

FARECOGAZ GUIDELINES FOR SPARE PARTS MANAGEMENT

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1. SCOPE

This document defines the guidelines for the correct management of spare parts intended for equipment falling within the scope of the following European Directives:

- Directive 2014/68/EU Directive 2014/68/EU of the European Parliament and of the Council of 15 May 2014 on the harmonization of the laws of the Member States relating to the making available on the market of pressure equipment;
- Directive 2014/34/EU of the European Parliament and of the Council of 26 February 2014 on the harmonization of the laws of the Member States relating to equipment and protective systems intended for use in potentially explosive atmospheres (recast).

This equipment is used in fuel gas infrastructures for the transport and distribution (ref. EN 17649).

These guidelines can also be a useful reference for the spare parts management of equipment intended for use with fuel gases even outside the aforementioned framework (e.g., in commercial industrial installations, gas burners, gas appliances and appliances of similar use).

2. REFERENCE LEGISLATIVE AND NORMATIVE DOCUMENTS

- Directive 2014/68/EU Directive 2014/68/EU of the European Parliament and of the Council of 15 May 2014 on the harmonization of the laws of the Member States relating to the making available on the market of pressure equipment;
- Directive 2014/34/EU of the European Parliament and of the Council of 26 February 2014 on the harmonization of the laws of the Member States relating to equipment and protective systems intended for use in potentially explosive atmospheres (recast);
- Council Directive 85/374/EEC of 25 July 1985 on the approximation of the laws, regulations and administrative provisions of the Member States concerning liability for defective products;
- Document CEN/SFG_I N 97 ATEX Guidance Sheet;
- EN 17649_Gas infrastructure - Safety Management System (SMS) and Pipeline Integrity Management System (PIMS) – Functional requirements;
- CEN/TR 16478_ Surveillance from first commissioning on measuring devices used in natural gas supply to the installations of the activities under the Directive 2003/87/EC establishing a scheme of CO2 emissions trading;
- ISO 2230 “Rubber product - Guidelines for storage”;
- MIL-HDBK-695 - DEPARTMENT OF DEFENSE HANDBOOK “Rubber Products: recommended shelf life”;
- SAE ARP (Aerospace Recommended Practice) 5316 “Storage of Elastomer Seals and Seal Assemblies Which Include an Elastomer Element Prior to Hardware Assembly”;
- FARECOGAZ “Guidelines on in-use-surveillance on equipment of gas pressure regulating and measuring stations of transmission and distribution systems” – Ed. 2013.

3. PREMISE

Equipment put into service in infrastructures for the transport and distribution of combustible gases can guarantee its safety and functional performance detailed on the nameplate over time only if subjected to in-field surveillance and regular maintenance (ref.: CEN/TR 16478 - point 3.1, FARECOGAZ "Guidelines on in-use-surveillance" - point 4; and only for Italy, Ministerial Decree of 16 April 2008, UNI 9571, UNI 10702, UNI 9463) according to the regulations in force at the place of installation or the Manufacturer's recommendations if more restrictive. These performances are guaranteed only if components of the equipment comply with the requirements indicated in the original approved project.

In particular, CE marked equipment under Directives 2014/68 / EU (PED) and/or 2014/34 /EU (ATEX) meets the essential safety requirements established by the Directives themselves when its components comply with the original project, subjected to conformity assessment by Notified Bodies.

During maintenance activities on equipment, replacement of parts subjected to wear and/or ageing is necessary.

For the above, only the spare parts that comply with equipment's original design characteristics can guarantee over time the safety and functional characteristics indicated for the equipment. If it is not possible to prove the aforementioned compliance, it is not possible to guarantee the safety and functional characteristics, originally specified for the equipment.

4. RESPONSIBILITY

Since spare parts are technologically relevant components and essential to guarantee the continuity of performance in terms of safety and reliability of the equipment, the Supplier should ensure and declare the compliance of the parts with the requirements expressed in above Premise (Declaration of Compliance). Furthermore, the Supplier becomes responsible for the consequences resulting from defects or inadequacy of the parts themselves.

At the same time, the User is responsible for the proper execution of the surveillance and maintenance of the equipment in operation and for verifying the suitability of the spare parts used, accepting these parts only if accompanied by a declaration of compliance with the requirements of the original project.

The User is also liable for the use of unsuitable parts that may affect the quality of the product and potentially make it no longer meet the initial requirements.

5. GENERAL REQUIREMENTS OF SPARE PARTS

5.1. Identification of Spare Parts

Each spare part should be identified by the Supplier to the User to allow its recognition and correct location of the position in which they shall be installed.

In particular, the following information should be detailed directly on the part or on the packaging in which spare parts are contained:

- the equipment for which they are intended to be used; this information has to be unique and unambiguous and to refer to equipment model and, when applicable, to a specific equipment series (indication of the serial numbers or lots for which they are intended to be used);
- an indication of the drawing or equivalent document to refer to for the location of the installation position.

5.2. Replaceable Batteries

According to the essential requirements of Directive 2014/34/EU, where it is necessary for the user to replace cells or batteries contained within an enclosure of Ex Equipment the relevant parameters to allow correct

replacement shall be legibly and durably marked on or inside the enclosure and on the replaceable battery pack; alternatively, information can be detailed in the manufacturer's instructions.

That includes either the cell or battery manufacturer's name and part number or the electrochemical system, nominal voltage, and rated capacity.

The Ex-Equipment shall be marked with the words "Use only replaceable battery pack" followed by the manufacturer and the manufacturer's type identification of the replaceable battery pack.

Replaceable battery packs shall be marked with the following:

- manufacturer's name;
- manufacturer's type identification, and
- the words "Use only on ..." followed by identification of the type of the intended equipment.

6. STORAGE AND SHELF LIFE OF SPARE PARTS

6.1. Storage of Parts Subjected to Ageing (Elastomeric Parts)

Spare parts made of materials that may be subject to ageing (e.g., elastomers¹) should be stored in a manner that preserves their characteristics and prevents their degradation.

The Supplier of elastomeric parts should indicate (directly on the packaging or by reference to external documents located e.g., on its website) proper conservation methods for these parts to maintain their characteristics that allow safe use.

These provisions should include, but are not limited to, information on:

- characteristics of the packaging,
- quantity and arrangement of the packed parts (quantity in package),
- storage method,
- environmental conservation conditions.

6.2. Storage of Metallic Parts

Even though metallic parts normally have no expiration dates, adequate storage conditions and good cleaning are essential for the long-term storage of metal artifacts. Environmental controls are important since the most common types of damage for metallic parts and finished products, especially those not intended for subsequent processing, are wetting, condensation, and mechanical damage from handling,

Relative humidity (RH) is a key factor in metal corrosion as most metals corrode more quickly in moist conditions. For ideal storage of metals, the RH should be as low as possible.

The Supplier of metallic parts should indicate (directly on the packaging or by reference to external documents located e.g., on its website) proper conservation methods for these parts to maintain their original characteristics that allow safe use, especially regarding the preservation from alteration (oxidation, corrosion, etc.) of the external surfaces.

6.3. Shelf Life of Elastomeric Parts

For these guidelines, the term "shelf life" means "maximum period between the date of packaging of the part and the date on which the part itself is removed or unpacked for installation in an assembly, system, or component of a sub-assembly".

¹ These parts include o-rings, diaphragms (molded or cut), seat disc, o-rings, support rings or any other part with an elastomeric component.

When defining the useful storage life, the time between the production of the part and its packaging should be considered.

During the storage life period, the stored elastomeric part is expected to maintain its original characteristics, provided it is kept in adequate storage conditions according to the Supplier's instructions (see section 6.1)

The date by which the parts are recommended to be used/installed should be detailed directly on the packaging. Beyond this date, the elastomeric parts cannot ensure the established performances and therefore cannot be used/installed.

It is the User's responsibility to manage the storage of the parts according to the instructions provided and not to use the parts beyond the date set by Supplier.

To ensure the properties of the elastomer are maintained, the customer should comply with the storage conditions described in point 6.1.

The packaging date should be clearly defined digitally or in writing on the packaging

The following documents can be useful reference to define the storage methods and shelf life for spare parts made of elastomeric materials:

- ISO 2230
- MIL-HDBK-695 - DEPARTMENT OF DEFENSE HANDBOOK
- SAE ARP (Aerospace Recommended Practice) 5316

6.4. Storage of Batteries

To preserve the performance and safety characteristics of battery packs, storage conditions shall strictly follow the device manufacturer's indications. These shall include at least temperature, humidity, and orientation, when applicable. With reference to definitions of ageing and shelf life given in sections 6.1 e 6.3, battery packs shall be legibly marked with the manufacturing date. To allow proper use of the battery pack, maximum shelf life at reference storage conditions shall be indicated either directly on the battery pack or by the user and safety documentation of final product. This applies to both primary and secondary batteries.

7. DOCUMENTATION

The following documentation should be provided with spare parts:

- Declaration of Compliance (see point 4);
- Proper information for:
 - recognition and destination;
 - location on the relevant equipment.
- Instructions for their use (part replacement instructions)
- Operating instruction for warehousing and storage;
- Maximum storage period before use.