

TÜV Rheinland Energy GmbH
D-51101 Köln

Ruth Steinhagen-Pinnow
Tel. 0221 806-5134
Fax 0221 806-1349
Mail ruth.steinhagen-pinnow@de.tuv.com
31. März 2020

Wichtige Information zu den Zertifikaten mit Gültigkeit bis 1. April 2020

Sehr geehrte Damen und Herren,

Durch die momentanen Einschränkungen aufgrund der gegenwärtigen Covid-19-Pandemie ist es leider nicht möglich die Folgezertifikate rechtzeitig mit den erforderlichen Originalunterschriften zu veröffentlichen. Wir versuchen dies in enger Abstimmung mit dem Umweltbundesamt so schnell wie möglich zu realisieren.

Aus diesem Grund behalten die Vorgängertzertifikate vorerst weiter Ihre Gültigkeit.

Important Information regarding Certificates with Expiry Date 1 April 2020

Ladies and Gentlemen

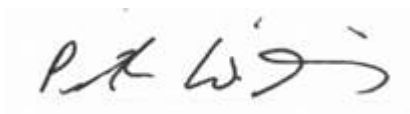
Given the current restrictions resulting from the COVID-19 Pandemic, we are currently unable to publish the renewed certificates with the required original signatures. We are closely cooperating with the Umweltbundesamt to remedy this.

This is why the affected certificates will remain valid for the present.

Freundliche Grüße / Yours sincerely

Bereichsleitung

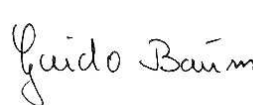
ppa.



Dr. rer. nat. Peter Wilbring

Immissionsschutz

i. V.



Dipl.-Ing. Guido Baum

TÜV Rheinland Energy GmbH
Am Grauen Stein
D-51105 Köln

Tel +49 221 806-5200
Fax +49 221 806-1349
Mail tre-service@de.tuv.com
Web www.umwelt-tuv.de
www.enviro-tuv.com

Geschäftsführung und Sitz der Gesellschaft:

Geschäftsführer: Dirk Fenske

Sitz der Gesellschaft: Köln
Amtsgericht Köln HRB 56171
Ust.-Id-Nr.: DE 814653989

Wichtige Information zu Zertifikaten mit Gültigkeit bis 1. April 2020

Sehr geehrte Damen und Herren,

alle Zertifikate mit Gültigkeit bis zum 1. April 2020 werden verlängert.

Durch die momentanen Einschränkungen auf Grund der gegenwärtigen COVID-19-Pandemie ist es leider nicht möglich, die Folgezertifikate rechtzeitig mit den erforderlichen Originalunterschriften zu veröffentlichen. Wir versuchen dies in enger Abstimmung mit der TÜV Rheinland Energy GmbH so schnell wie möglich zu realisieren.

Aus diesem Grund behalten die Vorgängerzertifikate vorerst weiter ihre Gültigkeit.

Important Information regarding Certificates with Expiry Date 1 April 2020

Dear Sir or Madam,

Please note that all certificates expiring on 1 April 2020 will be renewed.

Given the current restrictions resulting from the COVID-19 pandemic, we are currently unable to publish the renewed certificates with the required original signatures. We are closely cooperating with the TÜV Rheinland Energy GmbH to remedy this.

Therefore, the affected certificates will remain valid until further notice.

Mit freundlichen Grüßen / Yours sincerely

Im Auftrag



Dr. Marcel Langner
Head of Section II 4.1

Dessau-Roßlau,
30. März 2020
Bearbeiter/in:
Jan Thiessen
Telefon:
+49(0)340 2103-2473
E-Mail:
Jan.Thiessen@uba.de
Geschäftszeichen:
II 4.1 – 50 526 – 2/10

Umweltbundesamt
Wörlitzer Platz 1
06844 Dessau-Roßlau
Tel.: +49 (0)340 2103-0
Fax: +49 (0)340 2103-2285
www.uba.de

Dienstgebäude Bismarckplatz
Bismarckplatz 1
14193 Berlin

Dienstgebäude Corrensplatz
Corrensplatz 1
14195 Berlin

Dienstgebäude Marienfelde
Schichauweg 58
12307 Berlin

Dienstgebäude Bad Elster
Heinrich-Heine-Str. 12
08645 Bad Elster

Dienstgebäude Langen
Paul-Ehrlich-Str. 29
63225 Langen

CERTIFICATE

of Product Conformity (QAL1)

Certificate No. : 0000043104

Certified AMS: D-CEM2100 for dust

Manufacturer: CODEL International Ltd.
Station Road, Bakewell
DE45 1GE GB Derbyshire
England

Test Institute: TÜV Rheinland Energie und Umwelt GmbH

**This is to certify that the AMS has been tested
and found to comply with:**

**EN 15267-1: 2009, EN 15267-2: 2009, EN 15267-3: 2007
and EN 14181: 2004**

Certification is awarded in respect of the conditions stated in this certificate
(see also the following pages).



Suitability Tested
EN 15267
QAL1 Certified
Regular
Surveillance

www.tuv.com
ID 0000043104

Publication in the German Federal Gazette
(BAnz.) of 2 April 2015

German Federal Environment Agency
Dessau, 30 April 2015



i. A. Dr. Marcel Langner

This certificate will expire on:
1 April 2020

TÜV Rheinland Energie und Umwelt GmbH
Cologne, 29 April 2015



ppa. Dr. Peter Wilbring

www.umwelt-tuv.de / www.eco-tuv.com
teu@umwelt-tuv.de
Tel. +49 221 806-5200

TÜV Rheinland Energie und Umwelt GmbH
Am Grauen Stein
51105 Cologne

Accreditation according to EN ISO/IEC 17025 and certified according to ISO 9001:2008.

Test report:	936/21216335/A of 2 October 2014
Initial certification:	2 April 2015
Expiry date:	1 April 2020
Publication:	BAnz AT 2 April 2015 B5, chapter I number 1.1

Approved application

The tested AMS is suitable for use at plants requiring official approval as per Directive 2010/75/EU, chapter III combustion plants and chapter IV waste incineration plants, the AMS is not suitable for the use at German waste incineration plants (17. BImSchV), due to the emission limit value of 5 mg/m³. The tested ranges have been chosen with respect to the wide application range of the AMS.

The suitability of the AMS for this application was assessed on the basis of a laboratory test and a six-month field test at a municipal waste incinerator.

The AMS is approved for an ambient temperature range of -20 °C to +50 °C.

The notification of suitability of the AMS, performance testing, and the uncertainty calculation have been effected on the basis of the regulations valid at the time of performance testing. As changes in legal regulations are possible, any potential user should ensure that this AMS is suitable for monitoring the limit values relevant to the application.

Any potential user should ensure, in consultation with the manufacturer, that this AMS is suitable for the installation at which it will be installed.

Basis of the certification

This certification is based on:

- test report 936/21216335/A of 2 October 2014 of TÜV Rheinland Energie und Umwelt GmbH
- suitability announced by the German Federal Environment Agency (UBA) as the relevant body
- the ongoing surveillance of the product and the manufacturing process
- publication in the German Federal Gazette (BAnz AT 2 April 2015 B5, chapter I number 1.1 announcement by UBA from 25 February 2015)

AMS designation:

D-CEM2100 for dust

Manufacturer:

Codel International Ltd., Bakewell, Great Britain

Field of application:

For measurements at plants requiring official approval as per Directive 2010/75/EU, chapter III combustion plants and chapter IV waste incineration plants, the AMS is not suitable for the use at German waste incineration plants (17. BImSchV).

Measuring ranges during the performance test:

Component	Certification range	Supplementary ranges		Unit
dust	0 - 0,1 ¹⁾	0 - 0,3	0 - 1	Ext.

¹⁾ during performance testing in the field, this value was equivalent to approx. 0 to 10 mg/m³ of dust at a measurement path of 5 m

Software versions:

507.120A (DDU)
507.069A (Transceiver Master)
507.028A (Transceiver Slave)

Restrictions:

None

Notes:

1. The maintenance interval is three months.
2. The AMS may only be used in stack gas that is not saturated with water vapour.
3. Requirements with regard to the determination coefficient R² of the calibration function in accordance with EN 15267-3 were not satisfied during performance testing.
4. For every plant it shall be verified that the measuring range required for monitoring the limit value can be adjusted.

Test report:

TÜV Rheinland Energie und Umwelt GmbH, Cologne
Report no.: 936/21216335/A of 2 October 2014

Certified product

This certificate applies to automated measurement systems conforming to the following description:

The AMS Codel D-CEM2100 is an in-situ dust monitor operating on the principle of transmission measurement. Emitted light is weakened on the measuring path. The detected weakening of light represents the measured value, which, apart from dust loading, also depends on other properties of dust, such as particle size distribution and colour.

The AMS consists of two identically constructed transceivers that both emit and receive light. During a measurement procedure two measuring light pulses alternately pass the measuring path in opposite direction with high frequency. Located between each of the two transceivers and the process gas is a pneumatically operated ball valve. A diffusing mirror is situated on the ball. In shut-off position the mirror is located in the ray path and reflects the emitted light. Hereby, contaminations of the optical interfaces can be detected and compensated.

For zero and span point checks the AMS must be installed on a dust-free reference junction. Span point checks are carried out by means of optical filters.

The AMS consists of the following components:

- 2 transceivers each with pneumatic valve and purge air unit
- 1 power supply unit (PSU)
- 1 signal processor unit (SPU)
- 1 data display unit with outputs (DDU)
- different reference filter
- telescope for adjustment of the light path
- dust-free path (comparative measuring path)

The distance between the two transceivers on the dust-free measurement section must be identical to the distance between the transceivers at the duct.

General notes

This certificate is based upon the equipment tested. The manufacturer is responsible for ensuring that on-going production complies with the requirements of the EN 15267. The manufacturer is required to maintain an approved quality management system controlling the manufacture of the certified product. Both the product and the quality management systems shall be subject to regular surveillance.

If a product of the current production does not conform to the certified product, TÜV Rheinland Energie und Umwelt GmbH must be notified at the address given on page 1.

A certification mark with an ID-Number that is specific to the certified product is presented on page 1 of this certificate. This can be applied to the product or used in publicity material for the certified product.

This document as well as the certification mark remains property of TÜV Rheinland Energie und Umwelt GmbH. With revocation of the publication the certificate loses its validity. After the expiration of the certificate and on requests of the TÜV Rheinland Energie und Umwelt GmbH this document shall be returned and the certificate mark must not be employed anymore.

The relevant version of this certificate and its expiration is also accessible on the internet: qal1.de.

Certification of D-CEM2100 for dust is based on the documents listed below and the regular, continuous monitoring of the Quality Management System of the manufacturer:

Initial certification according to EN 15267

Certificate No. 0000043104: 30 April 2015
 Expiry date of the certificate: 1 April 2020
 Test report: 936/21216335/A of 2 October 2014
 TÜV Rheinland Energie und Umwelt GmbH, Cologne
 Publication: BAnz AT 2 April 2015 B5, chapter I number 1.1
 Announcement by UBA from 25 February 2015

Calculation of overall uncertainty according to EN 14181 and EN 15267-3

Measuring system

Manufacturer	Codel International Ltd.
AMS designation	D-CEM2100
Serial number of units under test	069; 070 / 071; 072
Measuring principle	Transmission

Test report

Test laboratory	936/21216335/A
Date of report	TÜV Rheinland 2014-10-02

Measured component

Certification range	Dust 0 - 10 mg/m ³
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Calculation of the combined standard uncertainty

Tested parameter

			u^2	
Standard deviation from paired measurements under field conditions *	u_D	0.142 mg/m ³	0.020	(mg/m ³) ²
Lack of fit	u_{lof}	-0.058 mg/m ³	0.003	(mg/m ³) ²
Zero drift from field test	$u_{d,z}$	0.100 mg/m ³	0.010	(mg/m ³) ²
Span drift from field test	$u_{d,s}$	0.130 mg/m ³	0.017	(mg/m ³) ²
Influence of ambient temperature at span	u_t	0.120 mg/m ³	0.014	(mg/m ³) ²
Influence of supply voltage	u_v	0.015 mg/m ³	0.000	(mg/m ³) ²
Uncertainty of reference material at 70% of certification range	u_{rm}	0.081 mg/m ³	0.007	(mg/m ³) ²
Excursion of measurement beam	u_{mb}	0.153 mg/m ³	0.023	(mg/m ³) ²

* The larger value is used :

"Repeatability standard deviation at span" or

"Standard deviation from paired measurements under field conditions"

Combined standard uncertainty (u_c)

$$u_c = \sqrt{\sum (u_{max,i})^2} \quad 0.31 \text{ mg/m}^3$$

Total expanded uncertainty

$$U = u_c * k = u_c * 1.96 \quad 0.60 \text{ mg/m}^3$$

Relative total expanded uncertainty

U in % of the ELV 10 mg/m³ 6.0

Requirement of 2010/75/EU

U in % of the ELV 10 mg/m³ 30.0

Requirement of EN 15267-3

U in % of the ELV 10 mg/m³ 22.5