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ANNEX I

ESSENTIAL REQUIREMENTS

PRELIMINARY OBSERVATIONS:

1. The essential requirements laid down in this Regulation are compulsory.
2. The essential requirements are to be interpreted and applied in such a way as to take into account the state of the art and current practice at the time of design and manufacture as well as technical and economic considerations which are consistent with a high degree of energy efficiency and of health and safety protection.

1. GENERAL REQUIREMENTS

- 1.1. Appliances shall be so designed and constructed as to operate safely and present no danger to persons, domestic animals or property, when normally used.

Fittings shall be so designed and constructed as to fulfil correctly their intended purpose when incorporated into an appliance or assembled to constitute an appliance.

- 1.2. The manufacturer is under an obligation to analyse the risks in order to identify those which apply to his appliance or fitting. He shall then design and construct it taking into account its risk assessment.
- 1.3. In selecting the most appropriate solutions, the manufacturer shall apply the principles set out below, in the following order:
 - (a) eliminate or reduce risks as far as possible (inherently safe design and construction);
 - (b) take the necessary protection measures in relation to risks that cannot be eliminated;
 - (c) inform users of the residual risks due to any shortcomings of the protection measures adopted and indicate whether any particular precautions are required.
- 1.4. When designing and constructing the appliance, and when drafting the instructions, the manufacturer shall envisage not only the intended use of the appliance, but also the reasonably foreseeable uses.
- 1.5. All appliances shall:
 - (a) be accompanied by instructions for installation intended for the installer;
 - (b) be accompanied by instructions for use and servicing, intended for the user;
 - (c) bear appropriate warning notices, which shall also appear on the packaging.
- 1.6.1. The instructions for installation intended for the installer shall contain all the instructions for installation, adjustment and servicing required to ensure that those operations are correctly performed so that the appliance may be used safely.

The instructions for installation intended for the installer shall include also information on the technical specifications of the interface between the appliance and its installation environment allowing its correct connection to the gas supply network, the supply of auxiliary energy, the combustion air supply and the flue gas evacuation system.

- 1.6.2. The instructions for use and servicing intended for the user shall contain all the information required for safe use and in particular shall draw the user's attention to any restrictions on use.

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The manufacturers shall note in the instructions where additional care is needed or where it would be advisable that any of the above work be carried out by a professional. This shall be without prejudice to national requirements to that effect.

The manufacturer of the appliance shall include in the instructions accompanying the appliance all necessary information for adjustment, operation and maintenance of the fittings as part of the finished appliance, as appropriate.

- 1.6.3. The warning notices on the appliance and its packaging shall clearly state the type of gas to be used, the gas supply pressure, the appliance category and any restrictions on use, in particular the restriction whereby the appliance shall be installed only in areas where there is sufficient ventilation so as to ensure that the risks presented by it are minimised.
- 1.7. The instructions for incorporation of the fitting into an appliance or its assembly in order to constitute an appliance and for its adjustment, operation and maintenance shall be provided with the fittings concerned as part of the ^{F1}... declaration of conformity.

Textual Amendments

F1 Word in Annex 1 para. 1.7 omitted (31.12.2020) by virtue of [The Product Safety and Metrology etc. \(Amendment etc.\) \(EU Exit\) Regulations 2019 \(S.I. 2019/696\)](#), reg. 1, [Sch. 36 para. 2\(44\)\(a\)](#) (as amended by [S.I. 2020/676](#), regs. 1(1), 2); 2020 c. 1, Sch. 5 para. 1(1))

2. MATERIALS

Materials for appliances or fittings shall be appropriate for their intended purpose and shall withstand the mechanical, chemical and thermal conditions to which they will foreseeably be subjected.

3. DESIGN AND CONSTRUCTION

The obligations arising for appliances from the essential requirements set out in this point apply also to fittings, as far as relevant.

- 3.1. General
 - 3.1.1. Appliances shall be so designed and constructed that, when normally used, no instability, distortion, breakage or wear likely to impair their safety may occur.
 - 3.1.2. Condensation produced at the start-up and/or during use shall not affect the safety of appliances.
 - 3.1.3. Appliances shall be so designed and constructed as to minimise the risk of explosion in the event of a fire of external origin.
 - 3.1.4. Appliances shall be so designed and constructed that water and inappropriate air penetration into the gas circuit does not occur.
 - 3.1.5. In the event of a normal fluctuation of auxiliary energy, appliances shall continue to operate safely.
 - 3.1.6. Abnormal fluctuation or failure of auxiliary energy or its restoration shall not lead to an unsafe situation.
 - 3.1.7. Appliances shall be so designed and constructed as to obviate any gas-related risks due to hazards of electrical origin. As far as relevant, the results of the conformity

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assessment in relation to the safety requirements of [^{F2}the Radio Equipment Regulations 2017] or the safety objectives of [^{F3}the Electrical Equipment (Safety) Regulations 2016] shall be taken into account.

Textual Amendments

- F2** Words in Annex 1 para. 3.1.7 substituted (31.12.2020) by [The Product Safety and Metrology etc. \(Amendment etc.\) \(EU Exit\) Regulations 2019 \(S.I. 2019/696\)](#), reg. 1, **Sch. 36 para. 2(44)(b)(i)** (as amended by [S.I. 2020/676](#), regs. 1(1), 2); 2020 c. 1, Sch. 5 para. 1(1)
- F3** Words in Annex 1 para. 3.1.7 substituted (31.12.2020) by [The Product Safety and Metrology etc. \(Amendment etc.\) \(EU Exit\) Regulations 2019 \(S.I. 2019/696\)](#), reg. 1, **Sch. 36 para. 2(44)(b)(ii)** (as amended by [S.I. 2020/676](#), regs. 1(1), 2); 2020 c. 1, Sch. 5 para. 1(1)

- 3.1.8. Appliances shall be so designed and constructed as to obviate any gas-related risks due to hazards originating from electromagnetic phenomena. As far as relevant, the results of the conformity assessment in relation to the electromagnetic compatibility requirements of [^{F4}the Radio Equipment Regulations 2017] or [^{F5}the Electromagnetic Compatibility Regulations 2016] shall be taken into account.

Textual Amendments

- F4** Words in Annex 1 para. 3.1.8 substituted (31.12.2020) by [The Product Safety and Metrology etc. \(Amendment etc.\) \(EU Exit\) Regulations 2019 \(S.I. 2019/696\)](#), reg. 1, **Sch. 36 para. 2(44)(c)(i)** (as amended by [S.I. 2020/676](#), regs. 1(1), 2); 2020 c. 1, Sch. 5 para. 1(1)
- F5** Words in Annex 1 para. 3.1.8 substituted (31.12.2020) by [The Product Safety and Metrology etc. \(Amendment etc.\) \(EU Exit\) Regulations 2019 \(S.I. 2019/696\)](#), reg. 1, **Sch. 36 para. 2(44)(c)(ii)** (as amended by [S.I. 2020/676](#), regs. 1(1), 2); 2020 c. 1, Sch. 5 para. 1(1)

- 3.1.9. All pressurised parts of an appliance shall withstand the mechanical and thermal stresses to which they are subjected without any deformation affecting safety.
- 3.1.10. Appliances shall be so designed and constructed that failure of a safety, controlling or regulating device may not lead to an unsafe situation.
- 3.1.11. If an appliance is equipped with safety and controlling devices, the functioning of the safety devices shall not be overruled by that of the controlling devices.
- 3.1.12. All parts of appliances which are set or adjusted at the stage of manufacture and which should not be manipulated by the user or the installer shall be appropriately protected.
- 3.1.13. Levers and other controlling and setting devices shall be clearly marked and give appropriate instructions so as to prevent any error in operation/use. Their design shall be such as to preclude accidental operation.
- 3.2. Unburned gas release
- 3.2.1. Appliances shall be so designed and constructed that the gas leakage rate is not dangerous.
- 3.2.2. Appliances shall be so designed and constructed that gas release at any state of operation is limited in order to avoid a dangerous accumulation of unburned gas in the appliance.

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3.2.3. Appliances intended to be used in indoor spaces and rooms shall be so designed and constructed as to prevent the release of unburned gas in all situations which could lead to a dangerous accumulation of unburned gas in such spaces and rooms.

3.2.4. Appliances designed and constructed to burn gas containing carbon monoxide or other toxic components shall not present a danger to the health of persons and domestic animals exposed.

3.3. Ignition

Appliances shall be so designed and constructed that, when normally used, ignition and re-ignition is smooth and cross-lighting is assured.

3.4. Combustion

3.4.1. Appliances shall be so designed and constructed that, when normally used, the combustion process is stable and combustion products do not contain unacceptable concentrations of substances harmful to health.

3.4.2. Appliances shall be so designed and constructed that, when normally used, there will be no accidental release of combustion products.

3.4.3. Appliances connected to a flue for the dispersal of combustion products shall be so designed and constructed that in abnormal draught conditions there is no release of combustion products in a dangerous quantity into the indoor spaces or rooms concerned.

3.4.4. Appliances shall be so designed and constructed that, when normally used, they do not cause a concentration of carbon monoxide or other substances harmful to health, such as they would be likely to present a danger to the health of persons and domestic animals exposed.

3.5. Rational use of energy

Appliances shall be so designed and constructed as to ensure rational use of energy, reflecting the state of the art and taking into account safety aspects.

3.6. Temperature

3.6.1. Parts of appliances which are intended to be installed or placed in close proximity to surfaces shall not reach temperatures which present a danger.

3.6.2. The surface temperature of parts of appliances intended to be handled during normal use shall not present a danger to the user.

3.6.3. The surface temperatures of external parts of appliances, with the exception of surfaces or parts which are associated with the transmission of heat, shall not under operating conditions present a danger to the health and safety of persons exposed and in particular to children and elderly people, for whom an appropriate reaction time shall be taken into account.

3.7. Contact with food and water intended for human consumption

Without prejudice to Regulations (EC) No 1935/2004⁽¹⁾ and (EU) No 305/2011⁽²⁾ of the European Parliament and of the Council, materials and parts used in the construction of an appliance which may come into contact with food or water intended for human consumption

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as defined in Article 2 of Council Directive 98/83/EC⁽³⁾, shall not impair quality of the food or water.

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- (1) Regulation (EC) No 1935/2004 of the European Parliament and of the Council of 27 October 2004 on materials and articles intended to come into contact with food and repealing Directives 80/590/EEC and 89/109/EEC ([OJ L 338, 13.11.2004, p. 4](#)).
- (2) Regulation (EU) No 305/2011 of the European Parliament and of the Council of 9 March 2011 laying down harmonised conditions for the marketing of construction products and repealing Council Directive 89/106/EEC ([OJ L 88, 4.4.2011, p. 5](#)).
- (3) Council Directive 98/83/EC of 3 November 1998 on the quality of water intended for human consumption ([OJ L 330, 5.12.1998, p. 32](#)).

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