MI-17

111

Great Lakes Castings Corporation
Cupola Emission Control System Stack Test Summary
for August 13, 1996, Test Date

Test Parameter	Permitted Emission Rate[1]	Average Measured Emission Rate[2]	Emission Rate Unit	Test Description
Total Suspended Particulate (TSP)	0.25	0.237	lbs/1000 lbs dry exhaust gas	U. S. EPA Ref. Mtd. 5
	1.4	1.19	lbs/ton of metal charged[3]	
	28.0	19.91	lbs/hour	
	50.8	34.0	tons/year[4]	
PM-10	1.08	NR	lbs/ton of metal charged	
	21.6	NR	lbs/hour	
	39.2	NR	tons/year	
Carbon Monoxide (CO)	11.25	0.36	lbs/ton of metal charged	U. S. EPA Ref. Mtd. 10
	225.0	6.04	lbs/hour	
	408.0	10.3	tons/year	
Nitrogen Oxides (NOX)	0.28	0.16	lbs/ton of metal charged	U. S. EPA Ref. Mtd. 7E
	5.6	2.69	lbs/hour	
	14.2	4.6	tons/year	
Sulfur Dioxide (SO2)	1.5	< 0.011	lbs/ton of metal charged	U. S. EPA Ref. Mtd. 6C
	30.0	< 0.18	lbs/hour	
	54.4	< 0.3	tons/year	
Metals				U. S EPA Ref. Mtd. 29
Arsenic (AS)	0.0036	0.0011	lbs/hour	
Lead (PB)	0.02	0.0025	lbs/ton of metal charged	
	0.4	0.041	lbs/hour	
	0.76	0.07	tons/year	
Manganese (MN)	0.87	0.35	lbs/hour	
MN-10	0.67	NR	lbs/hour	
Volatile Organic Compound (VOC)	0.42	NR	lbs/ton of metal charged	
	8.4	NR	lbs/hour	
	13.6	NR	tons/year	
Exhaust Gas Parameters				U. S. EPA Ref. Mtds. 1 - 4

Notes:

1) These permitted emission rates are taken from PTI No. 438-80C.
2) These measured emission rates are taken from the compliance test report that was filed with the Air Quality Division in August 1996.
3) The average charge rate of metallics to the cupola during testing was approximately 16.724 tons per hour.
4) The measured annual emission rates are calculated by using the total tons of metallics (57,060) charged into the cupola for 1996.

NR - Test parameter verification not required.

MI-17

112

Great Lakes Castings Corporation						
Cupola & Cupola ECS Operating Data:						
	8/13/1996 Samples 1-4					
		Sample # 1 Average	Sample # 2 Average	Sample # 3 Average	Sample # 4 Average	Overall Average
Operating Temperature Data (°F):						
1	Upper Stack	1694	1690	1687	1688	1690
2	Venturi Inlet (Quencher Outlet)	133	132	131	131	132
3	Exhaust Blower Inlet	143	142	141	141	142
Pressure Drop Data (Inches of Water):						
1	Venturi	45.1	45.7	46.1	45.7	45.7
2	Demister	0.2	0.2	0.3	0.3	0.3
3	Exhaust Blower	48.0	50.0	48.8	48.0	48.7
Liquid Flow Rate Data (GPM):						
1	Quencher Flow	149	148	148	147	148
2	Quencher Booster Flow	238	238	233	233	236
3	Total Q Flow	387	386	381	380	384
4	Venturi	250	250	250	250	250
5	Demister	64	64	64	64	64
Melt Rate Data:						
1	Metallic Charge Rate (TPH)	17.696	16.692	16.655	15.851	16.724
*-	Each data entry represents an instantaneous reading of the process variable(s)					
	collected approximately every ten minutes throughout the test period.					