

Version
January 2027

English translation

Approval requirement 10

Pipes of high-impact polyvinylchloride
(PVC-HI)



creating
trust
***driving
progress***

GASTEC



kiwa

Preface Kiwa

This, translated from Dutch, approval requirement (AR), is approved by the Board of Experts (BoE) 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, translated from Dutch, AR will be used by Kiwa Nederland BV in conjunction with the GASTEC QA general requirements and the KIWA regulations for certification.

Kiwa has a method which is established in the certification procedure for the execution of:

- The investigation for provisioning and maintaining a GASTEC QA product certificate based on this AR.
- The periodic evaluations of the certified products for the purpose of maintaining a provided GASTEC QA product certificate based on this AR.

This AR, translated from Dutch, is used as supporting document. In case of doubt of interpretation of this AR, the Dutch version is leading.

Kiwa Nederland B.V.

Sir Winston Churchilllaan 273
P.O. Box 70
2288 EA Rijswijk

Telephone: +31 (0)88 998 44 00
nl.kiwa.info@kiwa.com
www.kiwa.com

Content

Preface Kiwa	2
Content	3
1. Introduction	4
1.1. General	4
1.2. Scope	4
2. Definitions	5
3. Material and product requirements	6
3.1. General	6
4. Marking	7
4.1. Marking	7
5. Quality system requirements	8
6. Summary of evaluation	9
6.1. Evaluation matrix	9
7. List of referenced documents and source	10
7.1. Standards/ normative documents	10
7.2. Source of informative documents	10

1. Introduction

1.1. General

This GASTEC QA approval requirement (AR) in combination with the GASTEC QA general requirements, is applied by Kiwa as the basis for the issuing and maintaining the GASTEC QA product certificate for pipes of high-impact polyvinylchloride (PVC-HI).

With this product certificate, the certificate holder can demonstrate to his or her customers that an expert independent organization monitors the production process of the certificate holder, the quality of the product and the related quality assurance.

Next to the requirements established in this AR and the general requirements, Kiwa has additional requirements in the sense of general procedural requirements for certification, as laid down in the internal certification procedures.

This GASTEC QA approval requirement replaces the version of May 2022.

List of changes:

- The approval requirement is fully textually reviewed
- The list of reference standards has been updated

The product requirements have not changed.

1.2. Scope

This approval requirement is applicable 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 definitions are applicable:

Board of Experts (BoE): The Board of Experts GASTEC QA.

Maximum operating pressure (MOP): 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

See also the definitions mentioned in the GASTEC QA general requirements.

DRAFT

3. Material and product requirements

This chapter contains the material and product requirements that the raw materials, materials and products used shall meet.

3.1. General

The PVC pipes shall meet the requirements of NEN 7230: Plastics piping systems for gas supply - Pipes of high-impact polyvinyl chloride (PVC-HI) - Requirements and test methods.

DRAFT

4. Marking

4.1. Marking

In addition to the marking as described in NEN 7230, the pipes shall be marked with:

- GASTEC QA, GASTEC QA logo or punchmark

DRAFT

5. Quality system requirements

The requirements for the quality system are described in the GASTEC QA general requirements. An important part of this are the requirements for drawing up a risk analysis (e.g., an FMEA) of the product design and the production process in accordance with chapters 3.1.1.1 and 3.1.2.1. This risk analysis shall be available for inspection by Kiwa.

DRAFT

6. Summary of evaluation

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

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

6.1. Evaluation matrix

Description of requirement	Clause (NEN 7230)	Investigation within the scope of		
		Initial product assessment	Product verification	
			Inspection	Frequency
Product requirements	4			
Appearance and finish of the pipes	4.1	X	X	Annually
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	Annually
Degree of gelation	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	Annually
Functional requirements	5			
Influence of heating	5.1	X	X	Annually
Hydrostatic strength	5.2	X	X	Annually
Resistance against impact	5.3	X	X	Annually
Resistance to flattening	5.4	X		
Marking	7	X	X	Annually
Additional GASTEC QA requirement				
Marking	AR 10: ch.4	X	X	Annually

7. List of referenced documents and source

7.1. Standards/ normative documents

All references in this GASTEC QA Approval Requirement refer to the version of the relevant document specified in the list below

Number	Title	Version *
NEN 7230	Plastics piping systems for gas supply - Pipes of high-impact poly(vinyl chloride) (PVC-HI) - Requirements and test methods	2020

*) If no date of issuance is specified in this column, the current version of the document applies.

7.2. Source of informative documents

Number	Title	Version *
EN 437	Test gases- test pressure – appliance categories	2021

General requirements GASTEC QA

*) If no date of issuance is specified in this column, the current version of the document applies.