

**AR 50**  
May 2019

# Approval requirement 50

External PE coating of steel pipes and fittings for buried pipelines



**Trust  
Quality  
Progress**

# 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 20<sup>th</sup> 2019

Accepted by Kiwa Nederland B.V. : May 20<sup>th</sup> 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 external PE coating of steel pipes and fittings for buried pipelines.

This GASTEC QA Approval requirements replace the GASTEC QA Approval Requirements 50 "External PE coating of steel pipes and fittings for buried pipelines" from January 2012.

List of changes:

- Update to the new format for GASTEC QA approval requirements
- These approval requirements have been fully reviewed textually.
- All general requirements have been deleted and included in the GASTEC QA general requirements document
- Change of paragraphs

The product requirements have not changed.

## 1.2 Scope

This approval requirement specifies the requirements for the PE coating of steel pipes and fittings applied for the transport of gaseous fuels in accordance with the 2<sup>nd</sup> and 3<sup>rd</sup> family as per NEN-EN 437.

The specific functional requirements for application of the PE coating of steel pipes and fittings are described in national and international norms and/or regulations, e.g. the NEN-EN 12007, NEN 3650 and NEN 7244 series.

## 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 Requirements

The product shall comply with the requirements specified in NEN-EN 10288: “Steel tubes and fittings for onshore and offshore pipelines - External two layer extruded polyethylene based coatings”.

# 4 Marking

## 4.1 Marking

Additional to the markings as required per NEN-EN 10288, the steel pipes and fittings with PE coatings shall be durably marked with the GASTEC QA word mark or 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-EN 10288	Test within the scope of		
		Initial product assessment	Product verification	
			Verification	Frequency
Information supplied by purchaser	5	X	X	Once a year
Documentation	6	X		
Surface preparation	7.1	X		
Composition of the coating	7.2	X	X	Once a year
Appearance and continuity	8.2	X	X	Once a year
Thickness of the coating system	8.3	X	X	Once a year
Cut back	8.4	X	X	Once a year
Holiday detection	8.5	X	X	Once a year
Impact resistance	8.6	X	X	Once a year
Peel force	8.7	X	X	Once a year
Indentation resistance	8.8	X	X	Once a year
Electrical insulation resistance	8.9	X		
Elongation at break	8.10	X	X	Once a year
Resistance to ultraviolet irradiation	8.11	X		
Thermal stability	8.12	X		
Cathodic disbandment	8.13	X		
Flexibility	8.14	X		
Marking	11	X	X	Once a year
Handling, transport and storage	12	X	X	Once a year
<b>Additional GASTEC QA Approval Requirement:</b>				
Marking	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 1078:2004	Voorziening voor gas met een werkdruk tot en met 500 mbar - Prestatie-eisen – Nieuwbouw
NEN 3650	Eisen voor buisleidingsystemen
NEN 7244	Gasvoorzieningsystemen - Leidingen voor maximale druk tot en met 16 bar
NEN-EN 10288: 2002	Steel tubes and fittings for on-shore and offshore pipelines - External two layer extruded polyethylene based coatings
NEN-EN 12007	Gas supply systems - Pipelines for maximum operating pressure up to and including 16 bar