PD CEN/TR 14473:2014

BSI Standards Publication

Transportable gas cylinders — Porous materials for acetylene cylinders

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National foreword

This Published Document is the UK implementation of CEN/TR 14473:2014. It supersedes PD CR 14473:2002 which is withdrawn.

The UK participation in its preparation was entrusted by Technical Committee PVE/3, Gas containers, to Subcommittee PVE/3/7, Gas containers - Gas cylinder (receptacle) operations.

A list of organizations represented on this committee can be obtained on request to its secretary.

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English Version

Transportable gas cylinders - Porous materials for acetylene cylinders

Bouteilles à gaz transportables - Matières poreuses pour bouteilles à acétylène

Ortsbewegliche Gasflaschen - Poröse Materialien für Acetylenflaschen

This Technical Report was approved by CEN on 6 January 2014. It has been drawn up by the Technical Committee CEN/TC 23.

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CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

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Foreword

This document (CEN/TR 14473:2014) has been prepared by Technical Committee CEN/TC 23 “Transportable gas cylinders”, the secretariat of which is held by BSI.

This document supersedes CR 14473:2002.

This second edition supersedes the first edition (CR 14473:2002) with the following main technical revisions:

a) changes in the legal background are taken into account by introducing new tables for porous materials with filling conditions based on a new European standard (EN ISO 3807) for type testing of porous materials for acetylene cylinders);

b) entries for porous materials that are no longer used or for which the filling conditions could not be verified were deleted;

c) the report was amended with regard to porous materials which have been newly placed on the market since the last edition of this report.

For amendments or changes to this report, an application shall be made to the CEN/TC 23 Secretariat with a copy of the documentation based on which the acetylene cylinders are placed on the market (type approval by the competent authority or conformity assessment in accordance with Directive 2010/35/EU (TPED)).

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Introduction

This report contains data and information about monolithic porous materials for acetylene cylinders.

This report does not contain information about non-monolithic porous materials.

Where there is any conflict between this European Technical Report and any applicable regulation, the regulation always takes precedence.

In International Standards, weight is equivalent to a force, expressed in Newton. However, in common parlance the word “weight” continues to be used to mean “mass”, but this practice is deprecated (ISO 80000-4).

In this European Technical Report the unit bar is used, due to its universal use in the field of technical gases. It should, however, be noted that bar is not an SI unit, and that the according SI unit for pressure is Pa.

Pressure values given in this European Technical Report are given as gauge pressure (pressure exceeding atmospheric pressure) unless noted otherwise.

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1 Scope

This Technical Report contains information about monolithic porous materials used in individual acetylene cylinders and in acetylene cylinder bundles. It does not claim to be exhaustive.

2 Source and nature of the data about the listed porous materials

The data contained in the tables in Clauses 4, 5 and 6 are derived from the documentation based on which the acetylene cylinders were or still are placed on the market (type approval by the competent authority or conformity assessment in accordance with TPED) and according to which they are operated (in some cases a type approval with regard to newly manufacturing a porous material has been withdrawn or a TPED-certificate is no longer valid but the cylinders that were already on the market still may be used).

NOTE The documentation provided was examined carefully before including the according information into this Report. Nevertheless, there might be discrepancies to the actual approval, e.g. because more recent amendments exist which were not made available at the time of preparing this Report. In some cases not all information was available in the documents provided and consequently the according information is missing (for example the maximum top clearance or the working pressure).

Acetylene cylinders that were reassessed in accordance with TPED may be filled with the filling values conforming to the reassessment certificate throughout the EU. It should be noted that these values might deviate from those of prior national approvals which still apply to those cylinders that were not reassessed according to TPED.

If no reliable documentation could be made available to the working group, no information is included in this Report. However, this does not necessarily mean that no approval or certification exists.

Clause 4 contains information on porous materials for acetylene cylinders which are placed on the market in accordance with type tests according to EN ISO 3807. It also contains information on filling conditions for acetylene cylinder bundles in accordance with EN ISO 13088.

Clause 5 contains information on porous materials used in individual acetylene cylinders that were type approved based on national regulations and/or standards.

Clause 6 contains information on porous materials used in acetylene cylinder bundles that were approved based on national regulations and/or standards.

If several years are indicated for the approval or certification they refer to according amendments in addition.

3 Country codes

In this Technical Report countries are identified in accordance with their distinguishing signs for motor vehicles according to the Vienna Convention on Road Traffic which is also the basis for marking of cylinders according to the ADR (see Annex A to the ADR, 6.2.2.7) as follows:

A	Austria	F	France	L	Luxembourg
B	Belgium	GB	United Kingdom	NL	Netherlands
CH	Switzerland	GR	Greece	N	Norway
CZ	Czech Republic	HR	Croatia	P	Portugal
D	Germany	HU	Hungary	S	Sweden
DK	Denmark	IRL	Ireland	SK	Slovakia
E	Spain	I	Italy		
FIN	Finland	IS	Iceland		

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4 Data for porous materials for individual acetylene cylinders type tested in accordance with EN ISO 3807

Clause 4 contains information on porous materials for acetylene cylinders which were or still are placed on the market in accordance with type testing according to EN ISO 3807. It also contains information on filling conditions for acetylene cylinder bundles in accordance with EN ISO 13088.

The following tables are ordered alphabetically according to the name of the porous material.

Column 1 gives the cylinder water capacities, in l, to which the filling conditions (solvent content, acetylene content, working pressure) as given in the subsequent columns are applicable.

Column 2 lists the specified solvent content, in kg/l, that the acetylene cylinder shall contain per litre water capacity in accordance with the type tests according to EN ISO 3807.

Column 3 lists the maximum acetylene content (including saturation acetylene), in kg/l, that the acetylene cylinder shall contain per litre water capacity in accordance with the type tests according to EN ISO 3807.

Column 4 lists the working pressure of the acetylene cylinder as calculated in accordance with EN ISO 3807. For bundles it gives the maximum no. of consecutive fillings before the bundle has to be dismantled and solvent has to be replenished in the individual cylinders.

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Identification	**A-10W ECO**		
Manufacturer	**Worthington Cylinders GmbH** **Beim Flaschenwerk 1, 3291 Kienberg bei Gaming, Austria**		
Year and no. of type approval or EU-Certificate	**2005, 2006** **BAM-05-M01**		
Time of manufacture	**since 2006**		
Type of porous material	**Monolithic, asbestos-free**		
Density in kg/l	**0,270 ± 0,015**		
Porosity in %	**90,5 ± 1,5**		
Maximum top clearance in mm	**2**		
Solvent	**Acetone**		
Individual cylinders with acetone			
Cylinder water capacity in l	**Solvent content in kg/l**	**Acetylene content in kg/l**	**Working pressure in bar**
< 20 20 to 60	0,310 0,310	0,180 0,200	18 19
Individual cylinders without solvent			
Cylinder water capacity in l	**Solvent content in kg/l**	**Acetylene content in kg/l**	**Working pressure in bar**
	-	0,020	19
Bundle cylinders based on EN ISO 13088			
Cylinder water capacity in l	**Solvent content in kg/l**	**Acetylene content in kg/l**	**Maximum no. of consecutive fillings**
20 to 60	0,289 to 0,331	0,180	6

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