.	Min.	Max.	Min
1	a	0,75	0,70	0.0295	0.0276
	b	1,25	1,15	0.0492	0.0453
2	a	1,60	1,55	0.0630	0.0610
	b	2,55	2,35	0,1004	0,0925
3	a	2,40	2,35	0.0945	0.0925
	b	3,55	3,35	0,1398	0,1319

4. Vérification des mâchoires par des calibres

L'utilisation directe de calibres «entre» et «n'entre pas» est une méthode simple et peu coûteuse permettant de vérifier par des calibres que les dimensions des mâchoires sont dans les tolérances indiquées.

4.1 *Vérification des mâchoires par des calibres*

La vérification des dimensions hexagonales et carrées est faite obligatoirement sur des mâchoires complètes (paire).

Les mâchoires doivent être alignées et leurs faces mises en contact lors du contrôle afin de pouvoir mesurer toutes les cotes sur plats.

En cours de fabrication, les mâchoires peuvent être mesurées en les montant sur un calibre de référence simulant leur position dans un outil de sertissage en position fermée. Lorsque des mâchoires satisfont au contrôle par des calibres, elles doivent impérativement être conservées toujours complètes.

Lorsque les empreintes sont ensuite montées dans la pince à sertir, le contrôle doit être fait avec la pince en position complètement fermée.

Les calibres doivent avoir la forme indiquée à la figure 4, page 12.

4. Gauging of die cavities

Direct use of "go" and "not go" gauges provides a simple and inexpensive method of gauging that the die cavities are within the indicated limits.

4.1 *Gauging of die cavities*

Gauging of hexagon and square die cavities shall be carried out on pairs of dies.

The die cavities shall be aligned and the die faces pressed together while making the inspection which shall involve all opposing flat surfaces.

During manufacture the dies may be gauged whilst mounted in reference jigs simulating the location in the crimp tool when in the closed position. After meeting the gauging requirements the dies shall be kept strictly in unique pairs at all times.

When mounted subsequently in the crimping tool the inspection shall be made with the tool in the fully closed position.

The gauge shall be of the form shown in Figure 4, page 12.