

AR 213

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Approval requirement 213

Transition fitting for flexible and bendable hose assemblies



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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 20th 2019

Accepted by Kiwa Nederland B.V. : May 20th 2019

Kiwa Nederland B.V.

Wilmersdorf 50
Postbus 137
7300 AC Apeldoorn

Tel. 088 998 33 93
Fax 088 998 34 94
info@kiwa.nl
www.kiwa.nl

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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 transition fitting for flexible and bendable hose assemblies.

1.2 Scope

This GASTEC QA approval requirement describes the requirements for transition fitting for flexible and bendable hose assemblies, according to NPR 3378-11, for gas appliances for natural gas with an operating pressure of maximum 200 mbar.

2 Definitions

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

Natural gas: 2nd family gas according to EN 437

Board of Experts: the GASTEC QA Board of Experts.

Flexible hose assembly: hose assembly according to GASTEC QA Approval Requirement 34

Bendable hose assembly: hose assembly according to GASTEC QA Approval Requirement 1

3 Product requirements

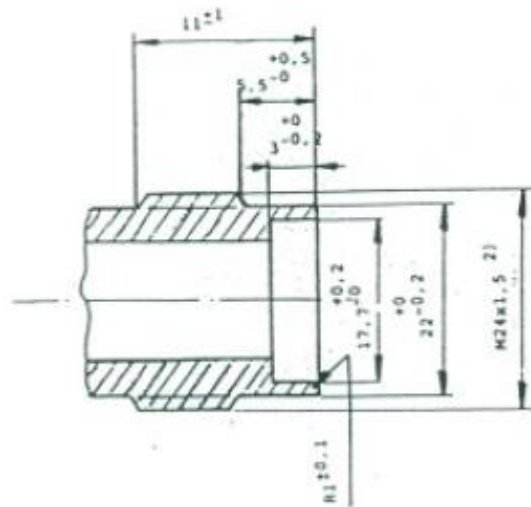
3.1 Material

The transition fitting shall be made of metal. Plastic is not allowed as part of the construction.

Rubber sealings shall comply with EN 549 with minimum temperature class A2.

3.2 Construction

The transition fitting shall be provided with a connection according to the figure below:



The other side of the transition fitting shall comply with the relevant GASTEC QA Approval Requirements or when there is no Approval Requirements available, comply with the national or international norms.

If the transition fitting is provided with spanner flats, the spanner width shall be in accordance with the series specified in the ISO 4032.

4 Performance requirements and test method

4.1 General

All tests shall be performed at an ambient temperature of $23 \pm 5^{\circ}\text{C}$ unless otherwise indicated. Per test 1 reducer shall be used unless otherwise specified.

Leak tightness tests shall be performed with air.

During testing there shall be no deformation or damage to the product.

4.2 Resistance against stress corrosion

All parts shall be free of stress corrosion.

The magnesium chloride test in accordance with 4.2.1 shall be used for stainless steel components. After exposure to the magnesium chloride solution, no cracks shall be observed when assessing visually with a 5x magnification.

The ISO 6957 (9.5 pH) standard shall be used for copper alloy components.

4.2.1 Testmethod

The parts shall be degreased using acetone.

Dissolve 1000 g of $\text{MgCl}_2 \cdot 6\text{H}_2\text{O}$ for every 500 ml of distilled water or proportional parts thereof. There shall be sufficient liquid to submerge the entire part and to suspend it freely from the bottom in the test vessel.

Heat the test vessel up to $130 \pm 2^{\circ}\text{C}$ and position the part in the liquid for 100 hours and, next, allow the liquid to cool down to $70^{\circ}\text{C} \pm 2^{\circ}\text{C}$. Keep the sample at this temperature for 60 hours.

Small quantities of magnesium chloride or distilled water may have to be added to achieve this temperature. Ensure that heating takes place uniformly. Prevent shocks and jolts.

Carry out a visual assessment using a 5x magnification.

5 Marking and packaging

5.1 Marking

The product shall be marked with the following information;

- Name or identification marking of the supplier.
- GASTEC QA or the GASTEC QA logo

5.2 Packaging

Transition fittings shall be protected against possible damage during storage and transport through packaging.

6 Summary of tests and control

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

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

6.1 Testmatrix

Description requirement	Clause	Test within the scope of		
		Initial product assessment	Product verification	
			Verification	Frequency
Material	3.1	X		
Construction	3.2	X	X	Each year
Resistance against stress corrosion	4.2	X	X	Each year
Marking	5.1	X	X	Each year
Packaging	5.3	X		

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 549 : 1995

Rubber materials for seals and diaphragms for gas appliances and gas equipment