

Specification for

Helical-scan video tape cassette system using 12,65 mm (0,5 in) magnetic tape on type VHS — Compact VHS video cassette

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National foreword

This British Standard has been prepared under the direction of the Electronic Equipment Standards Policy Committee and is the English language version of EN 61077 “*Helical-scan video tape cassette system using 12,65 mm (0,5 in) magnetic tape on type VHS — Compact VHS video cassette*”, published by the European Committee for Electrotechnical Standardization (CENELEC). It was derived by CENELEC from IEC 1077:1991 published by the International Electrotechnical Commission (IEC).

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Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, the EN title page, pages 2 to 20, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

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English version

Helical-scan video tape cassette system
using 12,65 mm (0,5 in) magnetic tape on type VHS —
Compact VHS video cassette

(IEC 1077:1991)

Système de magnétoscope à cassette de
balayage hélicoidal utilisant la bande
magnétique de 12,65 mm (0,5 in)
(format VHS) — Cassette vidéo compacte de
format VHS
(CEI 1077:1991)

Video-Bandkassettensystem mit
Schrägsपुरaufzeichnung auf
Magnetband 12,65 mm (0,5 in) VHS-Format —
Kompakte Videokassette
(IEC 1077:1991)

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CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

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Foreword

The text of document 60B(CO)125, as prepared by Sub-Committee 60B: Video recording, of IEC Technical Committee No. 60: Recording, was submitted to the IEC-CENELEC parallel vote in January 1991.

The reference document was approved by CENELEC as EN 61077 on 23 September 1991.

The following dates were fixed:

- latest date of publication of an identical national standard (dop) 1992-10-15
- latest date of withdrawal of conflicting national standards (dow) 1992-10-15

For products which have complied with the relevant national standard before 92-10-15, as shown by the manufacturer or by a certification body, this previous standard may continue to apply for production until 97-10-15.

Annexes designated “normative” are part of the body of the standard. In this standard, Annex ZA is normative.

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1 Scope

This International Standard defines the mechanical parameters and characteristics of the compact VHS video cassette.

With the aid of a compact VHS cassette adaptor (an example of which is illustrated in Annex B), the compact video cassette may also be used in the same manner as a normal VHS video cassette for recording and/or reproducing video signals in accordance with the system defined in IEC 774.

2 Normative references

The following standard contains provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the edition indicated was valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent edition of the standard indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

IEC 774:1983, *Helican-scan video tape cassette system using 12,65 mm (0,5 in) magnetic tape on type VHS*.

3 Mechanical parameters of the compact VHS video cassette

3.1 Dimensions of the compact VHS video cassette

The dimensions of the compact video cassette shall be in accordance with Figure 1 to Figure 6.

The cassette dimensions are given for two types of front covers, with and without a front cover locking-structure.

3.2 Front cover

3.2.1 Front cover with a locking-structure

The front cover with a locking-structure is shown in Figure 7.

With this type of cassette, a permanent spring force is used to keep the front cover shut.

The forces F_1 and F_2 necessary to open the front cover with the lock released, as defined in note 1 of Figure 7, shall be as follows:

$$0,1 \text{ N} \leq F_1 \leq 0,25 \text{ N}$$

$$0,05 \text{ N} \leq F_2 \leq 0,2 \text{ N}$$

Even when the front cover is locked, it shall be forcibly released with a force F_3 of less than 0,8 N applied to the unlocking position, as indicated in note 3 of Figure 7.

The unlocking pin shall be pushed to the unlocking position indicated in note 4 of Figure 7 with a force F_4 of less than 0,8 N.

The unlocking pin shall be pushed to the surface of the cassette side wall with a force F_5 less than 3 N (see note 6 of Figure 7).

3.2.2 Front cover without a locking-structure

The front cover without a locking-structure is shown in Figure 8.

The front cover has two stable positions: completely closed and completely open.

The front cover shall open or close by itself when it is within an angle of 20° of its completely open or completely closed position as indicated in note 1 of Figure 8.

The forces F_1 and F_2 necessary to open and close the front cover as shown in Figure 8 shall be as follows:

$$0,05 \text{ N} \leq F_1 \leq 0,2 \text{ N}$$

$$0,05 \text{ N} \leq F_2 \leq 0,2 \text{ N}$$

3.3 Reel dimensions and brake force

The dimensions of the reel shall be in accordance with Figure 9 and Figure 10.

The tape shall be pulled out with the following forces, as shown in note 3 of Figure 9 and note 2 of Figure 10, with the brake engaged:

$$\text{Supply reel: } 0,4 \text{ N} \leq F \leq 1,5 \text{ N}$$

$$\text{Take-up reel: } 0,05 \text{ N} \leq F \leq 3 \text{ N}$$

3.4 Tape winding and tape path

The tape winding and tape path shall be in accordance with Figure 11.

3.5 E-value

The E-values l_1 and l_2 are shown in notes 1 and 2 of Figure 11 and shall each be greater than 0,7 mm.

NOTE The E-value is the radial clearance between the outer edge of the wound tape and the edge of the reel flange.

3.6 Guide rollers

Guide rollers, shall be provided as shown in Figure 11.

The inclination of all rollers shall be within 0,1 mm.

3.7 Reel spring force

The reels in the cassette, as shown in note 4 of Figure 12, shall be pushed down by a reel spring with the following forces:

$$\text{— supply reel: } 1,6 \pm 0,4 \text{ N;}$$

$$\text{— take-up reel: } 0,7 \begin{smallmatrix} +0,3 \\ -0,2 \end{smallmatrix} \text{ N.}$$

3.8 Positioning screw of take-up reel

The deviation of the centre of the positioning screw head shall be less than 0,05 mm from the take-up reel axis (see Figure 12).

4 Dimensions and characteristics of the video tape

4.1 Magnetic tape thickness

For the thickness of the magnetic tape, including the coating, see Annex A.

4.2 Magnetic tape width

For the width of the magnetic tape, **10.2** of IEC 774 shall apply.

4.3 Magnetic tape length

For the length of the tape, see Annex A.

4.4 Magnetic tape properties

For the properties of the magnetic tape, clause **11** of IEC 774 shall apply.

5 Leader tape and trailer tape

5.1 Light transmittance

The light transmittance of the leader and trailer tape shall be at least 70 % in order to ensure that the automatic stopping device of the machine functions properly at both ends of the magnetic tape.

5.2 Dimensions of the leader and trailer tape

The leader and trailer tape length shall be 80 ± 5 mm and 110 ± 5 mm, respectively.

The leader and trailer tape thickness shall be 20^{+2}_{-6} μ m and the width shall be $12,65 \pm 0,03$ mm.

5.3 Splicing

The splice and the attachment of the leader and trailer tape to the hub shall be capable of resisting a force of 30 N. The splicing gap shall be less than 0,07 mm.

6 Amount of tape remaining

The window and the upper flange of the supply reel shall be transparent to indicate the amount of tape remaining.