

## LQSI COKE PROFICIENCY TESTING PROGRAMS

### LQSI COKE PROFICIENCY TEST PROGRAMS INCLUDE MET COKE, PET COKE, CSR / CRI, AND TUMBLER TEST

Laboratory Quality Services International (LQSi) programs provide a quality-monitoring tool for SGS' global network of analytical laboratories as well as for numerous other industry laboratories. The LQSi coke proficiency test programs (PTPs) are offered monthly and quarterly. Let our LQSi experts customize a quality control program for you.

### MONITOR AND CONTROL LABORATORY PROCESSES

LQSi offers specialized proficiency test programs (PTPs) that:

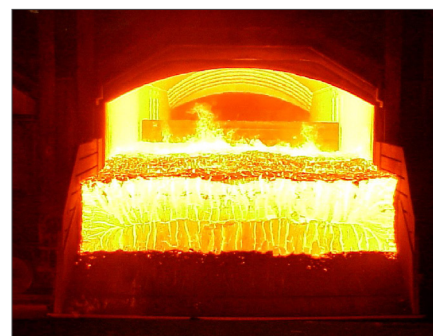
- Support the technical validity of laboratory results
- Protect interests in trade transactions
- Monitor and control sources of variation
- Verify analyst proficiency
- Validate methods and determine an instrument's fitness-for-use
- Supplement laboratory quality control materials
- Supplement calibration verification materials
- Support ISO/IEC 17025 accreditation and ISO 9001 activities
- Support CO2 emission factor requirements
- Benchmark within an organization
- Benchmark within a country or a geographical region or globally
- Benchmark against other methods or instruments
- Benchmark against a industry group / among industry groups
- Gain confidence in industrial (combustion, conversion, coking, and blending) processes

LQSi MC PTP (Metallurgical Coke) [- 70 Mesh (-212 $\mu$ m)] occurs monthly. The following parameters are measured:

- Moisture, Total
- Ash
- Volatile ASTM
- Volatile, ISO
- Sulfur, S
- Calorific Value
- Calorific Value, As Rec
- Carbon, C
- Hydrogen, H
- Nitrogen, N
- Chlorine, Cl
- Silica, SiO<sub>2</sub>
- Alumina, Al<sub>2</sub>O<sub>3</sub>
- Titanium Oxide, TiO<sub>2</sub>
- Iron Oxide Fe<sub>2</sub>O<sub>3</sub>
- Calcium Oxide, CaO
- Magnesium Oxide, MgO
- Potassium Oxide, K<sub>2</sub>O
- Sodium Oxide, Na<sub>2</sub>O
- Sulfur Trioxide, SO<sub>3</sub>
- Phos. Pentoxide, P<sub>2</sub>O<sub>5</sub>

LQSi PC PTP (petroleum coke) [- 70 Mesh (-212  $\mu$ m)] occurs monthly. The following parameters are measured:

- Moisture, Total
- Ash
- Volatile ASTM
- Volatile, ISO
- Sulfur, S
- Calorific Value
- Calorific Value, As Received
- Carbon, C
- Hydrogen, H
- Nitrogen, N
- Sodium, Na
- Silicon, Si
- Iron, Fe
- Nickel, Ni
- Calcium, Ca
- Vanadium, V
- Aluminum, Al



LQSi CRI / CSR PTP [-19.0- by 22.4-mm (3/4- by 7/8-inch) coke] testing occurs quarterly. The following parameters are measured:

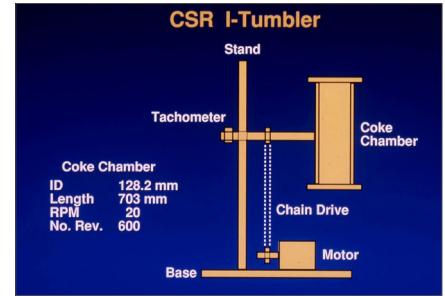
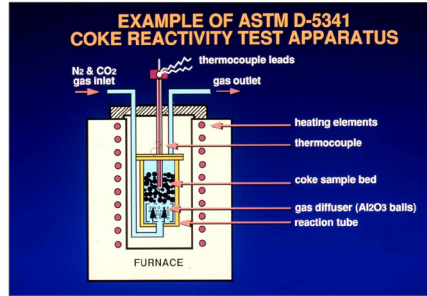
- Calculated CRI
- Calculated CSR
- Starting sample weight
- Sample weight after reaction
- Sample weight loss
- Plus 3/8-inch
- Minus 3/8-inch
- Abrasion value

LQSi TT PTP (Tumbler Test) [75 x 50 mm (3 x 2-inch) coke] testing occurs quarterly. The following parameters are measured:

- Starting Weight
- Retained on 1" Sieve
- Retained on 1/4" Sieve
- Passing 1/4" Sieve
- Weight Loss
- Stability
- Hardness

# EASY-TO-READ AND EASY-TO-UNDERSTAND REPORTS

- LQSi PTP reports focus on the current-round performance and the historical performance over the last twelve rounds, providing tabular and graphical summaries and presentations of laboratory performance.
- Single-page, specialized management reports allow managers with responsibility for multiple laboratories to obtain a quick view of all of their laboratories' performance at a single glance.
- Detailed parameter reports provide performance measures, repeatability and reproducibility, distributions, and runs chart.

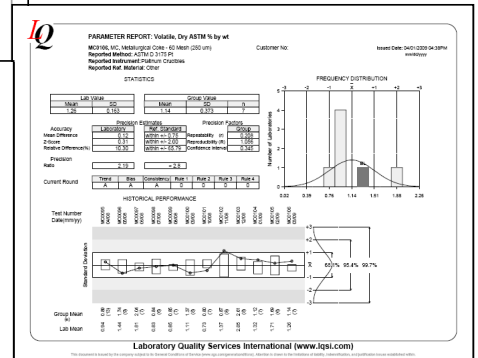


**STATISTICAL SUMMARY**  
 TITANIA, Ti, Coke Tumbler (Test ASTM D 5422) Customer No. Insect Date: 05/09/2010 02:04PM  
 Reported Method: ASTM D 3175 (S) Reported Repeatability: 0.0000  
 Reported Reproducibility: 0.0000

PARAMETER	Unit	Lab Value	% Bias	Z-Score	Previous Round	Group Value
Starting Weight	g	22.06	0.00%	-0.33	-0.84	22.02
Residual on 1st Screen	g	14.32	0.2723	0.89	0.7768	14.16
Residual on 1st Screen	g	0.337	0.7723	-25.37	-21.687	1.07
Residual on 1st Screen	g	0.135	0.2424	1.65	-0.334	0.26
Weight Loss	g	0.207	0.2424	-20.73	-21.687	1.14
Reactivity	%	86.13	0.286	0.92	0.207	1.08
Repeatability	%	1.1	0.55	-0.11	-0.11	

**PERFORMANCE SUMMARY**  
 P2000, Ti, P2000 Coke 45 Mesh (200µm) Customer No. Insect Date: 04/16/2010 01:10PM  
 Reported Method: ASTM D 3175 (S)

PARAMETER	Z-Score	Percentile	Average Value		Historical Performance		Run Variations	
			X	Z-Score	Percentile	Trend	Size	Combining
Residual on 45 Mesh	-0.10	5	12	0.68	61	A	A	0
Residual on 45 Mesh	0.35	63	12	0.75	66	A	A	0
Residual on 45 Mesh	0.12	63	12	0.60	48	A	A	0
Residual on 45 Mesh	0.21	65	12	0.76	62	A	A	0
Residual on 45 Mesh	0.21	65	12	0.76	61	A	A	0
Residual on 45 Mesh	0.21	65	12	0.76	60	A	A	0



## CONTACT INFORMATION

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