



COMPRESSED AIR TESTING LAB REPORT № 216194 - A

Sample:	Compressed air can
Date of analysis:	13th -18th, October, 2016
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Client:	Air Rio manufacturing and related services Owner: Ivan Volarić Dražica 15 51550 Mali Lošinj

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The data specified in this report relate to the sample measured under herein specified
conditions.*

REGISTRATION

The company ANT d.o.o. is entered in the Companies Registry of the Zagreb Commercial Court, MBS 080301622, classification of activity 71.2 – technical testing and analysis and professional services carried out with the license granted by the competent authority: Ministry of Environmental Protection, Physical Planning and Construction, Ministry of Environmental and Nature Protection, Ministry of Economy, Labour and Entrepreneurship, Ministry of Health and Social Welfare.

LIST OF AUTHORISATIONS AND ACCREDITATIONS

The company ANT d.o.o. has a RESOLUTION issued by the Ministry of Environmental Protection and Physical Planning, CLASS: UP/I-351-02/11-08/188, File №. 531-13-1-1-1-11-2 of 9 November, 2011 authorizing it for stationary source emission monitoring.

The company ANT d.o.o. has a RESOLUTION issued by the Ministry of Environmental and Natural Protection, CLASS: UP/I 351-02/14-08/57, File № 517-06-2-2-2-14-2 of 10 June, 2014 authorizing it to provide professional services in the field of environmental protection: making environmental reports, making environmental protection studies for projects not requiring an environmental impact assessment (EIA) study, carrying out professional services for the Environmental Pollution Registry.

The company ANT d.o.o. has a RESOLUTION issued by the Ministry of Environmental and Natural Protection, CLASS: UP/I 351-02/14-08/81, File №517-06-2-1-2-14-4 of 27 August, 2014 authorizing it to provide professional services in the field of environmental protection: making of special studies and reports for environmental components.

The company ANT d.o.o. has a RESOLUTION issued by the Ministry of Health, CLASS: UP/I-542-04/93-03/01 File №: 534-04-10-93-02 of 10 January, 1994 authorising it for carrying out particular activities under the Sanitary Inspection Act.

The company ANT d.o.o. has a RESOLUTION issued by the Ministry of Environmental and Natural Protection, CLASS: UP/I-351-02/16-08/05 File № 517-06-1-1-1-16-4 of 8 February, 2016 authorising it to monitor air quality for the components: NO/NO_x, SO₂, H₂S, ammonia.

The company ANT d.o.o. has a RESOLUTION issued by the Institute for Occupational Safety Improvement, CLASS: UP/I-115-01/15-01/87 File №. 425-01/1-15-4 of 6 August, 2015 authorizing it for occupational safety implementation under the Occupational Safety and Health Act.

Zoran Mačkić, CEO

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1. INTRODUCTION

Testing was carried out in the laboratory of the company ANT d.o.o. The client who ordered testing delivered three cans of air, each containing five litres of compressed air and labelled “airbreath” (Image 1) with date of expiry: June 2018 and Mali Lošinj specified as the filling location.

The compound of all three cans was tested with the instrument Draeger Multiwarn II which measured oxygen level and FTIR analyser Gasmeter DX4000 which measured other gases.



Image 1 – Compressed air can.

1.1.Preparation

To ensure the quality of measurement, the following tests were carried out at the laboratory before the content of the can was subjected to analysis:

Test	In conformity
The line tightness test	YES
Auto-zero calibration with nitrogen 5.0	YES

In order to ensure work flow for the FTIR analyser pump, the measurement line included the use of a *buffer* in the form of a gas sample bag. Prior to using the gas sample bag, i.e. *buffer*, the same was successfully tested for tightness and the test confirmed no mechanical damage and its suitability for use in further testing. The content of the cans was quantitatively transferred to the bag, which was completely empty.

After the transfer of the air sample from the cans to the bag, analysers were connected and measurement commenced.

Measurement components:

- O₂ (oxygen)
- CO₂ (carbon dioxide)
- CO (carbon monoxide)
- Total hydrocarbons

The results were processed and compared to Grade E category requirements from the CGA G 7.1. – 2011 standard.

2. TEST RESULTS

Table 1 Overview of measurement results

Tested gases	1 st measurement	2 nd measurement	3 rd measurement	CGA G-7.1 Grade E 2011	In conformity
O ₂ (vol. %)	20,9	20,9	20,9	20-22	YES
CO ₂ (ppm)	418	396	404	1000	YES
CO (ppm)	< 0,5	< 0,5	< 0,5	10	YES
Total hydrocarbons (ppm)	< 2	< 2	< 2	25	YES

In addition to the components listed in the table, the samples were analysed for NO₂, NO, SO₂, and their concentration was below the level of detection of the apparatus, which is 1 ppm.

Test report made by:

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