

**Gas Appliances Directive - Advisory Committee**  
**Comité Consultatif de la Directive Appareils a Gaz**

**FOR ACTION**

**CONCERNING: New requirements for gas appliances that are intended to be connected to the Dutch Natural gas grid as of 1-1-2017 (revision 1)**

**Item: 4a**

Dear Wolter,

The previous version of this document contained some typo's. Please distribute this improved version (rev1) in GADAC

Kind regards,

Mindert

**New requirements for gas appliances that are intended to be connected to the Dutch Natural gas grid as of 1-1-2017 (Rev1)**

- 1) As announced in 2013 in document “GAD-AC N460E information appl. cat. for group K.doc”, there will be a new appliance category in the Netherlands.**

**In short:**

- a) The Dutch Ministry has stated in a letter to the House of Representatives of the States General (12<sup>th</sup> of March 2012, reference ETM/EM 12003092) for which gas composition the gas appliances which are permitted in the Netherlands shall be suitable.
- b) Appliances shall have a high calorific value setting which corresponds with the appliance category ‘I<sub>2E</sub>’ as defined in NEN-EN 437:2003+A 1 :2009. The Dutch Ministry will (possibly) decide later which distribution gases can be used safely. For the low calorific distribution gas (the so called K-gas) which will be distributed in the distant future no appliance category is specified. Only a distribution specification is specified. Manufacturers are responsible for the safe operation of gas appliances with these distribution gases.
- c) This implies that the distribution specification which is established by the Dutch Ministry must be considered as the formal specification of the “normal variation in the gas quality and normal fluctuation in the supply pressure” as intended in art. 1.3 sub b of the Directive 2009/142/EC of the European Parliament and of the Council of 30th November 2009 relating to appliances burning gaseous fuels (GAD).
- d) Herewith the Netherlands take a different approach than most other member states, who use gas appliance categories as a mean of communication for the appropriateness of a gas appliance for the nationally normally distributed gas qualities.
- e) The Dutch Ministry has indicated that it has the intention to use the letter to the House of Representatives of the States General as a basis for a communication in the sense of art. 2(2) of Directive 2009/142/EC (GAD).
- f) Several parties in the Netherlands developed a technical standardization agreement (NTA 8837:2012) specifying what they consider to be acceptable test gases for the appliance category I<sub>2K</sub>. The NTA 8837:2012 is in English and available with NEN.

- 2) In 2016 document GAD-AC N507E “Update types of Gas.doc” indicated the publication of several new gas types in the OJ.**

**Summary**

The European Commission has recently published in the OJEU information about the changes in the types of gas and the corresponding supply pressures in the following countries:

- Sweden (OJ 2015/C 290/5)
- The Netherlands (OJ 2016/C 44/7)
- Denmark (OJ 2016/ C 94/6)

CEN/TC238 states in document (CENTC238 N299 ) that it has been requested by the European Commission to consider these changes in the future EN 437:2003+A1:2009 “Test gases - Test pressures - Appliance categories” revision. It further indicates that this information has been forwarded to the CEN/TC238/WG1 for consideration in the current revision work on the project.

CEN/TC238/WG1 members have received a first draft of a revision of EN 437:2003+A1:2009 for internal comments. This internal comment period closes on 9th May 2016. (see doc CEN TC238 WG1 N121 PR EN 437 03 2016)

The “Corrigendum to Types of gas and the corresponding supply pressures according to Article 2(2) of Directive 2009/142/EC of the European Parliament and of the Council relating to appliances burning gaseous fuels”; [Official Journal of the European Union C 30 of 27 January 2016](#) (2016/C 44/07) uses for “the low calorific distribution gas (the so called K-gas) which will be distributed in the distant future” the description “nameless specific group of low calorific gas”

- 3) **On May 10 2016 the Dutch decision gas appliances “Besluit van 10 mei 2016 tot wijziging van het Besluit gastoestellen en het Warenwetbesluit bestuurlijke boeten in verband met de veranderende samenstelling van gas in Nederland, alsmede technische wijziging van enige andere besluiten” , Staatsblad van het koninkrijk der Nederlanden 2016; Nr 217 was published.**

#### **Content in summary**

- a) As of 1-1-2017 it is forbidden to offer for sale gas appliances that are intended to be connected to the Dutch Natural gas grid and that are not proven suitable for H gas and G+ gas, nor proven suitable for G+ gas and proven adaptable for H gas.
- b) As of 1-1-2017 the gas appliance must have an indelible indication of its suitability for G+ gas and H gas.
- c) As of 1-1-2017 the indication for G+ gas is  $I_{2(43.46-45.3 \text{ MJ} / \text{m}^3 (0^\circ \text{C}))}$  and for gas-H:  $I_{2E}$ .

#### **Observations:**

- a) “The low calorific distribution gas (the so called K-gas) which will be distributed in the distant future” is in this decision indicated by “G+ gas”.
- b) The decision does not use the appliance category “ $I_{2EK}$ ” as an indication that the appliance “is proven suitable for H gas and G+ gas or proven suitable for G+ gas and proven adaptable for H gas”, as suggested in the NTA 8837:2012 and the draft amendment of the EN437. Both the commission and France objected to the use of “ $I_{2EK}$ ”, as the version of the EN 437 published in the OJ does not contain this appliance category.
- c) The appliances are to be indicated by “ $I_{2(43.46-45.3 \text{ MJ} / \text{m}^3 (0^\circ \text{C}))}$ ” “and “ $I_{2E}$ ”

#### **Further observations:**

Some appliance manufacturers consider the use of a new indicator “ $I_{2(43.46-45.3 \text{ MJ} / \text{m}^3 (0^\circ \text{C}))}$ ” “as of 1-1-2017 instead of “ $I_{2EK}$ ” confusing:

- a) Some seem to choose to continue to use the marking “ $I_{2EK}$ ” and not using “ $I_{2(43.46-45.3 \text{ MJ} / \text{m}^3 (0^\circ \text{C}))}$ ”.
- b) Others seem to mention both. They will indicate the following appliance categories :  $I_{2L}$ ,  $I_{2EK}$ ,  $I_{2E}$ ,  $I_{2K}$ ,  $I_{2(43.46-45.3 \text{ MJ} / \text{m}^3 (0^\circ \text{C}))}$ .
- c) Others seem to mention only the new indicator name “ $I_{2(43.46-45.3 \text{ MJ} / \text{m}^3 (0^\circ \text{C}))}$ ” “ and the existing “ $I_{2E}$ ”.

## Annex summarizing the Dutch national situation:

Many appliance categories in EN 437 are defined by the test gases and test pressures. However some nationally defined gas categories are defined by the national gas distribution specification. The national distribution specifications that define the new Dutch gas group are indicated in the Table below.

ID	parameter	specification
A	Country	NL
B	Local name(s) of the distribution gas	G+ ("Groningen Plus" or "distant future low calorific gas" or <b>(the so called K-gas)</b> )
C	Related appliance category	$I_{2K}$ (up till 1-1-2017); $I_2$ (43,46 - 45,3 MJ / m <sup>3</sup> (0° C)) ( after 1-1-2017)
D	Date of publication of the specification.	12-3- 2012
E	Expected date the distribution will start	after 2022
F	Date new appliance must be suitable for this gas	1-1-2017
1	Wobbe index Gross, dry, at 0 °C <sup>a)</sup>	43,46 – 45,3 MJ/m <sup>3</sup>
2	Higher hydrocarbons content	0 – 8,1 % propane equivalent <sup>c)</sup>
3	Methane number(according to AVL List 3.2)	> 70 MN and >71 MN if there is hydrogen in the gas
4	Sulphur content	Peak value: < 30 mg/m <sup>3</sup> (before odourisation) Annual average: < 12 mg/m <sup>3</sup> (after odourisation)
5	Delivery pressure on 25 mbar connections <sup>d)</sup>	23,7 – 30 mbar
6	H <sub>2</sub> content	< 0,5 % (molar) <sup>b)</sup>
7	O <sub>2</sub> content	< 0,5 % (molar) RTL < 5ppm (molar) HTL
8	CO <sub>2</sub> content	< 10,5 % (molar)
9	Relative density (compared to air	< 0,8
10	Speed of change of the methane number and Wobbe index	Instantaneous
11	Maximum H <sub>2</sub> O dew point at supply pressure .	15 °C

<sup>a)</sup> The limits exclude the measuring accuracy of GTS's mixing stations, as also already specified in art. 5.2 of the current "Meetvoorwaarden Gas-LNB" (National Grid Operator gas measurement terms). The control inaccuracy of the mixing stations means that gas may be delivered slightly above the limit of 45,3 or below the limit of 43,46 for the Wobbe index part of the time.

<sup>b)</sup> The passage about the hydrogen (H<sub>2</sub>) content in the future gas composition explains how a higher hydrogen content could be desirable for renewable energy, but because of uncertainty about this the maximum content is still being set at 0,5 %. The 10 % limit is explained by the Ministry of Economics, Agriculture and Innovation as a requirement for short term operation under laboratory test conditions. This is reflected by the overheat and light back limit gases with a hydrogen content of 10 %.

<sup>c)</sup> The propane equivalent is defined as: parameter to express the amount of higher hydrocarbons in gas. Hydrocarbons in the gas being conveyed, other than methane and propane, are expressed as an equivalent amount of methane (ME) and propane (PE) which has the same ideal volume and the same average number of hydrogen and carbon atoms per molecule as the said hydrocarbons.

<sup>d)</sup> the pressure at the delivery point, that is at the entry of the gas meter...