

AR 206
May 2019

Approval requirement 206

Corrugated metal hoses



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Foreword

This GASTEC QA Approval requirement has been approved by the Board of Experts product certification GASTEC QA, in which relevant parties in the field of gas related products are represented. This Board of Experts supervises the certification activities and where necessary require the GASTEC QA Approval requirement to be revised. All references to Board of Experts in this GASTEC QA Approval requirement pertain to the above mentioned Board of Experts.

This GASTEC QA Approval requirement will be used by Kiwa Nederland BV in conjunction with the GASTEC QA general requirements and the KIWA regulations for certification.

Approved by Board of Experts : May 20th 2019

Accepted by Kiwa Nederland B.V. : May 20th 2019

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1 Introduction

1.1 General

This GASTEC QA approval requirement in combination with the GASTEC QA general requirements include all relevant requirements, which are adhered by Kiwa as the basis for the issue and maintenance of a GASTEC QA certificate for corrugated metal hoses.

This GASTEC QA Approval requirements replace the GASTEC QA Approval Requirements 206, for corrugated safety metal hose assemblies for the connection of domestic movable or fixed appliances inside buildings using gaseous fuels, dated July 2013.

List of changes:

- Update to the new format for GASTEC QA approval requirements.
- Editorial changes, requirements already mentioned in the EN 14800 have been removed. Text has been rearranged.
- Article 3.2.2 figure 1 has been added, reference to NEN standards has been removed.
- Article 3.2.4 has been added.
- Article 2.3 (Functional requirements) has been removed.
- Chapter 5, GASTEC QA marking is no longer required on a metallic part.
- Chapter 6, test matrix has been updated.

Products that have been certified against the July 2013 version of this approval requirement do not require a re-evaluation.

1.2 Scope

These approval requirements apply to corrugated metal hoses suitable for the connection of domestic movable or fixed appliances inside buildings according to NPR 3378-11. The corrugated safety metal hose assemblies shall be used for 1st, 2nd and 3rd family gasses according to EN 437, with a maximum operating pressure up to and including 0,5 bar.

2 Definitions

In this approval requirement, the following terms and definitions are applicable:

Board of Experts: The Board of Experts Gastec QA.

3 Product Requirements

3.1 General

The product shall comply with the requirements as specified in EN 14800 “Corrugated safety metal hose assemblies for the connection to domestic appliance using gaseous fuels”. Supplementary to EN 14800 the following requirements shall be met:

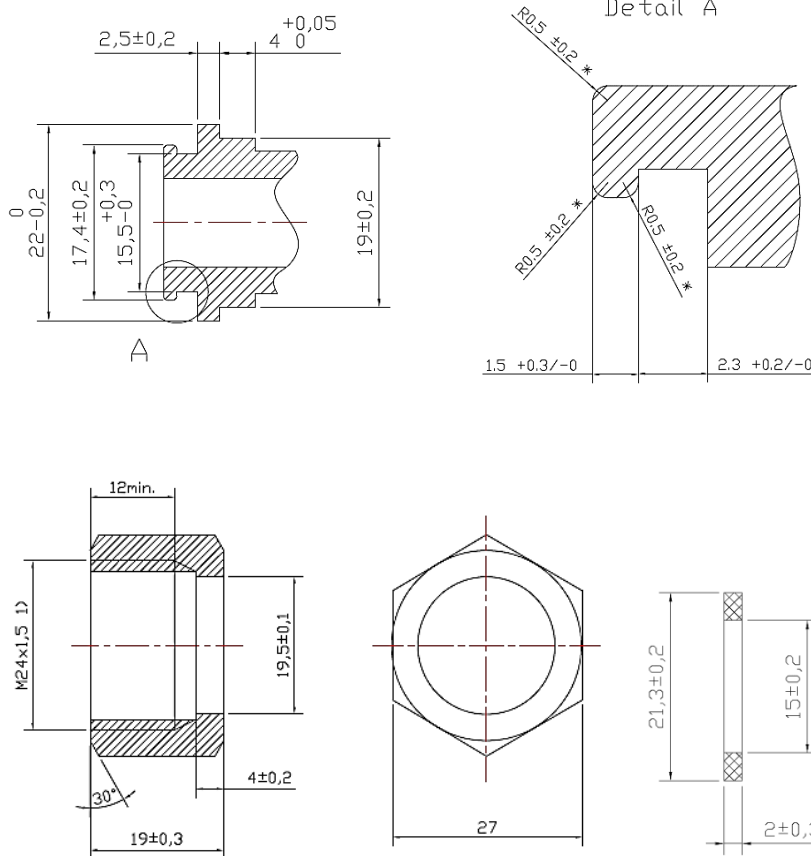
3.2 Construction

3.2.1 Swivel/ rotary joint

The corrugated metal hose (CMG hose) assemblies shall be provided with one or on both side(s) a swivel/ rotary joint, as described in paragraph 3.16 of the EN 14800.

3.2.2 Hose fitting design requirements

The CMG hose shall be provided with at least one fitting according to figure 1.



The other fitting shall comply with the relevant GASTEC QA approval requirements or, when no GASTEC QA requirements are available with the relevant national or international standards.

When fittings are provided with a hexagonal nut, the wide of the across flats of the nut shall be according to ISO 4032.

3.2.3 Rubber seals

Rubber seals shall comply with EN 549, minimum temperature class according to EN 549 shall be A2.

3.2.4 Length

The length of the CMG hose shall be between 200 mm and 600 mm (+ 20 mm).
Lengths up to 2 meter are allowed with an additional remark on the packaging or instructions.

4 Performance requirements

4.1 General

Supplementary to EN 14800 chapter 5 “performance requirements and tests” the following requirement shall be met:

4.2 Torsion resistance including swivel/ rotary joint

The Torsion Resistance test, as described in paragraph 5.16 of the EN 14800, shall be performed with the swivel/ rotary joint in both the locked and unlocked position.

5 Marking and instructions

Supplementary to that stated in EN 14800 chapter ZA 3. the following shall be met:

5.1 Marking

The product shall be marked with the following:

- The GASTEC QA word mark or logo shall be marked on the product.
- The year of manufacture shall be permanently marked on the CMG hose assembly.

The marking shall be permanent, clearly and indelibly. The method of marking shall not damage or corrode in any way the corrugated hose and the fitting.

5.2 Instructions

The installation instructions shall be provided in the Dutch language. On or inside the packaging the following text shall be provided in the Dutch language;

- Prevent all kind of damages during installation (Dutch: Voorkom iedere beschadiging tijdens montagewerkzaamheden)
- Make sure the hose is not twisted after installation (Dutch: Zorg er voor dat de leiding niet wordt gewrongen)
- The hose shall be installed without narrow bendings (Dutch: Leg de leiding zodanig dat er geen scherpe knikken ontstaan)

6 Quality system requirements

The supplier shall make a risk assessment of the product and production process according to chapter 3.1.1.1 and 3.1.2.1 of the GASTEC QA general requirements. The risk assessments shall be available to Kiwa for review.

7 Summary of tests

This chapter contains a summary of tests to be carried out during:

- The initial product assessment;
- The periodic product verification;

7.1 Test matrix

Description of requirement	Clause EN 14800	Test within the scope of		
		Initial product assessment	Product verification	
			Verification	Frequency
Construction requirements	4			
General	4.1	X		
Nominal size	4.2	X		
Materials	4.3	X		
Requirements for the connection between hose and fittings	4.4	X		
End fittings design requirements	4.5	X		
CMG hose assembly lengths	4.6	X	X	1x/ year
Corrosion requirements	4.7	X		
Insulation requirements	4.8	X		
Electric conductivity requirements	4.9	X		
Hygiene	4.10	X		
Cover materials	4.11	X		
Dangerous substances	4.12	X		
Performance requirements and tests	5			
Leak tightness	5.3.	X	X	1x/ year
Structural strength	5.4	X	X	1x/ year
Flow rate	5.5	X		
Electric continuity	5.6	X		
Tension	5.7	X		
Durability of marking	5.8	X		
Working temperature	5.9	X		
Corrosion resistance	5.10	X		
Reaction to fire	5.11	X		
Resistance to high temperature	5.12	X		
Suppleness	5.13	X		
Bending performance	5.14	X		
Flexing resistance	5.15	X		
Torsion resistance	5.16	X		
Impact / crushing resistance	5.17	X		
Penetration resistance	5.18	X		
End fittings	5.19	X		
Evaluation of conformity	6			
Installation instruction	6.4	X		
Packaging	6.5	X		
GASTEC QA approval requirement 206				
Swivel/ rotary joint	3.2.1	X		
Hose fitting design requirements	3.2.2	X	X	1x/ year
Rubber seals	3.2.3	X		
Length	3.2.4	X	X	1x/ year
Torsion resistance including swivel/ rotary joint	4.2	X	X	1x/ year
Marking and instructions	5	X	X	1x/ year

8 List of referenced documents and source

8.1 Standards / normative documents

All normative references in this Approval Requirement refer to the editions of the standards as mentioned in the list below.

EN 14800: 2007	General requirements for corrugated safety metal hose assemblies for the connection of domestic appliance using gaseous fuels
ISO 4032: 2013	Hexagon regular nuts (style 1) – product grades A and B
EN 549: 1995	Rubber materials for seals and diaphragms for gas appliances and gas equipment
NPR 3378-11: 2007	Code of practice gas installations – section gas pipe work- Part 11: connecting pipe work and taps