

**AR 43**

November 2023

Dutch version

# Approval requirement 43

Rubber hose with reinforcements



**Trust  
Quality  
Progress**

# Foreword

This GASTEC QA approval requirement (Dutch version) 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 (Dutch version) will be used by Kiwa Nederland BV in conjunction with the GASTEC QA general requirements and the KIWA regulations for certification.

This approval requirement is a translation from the Dutch validated version and can only be used as a supporting document.

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The use of this approval requirement by third parties, for any purpose whatsoever, is only allowed after a written agreement is made with Kiwa to this end

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# 1 Introduction

## 1.1 General

This GASTEC QA approval requirement in combination with GASTEC QA general requirements are used by Kiwa Nederland B.V. As the basis for the issue and maintenance of the GASTEC QA product certificate for rubber hoses with reinforcement.

This GASTEC QA approval requirement replace GASTEC QA approval requirement 43 for Rubber hose with reinforcement, from September 2018.

List of changes:

- Textual revision
- Update list of referenced documents

The product requirements remain unchanged compared to the previous version of this approval requirement.

## 1.2 Scope

This approval requirement describes the requirements for the hoses used in natural gas systems with a working pressure less than 5 kPa (50 mbar).

## 2 Definitions

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

**Board of Experts:** the Board of Experts Gastec QA.

**Natural gas:** 2nd family gas in accordance with EN 437.

## 3 Product requirements

### 3.1 General

The product shall meet the requirements of NEN 3277 for “Rubber hose with reinforcement for natural gas with a working pressure less than 5 kPa (50 mbar)”.

## 4 Marking

### 4.1 Marking

In addition to the marking, as described in NEN 3277, the rubber hose shall be marked with GASTEC QA word mark, GASTEC QA logo or punch mark.

## 5 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.



## 6 Summary of tests

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

- The initial product assessment.
- The periodic product verification.

### 6.1 Test matrix

Description of requirement	Clause (NEN 3277)	Test within the scope of		
		Initial product assessment	Product verification	
			Verification	Frequency
Dimensions	3	X		
Composition	4	X		
Appearance	5	X	X	Once a year
Rubber inner layer				
Tensile strength	6.1	X		
Elongation at break	6.1	X	X	Once a year
Durability	6.1	X		
Rubber outer layer				
Tensile strength	6.2	X		
Elongation at break	6.2	X	X	Once a year
Durability	6.2	X		
Resistance against ozone	6.2	X		
Entire Hose				
Adhesiveness between layers	6.3	X	X	Once a year
Gas density	6.3	X	X	Once a year
Odour permeability	6.3	X		
Resistance against fire	6.3	X		
Resistance against bending	6.3	X	X	Once a year
Resistance to pressing	6.3	X		
Suppleness	6.3	X		
Marking	7	X		
Additional GASTEC QA requirement				
Marking	AR 43: CH.4	X	X	Once a year

# 7 List of referenced documents and source

## 7.1 Standards / normative documents

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

NEN 3277: 1976

Rubber hose with reinforcement for natural gas with a working pressure less than 5 kPa (50 mbar)

EN 437: 2021

Test gases- test pressure – appliance categories