



# **GAS CYLINDERS WITH RESTRICTED USE IN THE EU**

IGC Doc 86/02/E

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## KEYWORDS

- CYLINDER
- LEGISLATION
- TRANSPORTATION

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## 1 Introduction

On July 1<sup>st</sup>, 2001 Directive 1999/36/EC on Transportable Pressure Equipment, TPED, came into effect. Its intention is to regulate the free movement of transportable pressure equipment, including gas cylinders across the European Union.

With both the publication of European Standards on the periodic inspection, testing and requalification of gas cylinders, see bibliography 5, and the TPED, whereby if an existing cylinder fulfils certain conditions, they may be marked with the letter "II" according to the reassessment procedure laid down in Article V of the directive.

Annexe IV, Article 2 of the TPED specifically states that: "The user must, where appropriate, notify any prescribed restrictions on use, and forward any notes on possible damage or repairs which have been carried out." Similarly, in the Periodic Inspection and Test Euro Norms there is a requirement to identify "banned" cylinders from receiving the "II" mark. Hence it has become imperative to consolidate any national restrictions on the use of gas cylinders.

Some countries within the European Union have established lists of specific cylinder types which are not considered safe for the original design conditions and need either to be withdrawn from further service or have limitations placed on their continued use. These lists are frequently referred to as "Negative Cylinder Lists".

With the implementation of the TPED, it is important that these National Lists are known across the European Union to avoid unsuitable cylinders being placed into service in another country to the one where the initial prohibition was raised. This document is intended to co-ordinate these lists and will be updated from time to time, as appropriate.

## 2 Scope

The document covers European Union Member States where lists of prohibited or restricted cylinders or valves are known to exist. This document does not cover restrictions of a non-technical nature.

## 3 List of Banned Cylinders in Europe

See attached list

## 4 Recommendations

The recommendations of EIGA are the following regarding cylinders and valves on any "prohibited or restricted list":

- 1) ***Any cylinder on a National Restricted list shall not be "II" marked.***
- 2) ***Where any cylinder is on a National Restricted list, the restrictions shall apply across all countries of Operation.***

## 5 Bibliography














The following European Standards cover the Periodic Inspection, Testing and Re-qualification of gas containers.

















EN 1802: Transportable Gas Cylinders- Periodic Inspection and Testing of seamless aluminium gas cylinders

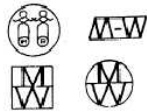

EN 1803: Transportable Gas Cylinders- Periodic Inspection and Testing of welded carbon steel gas cylinders (excluding LPG).


EN 1968: Transportable Gas Cylinders- Periodic Inspection and Testing of seamless steel gas cylinders



EN 12863: Transportable Gas Cylinders-Periodic Inspection and Maintenance of dissolved acetylene cylinders.

3.1 Germany NEGATIVE CYLINDER LIST									
No	Manufacturer	Initial test date	Serial no.	Material	Water capacity/ Test pressure/ Gas Service	Specific stamp marks	Specific requirements	Reasons/ Comments	References
1	Rheinische Röhrenwerke AG and Wittkowitz Bergbau	1936 to 1945		LSC 90	40 l	LSC 90 WITK  	no further retests cylinders to be scrapped	a) high strength b) if the marking of the material is not visible, etching is allowed	Dr.Mietentz TÜV Rheinland e.V.3.4.52
2	Rheinische Röhrenwerke AG and Wittkowitz Bergbau	1936 to 1945		LSC 90 V	40 l	LSC 90 V WITK  			
3	Rheinische Röhrenwerke AG and Wittkowitz Bergbau	1936 to 1945		not clearly visible	40 l	WITK  			
4	Rheinische Röhrenwerke AG and Wittkowitz Bergbau			LS 1		LS 1 WITK  	to be scrapped, if C-Mn and Cr-Ni-Mo content cannot be verified TRG 202 RE 1744/I dated 10.3.76	susceptibility to embrittlement, no sufficient toughness behaviour	DG 544 from August 1975 according to RE 1744 dated 13.6.75 TRG 202/9.77 RE 1744/I dated 10.3.76
5	Thyssen Röhrenwerke AG Dinslak and Phoenix, Rheinische (now Mannesmann Röhrenwerke AG)	1936 to 1945 1953 to 1954		LSCD 9 V LSC 9	50 l	LSCD 9 V LSC 9 	to be scrapped		
6	Mannesmann Röhrenwerke AG	up to 1945		LSW 90 A + H HV		LSW 90 A + H HV    	to be scrapped		

3.1 Germany NEGATIVE CYLINDER LIST									
No	Manufacturer	Initial test date	Serial no.	Material	Water capacity/ Test pressure/ Gas Service	Specific stamp marks	Specific requirements	Reasons/ Comments	References
7	Mannesmann Werk Kommutau	up to 1931				M-W with approval Mark C.V. 	cylinders shall not be retested any further and shall be scrapped (mostly O2 cylinders)	a) high strength b) brittle cracking behaviour	Common Amtsblatt Baden-Württemberg 1981 no. 20 S 585
8	Rheinische Röhrenwerke AG and Wittkowitz Bergbau	1936 to 1945		LSE 86 LSE 86 V		LSE 86 LSE 86 V WITK   	to be scrapped	a) these cylinders are susceptible to hardness cracks and stress corrosion cracking	DGA 717/55 dated 7.11.1955, TRG 202/9.77
9	Mannesmann Röhrenwerke AG Vorlage VdTÜV BI. 233	1936 to 1945		LSW 90 B LSW 90 BV	40/50 l	LSW 90 B LSW 90 BV    	to be scrapped	b) at positive test results all cylinders shall be stamped with expert mark and date	DG 544 from August 1975, according to RE 1744 dated 13.6.1975 TRG 202/9.77
10	Mannesmann Röhrenwerke AG Vorlage VdTÜV BI. 233	1936 to 1945		LSW 90 C DE LSW 90 CV	40/50 l	LSW 90 C DE LSW 90 CV    	to be scrapped		
11	Mannesmann Röhrenwerke AG	1952 to 1955		LSW 90 K LSW 90 KV	40/50 l	LSW 90 K LSW 90 KV    	to be scrapped		

3.1 Germany NEGATIVE CYLINDER LIST									
No	Manufacturer	Initial test date	Serial no.	Material	Water capacity/ Test pressure/ Gas Service	Specific stamp marks	Specific requirements	Reasons/ Comments	References
12	Mannesmann Röhrenwerke AG			LS Mn LS V		LS Mn LS V 	to be scrapped	cylinder failures	ABAO 861/1 (DDR) from 1971
13	IWKA			V 70 Mn V 70 VM V 80 VM V 79 VM	0,47 l 0,67l 2,01l 2,68l 5,36l 6,7l 8,04l 10,72l 13,4l	V 70 Mn V 70 VM V 80 VM V 79 VM 	all CO2 cylinders shall be thoroughly checked for corrosion and longitudinal cracks prior to the water filling. If longitudinal cracks are present, the cylinder shall be further internally tested by US-testing.  Retest period acc. to ADR should be reconsidered depending to the test results.	these cylinders are susceptible to stress cracking corrosion in the presence of moisture in CO2 (80 % with 8,04 l and test pressure of 190 bar)	RE 1059 dated 9.11.1965  RE 5709 dated 11.4.1972  DGA 18-77  TRG 101 Anlage 2

3.2 France NEGATIVE CYLINDER LIST									
No	Manufacturer	Initial test date	Serial no.	Material	Water capacity/ Test pressure/ Gas Service	Specific stamp marks	Specific requirements	Reasons/ Comments	References French "Arrêté"
1	SM GERZAT  SM GERZAT	31.03.1977	20470 to 20673	AA 2001	4/300 bar	AU6	To be scrapped	Sensitive to intercrystalline corrosion	06.01.1989
		01.04.1977	20674 to 20757	AA 2001	4/300 bar	AU6			
		05.04.1977	20778 to 21287	AA 2001	4/300 bar	AU6			
		09.05.1977	21391	AA 2001	4/300 bar	AU6			
2	SM GERZAT	From 01.11.1973 to 01.01.79	A 1 to A1800	AA 5283	10,5 l 300 bar	AG5	To be scrapped	Too high cold working	06.01.1989
3	SM GERZAT		All	AA 5283		AG5 + ARS or APL	To be scrapped	—	11.02.1993
4	SM GERZAT	before 10.02.75	All	AA 2001 (AU6 MGT)	—	AU6	To be scrapped except those which have been re-heat-treated (see special mark on the base)	Sensitive to intercrystalline corrosion	14/01/1976 + 11/02/1993
5	SM GERZAT with porous mass GIP 2		All	AA 5283	—	GIP 2	Not allowed to be filled since 01.01.97	Sensitive to corrosion cracking	29.12.1995

3.3 Finland NEGATIVE CYLINDER LIST									
No	Manufacturer	Initial test date	Serial no.	Material	Water capacity/ Test pressure/ Gas Service	Specific stamp marks	Specific requirements	Reasons/ Comments	References
1	IWKA, Homberg	1954 to 1968		V70 MN V70 MN	2 to 14 l		all CO2 cylinders shall be thoroughly checked for corrosion and longitudinal cracks prior to the water filling. If longitudinal cracks are present, the cylinder shall be further internally tested by US-testing. Retest period acc. to ADR should be reconsidered depending to the test results.	these cylinders are susceptible to stress cracking corrosion in the presence of moisture in CO2 (80 % with 8,04 l and test pressure of 190 bar)	
2	Thyssen Röhrenwerke AG	1962	62/874300	to 62/674500	50 l 225 bar		to be scrapped		

3.4 United Kingdom NEGATIVE CYLINDER LIST									
No	Manufacturer	Initial test date	Serial no.	Material	Water capacity/ Test pressure/ Gas Service	Specific stamp marks	Specific Requirements	Reasons/ Comments	References
1	NAM Yang, South Korea	Oct 95	NY 08792 to NY 16931	Cr-Mo	10 l CO <sub>2</sub> /N <sub>2</sub>	NY	Hardness test on all relevant cylinders. Those cylinders with hardness values above the upper limit shall be scrapped.	Hardness up to 150% above upper limit 8239 cylinders	

3.5 Other Countries      NEGATIVE CYLINDER LIST									
No	Manufacturer	Initial test date	Serial no.	Material	Water capacity/ Test pressure/ Gas Service	Specific stamp marks	Specific requirements	Reasons/ Comments	References
As to the best knowledge to the IGC, no official lists for banned cylinders are existing in other EEC-member states at this point in time.									