


Technical Specification

FOAM SOLUTION FOR SEARCHING FOR LEAKS IN GAS INSTALLATIONS

ET 404


Revision No. 1 | 3 February 2023



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Register of revisions

Revision number	Date	Motif
0	2018-10-03	Initial wording.
1	2023-02-03	Overall review carried out by IDOM Consulting, Engineering, Architecture, SAU.

Information classification


Confidential	<input type="checkbox"/>	Restricted	<input type="checkbox"/>	Internal use	<input type="checkbox"/>	Public	<input checked="" type="checkbox"/>
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Distribution of the document

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Caption:	
CA: Board of Directors AT: Technical Area AT-ED: Technical Area - Engineering and Development AT-EX: Technical Area - Exploration AT-GE: Technical Area - Energy Management AT-MS: Technical Area - Maintenance and Systems	ACR: Clients and Networks Area ACR-DC: Clients and Networks Area - Commercial Development ACR-GC: Clients and Networks Area - Large Consumption ACR-RD: Clients and Networks Area - Networks

Elaborated:	Check:	Approved:
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The approval of this document formalised in this page, prevails over the totality of its contents.		

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Preamble

As part of the "H2 REN Programme" aimed at adapting technical specifications to prepare assets to receive hydrogen up to 100%, Portgás identified this regulation to be subject to assessment and consequent revision.

This revision of ET 404 cancels and replaces the previous revision dated 3 October 2018, and it is advisable to read this technical specification in full for a correct application of its provisions.

This technical specification should be given the status of a Portgás standard which establishes the rules to be followed to achieve the discriminated objective.

1. Objective

The present material technical specification establishes the requirements, standards and technical conditions that the foaming solution must comply with to search for leaks in gas installations, during operation and maintenance activities.

2. Scope

This technical specification applies to any leak detection foam solution applied to Portgás assets, by Portgás employees or PSE.

3. References external

All undated documents should be considered in their latest version.


NP EN 14291

Foam producing solutions for leak detection in gas installations.

4. Definitions / Acronyms

PSE

External Service Provider


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5. Requirements

5.1. Physical-chemical properties of the foaming agent

- a) The physico-chemical properties of the foaming solution must fully comply with the requirements of NP EN 14291, namely
- Surface tension;
 - Foam stability;
 - Corrosibility;
 - pH value;
 - Compatibility between non hardening sealants and lubricants;
 - Flammability;
 - Freezing point;
 - Toxicological innocuity;

Physico-chemical properties	Test requirements
Surface tension	≤ 30 mN/m
Foam stability	Maximum 50% reduction, 10 min after preparation.
Corrosibility	The mass loss through corrosion must be less than 20 mg using leak detection solutions containing less than 200 mg/l of halogens (F^- and Cl^-), less than 1000 mg/l of sulphates (SO_4^{2-}) and must not corrode the containers in which they are contained.
pH value	6 a 8
Compatibility between non hardening sealants and lubricants;	The solution must not attack the soft white paraffin jelly (White Vaseline) used for medical treatment as a substitute for non-hardening sealants according to EN751-2 or lubricants according to EN377 or remove them from the metal surface.
Flammability	Flash point must be above 55°C. The propellant used in the spray cans must not be flammable.
Freezing point	The freezing point must be above 55°C.
Toxicological innocuity	The formation of leak detection solutions must be toxicologically harmless.

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5.2. Tests

- a) The foaming solution must be subjected to all the tests described in NP EN 14291.

5.3. Packaging

- a) The packaging should be of the "Aerosol Can" type with a minimum volume of 300 ml and a maximum recommended volume of 500 ml.

6. Marking and documentation

- a) The packages must be marked individually, legibly and visibly with the following information:
- Name of manufacturer or supplier and/or trademark;
 - Designation of the solution for leak detection;
 - Essential instructions for use;
 - Proper handling and safety designations;
 - Serial number, production date and expiry date;
 - Instruction that leaks detection solutions should be rinsed with water when used in plastic or copper pipes.
- b) Each packaging box must contain the following documentation:
- Safety data sheet;
 - Information on the propellants used;
 - Instructions for application and handling.