

# SLOVENSKI STANDARD

## oSIST prEN 13617-2:2018

01-november-2018

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### Bencinski servisi - 2. del: Varnostne zahteve za izdelavo in lastnosti varnostnih zapor za tlačne in sesalne naprave za točenje goriva

Petrol filling stations - Part 2: Safety requirements for construction and performance of safe breaks for use on metering pumps and dispensers

Tankstellen - Teil 2: Sicherheitstechnische Anforderungen an Bau- und Arbeitsweise von Abreißkupplungen für Zapfsäulen und druckversorgte Zapfsäulen

Stations service - Partie 2 : Exigences de sécurité relatives à la construction et aux performances des raccords cassants utilisés pour les distributeurs de carburants

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Ta slovenski standard je istoveten z: **prEN 13617-2**

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#### **ICS:**

75.200	Oprema za skladiščenje nafte, naftnih proizvodov in zemeljskega plina	Petroleum products and natural gas handling equipment
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EUROPEAN STANDARD  
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**DRAFT**  
**prEN 13617-2**

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## Petrol filling stations - Part 2: Safety requirements for construction and performance of safe breaks for use on metering pumps and dispensers

Stations-service - Partie 2 : Exigences de sécurité relatives à la construction et aux performances des raccords cassants utilisés pour les distributeurs de carburants

Tankstellen - Teil 2: Sicherheitstechnische Anforderungen an Bau- und Arbeitsweise von Abreißkupplungen für Zapfsäulen und druckversorgte Zapfsäulen

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 393.

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EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

**CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels**

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**prEN 13617-2:2018 (E)****European foreword**

This document (prEN 13617-2:2018) has been prepared by Technical Committee CEN/TC 393 “Equipment for tanks and filling stations”, the secretariat of which is held by DIN.

This document is currently submitted to the CEN Enquiry.

This document will supersede EN 13617-2:2012.

In comparison with the 2012 edition, the following fundamental changes were made:

- Safe breaks for aqueous urea solution added.
- Table 1 corrected to ensure compatibility between components according to EN 13012, EN 13617-2, EN 13617-4 and EN 1360.

Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of this document.

This European Standard *Petrol filling stations* consists of four parts:

- *Part 1: Safety requirements for construction and performance of metering pumps, dispensers and remote pumping units;*
- *Part 2: Safety requirements for construction and performance of safe breaks for use on metering pumps and dispensers;*
- *Part 3: Safety requirements for construction and performance of shear valves;*
- *Part 4: Safety requirements for construction and performance of swivels for use on metering pumps and dispensers.*

## 1 Scope

This document specifies safety requirements for the construction and performance of safe breaks to be fitted to metering pumps and dispensers installed at filling stations and used to dispense liquid fuels and aqueous urea solution into the tanks of motor vehicles, boats and light aircraft and into portable containers at flow rates up to  $200 \text{ l} \cdot \text{min}^{-1}$ .

This document applies to fuels of Explosion Group IIA and also aqueous urea solution according to ISO 22241-1.

NOTE Fuels other than of Explosion Group IIA are excluded from this European Standard.

The requirements apply to safe breaks at ambient temperatures from  $-20 \text{ }^{\circ}\text{C}$  to  $+40 \text{ }^{\circ}\text{C}$  with the possibility for an extended temperature range.

This document pays particular attention to electrical, mechanical and hydraulic characteristics of, and electrical apparatus incorporated within or mounted on, the safe break.

This document applies mainly to hazards related to the ignition of liquid fuels being dispensed or their vapour. This document also addresses electrical and mechanical hazards.

This document does not apply to equipment dispensing compressed or liquefied gases.

## 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 976-1:1997, *Underground tanks of glass-reinforced plastics (GRP) - Horizontal cylindrical tanks for the non-pressure storage of liquid petroleum based fuels - Part 1: Requirements and test methods for single wall tanks*  
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EN 1127-1, *Explosive atmospheres - Explosion prevention and protection - Part 1: Basic concepts and methodology*

EN 1360, *Rubber and plastic hoses and hose assemblies for measured fuel dispensing systems - Specification*

EN 13483, *Rubber and plastic hoses and hose assemblies with internal vapour recovery for measured fuel dispensing systems - Specification*

prEN 13617-1:2018, *Petrol filling stations — Part 1: Safety requirements for the construction and performance of metering pumps, dispensers and remote pumping units*

EN 60079-0:2012, *Explosive atmospheres - Part 0: Equipment - General requirements (IEC 60079-0:2011, modified)*

EN ISO 228-1, *Pipe threads where pressure-tight joints are not made on the threads - Part 1: Dimensions, tolerances and designation (ISO 228-1:2000)*

EN ISO 1825, *Rubber hoses and hose assemblies for aircraft ground fuelling and defuelling - Specification (ISO 1825:2017)*

EN ISO 8031:2009, *Rubber and plastics hoses and hose assemblies - Determination of electrical resistance and conductivity (ISO 8031:2009)*

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EN ISO 80079-36:2016, *Explosive atmospheres - Part 36: Non-electrical equipment for explosive atmospheres - Basic method and requirements (ISO 80079-36:2016)*

ISO 261, *ISO general purpose metric screw threads — General plan*

ISO 965-2, *ISO general purpose metric screw threads — Tolerances — Part 2: Limits of sizes for general purpose external and internal screw threads — Medium quality*

ISO 11925-3, *Reaction to fire tests — Ignitability of building products subjected to direct impingement of flame — Part 3: Multi-source test*

ISO 22241-1, *Diesel engines — NOx reduction agent AUS 32 — Part 1: Quality requirements*

**3 Terms and definitions**

For the purposes of this document, the terms and definitions given in prEN 13617-1:2018 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

**3.1 safe break**  
device to minimize fuel spillage and to stop fuel flow achieved by separation between nozzle and metering pump or dispenser within a defined range of forces

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**3.2 safe break type 1**  
safe break constructed for liquid lines only

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**3.3 safe break type 2**  
safe break constructed for liquid lines combined with vapour recovery lines

**3.4 nozzle break**  
safe break fitted directly into the nozzle inlet, or integral with the nozzle

**3.5 hose break**  
safe break fitted within the delivery hose circuit

**3.6 pump break**  
safe break fitted directly to the fixed hydraulics

**3.7 re-usable safe break**  
safe break that, once operated, can be re-assembled for further use



### 3.8

#### **non re-usable safe break**

safe break that, once operated, cannot be re-assembled for further use

## 4 Explosion protection measures

**4.1** Explosion protection measures shall be taken in accordance with EN 1127-1 and Annex B of prEN 13617-1:2018.

**4.2** The safe break shall be explosion protected and shall be Category 2G, Group II, EPL Gb in accordance with EN ISO 80079-36. The vapour path of a vapour recovery safe break shall be Category 1, Group II, EPL Ga in accordance with EN ISO 80079-36. The safe break shall fulfil the requirements for temperature class T3 and Group IIA to EN 60079-0 or EN ISO 80079-36.

## 5 Construction

### 5.1 General

**5.1.1** All electrical and non-electrical equipment and components, intended for use in potentially explosive atmospheres, shall be designed and constructed according to good engineering practice and in conformity with the required categories/EPLs for group II equipment to ensure avoidance of any ignition source. To classify the category/EPL of the equipment it shall be subjected to an ignition hazard assessment in accordance with 5.2 of EN ISO 80079-36:2016.

**5.1.2** All materials used in the construction shall be chemically and dimensionally stable under known service conditions. Materials likely to come into contact with fuels in both liquid and vapour phases shall be resistant to attack by these fuels. Compliance shall be demonstrated by manufacturer's declaration and compliance with the tests B.1 to B.16 inclusive.

**5.1.3** Light alloys when used shall conform to the requirements of EN 60079-0:2012, 8.3. If other specifications for explosion protected equipment impose more stringent requirements then the more stringent requirement shall apply.

**5.1.4** Outside surfaces likely to be handled shall be free of sharp edges.

**5.1.5** If protective covers are fitted they shall be constructed such that they allow ventilation and evaporation of fuel even if some shrinkage occurs. They shall not affect the performance of the safe break.

**5.1.6** Safe breaks Type 1 and Type 2, except nozzle breaks, when operated shall close liquid lines both upstream and downstream of the break.

**5.1.7** For safe breaks Type 2 it is not required to close vapour lines. A means to close off vapour lines may be included.

**5.1.8** On re-usable safe breaks, the sections that break away shall be constructed so that the means of reconnection cannot be damaged by impacts according to test B.3.

**5.1.9** The construction shall be such that on reconnection of a re-usable device, or attempted reconnection of a non re-usable device, fluid shall not be sprayed out during the reconnection action.

### 5.2 Hose breaks

Hose breaks which incorporate hose shall use hose conforming to EN 1360, EN ISO 1825 or EN 13483.

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## 5.3 Inlet threads

## 5.3.1 Safe break type 1

Safe break type 1 threads for the hose connection shall be parallel threads according to EN ISO 228-1 according to Table 1. The sealing surfaces of the internal and external threads shall be designed such that they are suitable for use with an appropriate seal.

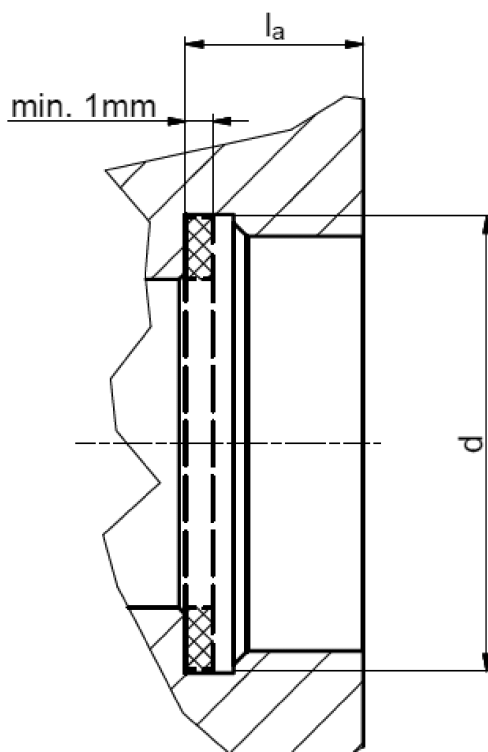
Table 1 — Safe break type 1 Thread specifications

Nominal inlet size <i>d</i>	Female threads	Male threads
	Thread depth <sup>a</sup> <i>l<sub>a</sub></i> mm See Figure 1	Minimum engagement <sup>b</sup> <i>l<sub>b</sub></i> mm See Figure 2
3/4"	12,0-0.5	12,0
1"	13,0-0.5	13,0
1 1/4"	15,0-0.5	15,0
1 1/2"	18,0-0.5	18,0

<sup>a</sup> The thread depth, measured from the outer fore-part to the metallic inner sealing face.

<sup>b</sup> The stated minimum length only applies if the female thread of the hose fitting includes an inner flat gasket. In case of using an outer flat gasket, the male threads may be shorter than the dimensions in this table.

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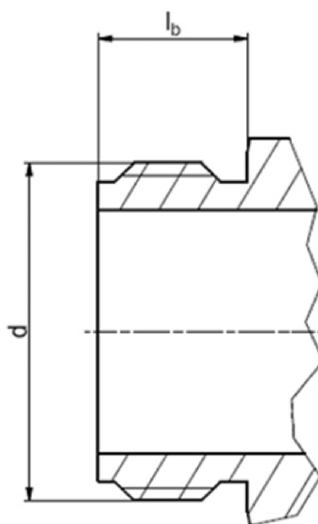
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**Key**

- $l_a$  female thread depth
- $d$  nominal inlet size

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**Figure 1 — Female inlet thread**



**Key**

- $l_b$  male thread minimum engagement
- $d$  nominal inlet size

**Figure 2 — Male inlet thread**