SUBMITTAL DATA

ITB & ITBU

POSITIVE PRESSURE SERIES GAS FIRED INFRA-RED TUBE HEATERS

PROJECT:	
ENGINEER:	
CONTRACTOR:	
DISTRIBUTOR:	
INFRASAVE MODEL #:	
FUEL:	☐ N.G. ☐ L.P.G
APPROVED BY:	
DATE:	
APPROVAL #:	

Model ITB(U) is certified by CSA International to:
ANSI Z83.20 / CSA 2.34 Standard for Gas-Fired Low Intensity Tube Heaters

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QTY ON PROJECT	***TABLE 1: MODEL CONFIGURA-TIONS***	OVERALL HEATER LENGTH	BTU/HOUR INPUT	TURBULATOR REQUIRED LENGTH	GAS PRESSURE & ELECTRICAL	SHIPPING WEIGHT (LBS.)
	ITB 200-70	69' 4"	200,000	10'	*LINE MINIMUM* 5" W.C. N.G. 11" W.C. L.P.	240
	ITB 200-60	59' 8"		10'		210
	ITB 200-50	50' 0"		10'		180
	ITBU 200-30	**31' 11"**		10'		210
	ITB 175-70	69' 4"	175,000	10'		240
	ITB 175-60	59' 8"		10'		210
	ITB 175-50	50' 0"		10'		180
	ITBU 175-30	**31' 11"**		10'	*LINE MAXIMUM* 14" W.C. N.G. 14" W.C. L.P.	210
	ITB 155-60	59' 8"	155,000	Not Required		210
	ITB 155-50	50' 0"'		Not Required		180
	ITB 155-40	40' 4"		10'		150
	ITBU 155-30	**31'11"**		Not Required		210
	ITBU 155-20	**22' 3"**		10'		150
	ITB 130-50	50' 0"	130,000	Not Required	*MANIFOLD* 3.5" W.C. N.G. 10" W.C. L.P. ½" INLET	180
	ITB 130-40	40' 4"		10'		150
	ITB 130-30	30' 8"		14'		120
	ITBU 130-20	**22' 3"**		10'		150
	ITBU 130-15	**17' 3"**		14'		120
	ITB 110-50	50' 0"	110,000	Not Required		180
	ITB 110-40	40' 4"		10'		150
	ITB 110-30	30' 8"		14'		120
	ITBU 110-20	**22' 3"**		10'	ELECTRICAL 120V, 60 HZ	150
	ITBU 110-15	**17' 3"**		14'		120
	ITB 100-20	21' 0"	100,000	10'		90
	ITB 80-40	40' 4"	80,000	10'		150
	ITB 80-30	30' 8"		14'		120
	ITB 80-20	21' 0"		14'		90
	ITBU 80-15	**17' 3"**		14'		120
	ITBU 80-10	**12' 7"**		14'		90
	ITB 60-30	30' 8"	60,000	14'		120
	ITB 60-20	21' 0"		14'		90
	ITBU 60-10	**12' 7"**		14'		90
	ITB 45-20	21' 0"	45,000	14'		90

NOTE: As required Series ITB / ITBU heaters will be supplied with the turbulator snugly installed into the end tube(s) of the system configuration.

ITB STRAIGHT TUBE SYSTEM

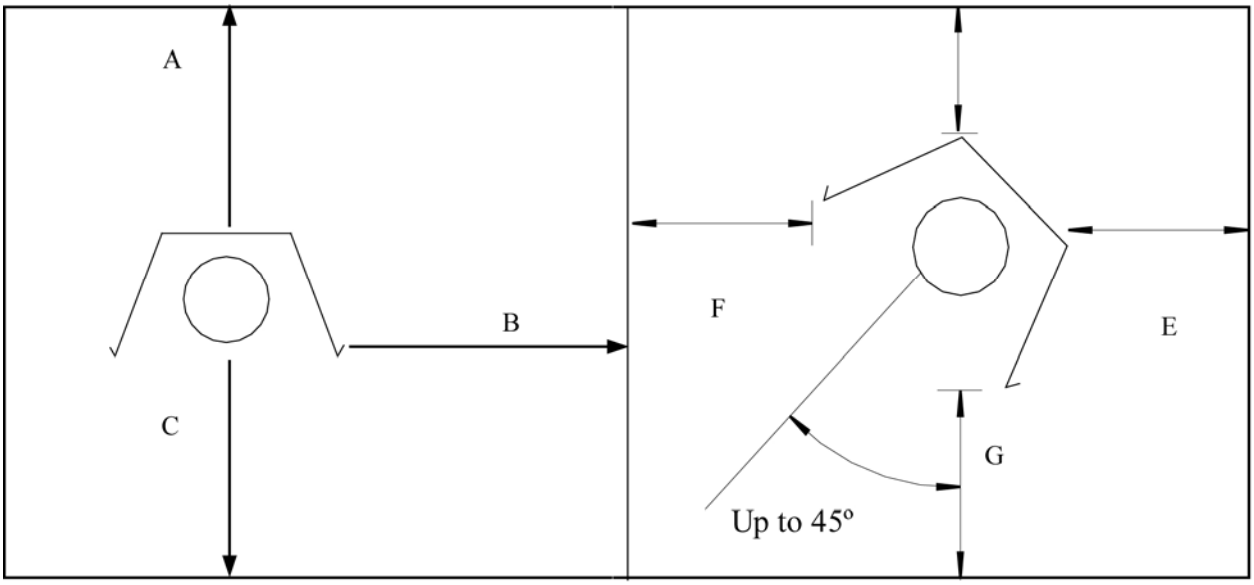
TABLE 2: COMPONENT QUANTITIES PER HEATER MODEL	**ITB 45-20**	**ITB 60-20 80-20**	**ITB 100-20**	**ITB 60-30 80-30 110-30 130-30**	**ITB 80-40 110-40 130-40 155-40**	**ITB 110-50 130-50 155-50**	**ITB 175-50 200-50**	**ITB 155-60**	**ITB 175-60 200-60**	**ITB 175-70 200-70**
HEATER QUANTITY ON PROJECT	0	0	0	0	0	0	0	0	0	0
10' ALUMATHERM TUBE w/ FLANGE	0	0	0	0	0	0	1	0	1	1
10' ALUMINIZED TUBE w/ FLANGE	1	1	1	1	1	1	0	1	0	0
10' ALUMINIZED TUBE	0	0	0	0	0	0	1	0	1	1
10' STEEL TUBE	1	1	1	2	3	4	3	5	4	5
10' REFLECTOR	2	2	2	3	4	5	5	6	6	7
REFLECTOR END CAP	2	2	2	2	2	2	2	2	2	2
TORCTITE COUPLER	1	1	0	2	3	4	3	5	4	5
ACCUSEAL TUBE CLAMP	0	0	1	0	0	0	1	0	1	1
TUBE / REFLECTOR WIRE HANGER	4	4	4	6	8	10	10	12	12	14
5' STAINLESS STEEL TURBULATOR	0	0	0	0	0	0	0	0	0	0
10' STAINLESS STEEL TURBULATOR	0	0	1	0	0	0	0	0	0	0
10' ALUMINIZED STEEL TURBULATOR	1	1	0	1	1	0	1	0	1	1
4' ALUMINIZED STEEL TURBULATOR	1	1	0	1	0	0	0	0	0	0

ITBU 'U' TUBE SYSTEM

TABLE 2: COMPONENT QUANTITIES PER HEATER MODEL	**ITBU 60-10 80-10**	**ITBU 110-15 130-15 80-15**	**ITBU 110-20 130-20 155-20**	**ITBU 155-30**	**ITBU 175-30 200-30**
HEATER QUANTITY ON PROJECT	0	0	0	0	0
10' ALUMA-THERM TUBE w/ FLANGE	0	0	0	0	1
10' ALUMINIZED TUBE w/ FLANGE	1	1	1	1	0
10' ALUMINIZED TUBE	0	0	0	0	1
10' STEEL TUBE	1	1	3	5	4
5' STEEL TUBE	0	2	0	0	0
10' REFLECTOR	1	2	2	3	3
5' REFLECTOR	0	2	0	0	0
REFLECTOR END CAP	2	2	2	2	2
TORCTITE COUPLER	2	4	4	6	5
ACCUSEAL TUBE CLAMP	0	0	0	0	1
TUBE / REFLECTOR WIRE HANGER	2	4	4	6	6
10' ALUMINIZED STEEL TURBULATOR	1	1	1	0	1
4' ALUMINIZED STEEL TURBULATOR	1	1	0	0	0
180 DEGREE TURN-AROUND BOX	1	1	1	1	1

TABLE 3: APPROVED MINIMUM CLEARANCES TO COMBUSTIBLES—ITB STRAIGHT TUBE

	MODEL	SUSPENDED HORIZONTALLY			SUSPENDED AT AN ANGLE UP TO 45 DEGREES			
		TOP	SIDE	BELOW	TOP	REAR	FRONT	BELOW
		A	B	C	D	E	F	G
0	**ITB 200**	7"	22"	68"	7"	1"	57"	68"
0	**ITB 175**	6.5"	20"	68"	6.5"	1"	47"	68"
0	**ITB 155**	6"	19"	64"	6"	1"	44"	64"
0	**ITB 130**	4"	11"	60"	5'	1"	35"	56"
0	**ITB 110**	3"	10"	60"	4.5"	1"	26"	54"
0	**ITB 100**	7"	22"	68"	7"	1"	57"	68"
0	**ITB 80**	2.5"	6"	42"	3.5"	1"	23"	38"
0	**ITB 60**	2.5"	5.5"	34"	3"	1"	17"	34"
0	**ITB 45**	4”	8.5”	32”	5”	1”	29”	32”



SECTION DETAILS—STRAIGHT TUBE

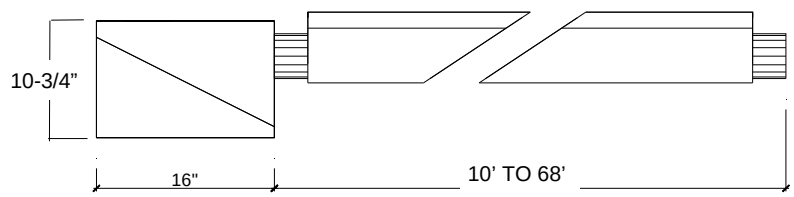
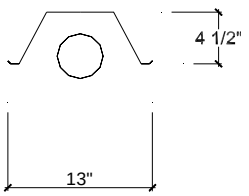
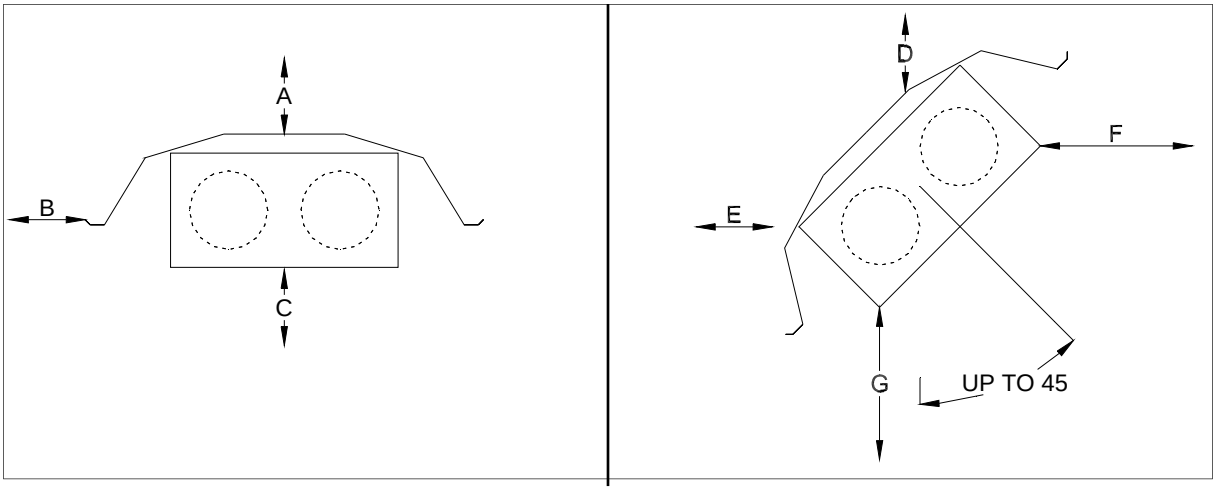
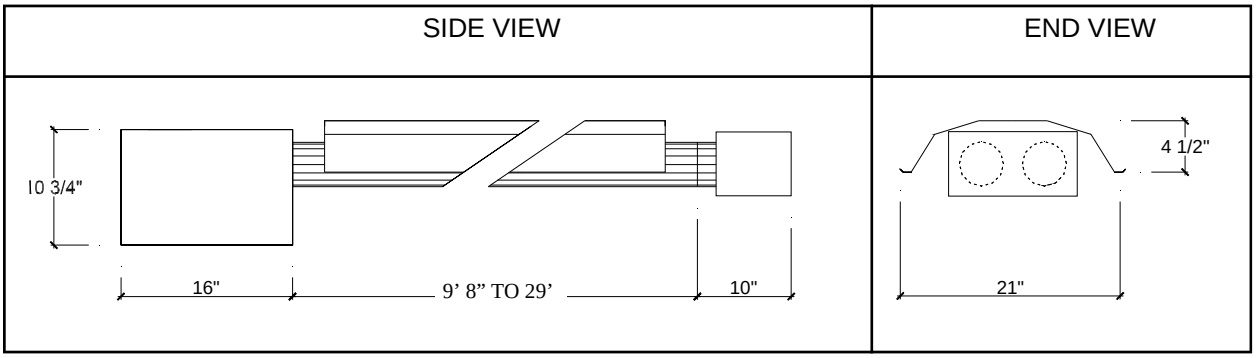
SIDE VIEW	END VIEW
	

TABLE 4: APPROVED MINIMUM CLEARANCES TO COMBUSTIBLES—ITBU 'U' TUBE

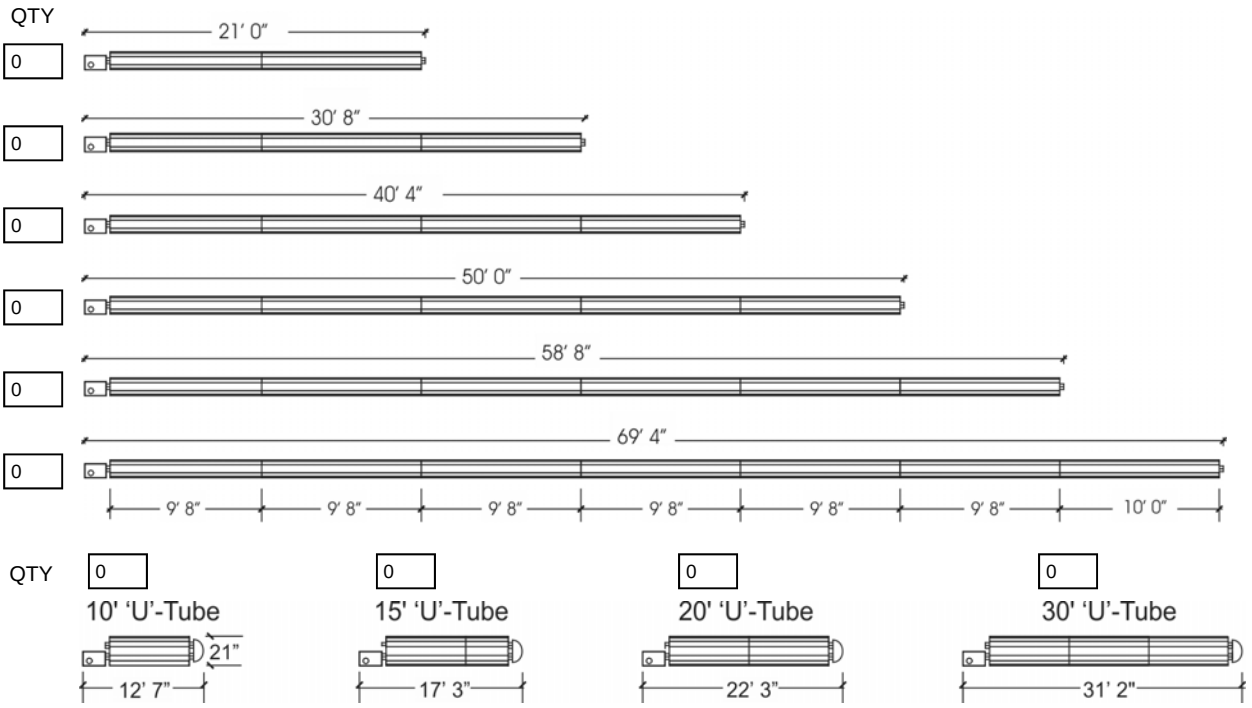
	MODEL	SUSPENDED HORIZONTALLY			SUSPENDED AT AN ANGLE UP TO 45 DEGREES			
		TOP	SIDE	BELOW	TOP	REAR	FRONT	BELOW
		A	B	C	D	E	F	G
0	**ITBU 200**	7"	22"	68"	7"	1"	57"	68"
0	**ITBU 175**	6.5"	20"	68"	6.5"	1"	47"	68"
0	**ITBU 155**	6"	19"	64"	6"	1"	44"	64"
0	**ITBU 130**	4"	11"	60"	5'	1"	35"	56"
0	**ITBU 110**	3"	10"	60"	4.5"	1"	26"	54"
0	**ITBU 80**	2.5"	6"	42"	3.5"	1"	23"	38"
0	**ITBU 60**	2.5"	5.5"	33"	3"	1"	17"	34"



SECTION DETAILS—'U' TUBE



TOP VIEWS OF SYSTEMS

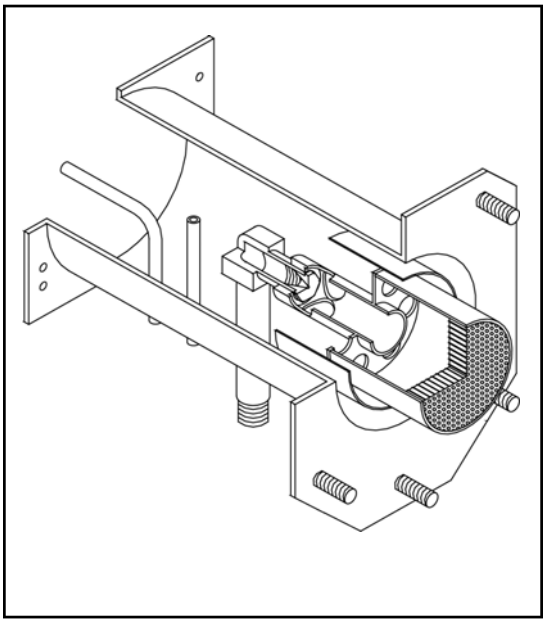


NOTE:

1. CANADA: TYPE 1 HOSE GAS CONNECTOR IS INCLUDED WITH EACH BURNER KIT
   1/2" x 30" 45,000 TO 130,000
   3/4" x 30" 155,000 TO 200,000

2. U.S.A. : FLEXIBLE GAS CONNECTOR IS INCLUDED WITH EACH BURNER KIT
   1/2" X 24" 45,000 TO 130,000
   3/4" X 24" 155,000 TO 200,000

CUT-AWAY BURNER VIEW



OPTIONAL ACCESSORIES		PROJECT QTY
90 DEGREE ELBOW KIT 1 ELBOW, 2 REFLECTOR END CAPS, 1 CLAMP.	JM-0508-KT	
~~180 DEGREE ELBOW KIT~~ ~~1 ELBOW, 2 REFLECTOR END CAPS, 1 CLAMP.~~	JM-0513-KT	DISCONTINUED
4" FRESH AIR INTAKE CAP	JS-0532-VC	
4" WALL FLUE VENT TERMINAL	JA-0528-XX	
6" WALL FLUE VENT TERMINAL	JA-0529-XX	
FLUE VENT TEE (4" x 4" x 6")	JA-0514-AA	
TRU-TEMP THERMOSTAT	JM-0150-XX	
THERMOSTAT 120 VOLT*	JL-0772-XX	
THERMOSTAT 24 VOLT DIGITAL	JL-0569-WR	
24V CONTROL CENTER: Multiple Heaters per 24V T-stat	JM-0303-KT	

ITB Submittal AP-SS10-DX
RL: 3B
RD: NOV 2014

COMPONENT SPECIFICATIONS

IGNITION	FENWAL DIRECT SPARK MODULE: PRE-PURGE AND POST-PURGE OF TUBE SYSTEM
THERMOSTAT OPTIONS ***(Factory ready for 24Vac or 120Vac control)***	INFRASAVE TRU-TEMP (24V) SET BACK THERMOSTAT WITH RADIANT & AMBIENT SENSORS, AND AUTOMATIC UNOCCUPIED SETBACK MODE
	24V DIGITAL THERMOSTAT NOTE: MULTIPLE HEATERS PER 24V THERMOSTAT REQUIRE RELAY CONTROL CENTER KIT JM-0303-KT
	LINE VOLTAGE THERMOSTAT; *Caution: Post-purge feature disabled with 120V thermostat*
	THERMOCONTROL PLUS FIELD SUPPLIED THERMOSTAT BY OTHERS
ELBOWS	90 DEGREE ELBOW 4" DIAMETER, 16 GA. ALUMINIZED STEEL, SWAGED ONE END
	180 DEGREE ALUMINIZED STEEL TURN-AROUND BOX WITH ONE SWAGED END. (ITBU Series)
HEATER TUBE(S) **45 to 155 MBH**	COMBUSTION TUBE: FLANGED 10' x 4" DIAMETER 16 GA. ALUMINIZED STEEL SWAGED ONE END SECOND TUBE: 10' x 4" DIAMETER 16 GA. ALUMINIZED STEEL SWAGED ONE END EACH ADDITIONAL TUBE: 10' x 4" DIAMETER, .16 GA. STEEL TUBES WITH HIGH TEMPERATURE EMISSIVE COATING, SWAGED ONE END
HEATER TUBE(S) **175 & 200 MBH**	COMBUSTION TUBE: 10' x 4" DIAMETER, 16 GA. 439 STAINLESS STEEL SWAGED ONE END SECOND TUBE: 10' x 4" DIAMETER, 16 GA. ALUMINIZED STEEL SWAGED ONE END EACH ADDITIONAL TUBE: 10' x 4" DIAMETER, 16 GA. STEEL WITH HIGH TEMPERATURE EMISSIVE COATING SWAGED ONE END
COMBINATION GAS VALVE	HONEYWELL 24 VOLT ☐ NATURAL GAS: 3 1/2" W.C. MANIFOLD ☐ PROPANE: 10" W.C. MANIFOLD
GAS CONNECTION	USA: FLEXIBLE STAINLESS STEEL GAS CONNECTOR REQUIRED BY CODE: SUPPLIED WITH BURNER
	CANADA: TYPE 1 GAS HOSE CONNECTOR REQUIRED BY CODE: SUPPLIED WITH BURNER
REFLECTORS	26 GA. ALUMINIZED STEEL REFLECTOR 10 FT LENGTH OVERLAP ENTIRE LENGTH OF SYSTEM; ITBU x 15 FT MODEL INCLUDES ONE x 10 FT AND ONE x 5 FT REFLECTOR
	REFLECTORS ARE CLOSED AT START AND END OF EACH STRAIGHT RUN OF TUBES BY MEANS OF END PLATE HANGERS
HANGERS	TWO 1/4" PLATED WIRE HANGERS SUPPORT EACH LENGTH OF TUBE / REFLECTOR
COUPLING KIT	ALUMINIZED STEEL COUPLER; STAINLESS STEEL COUPLER FIRST TUBE CONNECTION 175 & 200 MBH
BURNER HOUSING	BOTTOM FOLDS AWAY, PROVIDING ACCESS FROM TWO SIDES, END AND BOTTOM
BURNER	INCORPORATES EFFECTILE CERAMIC BURNER HEAD WITH MINIMUM OF 835 FLAME PORTS
	COMPLETE WITH OPERATION STATUS INDICATOR LIGHTS
TRANSFORMER	120/24VAC; 20VA
SAFETY SWITCHES	TWO SEPARATE AIR PRESSURE SWITCHES SENSE ADEQUATE COMBUSTION AIR AND BLOCKED FLUE
COMBUSTION AIR	COMBUSTION AIR DUCTED DIRECTLY TO 4" COLLAR AT INTAKE OF BLOWER
TERMINAL BLOCK	ALL WIRING CONNECTIONS BY MEANS OF COMMON TERMINAL BLOCK; JUMPER: FOR 120V THERMOSTAT; REMOVE FOR 24V THERMOSTAT
VENT PIPE	ALL VENT PIPE IS FIELD SUPPLIED BY OTHERS; SINGLE WALL VENT PIPE OTHER THAN PORTION THROUGH WALL OR ROOF MAY BE DOUBLE WALL VENT PIPE
ROOF VENT CAPS	FIELD SUPPLIED BY OTHERS TO MATE WITH VENT PIPE