

Version
June 2026

English version

Approval requirement 8

Polyethylene pipes for carrying gaseous fuels



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Preface Kiwa

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

In this AR is established which requirements a product and the requestor/ certificate holder of the GASTEC QA product certificate should meet and the matter to which Kiwa evaluates this.

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.

Approved by the Board of Experts: 05/06/2026

Accepted by Kiwa Nederland B.V.: 11/06/2026

Kiwa Nederland B.V.

Sir Winston Churchillaan 273

2288 EA Rijswijk

P.O. Box 70

Telephone: +31 (0)88 998 44 00

nl.kiwa.info@kiwa.com

www.kiwa.com

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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 polyethylene pipes for carrying gaseous fuels.

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 July 2022.

List of changes:

- The approval requirement has been brought in line with the version EN 1555-2: 2025.
- This approval requirement has been adapted to the new layout of GASTEC QA approval requirements.
- The approval requirement is fully textually reviewed

The product requirements have changed.

1.2. Scope

This approval requirement specifies the requirements for pipes made of polyethylene (PE) used in piping systems for the supply of gaseous fuels of the 2nd and 3rd family according to EN 437 with a maximum operation pressure (MOP) of up to and including 10 bar and an operating temperature of 20°C as reference temperature.

In EN 1555-2:2025 SDR 17,6 class is removed. As per country, still specifications for this class can be retained. In this approval requirement the requirements mentioned in EN 1555-2:2010 will be followed to certify PE pipes in SDR class 17,6.

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.

Operating temperature: Temperature or temperature range for which the product is designed to operate.

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

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 product shall comply with the requirements as specified in EN 1555-2: 2025 "Plastics piping systems for the supply of gaseous fuels – Polyethylene (PE) – Part 2: Pipes".

In addition to these requirements the below mentioned requirements shall be met.

3.2. SDR class 17.6 pipes

Contrary to EN 1555-2:2025 it is possible to certify pipes with class SDR 17,6. Pipes with class SDR 17,6 shall, for the geometrical characteristics comply with the requirements as specified in EN 1555-2: 2010, chapter 6.

3.3. Identification stripes

If identification stripes (on all SDR classes) are applied on a pipe, there shall be at least 4 stripes that are evenly distributed in the circumference. The depth of the stripe shall not exceed 25 % of e_{\min} with a maximum of 2 mm. At least half of the number of test bars required for determining the elongation at break, as specified in Table 4 of EN 1555-2: 2025, shall be chosen in such a way that the transition from colour to black material is present in the test bar, and that the centre of the colour stripe coincides with the centre of the test bar.

4. Marking

4.1. Marking

Supplementary to the required marking stated in EN 1555-2: 2025, clause 11, the polyethylene pipes shall be permanently marked with:

- GASTEC QA, GASTEC QA logo or punchmark

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.

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 EN 1555- 2:2025	Investigation within the scope of		
		Initial product assessment	Product verification	
			Inspection	Frequency
Material				
Compound	5.1	X		
Compound for identification stripes	5.2	X		
Identification stripes	AR 8: 3.2	X		
External reprocessable and recyclable material	5.3	X		
General Characteristics	6 (including all sub clauses)	X	X	1x/ year
Geometrical characteristics	7 (including all sub clauses)	X	X	1x/ year
Mechanical characteristics				
Hydrostatic strength 20 °C, 100 h	8.2	X		
Hydrostatic strength 80 °C, 165 h	8.2	X		
Hydrostatic strength 80 °C, 1000 h	8.2	X	X	1x/ year
Elongation at break	8.2	X	X	1x/ year
Resistance to slow crack PE80 and PE100 (NPT)	8.2	X		
Resistance to slow crack PE100RC (ANPT)	8.2	X		1x/ 2 years
Resistance to slow crack PE100RC (SHT)	8.2	X		1x/ 2 years
Resistance to slow crack PE100RC (CRB)	8.2	X		1x/ 2 years
Resistance to rapid crack propagation (RCP)	8.2	X		
Physical characteristics				
Oxidation induction time (thermal Stability)	9.2	X		
Melt mass-flow rate (MFR)	9.2	X	X	1x/ year
Longitudinal reversion	9.2	X	X	1x/ year
Carbon black dispersion	9.2	X		
Pigment dispersion	9.2	X		
Circumferential reversion of pipes with $d_n \geq 250$ mm	9.3	X	X	1x/ year
Performance requirements	10			
Marking	11	x	X	1x/ year
Additional marking GASTEC QA	AR 8: 4.1	X	X	1x/ year
Pipes with co-extruded layers				
General	A.1	X		
Material	A.2	X		

Description of requirement	Clause EN 1555- 2:2025	Investigation within the scope of		
		Initial product assessment	Product verification	
			Inspection	Frequency
Geometrical characteristics	A.3	X	X	1x/ year
Mechanical characteristics				
Resistance to slow crack	A.4	X		
Resistance to rapid crack propagation	A.4	X		
Physical characteristics				
Oxidation induction time (thermal Stability)	A.5	X		
Melt mass-flow rate (MFR)	A.5	X	X	1x/ year
Marking	A.6	X	X	1x/ year
Delamination	A.7	X	X	1x/ year
Integrity of the structure	A.8	X		
Pipes with peelable layer				
Geometrical characteristics	B.2	X	X	1x/ year
Mechanical characteristics	B.3	X		
Physical characteristics	B.4	X		
Melt mass-flow rate (MFR)	B.4	X	X	1x/ year
Oxidation induction time (thermal Stability)	B.4	X		
Coating adhesion	B.5	X		
Marking	B.6	X	X	1x/ year

7. List of referenced documents and source

7.1. Standards/ normative documents

Number	Title	Version *
EN 1555-2	Plastics piping systems for the supply of gaseous fuels - Polyethylene (PE) - Part 2: Pipes	2010
EN 1555-2	Plastics piping systems for the supply of gaseous fuels - Polyethylene (PE) - Part 2: Pipes	2025

*) 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.