BURNER SPECIFICATION

ADAPTED FROM: **API STANDARD 560** and **API RECOMMENDED PRACTICE 535**

JOHN ZINK COMPANY LLC

REVISED: August, 2003

JOHN ZINK FILE NUMBER:	PROJECT NUMBER:

REVISION:	DATE:	SHEET
		1 of 3

PURCHASER: **JOB NUMBER:**

OWNER: **LOCATION:**

				REV
	HEATER GENERAL DATA			
1	HEATER EQUIPMENT NUMBER			0
2	HEATER SERVICE			0
3	HEATER MANUFACTURER			0
4	TYPE OF HEATER	*VC [Vertical Cylindrical] or BOX or CABIN*		0
5	SETTING REFRACTORY THICKNESS	inch		0
6	HEATER CASING THICKNESS	inch		0
7	FIREBOX INTERIOR HEIGHT from FLOOR TO ARCH	inch		0
8	FIREBOX INTERIOR LENGTH from WALL TO WALL	inch		0
9	FIREBOX WIDTH between TUBES CENTERLINE TO CENTERLINE	inch		0
10	TUBE CIRCLE DIAMETER [VERTICAL CYLINDRICAL HEATER]	inch		0
11	COMBUSTION AIR PLENUM	*COMMON or INDIVIDUAL*		0
	BURNER DATA			
12	TYPE OF BURNER	*STANDARD or LOW NOx or B.A.C.T.*		0
13	BURNER PROJECT CLASSIFICATION	*NEW or REPLACE or RETROFIT*		0
14	BURNER MODEL NUMBER			0
15	QUANTITY of BURNERS REQUIRED			0
16	FIRING ORIENTATION	*UPFIRED or DOWNFIRED or HORIZONTAL*		0
17	BURNER INSTALLED LOCATION	*ROOF or FLOOR or WALL*		0
18	BURNER CENTERLINE TO TUBE CENTERLINE	inch		0
19	BURNER CENTERLINE TO ADJACENT BURNER CENTERLINE	inch		0
20	BURNER CENTERLINE TO UNSHIELDED REFRACTORY	inch		0
21	BURNER CIRCLE DIAMETER [VERTICAL CYLINDRICAL HEATER]	inch		0
22	PILOT REQUIRED?	*YES or NO*		0
23	PILOT MODEL			0
24	PILOT IGNITION METHOD	*MANUAL or ELECTRIC*		0
25	FLAME ROD	*YES or NO*		0
26	PILOT FUEL			0
27	FUEL PRESSURE at PILOT	psig		0
28	PILOT HEAT RELEASE	Btu/hr		0
29	PILOT CONNECTION	*1/2" FNPT or 1/2" R.F.*		0
30	PILOT IGNITION TRANSFORMER VOLTAGE	*120VAC or 220VAC*		0
31	PILOT IGNITION TRANSFORMER HOUSING	*NEMA 4 or NEMA 7*		0
	OPERATING DATA			
32	BURNER FUEL TYPE	*GAS or OIL or GAS & OIL*		0
33	HEATER MAXIMUM HEAT RELEASE	* **[LHV]** MMBtu/hr		0
34	DESIGN HEAT RELEASE per BURNER	* **[LHV]** MMBtu/hr		0
35	NORMAL HEAT RELEASE per BURNER	* **[LHV]** MMBtu/hr		0
36	MINIMUM HEAT RELEASE per BURNER	* **[LHV]** MMBtu/hr		0
37	OTHER CONDITION:	MMBtu/hr		0
38	OTHER CONDITION:	MMBtu/hr		0
39	BURNER TURNDOWN REQUIRED			0
40	EXCESS AIR at DESIGN HEAT RELEASE	%		0
41	COMBUSTION AIR SOURCE	*AMBIENT or PREHEAT*		0
42	COMBUSTION AIR TEMPERATURE at BURNER	°F		0
43	COMBUSTION AIR RELATIVE HUMIDITY	%		0
44	MAXIMUM AVAILABLE DRAFT at BURNER	inch w.c.		0
45	HEATER DRAFT TYPE	*FORCED or NATURAL or INDUCED*		0
46	BURNER AIR PRESSURE DROP at DESIGN HEAT RELEASE	inch w.c.		0
47	BURNER AIR PRESSURE DROP at NORMAL HEAT RELEASE	inch w.c.		0
48	BURNER AIR PRESSURE DROP at MINIMUM HEAT RELEASE	inch w.c.		0
49	HEATER ELEVATION ABOVE SEA LEVEL	ft		0
50	FLAME LENGTH at DESIGN HEAT RELEASE	ft		0
51	FLAME WIDTH or DIAMETER at DESIGN HEAT RELEASE	inch		0

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	GAS FUEL CHARACTERISTICS								REV
52	FUEL GAS DESIGNATION								0
53	HEATING VALUE	* [LHV]	Btu/scf						0
54	SPECIFIC GRAVITY [AIR = 1.0]								0
55	MOLECULAR WEIGHT								0
56	FUEL TEMPERATURE at BURNER		°F						0
57	FUEL PRESSURE AVAILABLE at BURNER		psig						0
58	FUEL GAS COMPOSITION		Volume%						0
59	Methane	(CH_4)							0
60	Ethane	(C_2H_6)							0
61	Propane	(C_3H_8)							0
62	Butane	(C_4H_{10})							0
63	Pentane	(C_5H_{12})							0
64	Hexane plus	(C_6 +)							0
65	Cyclopentane	(C_5H_{10})							0
66	Cyclohexane	(C_6H_{12})							0
67	Ethylene	(C_2H_4)							0
68	Propene	(C_3H_6)							0
69	Butene	(C_4H_8)							0
70	Pentene	(C_5H_{10})							0
71	Butadiene	(C_4H_6)							0
72	Carbon Dioxide	(CO_2)							0
73	Water	(H_2O)							0
74	Oxygen	(O_2)							0
75	Nitrogen	(N_2)							0
76	Sulfur Dioxide	(SO_2)							0
77	Hydrogen Sulfide	(H_2S)							0
78	Carbon Monoxide	(CO)							0
79	Ammonia	(NH_3)							0
80	Hydrogen	(H_2)							0
81	Argon	(Ar)							0
82	Acetylene	(C_2H_2)							0
83	Benzene	(C_6H_6)							0
84			TOTAL						0
	LIQUID FUEL CHARACTERISTICS								
85	FUEL OIL DESIGNATION								0
86	HEATING VALUE	* [LHV]	Btu/lb						0
87	SPECIFIC GRAVITY								0
88	HYDROGEN to CARBON RATIO [BY WEIGHT]								0
89	VISCOSITY [POINT 1] at _____	°F	SSU						0
90	VISCOSITY [POINT 2] at _____	°F	SSU						0
91	DISTILLATION : ASTM INITIAL BOILING POINT		°F						0
92	ASTM MID-POINT		°F						0
93	ASTM END POINT		°F						0
94	FUEL TEMPERATURE at BURNER		°F						0
95	FUEL PRESSURE AVAILABLE at BURNER		psig						0
96	ATOMIZING MEDIUM	*AIR or STEAM or MECHANICAL or GAS*							0
97	ATOMIZING MEDIUM TEMPERATURE at BURNER		°F						0
98	ATOMIZING MEDIUM PRESSURE at BURNER		psig						0
99	FUEL OIL METALS: Vanadium, Potassium, Sodium, Nickel		wppm						0
100	FUEL OIL COMPOSITION		Weight%						0
101	Carbon	(C)							0
102	Hydrogen	(H)							0
103	Oxygen	(O)							0
104	Fixed Nitrogen	(N)							0
105	Sulfur	(S)							0
106	Ash								0
107	Water	(H_2O)							0
108			TOTAL						0

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					REV
	EMISSION REQUIREMENTS				
159	HEATER EQUIPMENT NUMBER				0
160	BURNER MODEL NUMBER				0
161	FIREBOX BRIDGEWALL TEMPERATURE		°F		0
162	FIREBOX TEMPERATURE AT BURNER LOCATION		°F		0
163	FIREBOX TEMPERATURE DETERMINATION	*MEASURED or ESTIMATED*			0
164	NOx (guaranteed)	*** [LHV]**	lb/MMBtu		0
165	CO	*** [LHV]**	lb/MMBtu		0
166	NOx (estimated)	*** [LHV]**	lb/MMBtu		0
167	PARTICULATE	*** [LHV]**	lb/MMBtu		0
168	SOx	*** [LHV]**	lb/MMBtu		0
169	***CORRECTED TO 3% O_2 [DRY BASIS at DESIGN HEAT RELEASE]**				0
170	NOISE THRESHOLD SPECIFICATION		dBA at 3 ft		0
	SPECIFICATION OPTIONS				
171	PRESSURE TAP REQUIRED	*YES or NO*			0
172	SPECIAL GAUGES	*Specify*			0
173	SPECIAL VALVES	*Specify*			0
174	SPECIAL HOSES	*Specify*			0
175	FLANGED FUEL CONNECTIONS	*YES or NO*			0
176	ENGINEERING UNITS on DRAWINGS	*ENGLISH or METRIC or S.I.*			0
177	POSITIVE MATERIAL IDENTIFICATION [PMI] REQUIRED	*YES or NO*			0
178	MILL CERTIFICATIONS REQUIRED	*YES or NO*			0
179	BURNER PERFORMANCE TEST REQUIRED	*YES or NO*			0
180					0
	NOTES AND COMMENTS				
181					0
182					0
183					0
184					0
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186					0
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