

05<sup>TH</sup> MAY 2011

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ANALYSIS OF SAMPLES OF RECEIVED  
REFILLABLE REFRIGERANT GAS  
CYLINDERS

Made in China

The following four samples were collected randomly from the market and subjected to a closer regulatory conformity assessment:

SAMPLE 3 : WATER CAPACITY 12 LITERS  
SAMPLES 1 & 4 : WATER CAPACITY 13,6 LITERS  
SAMPLE 2 : WATER CAPACITY 14,3 LITERS

# COLLECTED DATA FROM SAMPLE

## SAMPLE 1

CYLINDER MANUFACTURER: **Wuyi Keyute Metal Container Manufacturer - CHINA**

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**13,6 LIT. CYLINDER**

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PRODUCT: Refrigerant Gases

MANUFACTURING DATE: 05/2010 (May 2010)

STANDARD: EN13322-1

TEST PRESSURE: 47 BAR

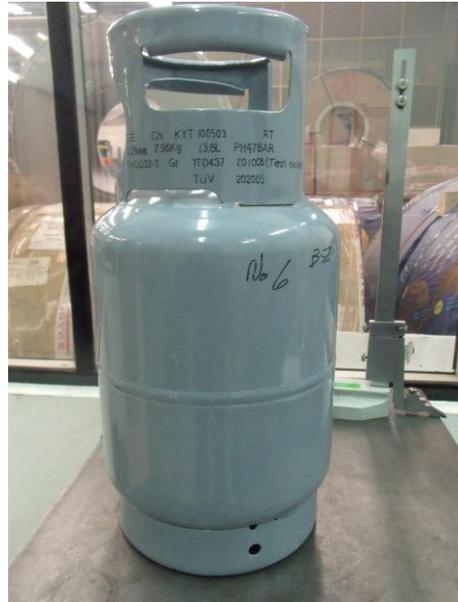
MODEL: 13,6 Litters Water Capacity

NOTIFIED BODY: 0437 – MIRTEC S.A. (EBETAM A.E.) - GREECE

TARE WEIGHT: 7,96 KG

CYLINDER COLOR: Ligth Blue

Photos from the cylinder received.



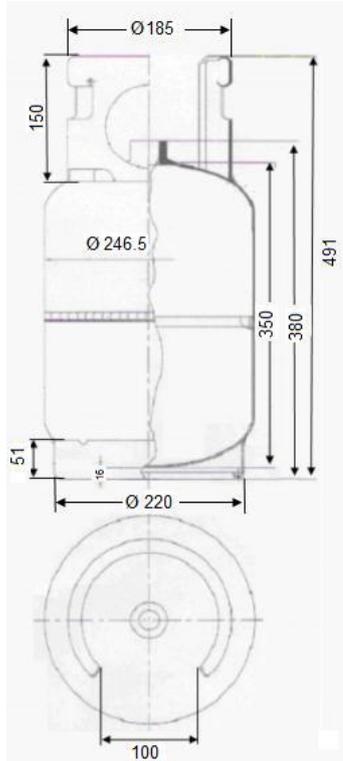
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**DIMENSIONS**

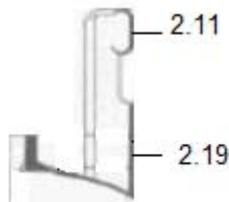
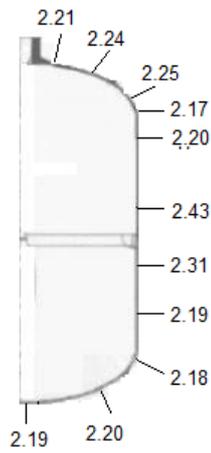
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1. Measured Dimensions:

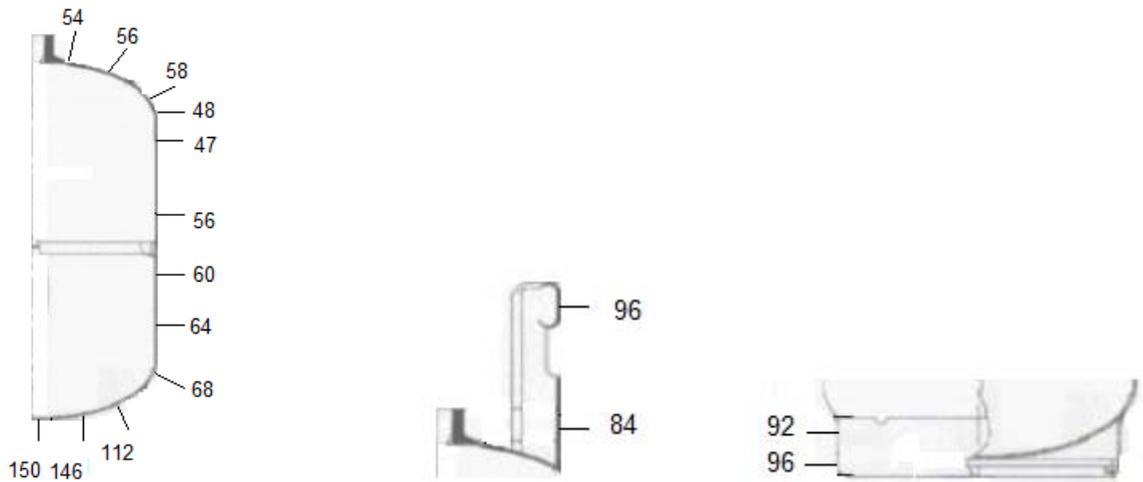
1.1 Cylinder



1.2 Wall Thickness (in mm)



### 1.3 Paint Thickness( $\mu$ )



Powder painted cylinder.

### 1.4 Other Characteristics

#### 1.4.1 - Markings



*Picture 1: Cylinder Collar Stamping*

#### 1.4.2 – Valve



The Teflon seems not applied over the thread of the valve.

*Picture 2: Wrongly applied Teflon tape*

#### 1.4.3 – Internal inspection

Internal rust spots are visible (see picture 3 below).



**Picture 3: Photos of cylinder internal surface**

#### 1.4.4 – External inspection.

External rust areas are visible (see picture 4).



**Picture 4: Photos of external rusty spots on the cylinder**

### 2. Findings based on above data analysis:

2.1. The minimum wall thickness is indicated on the collar with 2.29 mm (see picture 1) however the values found (see 1.2) fail to meet the minimum requirements on several measured points of the cylinder body;

2.2. The format of the initial test date (201005) is wrong and not in compliance with 6.2.2.7.1 of ADR (the year and month need to be separated by a slash and should be indicated as: 2010/05);

2.3. The Notified Body number identification stamped is 0437 (MIRTEC-Greece) but another “TÜV” indication was made on the collar (see picture 1) of which the purpose is not clear. It seems that the manufacturer has already stamped the

markings for the periodic inspection and test at the stage of manufacture, namely the markings according to ADR 6.2.2.7.6 – the inspection body’s mark and re-test date (see picture 4: TÜV 202005). This is wrong and totally misleading, because these markings must be applied at the time when periodic inspection is carried out;

2.4. Although the markings are in conformity with ADR requirements, they do not comply with EN ISO 13769:2009 (which replaces EN1089-1) which requires the TARE being indicated either by stampmarking or other durable marking on the cylinder.