

AR 10

May 2022

validated Dutch version

Approval requirement 10

Pipes of high-impact polyvinylchloride (PVC-HI)



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Foreword

This GASTEC QA (Dutch version) 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 (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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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 pipes of high-impact polyvinylchloride (PVC-HI).

This GASTEC QA approval requirement replace the GASTEC QA approval requirements 10, "pipes of high-impact polyvinylchloride (PVC-HI)", dated February 2018.

List of changes:

- Bibliography is updated with the latest version of the relevant standards applicable to this approval requirement

The requirements for the product have not changed compared to the previous version of this approval requirement.

1.2 Scope

This approval requirement describes the requirements for pipes made of high-impact polyvinylchloride (PVC-HI) intended for underground gas distribution of natural gas with a maximum operating pressure of 200 mbar.

2 Definitions

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

Board of Experts: The Board of Experts Gastec QA.

Maximum operating pressure: maximum pressure that a component is capable of withstanding continuously in service under normal operating conditions.

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

3 Product requirements

3.1 General

The product shall meet the requirements of NEN 7230: Kunststofleidingssystemen voor gasvoorziening- buizen van slagvast polyvinylchloride (slagvast PVC) – eisen en beproevingsmethoden.

4 Marking

4.1 Marking

In addition to the marking as described in NEN 7230, the pipes shall be marked with GASTEC QA or the GASTEC QA logo.

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 7230)	Test within the scope of		
		Initial product assessment	Product verification	
			Verification	Frequency
Product requirements	4			
Appearance and finish of the pipes	4.1	X		
Material of the pipes	4.2			
General	4.2.1	X		
Colour	4.2.2	X		
Long-term strength	4.2.3	X		
Vicat softening temperature	4.2.4	X	X	Each year
Resistance to dichloromethane	4.2.5	X		
k-value	4.2.6	X		
Initial E-modulus	4.2.7	X		
Pollution	4.2.8	X		
UV-stability	4.2.9	X		
Resistance to gas	4.2.10	x		
Dimensions and admissible dimensional deviations of the pipes	4.3	X	X	Each year
Functional requirements	5			
Influence of heating	5.1	X	X	Each year
Hydrostatic strength	5.2	X	X	Each year
Resistance against impact	5.3	X	X	Each year
Resistance to flattening	5.4	X		
Marking	7	X	X	Each year
Additional GASTEC QA requirement				
Marking	AR 10: ch.4	X	X	Each 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.

EN 437: 2021	Test gases- test pressure – appliance categories
NEN 7230: 2020	Plastics piping systems for gas supply - Pipes of high-impact poly(vinyl chloride) (PVC-HI) - Requirements and test methods