

Schedule of Accreditation

issued by

United Kingdom Accreditation Service

2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

 31924 Accredited to ISO/IEC 17025:2017	Nørlund Limited	
	Issue No: 001 Issue date: 25 June 2026	
	The Curve Diamond Way Stone ST15 0SD	Contact: Mr Adam Lomax Tel: +44 (0) 3300 430423 E-Mail: adam.lomax@norlund.uk Website: www.norlund.uk
Calibration performed by the Organisation at the locations specified		

Locations covered by the organisation and their relevant activities

Laboratory locations:

Location details	Activity	Location code
The Curve Diamond Way Stone ST15 0SD Local contact: Mr Adam Lomax Tel: +44 (0) 3300 430423 E-Mail: adam.lomax@norlund.uk	Quality System Administration Gas Calibration Natural Gas Biomethane Biogas Process Gas Analysers Liquefied Natural Gas (LNG) Analysers	Stone

Site activities performed away from the locations listed above:

Location details	Activity	Location code
Customers' sites or premises The customers' site or premises must be suitable for the nature of the particular calibrations undertaken and will be the subject of contract review arrangements between the laboratory and the customer.	Natural Gas Biomethane Biogas Process Gas Analysers Liquefied Natural Gas (LNG) Analysers	Site



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Calibration and Measurement Capability (CMC)

Measured Quantity Instrument or Gauge	Range	Expanded Measurement Uncertainty ($k = 2$)	Remarks	Location Code
CALIBRATED GAS MIXTURES (CGM) Calibration of synthetic gas mixtures by analysis				
SYNTHETIC NATURAL GAS, HYDROGEN ENRICHED NATURAL GAS and BIOMETHANE	amount fraction (%mol/mol)	amount fraction (%mol/mol)	Calibration of gas mixtures to in house method CTM002 by ISO 6143:2001 or ISO 12963:2017, using gas chromatography with thermal conductivity detection (GC-TCD) and/or gas chromatography with flame ionisation detection (GC-FID) in accordance with ISO 6974:2012	Stone
nitrogen	0.1 to 12	1.28% relative + 0.0005		
oxygen	0.01 to 1.5	0.35% relative + 0.0005		
carbon dioxide	0.1 to 8.0	0.6% relative + 0.002		
hydrogen	0.05 to 20	0.85% relative		
methane	66.5 to 100	-0.31% relative + 0.32		
ethane	0.1 to 20	0.49% relative + 0.002		
propane	0.1 to 8.0	0.3% relative + 0.003		
iso-butane	0.01 to 1.2	0.5% relative + 0.0007		
n-butane	0.01 to 2	0.5% relative + 0.0007		
neo-pentane	0.01 to 0.35	1.1% relative		
iso-pentane	0.01 to 0.35	0.6% relative		
n-pentane	0.01 to 0.35	0.85% relative		
n-hexane	0.01 to 0.35	1.3% relative		



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Measured Quantity Instrument or Gauge	Range	Expanded Measurement Uncertainty ($k = 2$)	Remarks	Location Code
GAS MIXTURE PROPERTIES Calculated values from composition				
gross calorific value molar basis (kJ.mol^{-1}) mass basis (MJ.kg^{-1}) volume basis (MJ.m^{-3})	Volume-basis calculations are restricted to mixtures for which the compression factor at the reference conditions is greater than 0.9	0.2% relative 0.28% relative 0.2% relative	Values calculated according to ISO 6976:2016 on a real or ideal gas basis assuming mixture is dry (free from water)	Stone
net calorific value molar basis (kJ.mol^{-1}) mass basis (MJ.kg^{-1}) volume basis (MJ.m^{-3})	Calculated at the following reference conditions: All at 101.325 kPa (1 atm) and	0.2% relative 0.28% relative 0.2% relative	Combustion properties can be expressed in units of the Joule (J) or in kilowatt hours (kWh)	
relative density (air = 1) density (kg.m^{-3})	Combustion temperatures of 0°C , 15°C , 15.55°C (60°F), 20°C , 25°C	0.1% relative 0.1% relative		
gross Wobbe index (MJ.m^{-3}) net Wobbe index (MJ.m^{-3})		0.23% relative 0.23% relative		
mean molecular mass (kg.kmol^{-1}) compression factor	Metering temperatures of 0°C , 15°C , 15.55°C (60°F), 20°C	0.1% relative 0.1% relative		
superior calorific value molar basis (kJ.mol^{-1}) mass basis (MJ.kg^{-1}) volume basis (MJ.m^{-3})	Volume-basis calculations are restricted to mixtures for which the compression factor at the reference conditions is greater than 0.9	0.2% relative 0.28% relative 0.2% relative	Values calculated according to ISO 6976:1995 (including amendment No 1, May 1998) on a real or ideal gas basis assuming mixture is dry (free from water)	Stone
inferior calorific value molar basis (kJ.mol^{-1}) mass basis (MJ.kg^{-1}) volume basis (MJ.m^{-3})	Calculations are restricted to gas mixtures with amount fraction (%mol/mol)	0.2% relative 0.28% relative 0.2% relative		
relative density (air = 1) density (kg.m^{-3})	nitrogen < 30 carbon dioxide < 15 ethane < 15 other components < 5 methane no restriction	0.1% relative 0.1% relative 0.23% relative	Combustion properties can be expressed in units of the Joule (J) or in kilowatt hours (kWh)	
superior Wobbe index (MJ.m^{-3})		0.1% relative		
mean molecular mass (kg.kmol^{-1}) compression factor	Calculated at the following reference conditions: All at 101.325 kPa (1 atm) and	0.1% relative		
	Combustion temperatures of 0°C , 15°C , 15.55°C (60°F), 20°C , 25°C			
	Metering temperatures of 0°C , 15°C , 15.55°C (60°F), 20°C			



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Measured Quantity Instrument or Gauge	Range	Expanded Measurement Uncertainty ($k = 2$)	Remarks	Location Code
GAS MIXTURE PROPERTIES Calculated values from composition (continued) carbon dioxide emission factors volume basis (g.m^{-3}) gross combustion energy basis (g.MJ^{-1}) net combustion energy basis (g.MJ^{-1})	Volume-basis calculations are restricted to mixtures for which the compression factor at the reference conditions is greater than 0.9 Calculated at the following reference conditions: All at 101.325 kPa (1 atm) and Combustion temperatures of 0°C, 15°C, 15.55°C (60°F), 20°C, 25°C Metering temperatures of 0°C, 15°C, 15.55°C (60°F), 20°C	Measurement uncertainties are calculated in accordance with BS 8609:2014 Section 5 and are dependant on the mixture composition and the component measurement uncertainties derived at the time of certification.	Calculated values according to methods in BS 8609:2014 in support of the COMMISSION REGULATION (EU) No 601/2012 of 21 June 2012 on the monitoring and reporting of greenhouse gas emissions pursuant to Directive 2003/87/EC of the European Parliament and of the Council of Brussels, 18/VII/2007 C (2007) 3416 final (publication EU Commission 18th July 2007)	Stone



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GAS ANALYSERS Calibration of gas analysers using reference gas mixtures NATURAL GAS ANALYSERS	amount fraction (%mol/mol)	amount fraction (%mol/mol)	Calibration of gas analysers used for natural gas analysis to in house method CTM001 following performance evaluation in accordance with ISO 10723:2012	Stone Site
nitrogen	0.1 to 12	1.28% relative + 0.0005		
oxygen	0.01 to 1.5	0.35% relative + 0.0005		
carbon dioxide	0.1 to 8.0	0.6% relative + 0.002		
hydrogen	0.05 to 20	0.85% relative		
methane	66.5 to 100	-0.31% relative + 0.32		
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n-hexane	0.01 to 0.35	1.3% relative		
END				



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Appendix - Calibration and Measurement Capabilities

Introduction

The definitive statement of the accreditation status of a calibration laboratory is the Accreditation Certificate and the associated Schedule of Accreditation. This Schedule of Accreditation is a critical document, as it defines the measurement capabilities, ranges and boundaries of the calibration activities for which the organisation holds accreditation.

Calibration and Measurement Capabilities (CMCs)

The capabilities provided by accredited calibration laboratories are described by the Calibration and Measurement Capability (CMC), which expresses the lowest measurement uncertainty that can be achieved during a calibration. If a particular device under calibration itself contributes significantly to the uncertainty (for example, if it has limited resolution or exhibits significant non-repeatability) then the uncertainty quoted on a calibration certificate will be increased to account for such factors.

The CMC is normally used to describe the uncertainty that appears in an accredited calibration laboratory's schedule of accreditation and is the uncertainty for which the laboratory has been accredited using the procedure that was the subject of assessment. The measurement uncertainty is calculated according to the procedures given in the GUM and is normally stated as an expanded uncertainty at a coverage probability of 95 %, which usually requires the use of a coverage factor of $k = 2$. An accredited laboratory is not permitted to quote an uncertainty that is smaller than the published measurement uncertainty in certificates issued under its accreditation.

Expression of CMCs - symbols and units

It should be noted that the percentage symbol (%) represents the number 0.01. In cases where the measurement uncertainty is stated as a percentage, this is to be interpreted as meaning percentage of the measurand. Thus, for example, a measurement uncertainty of 1.5 % means $1.5 \times 0.01 \times q$, where q is the quantity value.

The notation $Q[a, b]$ stands for the root-sum-square of the terms between brackets: $Q[a, b] = [a^2 + b^2]^{1/2}$