



SLOVENSKI STANDARD
oSIST prEN IEC 60704-2-9:2023
01-november-2023

Gospodinjski in podobni električni aparati - Postopek preskušanja za ugotavljanje zvočnega hrupa v zraku - 2-9. del: Posebne zahteve za električne aparate za nego las

Household and similar electrical appliances - Test code for the determination of airborne acoustical noise - Part 2-9: Particular requirements for electric hair care appliances

Elektrische Geräte für den Hausgebrauch und ähnliche Zwecke - Prüfvorschrift für die Bestimmung der Luftschallemission - Teil 2-9: Besondere Anforderungen an Haarpfleegeräte

Appareils électrodomestiques et analogues - Code d'essai pour la détermination du bruit aérien - Partie 2-9: Règles particulières pour les appareils électriques destinés aux soins des cheveux

Ta slovenski standard je istoveten z: prEN IEC 60704-2-9:2023

ICS:

17.140.20	Emisija hrupa naprav in opreme	Noise emitted by machines and equipment
97.170	Oprema za nego telesa	Body care equipment

oSIST prEN IEC 60704-2-9:2023 **en**



59L/239/CDV

COMMITTEE DRAFT FOR VOTE (CDV)

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IEC SC 59L : SMALL HOUSEHOLD APPLIANCES	
SECRETARIAT: Italy	SECRETARY: Mr Davide Pietrosemoli
OF INTEREST TO THE FOLLOWING COMMITTEES:	PROPOSED HORIZONTAL STANDARD: <input type="checkbox"/> Other TC/SCs are requested to indicate their interest, if any, in this CDV to the secretary.
FUNCTIONS CONCERNED: <input type="checkbox"/> EMC <input checked="" type="checkbox"/> ENVIRONMENT <input type="checkbox"/> QUALITY ASSURANCE <input type="checkbox"/> SAFETY	
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TITLE:

Household and similar electrical appliances - Test code for the determination of airborne acoustical noise - Part 2-9: Particular requirements for electric hair care appliances

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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**HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES –
TEST CODE FOR THE DETERMINATION OF
AIRBORNE ACOUSTICAL NOISE –**
Part 2-9: Particular requirements for electric hair care appliances**FOREWORD**

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International Standard IEC 60704-2-9 has been prepared by subcommittee 59L: small appliances, of IEC technical committee 59: Performance of household electrical appliances.

The text of this publication is based on the following documents:

FDIS	Report on Voting
59L/XXX/FDIS	59L/XXX/RVD

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with ISO/IEC Directives, Part 2.

IEC 60704 consists of the following parts, under the general title *Test code for the determination of airborne acoustical noise*:

Part 1: General requirements

Part 2: Particular requirements

Part 3: Procedure for determining and verifying declared noise emission values

This part 2-9 is intended to be used in conjunction with the fourth edition of IEC 60704-1:2021: *Household and similar electrical appliances – Test code for the determination of airborne acoustical noise – Part 1: General requirements*.

80 The relevant text of IEC 60704-1:2021 as amended by this standard establishes the test code
81 for electric hair care appliances.

82 This document supplements or modifies the corresponding clauses in IEC 60704-1:2021. When
83 a particular subclause of IEC 60704-1:2021 is not mentioned in this document, that subclause
84 applies as far as reasonable. Where this standard states "addition", "modification" or
85 "replacement", the relevant requirements, test specification or explanatory matter in IEC 60704-
86 1:2021 shall be adapted accordingly.

87 Subclauses or figures which are additional to those in IEC 60704-1:2021 are numbered starting
88 from 101. Additional annexes are lettered AA, BB, etc.

89 The committee has decided that the contents of this publication will remain unchanged until
90 XXXX. At this date, the publication will be

- 91 • reconfirmed;
- 92 • withdrawn;
- 93 • replaced by a revised edition, or
- 94 • amended.

95

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96

INTRODUCTION

97 The measuring conditions specified in this part 2-9 provide for sufficient accuracy in determining
98 the noise emitted and comparing the results of measurements taken by different laboratories,
99 whilst simulating as far as possible the practical use of hair care appliances.

100 It is recommended to consider the determination of noise levels as part of a comprehensive
101 testing procedure covering many aspects of the properties and performance of electric hair care
102 appliances.

103 NOTE As stated in the introduction to IEC 60704-1:2021, this test code is concerned with airborne noise only.

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106 **HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES –**
107 **TEST CODE FOR THE DETERMINATION OF**
108 **AIRBORNE ACOUSTICAL NOISE –**

109 **Part 2-9: Particular requirements for electric hair care appliances**
110
111
112
113

114 **1 Scope**

115 This clause of IEC 60704-1:2021 is applicable except as follows:

116 *Replacement:*

117 This part of IEC 60704 applies to electric hand-held hairdryers for household and similar use
118 supplied from mains, which operate with a flow of air.

119 These particular requirements can also be applied to analogous electrically operated devices
120 such as hairstyling appliances, which produce the airflow by a fan.

121 Helmet-type hairdryers are excluded from this standard.

122 This standard does not apply to hair care appliances with radiant heating

123 For determining and verifying noise emission values declared in product specifications, see
124 IEC 60704-3:2019.

125
126 **2 Normative references**

127 This clause of IEC 60704-1:2021 is applicable.

128 **3 Terms and definitions**

129 This clause of IEC 60704-1:2021 is applicable except as follows:

130 *Addition:*

131 **3.101**

132 **hand-held hairdryer**

133 hairdryer which is held by hand during normal permanent use

134 **3.102**

135 **hairstyling appliance**

136 appliance for styling and/or curling hairs

137 NOTE Hair styling appliances may comprise brushes and combs.

138 **3.103**

139 **helmet-type hairdryer**

140 hairdryer, in which the drying is performed under a rigid or flexible hood

141 **4 Measurement methods and acoustical environments**

142 This clause of IEC 60704-1:2021 is applicable except as follows:

143 **4.2 Direct method**

144 *Addition:*

145 NOTE If pure tone components are present in the noise emitted, proper precautions shall be taken as specified in
146 ISO 3743-2:2018.

147 4.3 Comparison method

148 *Addition:*

149 NOTE If pure tone components are present in the noise emitted, proper precautions shall be taken as specified in
150 ISO 3743-1:2010 and ISO 3743-2:2018.

151 4.4 Acoustical environments

152 4.4.1 General requirements and criterion for adequacy of the test environment

153 *Replacement:*

154 ISO 3743-1:2010, ISO 3743-2:2018 and ISO 3744:2010 can be used for measuring noise
155 emitted by electric hairdryers.

156 The method specified in ISO 3744:2010 is applicable to noise sources of any size (limited only
157 by available test environment). When applying ISO 3743-1:2010 and ISO 3743-2:2018, care
158 shall be taken that the maximum size of the electric hair care appliance under test fulfils the
159 requirements specified in 4.2 of ISO 3743-1:2010 and in Clause 5 of ISO 3743-2:2018.

160 4.5 Measurement uncertainties

161 4.5.2 Standard deviations on repeatability and reproducibility and standard 162 deviations related to declaration and verification

163 *Replacement:*

164 The estimated values of standard deviations of sound power levels, determined according to
165 this standard, are given in table 1:

166 **Table 1 – Standard deviations of sound power levels**

Standard deviation dB	
σ_r (repeatability)	σ_R (reproducibility)
0,4	0,8

167
168 For the purpose of determining and verifying declared noise emission values, according to
169 IEC 60704-3, the following values apply:

170 **Table 2 – Standard deviations for declaration and verification**

Standard deviation dB		
σ_P (production)	σ_t (total)	σ_M (reference)
0,5 – 1,3	0,9 – 1,5	1,5

172
173

174 5 Instrumentation

175 This clause of IEC 60704-1:2021 is applicable except as follows:

176 5.1 Instrumentation for measuring acoustical data

177 *Addition:*

178 Windscreens shall be used if necessary and then corrections for change in the microphones
179 sensitivity shall be added to the observed sound pressure levels.

180 **6 Operation and location of appliances under test**

181 **6.1 Equipping and pre-conditioning of appliances**

182 **6.1.1**

183 *Replacement:*

184 Appliances shall be equipped as for ordinary drying. They shall not be equipped with
185 attachments such as nozzles, concentrators, diffusers, brushes, combs etc. The air intake and
186 especially the inlet filter shall be clean and free of fluff and hairs.

187 **6.1.3**

188 *Replacement:*

189 Prior to noise measurements, the appliance equipped in accordance with 6.1.1 shall have been
190 run in for a total period of at least 5 min at the highest speed and temperature setting for normal
191 permanent use. A boost position, if any, shall not be used.

192 NOTE A boost position is a setting of a control for occasional use, which results in a higher temporary fan speed.

193 **6.1.4**

194 *Replacement:*

195 Immediately before each series of noise measurements, the appliance equipped in accordance
196 with 6.1.1, is operated for stabilizing at the highest speed and temperature setting for normal
197 permanent use for at least 2 min. A boost position, if any, shall not be used.

198 **6.2 Supply of electric energy and of water or gas**

199 **6.2.1**

200 *Modification:*

201 The voltage tolerance shall be $\pm 0,5$ %.

202 **6.2.2 to 6.2.4** Not applicable.

203 **6.4 Loading and operating of appliances during tests**

204 **6.4.2**

205 *Replacement:*

206 The appliance shall be equipped according to 6.1.1.

207 The noise emission values shall be determined at the highest speed setting of the fan and the
208 highest power setting of the heater for normal permanent use. Attachments shall be removed.

209 NOTE Other possible speed and power settings (e.g. boost position, cold position etc.) can be measured in addition.
210 Additional measurements with accessories may also be made.

211 The actual settings and configuration during the measurement shall be carefully recorded.

212 **6.4.3 and 6.4.4** Not applicable.

213 **6.5 Location and mounting of appliances**

214 **6.5.1**

215 *Addition:*

216 The outlet of the appliance shall be placed in a position which is appropriate for the practical
217 use. Care shall be taken to avoid restriction of the airflow of the hairdryer. This has to be
218 considered at the inlet, the outlet and through the appliance.

219 The appliance shall be placed so as to prevent additional structure-borne noise. No other pieces
220 than those delivered by the manufacturer shall be used

221

222