



Stack Air Emission Test Report

Client Name : GMS COMPOSITE KNITTING IND. LTD.
Client Address : Shardagonj, Kashimpur, Gazipur
Sampling Date : 09 June 2016
Reporting Date : 11 June 2016

Description of Sampling:

Name of the combustion Unit: Dyeing Finishing (Stenter)

Fuel Type: Natural Gas

Key information of Device:	Dyeing Finishing		
Location of the device	Ground Floor		
Device Name	Stenter		
Brand/Name	Sunsuper	Bruckner	Bruckner
Country	Korea	Germany	Germany
Fuel	Line Gas	Line Gas	Line Gas

Sampling was done by automatic sampler connected with the analyzer. During the sampling procedure, all the instruction stated in the WI-01 was followed. The machine probe was set to the center point of the exhaust. Sampling was done for specific time intervals mentioned in the work instruction and recorded in a field data collection Sheet.





Description of the methods:

All the tests have been performed using continuous stack emission monitoring (CEMS) test methods. Kane-940 continuous analyzer was used to monitor CO, SO₂, CO₂, NO and NO₂. The Analyzer is designed to meet the BS EN 50319 standard method. CO, NO and SO₂ is measured using Electrochemical sensors and CO₂ is measured using Non-Dispersive Infra-Red (NDIR), Method.

Description of instrument:

Parameter	Regulation	Accuracy	Range
Temp Measurement	1.0 ⁰ C/F	±2.0 ⁰ C±0.3%reading	0-600 ⁰ C
Flue Temperature with probe	.01 ⁰ C/F	±1.0 ⁰ C±0.3%reading	32-1112 ⁰ F
Inlet temperature			
Pressure	0.01mbar	±2% of full scale	+150mbar to 150mbar
Gas Measurement			
Carbon Monoxide (Standard Compensated)	0.1% 1ppm	±2% ±20ppm<400ppm ±5%<5000ppm ±10%>5000ppm	0-21% 0-10000ppm
Carbon Monoxide (High Range)	0.01%	±5% reading from 0.1% to 10%	0-10%
Nitric Oxide (Standard)	0.01%	±5ppm>100ppm ±5%>100ppm	0-5000ppm
Nitric Oxide (Low range)	1ppm	±5ppm<30ppm ±5ppm<30ppm	0-100ppm
Nitrogen Dioxide	1ppm	±5ppm<100ppm ±10ppm<500ppm ±5%500ppm	0-1000ppm
Sulphur Dioxide	1ppm	±5ppm<100ppm ±5%>100ppm	0-5000ppm
Ambient Operation rang		0 ⁰ C to 45 ⁰ C/10% to 90%rh non condensing	





Instrument Calibration:

The temperature probe has been calibrated by temperature simulator EX/R/117. The CO₂ Sensor has calibrated by using CO Test gas, CO standard certified gas, the CO sensor has calibrated by ambient air and standard certified gas for both lower and higher detection limit respectively. The pressure sensor has calibrated by dead wrights taster and E/C/100 for both lower and higher detection limit respectively. The measured flow rate is tested by TL529 and pump suction is calibrated by EX/X/186.

Measurement Uncertainties:

The Uncertainty Assigned to the above measurement is 2⁰C for temperature, ±2% for gas measured and 0.05% for pressure.

Table-1: Result of Air Emission Monitoring.

Run (10 minutes interval)		Measured Pollutants					
		O %	CO mg/Nm ³	CO ₂ %	NO mg/Nm ³	NO _x mg/Nm ³	SO ₂ mg/Nm ³
Run-1	Sunsuper ₁	2.3	711	8.5	756	112	00
	Bruckner ₂	1.7	678	8.5	612	118	00
	Bruckner ₃	1.8	668	8.6	787	121	00
Run-2	Sunsuper ₁	2.3	718	8.5	756	124	00
	Bruckner ₂	1.7	674	8.5	612	119	00
	Bruckner ₃	1.8	672	8.7	787	97	00
Run-3	Sunsuper ₁	2.3	721	8.5	711	118	00
	Bruckner ₂	1.7	675	8.6	787	117	00
	Bruckner ₃	1.8	671	8.5	685	127	00





Table-2: Standard Permissible of Air Emission.

Agency	Pollutants					
	O %	CO mg/Nm ³	CO ₂ %	NO mg/Nm ³	NO _x mg/Nm ³	SO ₂ mg/Nm ³
DoE	NYS	0-500	NYS	NYS	150 (Gas) 300(Oil)	NYS
US EPA	0-30%	0-1000	NYS	NYS	150 (Gas) 300(Oil)	NYS
World Bank	NYS	NYS	NYS	NYS	320 (Gas) 460 (Liquid)	NYS (GAS) 2000 (Liquid)

- *NYS** = Not Yet Set
- US EPA** = US Environmental Protection Agency
- DoE** = Depart of Environment (Bangladesh)
- O₂** = Oxygen
- CO₂** = Carbon dioxide
- NO_x** = Oxide of Nitrogen [NO+NO₂]
- SO₂** = Sulfur Dioxide
- CO** = Carbon Monoxide

Sampling Graph

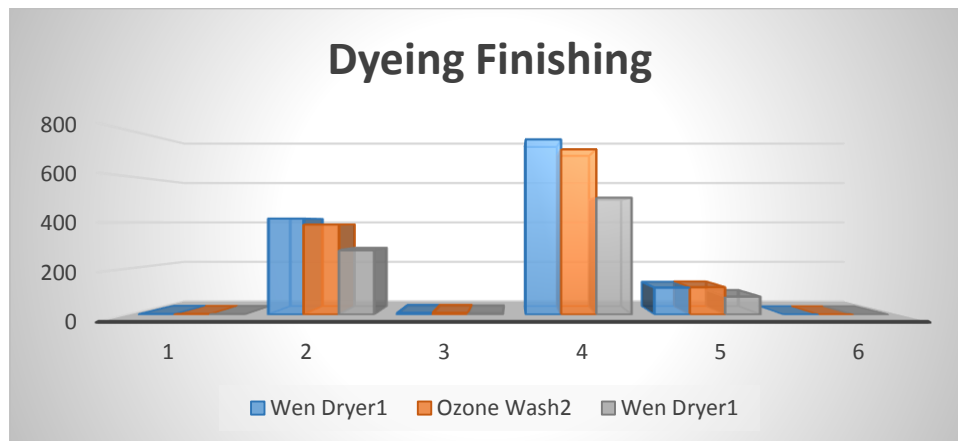


Table-2: Result Shown As Graph





Compliance Enviro Comment:

The Stack Emission From the stack point of the generator has been analyzed for the parameter of NO_x, SO₂, CO & CO₂ to evaluate the effect of the plant's emission while running on 100% Diesel on the air environment. From the analysis, it has been observed that the emission of CO and SO₂ is within the standard limit of DoE, US EPA and World Bank.

All are tested flue gas are found in acceptable limit.

It is recommended that gas-musk should be provided to related workers to avoid occupational health hazard.

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Compliance Enviro Services





Testing Equipment:

Air Pollution contamination of the atmosphere caused by the discharge, accidental or deliberate of a wide range of toxic substances. Often the amount of the released substance is relatively high in a certain locality, so the harmful effects are more noticeable. The major sources of air pollution are transportation engines, power and heat generation, industrial processes and the burning of solid waste. A new source of air pollution is an increasing 'hole' in the ozone layer in the atmosphere above Antarctica, coupled with growing evidence of global ozone depletion. Air pollution has also long been known to have an adverse effect on human beings, plants, livestock and aquatic ecosystem through acid rain.

Recently as in other parts of the world air pollution has received priority among environmental issues in Asia. This problem is acute in Dhaka, the capital of Bangladesh and also the hub of commercial activity.

Compliance Enviro Services high quality equipment are available to assess your indoor air quality. Now most of the customers are committed to environmental aspect. As a result Air Quality test is a vital requirement of customers. So Compliance Enviro Services is also committed to assess your indoor Air Quality with transparency & Quality. To assess this Air Quality we have to follow some standards, such as ECR, 1997, WHO, DoE, World Bank etc. Compliance Enviro Services has a air emission quality testing machine from Testo and the model is –TESTO 340-Flue Gas Analyzer.



Testo 340- Flue Gas Analyzer.

