MECHANICAL INSULATORS
LMCT
Labor Management Cooperative Trust
ENERGY CONSERVATION SPECIALISTS

197 State Route 18, Suite 3000 S. East Brunswick, New Jersey 08819
www.MechanicalInsulatorsLMCT.com
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The following pages will outline a case study, which shows the benefits in energy and cost savings of properly installed mechanical insulation.

Insulation is a proven means for conserving energy, reducing greenhouse gas emissions, increasing process productivity, providing a safer and more productive work environment, controlling condensation (which can lead to mold growth), supporting sustainable design technology and a host of other benefits.

Mechanical insulation does all of this, while providing a return on investment (ROI) rate, which is seldom rivaled. Despite the proven ROI, insulation is often overlooked and its benefits undervalued. Insulation is truly the lost or forgotten technology. Can you think of a more important time than now to think about how insulation can help you?

An insulation system is a technology, which needs to be engineered and maintained throughout the entire process. Several studies have estimated roughly 10 to 30 percent of all installed insulation is now missing or damaged.

The practice of not replacing or maintaining an insulation system in a timely and correct manner reduces the full benefits of insulation, and in return, decreases the ROI. In many cases, significant other issues - such as excessive energy loss, corrosion under insulation (CUI), mold development, increased cost of operations and reduced process productivity or efficiency - develop.

You can learn more on www.MechanicalInsulatorsLMCT.com, where additional case studies can be viewed.

Please do not hesitate to contact me should you have any additional questions.
Thank you,

Peter Ielimi

Executive Director
Mechanical Insulators Labor Management Cooperative Trust

ENERGY AUDIT
OROMOCTO
HIGH SCHOOL

Total Heat Loss
5 year savings of
$ 305,541.90

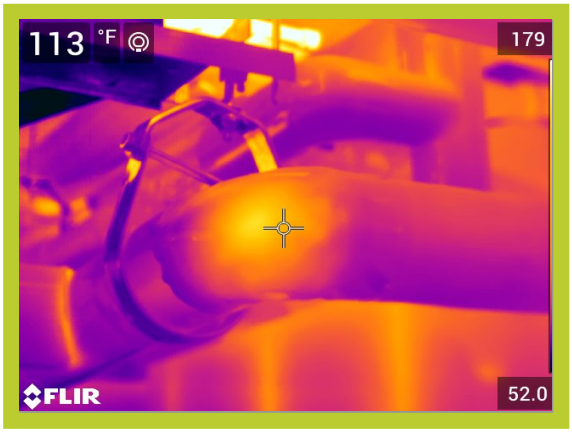
CO_2 Reduction of
151.52 MT/Year

Benefits:

- Simple payback period
- CO_2 Reduction
- Personnel safety

Audit Done By:
Joshua Sherrard
Certified Thermographer
Certified 3E Plus Auditor

Room 194

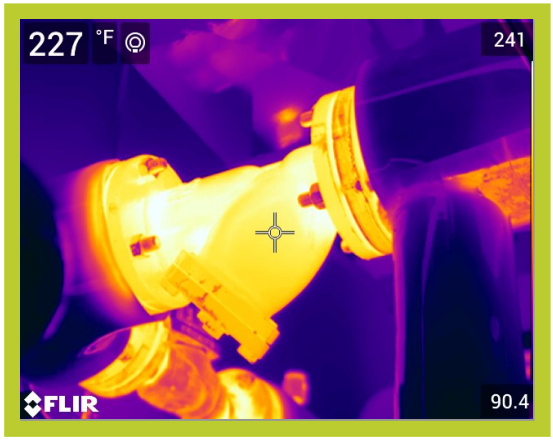


Operating Temperature,	179*F	Emittance of Surface	0.95
Ambient Temperature,	81*F	Expected Useful Life of Insulation System	20 yrs.
Insulation selected	Fiberglass	Operating hours per year	8320
		Efficiency of fuel Conversion%	75%

THICKNESS	HEAT LOSS	FUEL COST $/yr	1styr SAVINGS.	5yr. SAVINGS	CO2 EMMISSIONS
0	42,957	$ 1,131.30	$1,131.30	$5,656.50	2.97
1	6,210	$ 163.35	$967.95	$4839.75	0.54
1.5	4,914	$ 129.33	$1,001.97	$5,009.85	0.27

*Estimated Calculations supplied by 3E Plus Mechanical Insulation Energy Calculator * m

Room 194

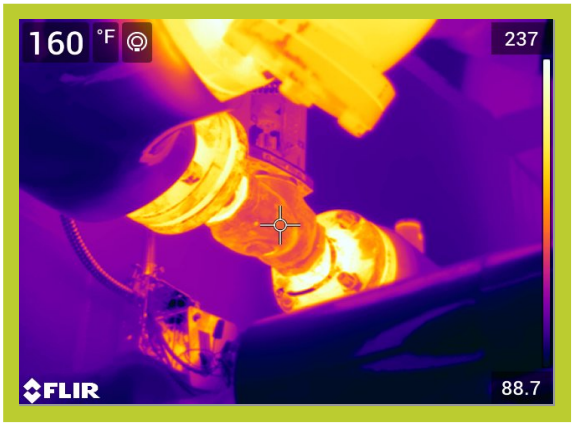


Operating Temperature,	218*F	Emittance of Surface	0.95
Ambient Temperature,	81*F	Expected Useful Life of Insulation System	20 yrs.
Insulation selected	Fiberglass	Operating hours per year	8320
		Efficiency of fuel Conversion%	75%

THICKNESS	HEAT LOSS	FUEL COST $/yr	1styr SAVINGS.	5yr. SAVINGS	CO2 EMMISSIONS
0	38,336	$ 1,009.28	$1,009.28	$5,046.40	2.56
1	4,888	$ 128.72	$880.56	$4402.80	0.32
1.5	3,552	$ 93.60	$915.68	$4578.40	0.24

*Estimated Calculations supplied by 3E Plus Mechanical Insulation Energy Calculator *

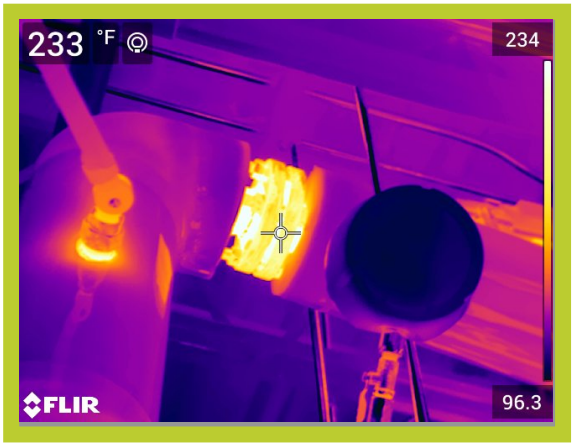
Room 194



Operating Temperature,	218*F	Emittance of Surface	0.95
Ambient Temperature,	81 *F	Expected Useful Life of Insulation System	20 yrs.
Insulation selected	Fiberglass	Operating hours per year	8320
		Efficiency of fuel Conversion%	75%

THICKNESS	HEAT LOSS	FUEL COST $/yr	1styr SAVINGS.	5yr. SAVINGS	CO2 EMMISSIONS
0	19,168	$ 504.64	$504.64	$2523.20	1.28
1	2,444	$ 64.36	$440.28	$2201.40	0.16
1.5	1,776	$ 46.80	$457.84	$2289.20	0.12

Room 194

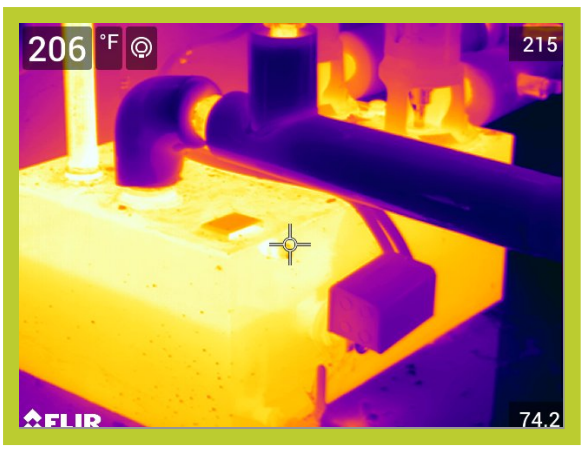


Operating Temperature,	211*F	Emittance of Surface	0.95
Ambient Temperature,	81 *F	Expected Useful Life of Insulation System	20 yrs.
Insulation selected	Fiberglass	Operating hours per year	8320
		Efficiency of fuel Conversion%	75%

THICKNESS	HEAT LOSS	FUEL COST $/yr	1styr SAVINGS.	5yr. SAVINGS	CO2 EMMISSIONS
0	41,040	$ 1,080.72	$1,080.72	$5,403.60	2.64
1	5,712	$ 150.48	$930.24	$4651.20	0.48
1.5	4,416	$ 116.40	$964.32	$4821.60	0.24

*Estimated Calculations supplied by 3E Plus Mechanical Insulation Energy Calculator *

Room 194

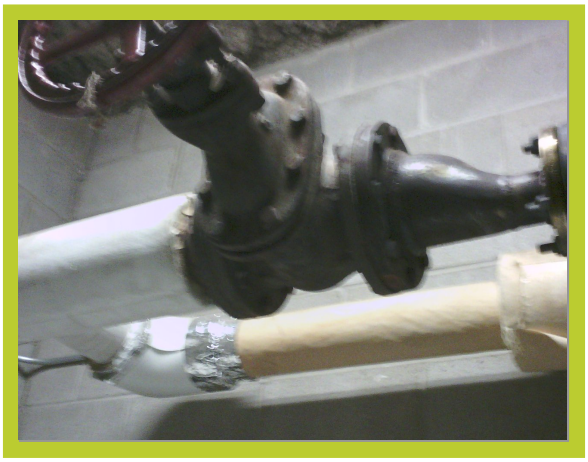


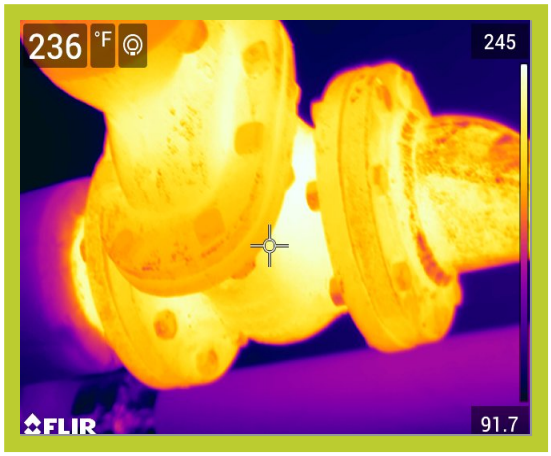
Operating Temperature,	208*F	Emittance of Surface	0.95
Ambient Temperature,	81*F	Expected Useful Life of Insulation System	20 yrs.
Insulation selected	Fiberglass	Operating hours per year	8320
		Efficiency of fuel Conversion%	75%

THICKNESS	HEAT LOSS	FUEL COST $/yr	1styr SAVINGS.	5yr. SAVINGS	CO2 EMMISSIONS
0	67,550	$ 1,778.25	$1,778.25	$8,891.25	4.5
1	6,700	$ 176.75	$1,601.50	$8,007.50	0.5
1.5	4,650	$ 122.50	$1,655.75	$8,278.75	0.25

*Estimated Calculations supplied by 3E Plus Mechanical Insulation Energy Calculator *

Room 154





Operating Temperature,	235*F	Emittance of Surface	0.95
Ambient Temperature,	74*F	Expected Useful Life of Insulation System	20 yrs.
Insulation selected	Fiberglass	Operating hours per year	8320
		Efficiency of fuel Conversion%	75%

THICKNESS	HEAT LOSS	FUEL COST $/yr	1styr SAVINGS.	5yr. SAVINGS	CO2 EMMISSIONS
0	26,696	$ 702.88	$702.88	$3514.40	1.76
1	3,296	$ 86.80	$616.08	$3080.40	0.2
1.5	2,304	$ 60.64	$642.24	$3211.20	0.16

*Estimated Calculations supplied by 3E Plus Mechanical Insulation Energy Calculator *

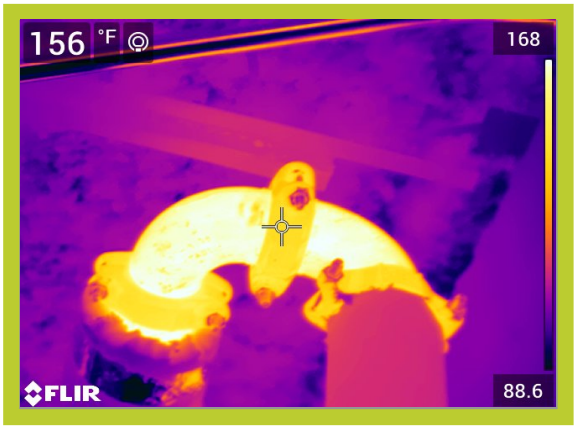
Room 154

Operating Temperature,	101*F	Emittance of Surface	0.95
Ambient Temperature,	74*F	Expected Useful Life of Insulation System	20 yrs.
Insulation selected	Fiberglass	Operating hours per year	8320
		Efficiency of fuel Conversion%	75%

THICKNESS	HEAT LOSS	FUEL COST $/yr	1styr SAVINGS.	5yr. SAVINGS	CO2 EMMISSIONS
0	2,250	$ 59.22	$59.22	$296.10	0.18
1	387	$ 10.08	$49.14	$245.70	0
1.5	297	$ 7.83	$51.39	$256.95	0

*Estimated Calculations supplied by 3E Plus Mechanical Insulation Energy Calculator *

Room 95



Operating Temperature,	166*F	Emittance of Surface	0.95
Ambient Temperature,	81*F	Expected Useful Life of Insulation System	20 yrs.
Insulation selected	Fiberglass	Operating hours per year	8320
		Efficiency of fuel Conversion%	75%

THICKNESS	HEAT LOSS	FUEL COST $/yr	1styr SAVINGS.	5yr. SAVINGS	CO2 EMMISSIONS
0	14,004	$ 368.64	$368.64	$1843.20	0.9
1	1,935	$ 50.94	$317.70	$1588.50	0.09
1.5	1,458	$ 38.84	$329.80	$1649.00	0.09

*Estimated Calculations supplied by 3E Plus Mechanical Insulation Energy Calculator *

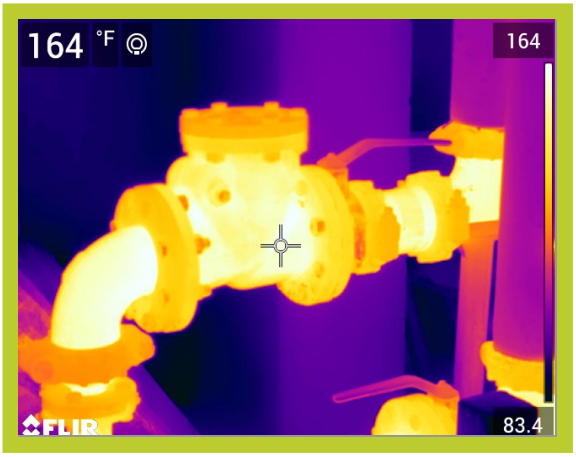
Room 95

Operating Temperature,	164*F	Emittance of Surface	0.95
Ambient Temperature,	81*F	Expected Useful Life of Insulation System	20 yrs.
Insulation selected	Fiberglass	Operating hours per year	8320
		Efficiency of fuel Conversion%	75%

THICKNESS	HEAT LOSS	FUEL COST $/yr	1styr SAVINGS.	5yr. SAVINGS	CO2 EMMISSIONS
0	46,680	$ 1,228.80	$1,228.80	$6,144.00	3
1	6,450	$ 169.80	$1,059.00	$5,295.00	0.03
1.5	4,860	$ 127.80	$1,101.00	$5,505.00	0.03

*Estimated Calculations supplied by 3E Plus Mechanical Insulation Energy Calculator *

Room 95

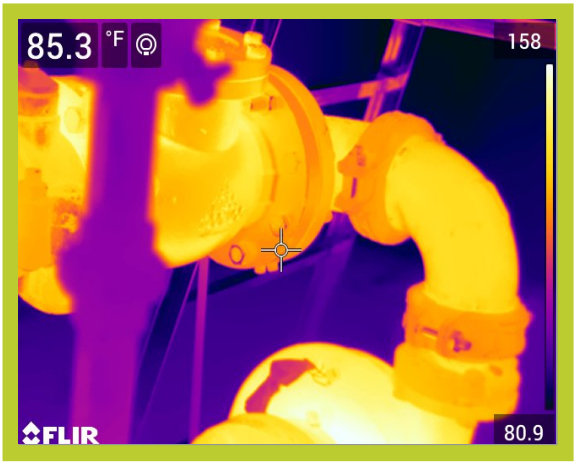


Operating Temperature,	164*F	Emittance of Surface	0.95
Ambient Temperature,	81*F	Expected Useful Life of Insulation System	20 yrs.
Insulation selected	Fiberglass	Operating hours per year	8320
		Efficiency of fuel Conversion%	75%

THICKNESS	HEAT LOSS	FUEL COST $/yr	1styr SAVINGS.	5yr. SAVINGS	CO2 EMMISSIONS
0	12,616	$ 332.20	$332.20	$1661.00	0.84
1	1,676	$ 44.16	$288.04	$1440.20	0.12
1.5	1,176	$ 30.96	$301.24	$1506.20	0.08

*Estimated Calculations supplied by 3E Plus Mechanical Insulation Energy Calculator *

Room 95

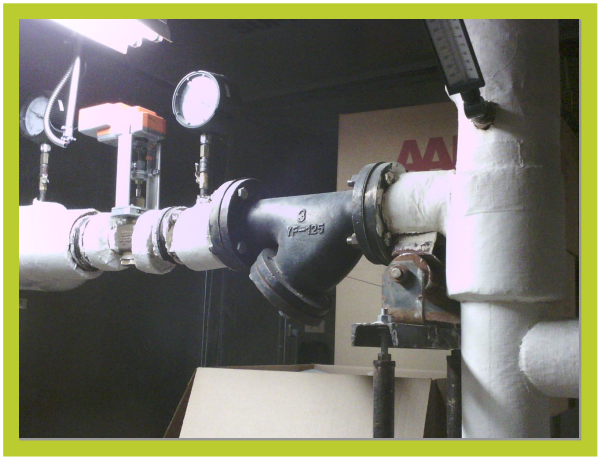


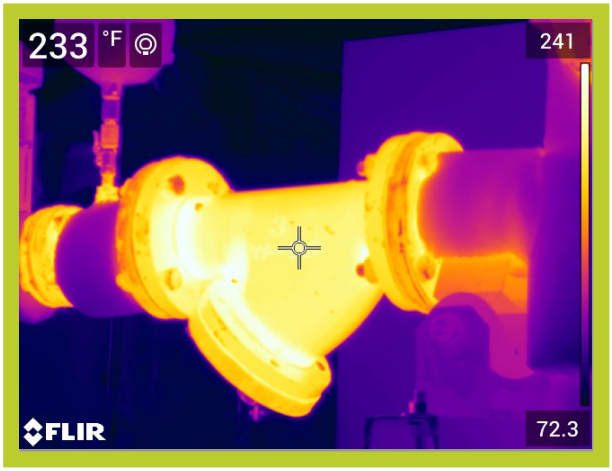
Operating Temperature,	156*F	Emittance of Surface	0.95
Ambient Temperature,	81*F	Expected Useful Life of Insulation System	20 yrs.
Insulation selected	Fiberglass	Operating hours per year	8320
		Efficiency of fuel Conversion%	75%

THICKNESS	HEAT LOSS	FUEL COST $/yr	1styr SAVINGS.	5yr. SAVINGS	CO2 EMMISSIONS
0	20,460	$ 538.80	$538.80	$2694.00	1.32
1	2,712	$ 71.40	$467.40	$2337.00	0.12
1.5	2,064	$ 54.24	$484.56	$2422.80	0.12

*Estimated Calculations supplied by 3E Plus Mechanical Insulation Energy Calculator *

Room 95



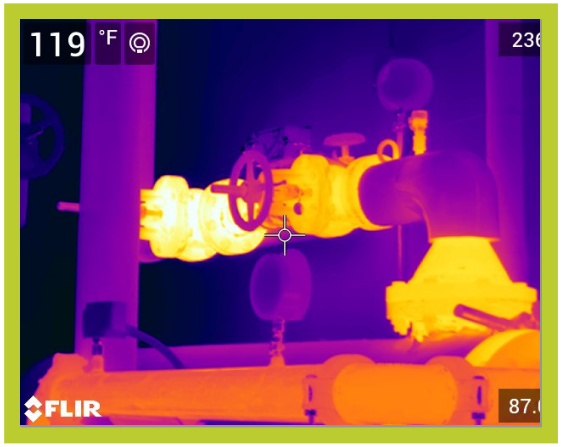


Operating Temperature,	165*F	Emittance of Surface	0.95
Ambient Temperature,	81*F	Expected Useful Life of Insulation System	20 yrs.
Insulation selected	Fiberglass	Operating hours per year	8320
		Efficiency of fuel Conversion%	75%

THICKNESS	HEAT LOSS	FUEL COST $/yr	1styr SAVINGS.	5yr. SAVINGS	CO2 EMMISSIONS
0	21,582	$ 568.26	$568.26	$2841.30	1.44
1	2,700	$ 71.04	$497.22	$2486.10	0.18
1.5	1,980	$ 52.08	$516.18	$2580.90	0.12

*Estimated Calculations supplied by 3E Plus Mechanical Insulation Energy Calculator *

Room 68

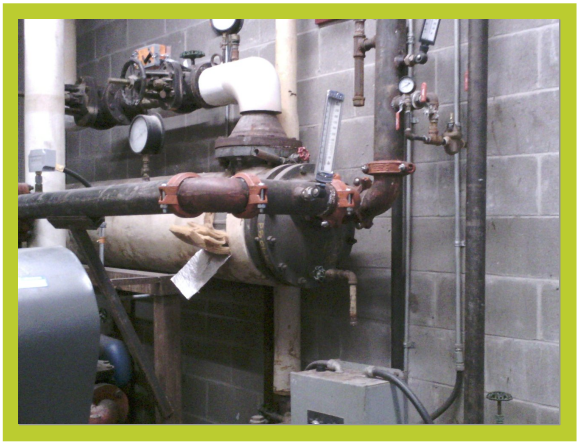


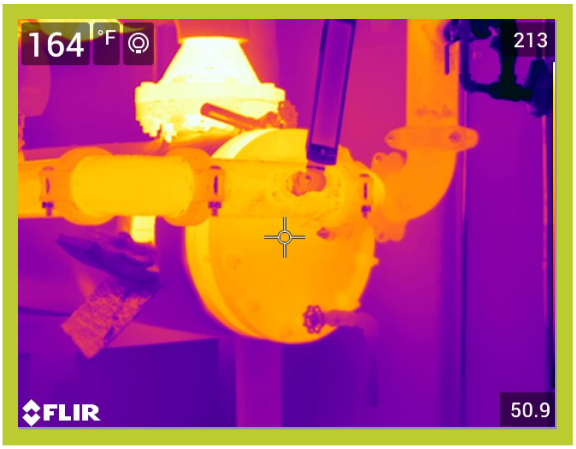
Operating Temperature,	176*F	Emittance of Surface	0.95
Ambient Temperature,	81*F	Expected Useful Life of Insulation System	20 yrs.
Insulation selected	Fiberglass	Operating hours per year	8320
		Efficiency of fuel Conversion%	75%

THICKNESS	HEAT LOSS	FUEL COST $/yr	1styr SAVINGS.	5yr. SAVINGS	CO2 EMMISSIONS
0	57,354	$ 823.86	$823.86	$4119.30	1.98
1	6,567	$ 94.32	$729.54	$3647.70	0.18
1.5	5,247	$ 75.42	$748.44	$3742.20	0.18

*Estimated Calculations supplied by 3E Plus Mechanical Insulation Energy Calculator *

Room 68



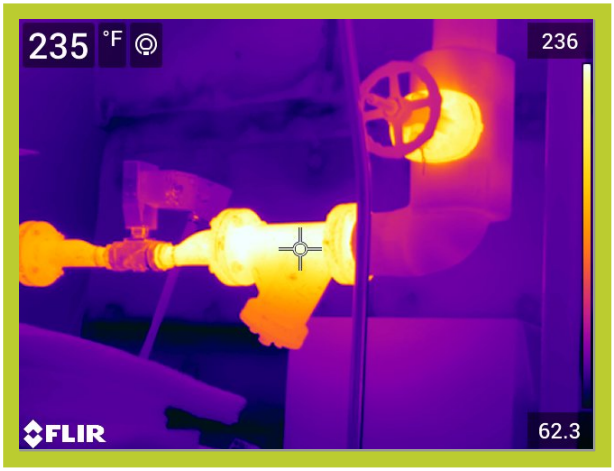


Operating Temperature,	206*F	Emittance of Surface	0.95
Ambient Temperature,	81*F	Expected Useful Life of Insulation System	20 yrs.
Insulation selected	Fiberglass	Operating hours per year	8320
		Efficiency of fuel Conversion%	75%

THICKNESS	HEAT LOSS	FUEL COST $/yr	1styr SAVINGS.	5yr. SAVINGS	CO2 EMMISSIONS
0	31,284	$ 313.84	$313.84	$1569.20	0.8
1	3,582	$ 41.96	$271.88	$1359.40	0.12
1.5	2,862	$ 29.40	$284.44	$1422.20	0.08

*Estimated Calculations supplied by 3E Plus Mechanical Insulation Energy Calculator *

Room 68

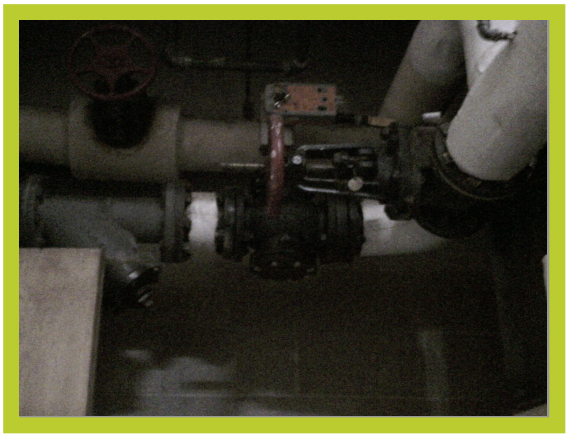


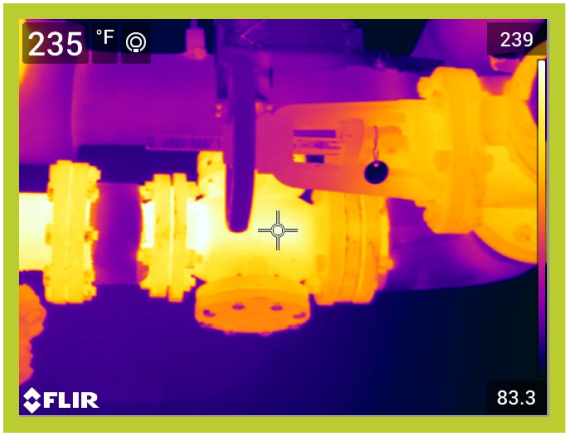
Operating Temperature,	235*F	Emittance of Surface	0.95
Ambient Temperature,	81*F	Expected Useful Life of Insulation System	20 yrs.
Insulation selected	Fiberglass	Operating hours per year	8320
		Efficiency of fuel Conversion%	75%

THICKNESS	HEAT LOSS	FUEL COST $/yr	1styr SAVINGS.	5yr. SAVINGS	CO2 EMMISSIONS
0	11,920	$ 467.84	$467.84	$2339.20	1.16
1	1,596	$ 60.72	$407.12	$2035.60	0.16
1.5	1,116	$ 40.72	$427.12	$2135.60	0.12

*Estimated Calculations supplied by 3E Plus Mechanical Insulation Energy Calculator *

Gym



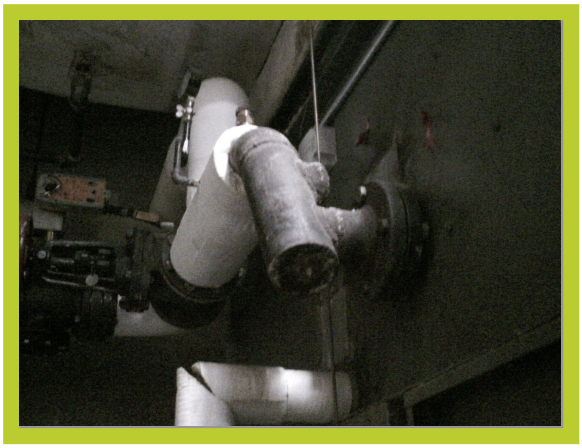


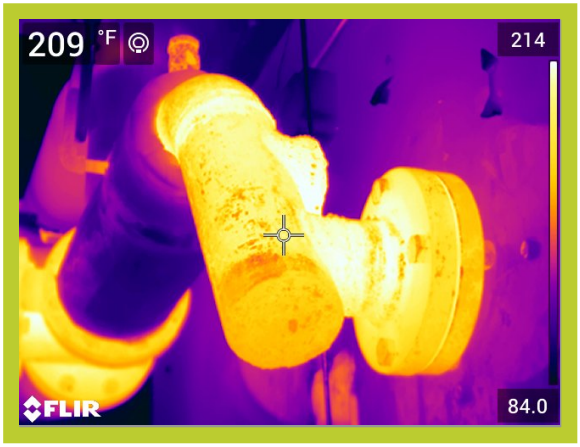
Operating Temperature,	235*F	Emittance of Surface	0.95
Ambient Temperature,	81*F	Expected Useful Life of Insulation System	20 yrs.
Insulation selected	Fiberglass	Operating hours per year	8320
		Efficiency of fuel Conversion%	75%

THICKNESS	HEAT LOSS	FUEL COST $/yr	1styr SAVINGS.	5yr. SAVINGS	CO2 EMMISSIONS
0	8,544	$ 830.60	$830.60	$4153.00	2.08
1	1,332	$ 96.08	$734.52	$3672.60	0.24
1.5	1,056	$ 70.28	$760.32	$3801.60	0.16

*Estimated Calculations supplied by 3E Plus Mechanical Insulation Energy Calculator *

Gym





Operating Temperature,	209*F	Emittance of Surface	0.95
Ambient Temperature,	81*F	Expected Useful Life of Insulation System	20 yrs.
Insulation selected	Fiberglass	Operating hours per year	8320
		Efficiency of fuel Conversion%	75%

THICKNESS	HEAT LOSS	FUEL COST $/yr	1styr SAVINGS.	5yr. SAVINGS	CO2 EMMISSIONS
0	31,548	$ 790.88	$790.88	$3954.40	2
1	3,652	$ 91.88	$699.00	$3495.00	0.24
1.5	2,668	$ 67.24	$723.64	$3618.20	0.16

*Estimated Calculations supplied by 3E Plus Mechanical Insulation Energy Calculator *

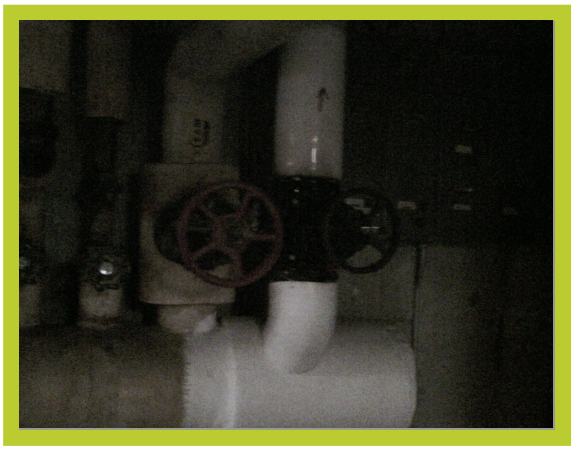
Gym

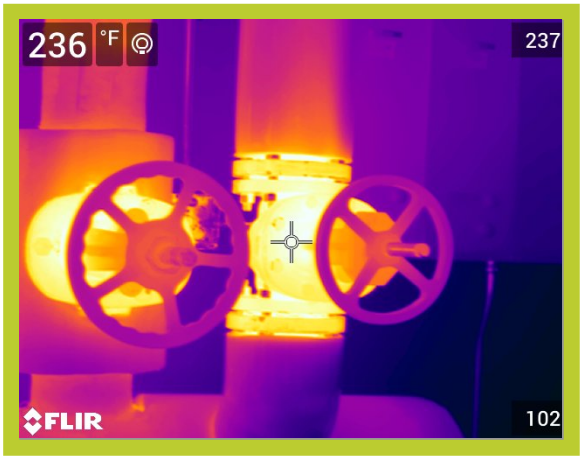
Operating Temperature,	235*F	Emittance of Surface	0.95
Ambient Temperature,	81*F	Expected Useful Life of Insulation System	20 yrs.
Insulation selected	Fiberglass	Operating hours per year	8320
		Efficiency of fuel Conversion%	75%

THICKNESS	HEAT LOSS	FUEL COST $/yr	1styr SAVINGS.	5yr. SAVINGS	CO2 EMMISSIONS
0	30,040	$ 1,347.92	$1,347.92	$6,739.60	3.36
1	3,492	$ 167.12	$1,180.80	$5,904.00	0.4
1.5	2,552	$ 116.72	$1,231.20	$6,156.00	0.32

*Estimated Calculations supplied by 3E Plus Mechanical Insulation Energy Calculator *

Tunnel



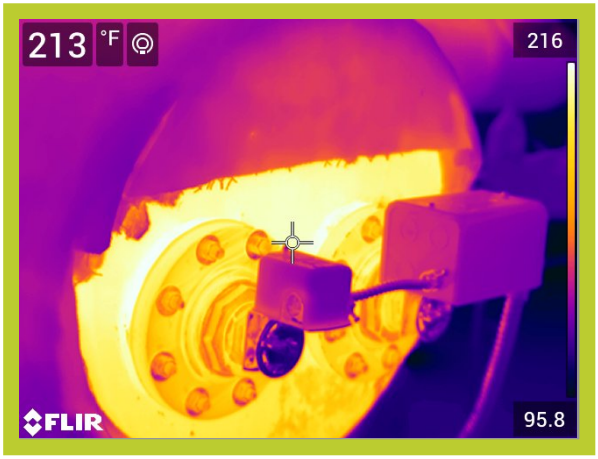


Operating Temperature,	230*F	Emittance of Surface	0.95
Ambient Temperature,	88*F	Expected Useful Life of Insulation System	20 yrs.
Insulation selected	Fiberglass	Operating hours per year	8320
		Efficiency of fuel Conversion%	75%

THICKNESS	HEAT LOSS	FUEL COST $/yr	1styr SAVINGS.	5yr. SAVINGS	CO2 EMMISSIONS
0	55,464	$ 160.86	$160.86	$804.30	0.39
1	6,520	$ 22.11	$138.75	$693.75	0.06
1.5	4,776	$ 17.10	$143.76	$718.80	0.03

*Estimated Calculations supplied by 3E Plus Mechanical Insulation Energy Calculator *

Tunnel

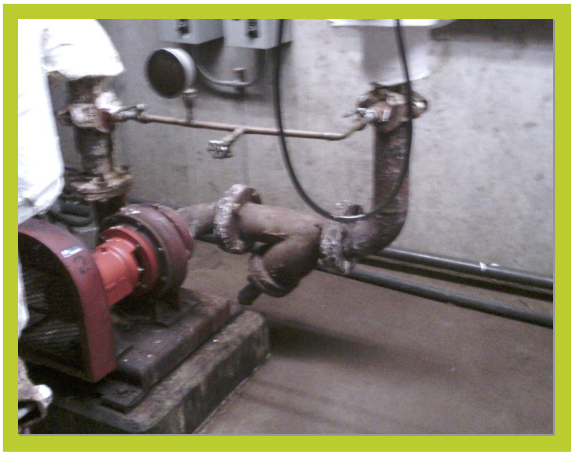


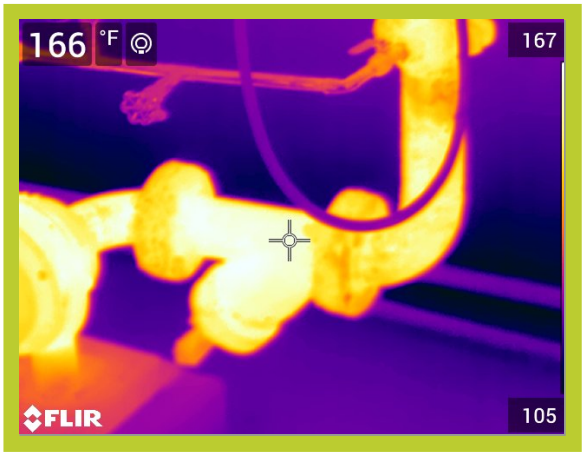
Operating Temperature,	213*F	Emittance of Surface	0.95
Ambient Temperature,	88*F	Expected Useful Life of Insulation System	20 yrs.
Insulation selected	Fiberglass	Operating hours per year	8320
		Efficiency of fuel Conversion%	75%

THICKNESS	HEAT LOSS	FUEL COST $/yr	1styr SAVINGS.	5yr. SAVINGS	CO2 EMMISSIONS
0	6,111	$ 1,640.25	$1,640.25	$8,201.25	4
1	840	$ 182.75	$1,457.50	$7,287.50	0.5
1.5	651	$ 127.00	$1,513.25	$7,566.25	0.25

*Estimated Calculations supplied by 3E Plus Mechanical Insulation Energy Calculator *

Tunnel



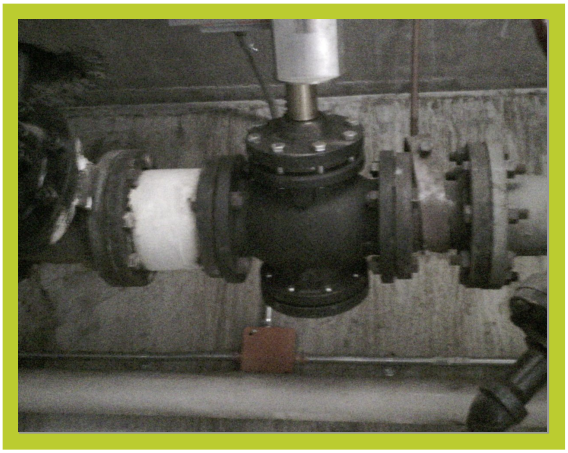


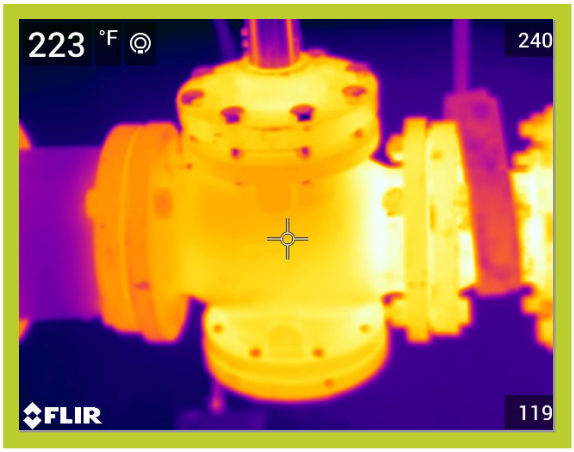
Operating Temperature,	167*F	Emittance of Surface	0.95
Ambient Temperature,	88*F	Expected Useful Life of Insulation System	20 yrs.
Insulation selected	Fiberglass	Operating hours per year	8320
		Efficiency of fuel Conversion%	75%

THICKNESS	HEAT LOSS	FUEL COST $/yr	1styr SAVINGS.	5yr. SAVINGS	CO2 EMMISSIONS
0	42,804	$ 1,568.88	$1,568.88	$7,844.40	3.92
1	5,688	$ 199.56	$1,369.32	$6,846.60	0.48
1.5	4,266	$ 139.56	$1,429.32	$7,146.60	0.36

*Estimated Calculations supplied by 3E Plus Mechanical Insulation Energy Calculator *

Tunnel



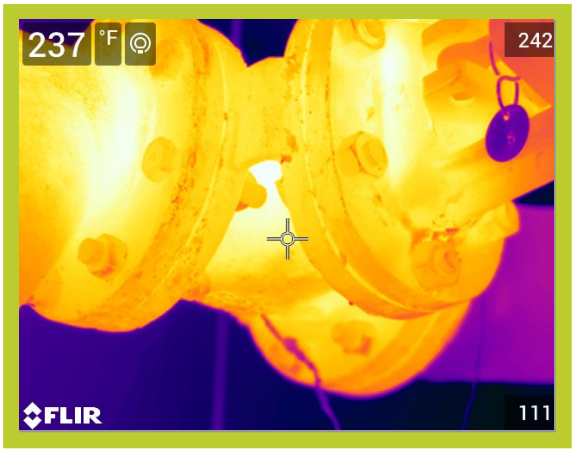


Operating Temperature,	232*F	Emittance of Surface	0.95
Ambient Temperature,	88*F	Expected Useful Life of Insulation System	20 yrs.
Insulation selected	Fiberglass	Operating hours per year	8320
		Efficiency of fuel Conversion%	75%

THICKNESS	HEAT LOSS	FUEL COST $/yr	1styr SAVINGS.	5yr. SAVINGS	CO2 EMMISSIONS
0	59,592	$ 1,077.28	$1,077.28	$5,386.40	2.72
1	7,584	$ 136.56	$940.72	$4703.60	0.32
1.5	5,304	$ 99.28	$978.00	$4890.00	0.24

*Estimated Calculations supplied by 3E Plus Mechanical Insulation Energy Calculator *

Tunnel

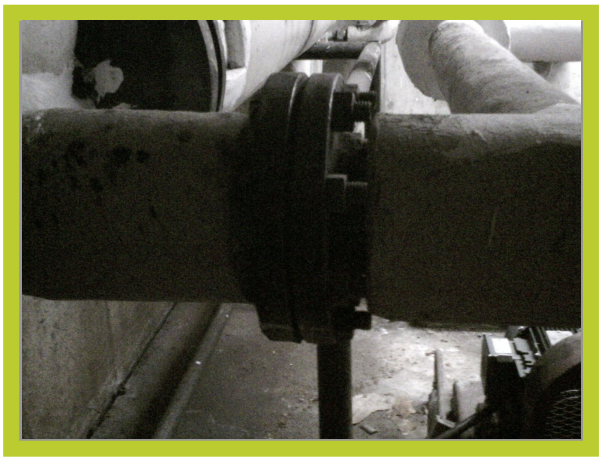


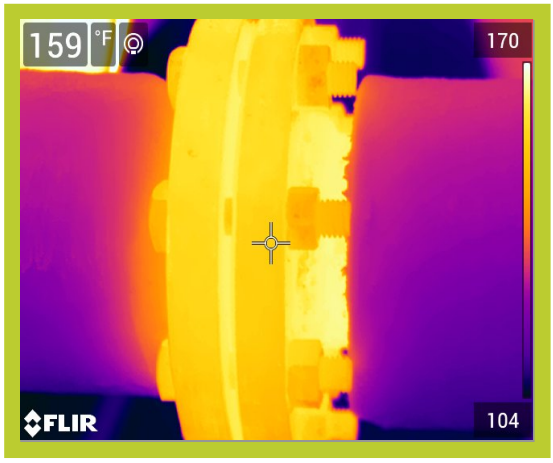
Operating Temperature,	242*F	Emittance of Surface	0.95
Ambient Temperature,	88*F	Expected Useful Life of Insulation System	20 yrs.
Insulation selected	Fiberglass	Operating hours per year	8320
		Efficiency of fuel Conversion%	75%

THICKNESS	HEAT LOSS	FUEL COST $/yr	1styr SAVINGS.	5yr. SAVINGS	CO2 EMMISSIONS
0	40,920	$ 571.56	$571.56	$2857.80	1.44
1	5,192	$ 72.08	$499.48	$2497.40	0.2
1.5	3,768	$ 50.40	$521.16	$2605.80	0.12

*Estimated Calculations supplied by 3E Plus Mechanical Insulation Energy Calculator *

Tunnel



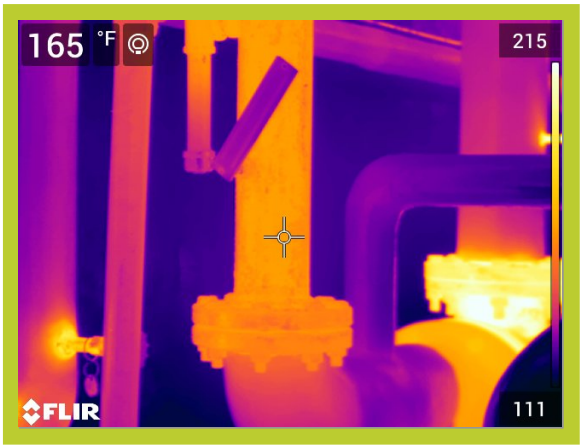


Operating Temperature,	165*F	Emittance of Surface	0.95
Ambient Temperature,	88*F	Expected Useful Life of Insulation System	20 yrs.
Insulation selected	Fiberglass	Operating hours per year	8320
		Efficiency of fuel Conversion%	75%

THICKNESS	HEAT LOSS	FUEL COST $/yr	1styr SAVINGS.	5yr. SAVINGS	CO2 EMMISSIONS
0	58,024	$ 779.32	$779.32	$3896.60	1.96
1	6,776	$ 96.24	$683.08	$3415.40	0.24
1.5	4,960	$ 64.36	$714.96	$3574.80	0.16

*Estimated Calculations supplied by 3E Plus Mechanical Insulation Energy Calculator *

Tunnel



Operating Temperature,	165*F	Emittance of Surface	0.95
Ambient Temperature,	88*F	Expected Useful Life of Insulation System	20 yrs.
Insulation selected	Fiberglass	Operating hours per year	8320
		Efficiency of fuel Conversion%	75%

THICKNESS	HEAT LOSS	FUEL COST $/yr	1styr SAVINGS.	5yr. SAVINGS	CO2 EMMISSIONS
0	29,600	$ 976.52	$976.52	$4882.60	2.44
1	3,656	$ 119.88	$856.64	$4283.20	0.32
1.5	2,444	$ 84.88	$891.64	$4458.20	0.2

*Estimated Calculations supplied by 3E Plus Mechanical Insulation Energy Calculator *

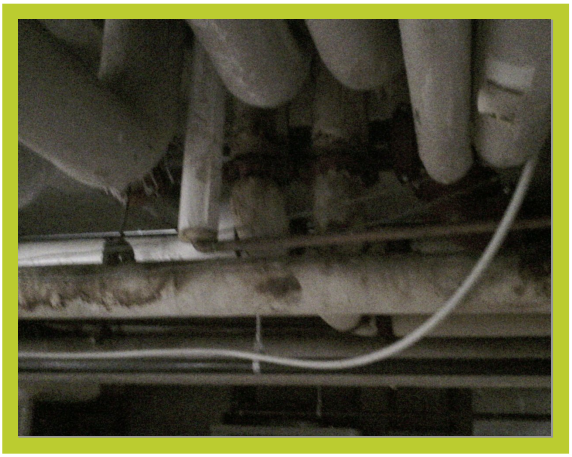
Tunnel

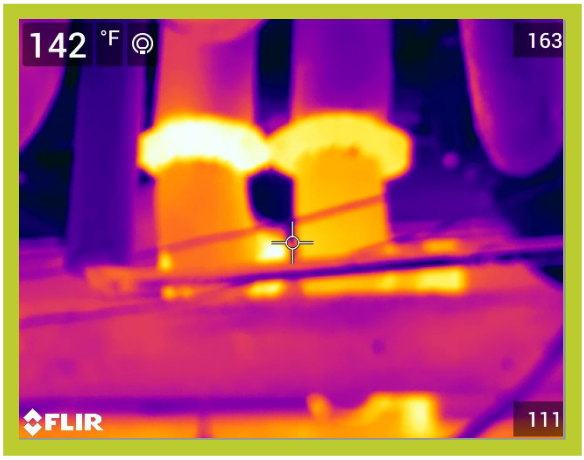
Operating Temperature,	134*F	Emittance of Surface	0.95
Ambient Temperature,	88*F	Expected Useful Life of Insulation System	20 yrs.
Insulation selected	Fiberglass	Operating hours per year	8320
		Efficiency of fuel Conversion%	75%

THICKNESS	HEAT LOSS	FUEL COST $/yr	1styr SAVINGS.	5yr. SAVINGS	CO2 EMMISSIONS
0	37,088	$ 138.39	$138.39	$691.95	0.42
1	4,552	$ 31.92	$106.47	$532.35	0
1.5	3,224	$ 24.99	$113.40	$567.00	0

*Estimated Calculations supplied by 3E Plus Mechanical Insulation Energy Calculator *

Tunnel



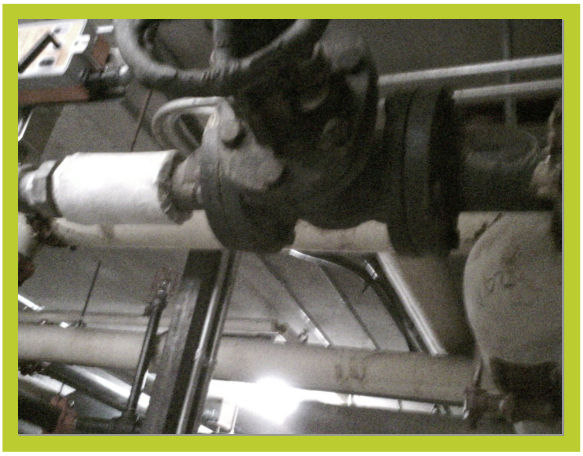


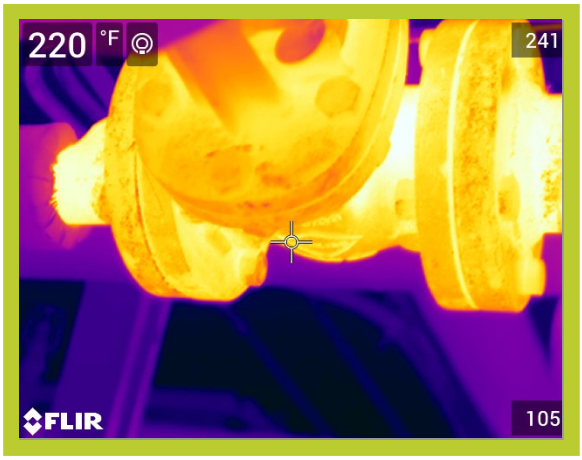
Operating Temperature,	156*F	Emittance of Surface	0.95
Ambient Temperature,	88*F	Expected Useful Life of Insulation System	20 yrs.
Insulation selected	Fiberglass	Operating hours per year	8320
		Efficiency of fuel Conversion%	75%

THICKNESS	HEAT LOSS	FUEL COST $/yr	1styr SAVINGS.	5yr. SAVINGS	CO2 EMMISSIONS
0	5,250	$ 876.60	$876.60	$4383.00	2.16
1	1,218	$ 133.20	$743.40	$3717.00	0.36
1.5	945	$ 105.84	$770.76	$3853.80	0.36

*Estimated Calculations supplied by 3E Plus Mechanical Insulation Energy Calculator *

Tunnel



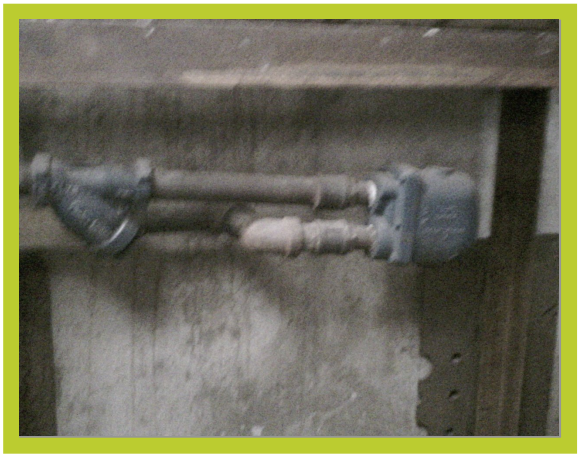


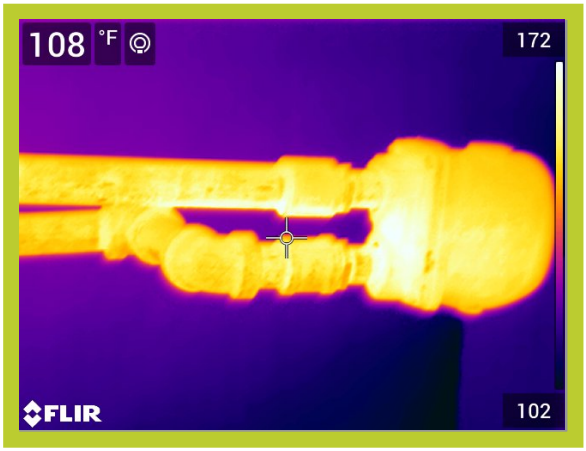
Operating Temperature,	172*F	Emittance of Surface	0.95
Ambient Temperature,	88*F	Expected Useful Life of Insulation System	20 yrs.
Insulation selected	Fiberglass	Operating hours per year	8320
		Efficiency of fuel Conversion%	75%

THICKNESS	HEAT LOSS	FUEL COST $/yr	1styr SAVINGS.	5yr. SAVINGS	CO2 EMMISSIONS
0	11,772	$ 310.05	$310.05	$1550.25	0.81
1	1,656	$ 43.74	$266.31	$1331.55	0.09
1.5	1,251	$ 32.85	$277.20	$1386.00	0.09

*Estimated Calculations supplied by 3E Plus Mechanical Insulation Energy Calculator *

Tunnel



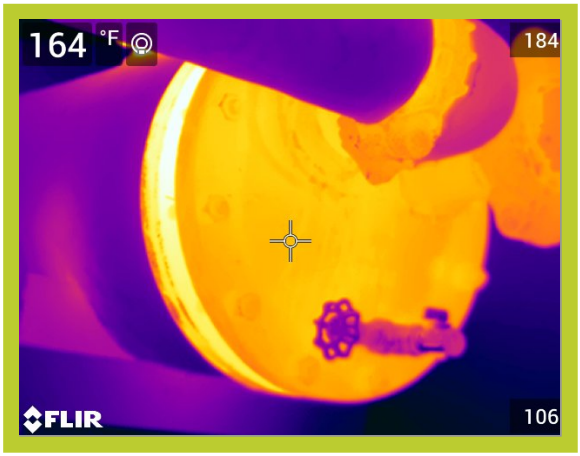


Operating Temperature,	172*F	Emittance of Surface	0.95
Ambient Temperature,	88*F	Expected Useful Life of Insulation System	20 yrs.
Insulation selected	Fiberglass	Operating hours per year	8320
		Efficiency of fuel Conversion%	75%

THICKNESS	HEAT LOSS	FUEL COST $/yr	1styr SAVINGS.	5yr. SAVINGS	CO2 EMMISSIONS
0	4,830	$ 127.08	$127.08	$635.40	0.3
1	744	$ 19.62	$107.46	$537.30	0.06
1.5	588	$ 15.54	$111.54	$557.70	0.06

*Estimated Calculations supplied by 3E Plus Mechanical Insulation Energy Calculator *

Tunnel

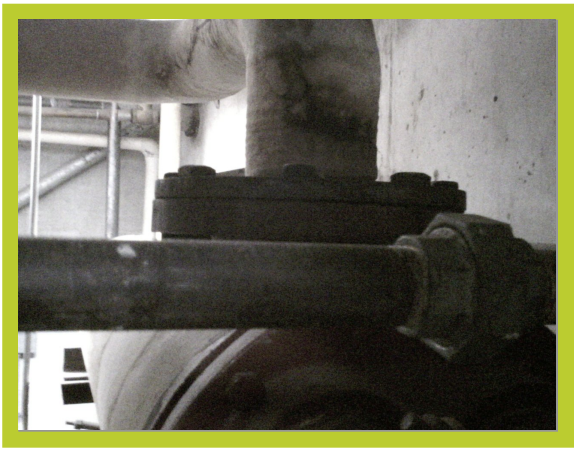


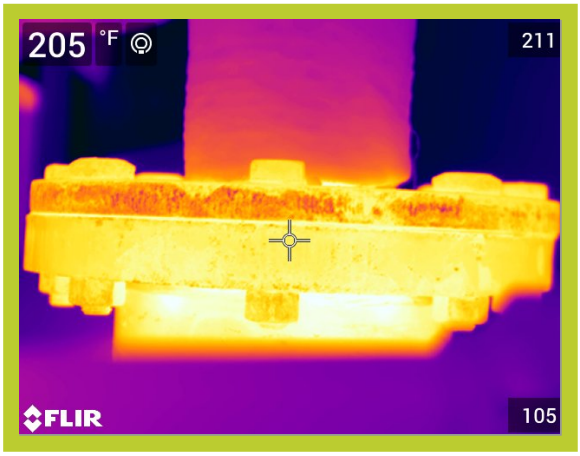
Operating Temperature,	165*F	Emittance of Surface	0.95
Ambient Temperature,	88*F	Expected Useful Life of Insulation System	20 yrs.
Insulation selected	Fiberglass	Operating hours per year	8320
		Efficiency of fuel Conversion%	75%

THICKNESS	HEAT LOSS	FUEL COST $/yr	1styr SAVINGS.	5yr. SAVINGS	CO2 EMMISSIONS
0	20,178	$ 531.24	$531.24	$2656.20	1.32
1	2,598	$ 68.43	$462.81	$2314.05	0.18
1.5	1,833	$ 48.27	$482.97	$2414.85	0.12

*Estimated Calculations supplied by 3E Plus Mechanical Insulation Energy Calculator *

Tunnel



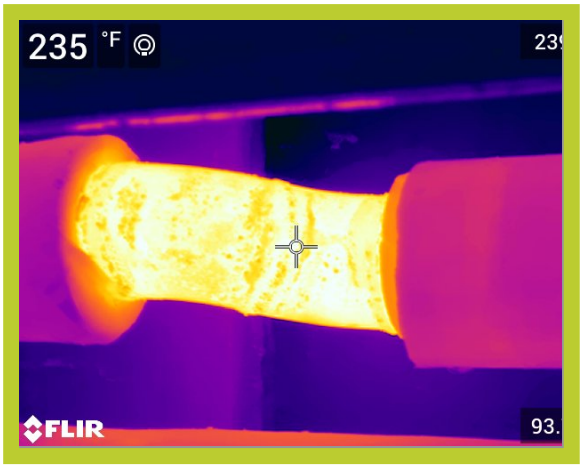


Operating Temperature,	205 *F	Emittance of Surface	0.95
Ambient Temperature,	88*F	Expected Useful Life of Insulation System	20 yrs.
Insulation selected	Fiberglass	Operating hours per year	8320
		Efficiency of fuel Conversion%	75%

THICKNESS	HEAT LOSS	FUEL COST $/yr	1styr SAVINGS.	5yr. SAVINGS	CO2 EMMISSIONS
0	23,421	$ 616.62	$616.62	$3083.10	0.57
1	2,634	$ 69.36	$547.26	$2736.30	0.09
1.5	1,932	$ 50.88	$565.74	$2828.70	0.06

*Estimated Calculations supplied by 3E Plus Mechanical Insulation Energy Calculator *

Tunnel

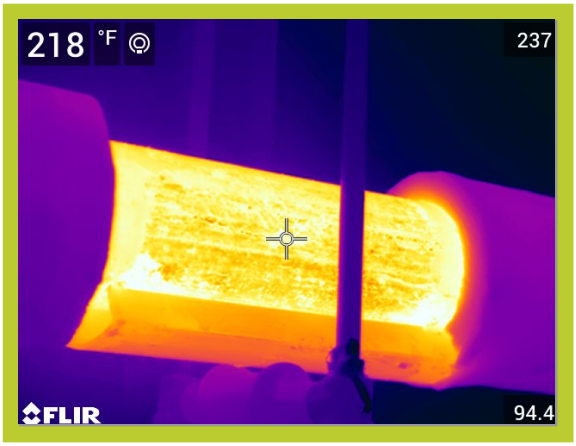


Operating Temperature,	236*F	Emittance of Surface	0.95
Ambient Temperature,	88*F	Expected Useful Life of Insulation System	20 yrs.
Insulation selected	Fiberglass	Operating hours per year	8320
		Efficiency of fuel Conversion%	75%

THICKNESS	HEAT LOSS	FUEL COST $/yr	1styr SAVINGS.	5yr. SAVINGS	CO2 EMMISSIONS
0	11,298	$ 297.36	$297.36	$1486.80	0.72
1	1,560	$ 41.04	$256.32	$1281.60	0.12
1.5	1,206	$ 31.74	$265.62	$1328.10	0.08

*Estimated Calculations supplied by 3E Plus Mechanical Insulation Energy Calculator *

Tunnel

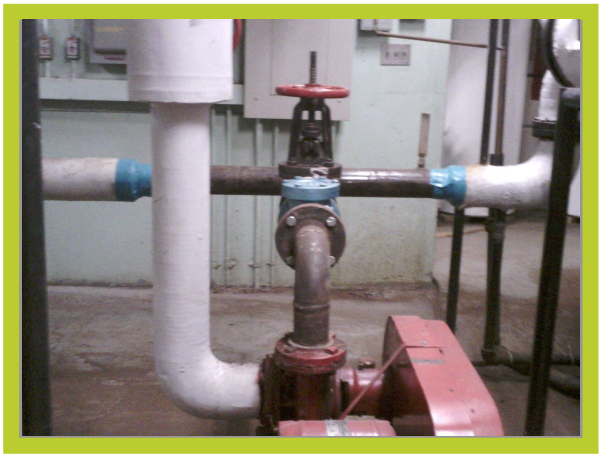


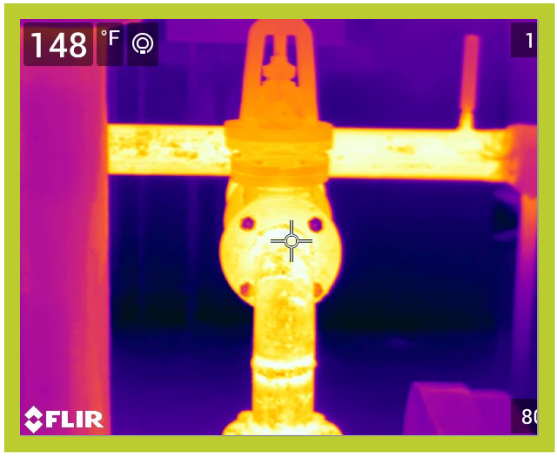
Operating Temperature,	238*F	Emittance of Surface	0.95
Ambient Temperature,	88*F	Expected Useful Life of Insulation System	20 yrs.
Insulation selected	Fiberglass	Operating hours per year	8320
		Efficiency of fuel Conversion%	75%

THICKNESS	HEAT LOSS	FUEL COST $/yr	1styr SAVINGS.	5yr. SAVINGS	CO2 EMMISSIONS
0	21,825	$ 574.74	$574.74	$2873.70	1.44
1	2,421	$ 63.63	$511.11	$2555.55	0.18
1.5	1,935	$ 50.94	$523.80	$2619.00	0.12

*Estimated Calculations supplied by 3E Plus Mechanical Insulation Energy Calculator *

Boiler Room





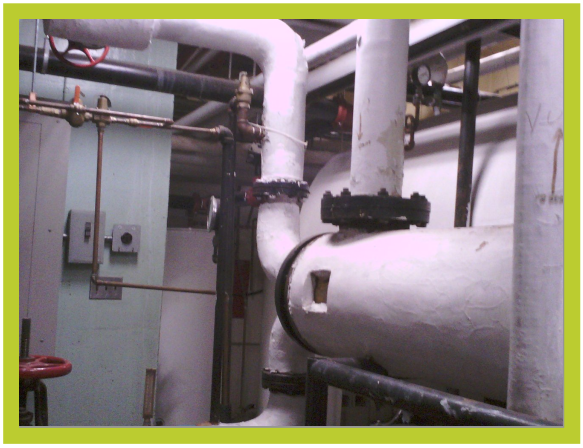
Operating Temperature,	149*F
Ambient Temperature,	81*F
Insulation selected	Fiberglass

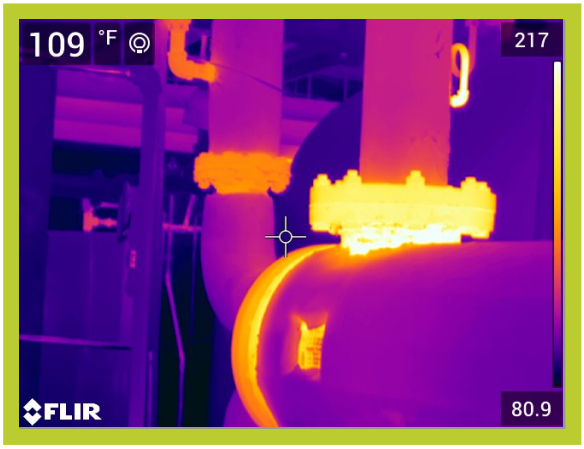
Emittance of Surface	0.95
Expected Useful Life of Insulation System	20 yrs.
Operating hours per year	8320
Efficiency of fuel Conversion%	75%

THICKNESS	HEAT LOSS	FUEL COST $/yr	1styr SAVINGS.	5yr. SAVINGS	CO2 EMMISSIONS
0	15,060	$ 396.48	$396.48	$1982.40	0.96
1	2,064	$ 54.48	$342.00	$1710.00	0.12
1.5	1,572	$ 41.28	$355.20	$1776.00	0.12

*Estimated Calculations supplied by 3E Plus Mechanical Insulation Energy Calculator *

Boiler Room



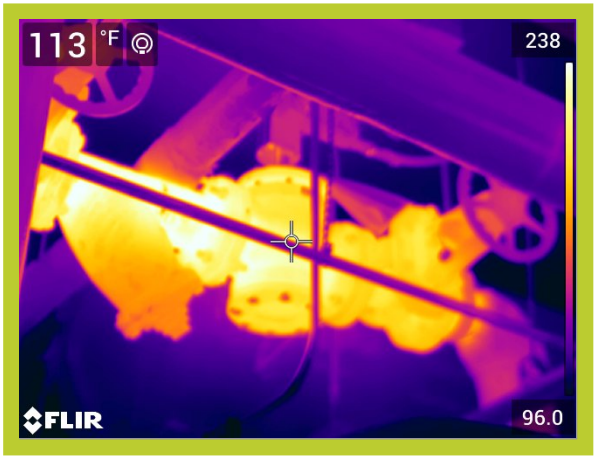


Operating Temperature,	204*F	Emittance of Surface	0.95
Ambient Temperature,	81*F	Expected Useful Life of Insulation System	20 yrs.
Insulation selected	Fiberglass	Operating hours per year	8320
		Efficiency of fuel Conversion%	75%

THICKNESS	HEAT LOSS	FUEL COST $/yr	1styr SAVINGS.	5yr. SAVINGS	CO2 EMMISSIONS
0	16083	$ 423.36	$ 423.36	$ 2116.80	1.05
1	1932	$ 50.88	$ 372.48	$ 1862.40	0.12
1.5	1416	$ 37.29	$ 386.07	$ 1930.35	0.09

*Estimated Calculations supplied by 3E Plus Mechanical Insulation Energy Calculator *

Boiler Room

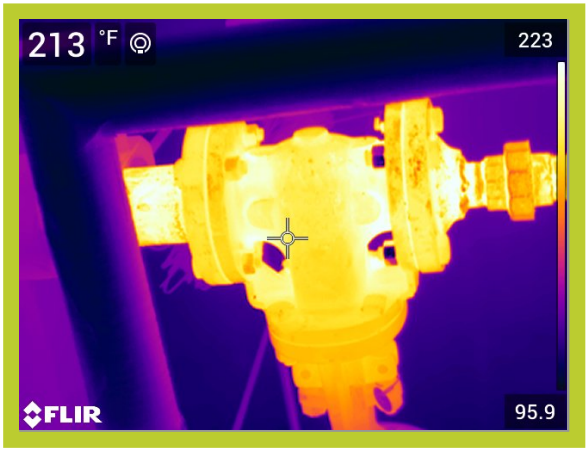


Operating Temperature,	212*F	Emittance of Surface	0.95
Ambient Temperature,	81*F	Expected Useful Life of Insulation System	20 yrs.
Insulation selected	Fiberglass	Operating hours per year	8320
		Efficiency of fuel Conversion%	75%

THICKNESS	HEAT LOSS	FUEL COST $/yr	1styr SAVINGS.	5yr. SAVINGS	CO2 EMMISSIONS
0	25,413	$ 669.06	$669.06	$3345.30	1.68
1	2,835	$ 74.67	$594.39	$2971.95	0.18
1.5	2,079	$ 54.75	$614.31	$3071.55	0.15

*Estimated Calculations supplied by 3E Plus Mechanical Insulation Energy Calculator *

Boiler Room

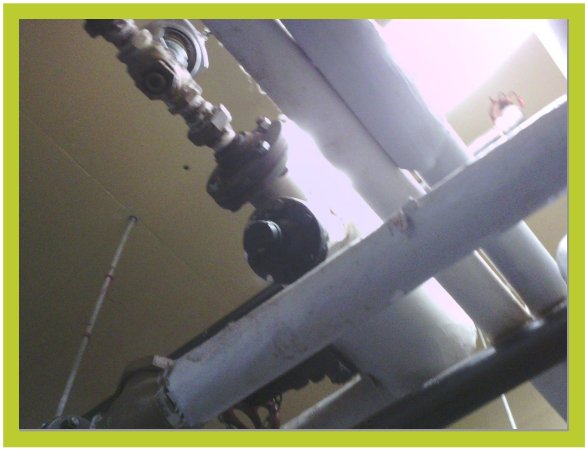


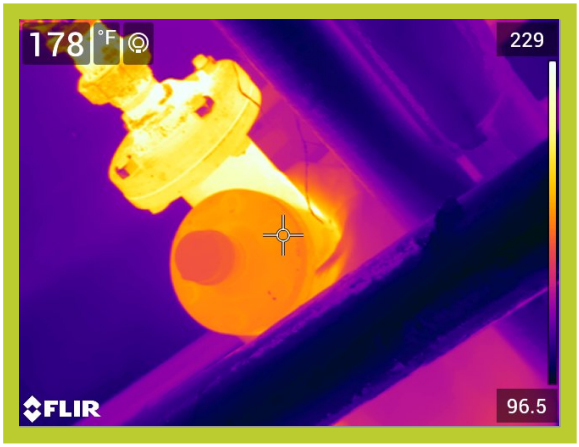
Operating Temperature,	212*F	Emittance of Surface	0.95
Ambient Temperature,	81*F	Expected Useful Life of Insulation System	20 yrs.
Insulation selected	Fiberglass	Operating hours per year	8320
		Efficiency of fuel Conversion%	75%

THICKNESS	HEAT LOSS	FUEL COST $/yr	1styr SAVINGS.	5yr. SAVINGS	CO2 EMMISSIONS
0	28,566	$ 752.07	$752.07	$3760.35	1.89
1	3,522	$ 92.76	$659.31	$3296.55	0.24
1.5	2,472	$ 65.04	$687.03	$3435.15	0.15

*Estimated Calculations supplied by 3E Plus Mechanical Insulation Energy Calculator *

Boiler Room



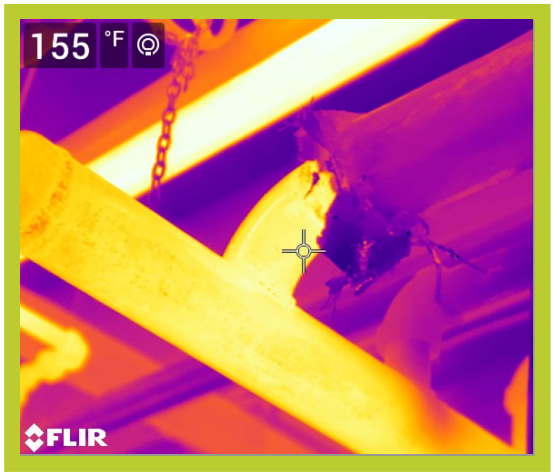


Operating Temperature,	202*F	Emittance of Surface	0.95
Ambient Temperature,	81*F	Expected Useful Life of Insulation System	20 yrs.
Insulation selected	Fiberglass	Operating hours per year	8320
		Efficiency of fuel Conversion%	75%

THICKNESS	HEAT LOSS	FUEL COST $/yr	1styr SAVINGS.	5yr. SAVINGS	CO2 EMMISSIONS
0	8,631	$ 227.22	$227.22	$1136.10	0.57
1	1,107	$ 29.13	$198.09	$990.45	0.06
1.5	813	$ 21.39	$205.83	$1029.15	0.06

*Estimated Calculations supplied by 3E Plus Mechanical Insulation Energy Calculator *

Boiler Room



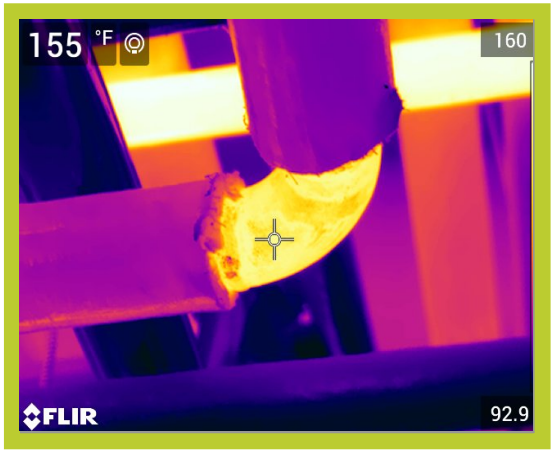
Operating Temperature,	156*F
Ambient Temperature,	81*F
Insulation selected	Fiberglass

Emittance of Surface	0.95
Expected Useful Life of Insulation System	20 yrs.
Operating hours per year	8320
Efficiency of fuel Conversion%	75%

THICKNESS	HEAT LOSS	FUEL COST $/yr	1styr SAVINGS.	5yr. SAVINGS	CO2 EMMISSIONS
0	16,856	$ 443.68	$443.68	$2218.40	1.12
1	2,344	$ 61.68	$382.00	$1910.00	0.16
1.5	1,648	$ 43.28	$400.40	$2002.00	0.08

*Estimated Calculations supplied by 3E Plus Mechanical Insulation Energy Calculator *

Boiler Room

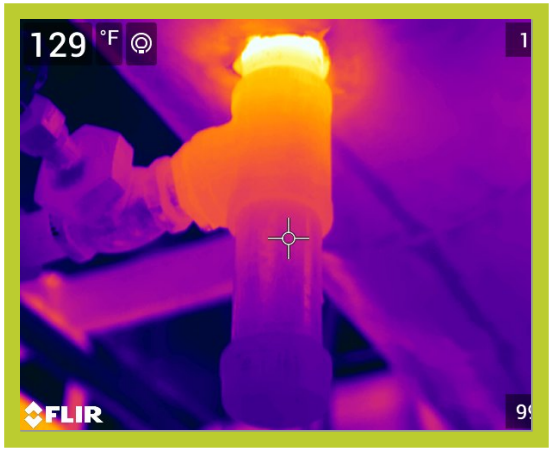


Operating Temperature,	156*F	Emittance of Surface	0.95
Ambient Temperature,	81*F	Expected Useful Life of Insulation System	20 yrs.
Insulation selected	Fiberglass	Operating hours per year	8320
		Efficiency of fuel Conversion%	75%

THICKNESS	HEAT LOSS	FUEL COST $/yr	1styr SAVINGS.	5yr. SAVINGS	CO2 EMMISSIONS
0	10,392	$ 273.66	$273.66	$1368.30	0.66
1	1,422	$ 37.44	$236.22	$1181.10	0.12
1.5	1,068	$ 28.20	$245.46	$1227.30	0.06

*Estimated Calculations supplied by 3E Plus Mechanical Insulation Energy Calculator *

Boiler Room

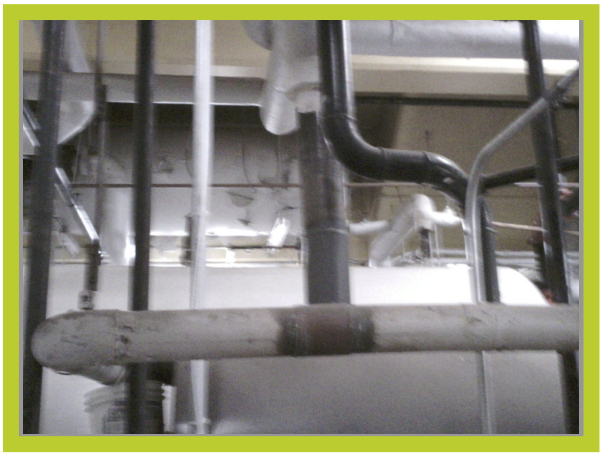


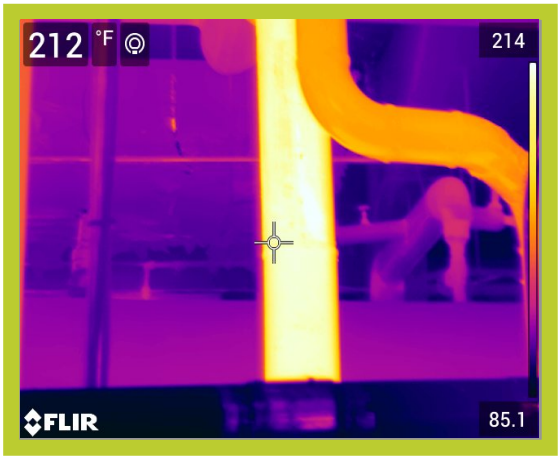
Operating Temperature,	180*F	Emittance of Surface	0.95
Ambient Temperature,	81*F	Expected Useful Life of Insulation System	20 yrs.
Insulation selected	Fiberglass	Operating hours per year	8320
		Efficiency of fuel Conversion%	75%

THICKNESS	HEAT LOSS	FUEL COST $/yr	1styr SAVINGS.	5yr. SAVINGS	CO2 EMMISSIONS
0	4,329	$ 113.97	$113.97	$569.85	0.3
1	600	$ 15.81	$98.16	$490.80	0.03
1.5	417	$ 10.95	$103.02	$515.10	0.03

*Estimated Calculations supplied by 3E Plus Mechanical Insulation Energy Calculator *

Boiler Room





Operating Temperature,	180*F	Emittance of Surface	0.95
Ambient Temperature,	81*F	Expected Useful Life of Insulation System	20 yrs.
Insulation selected	Fiberglass	Operating hours per year	8320
		Efficiency of fuel Conversion%	75%

THICKNESS	HEAT LOSS	FUEL COST $/yr	1styr SAVINGS.	5yr. SAVINGS	CO2 EMMISSIONS
0	20,958	$ 551.76	$551.76	$2758.80	1.38
1	2,700	$ 70.98	$480.78	$2403.90	0.18
1.5	1,992	$ 52.44	$499.32	$2496.60	0.12

*Estimated Calculations supplied by 3E Plus Mechanical Insulation Energy Calculator *

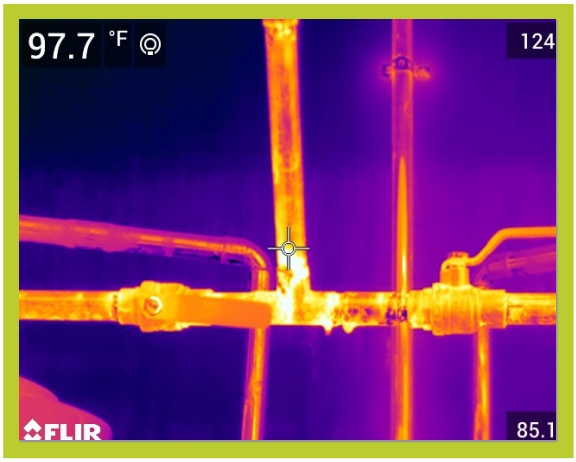
Boiler Room

Operating Temperature,	175*F	Emittance of Surface	0.95
Ambient Temperature,	81*F	Expected Useful Life of Insulation System	20 yrs.
Insulation selected	Fiberglass	Operating hours per year	8320
		Efficiency of fuel Conversion%	75%

THICKNESS	HEAT LOSS	FUEL COST $/yr	1styr SAVINGS.	5yr. SAVINGS	CO2 EMMISSIONS
0	3,816	$ 100.44	$100.44	$502.20	0.24
1	546	$ 14.40	$86.04	$430.20	0.03
1.5	423	$ 11.13	$89.31	$446.55	0.03

*Estimated Calculations supplied by 3E Plus Mechanical Insulation Energy Calculator *

Boiler Room

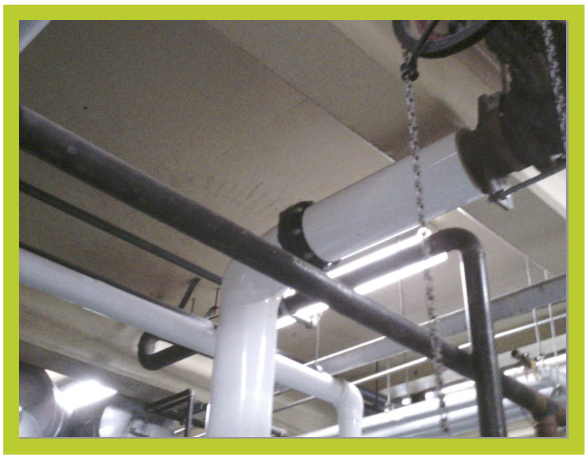


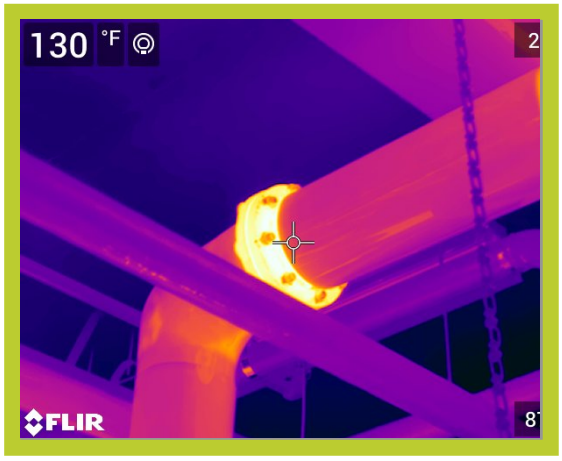
Operating Temperature,	203*F	Emittance of Surface	0.95
Ambient Temperature,	81*F	Expected Useful Life of Insulation System	20 yrs.
Insulation selected	Fiberglass	Operating hours per year	8320
		Efficiency of fuel Conversion%	75%

THICKNESS	HEAT LOSS	FUEL COST $/yr	1styr SAVINGS.	5yr. SAVINGS	CO2 EMMISSIONS
0	2,424	$ 63.84	$63.84	$319.20	0.12
1	576	$ 15.12	$48.72	$243.60	0
1.5	456	$ 11.88	$51.96	$259.80	0

*Estimated Calculations supplied by 3E Plus Mechanical Insulation Energy Calculator *

Boiler Room



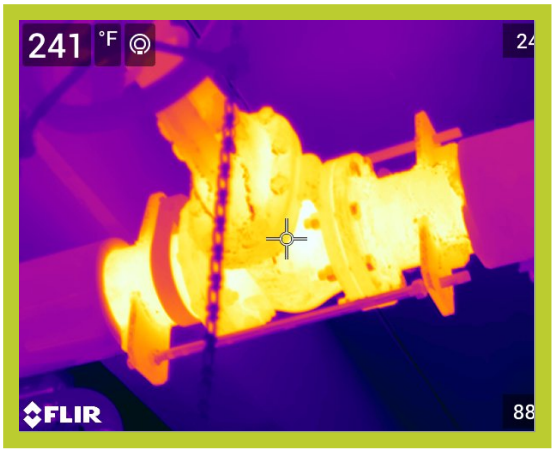


Operating Temperature,	235*F	Emittance of Surface	0.95
Ambient Temperature,	81*F	Expected Useful Life of Insulation System	20 yrs.
Insulation selected	Fiberglass	Operating hours per year	8320
		Efficiency of fuel Conversion%	75%

THICKNESS	HEAT LOSS	FUEL COST $/yr	1styr SAVINGS.	5yr. SAVINGS	CO2 EMMISSIONS
0	30,090	$ 792.09	$792.09	$3960.45	1.71
1	3,306	$ 87.03	$705.06	$3525.30	0.21
1.5	2,421	$ 63.78	$728.31	$3641.55	0.15

*Estimated Calculations supplied by 3E Plus Mechanical Insulation Energy Calculator *

Boiler Room

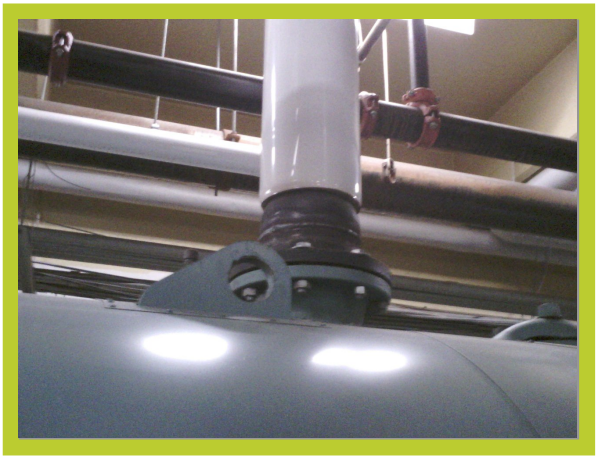


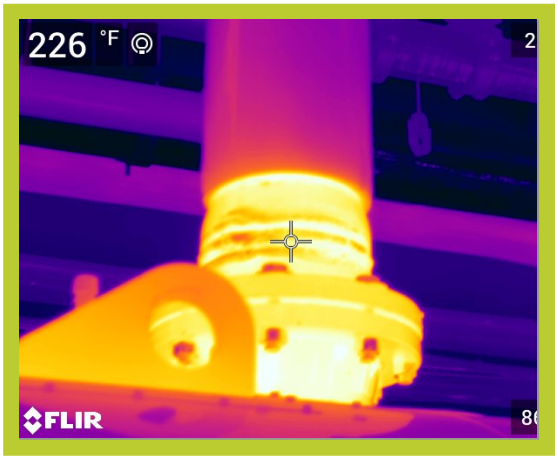
Operating Temperature,	230*F	Emittance of Surface	0.95
Ambient Temperature,	81*F	Expected Useful Life of Insulation System	20 yrs.
Insulation selected	Fiberglass	Operating hours per year	8320
		Efficiency of fuel Conversion%	75%

THICKNESS	HEAT LOSS	FUEL COST $/yr	1styr SAVINGS.	5yr. SAVINGS	CO2 EMMISSIONS
0	25,515	$ 671.79	$671.79	$3358.95	1.68
1	3,111	$ 81.90	$589.89	$2949.45	0.21
1.5	2,079	$ 54.75	$617.04	$3085.20	0.15

*Estimated Calculations supplied by 3E Plus Mechanical Insulation Energy Calculator *

Boiler Room



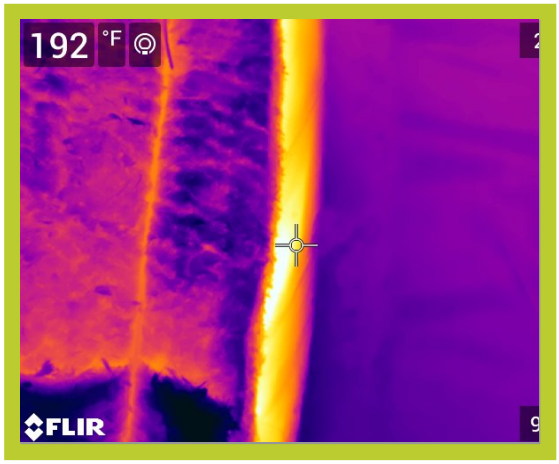


Operating Temperature,	238*F	Emittance of Surface	0.95
Ambient Temperature,	81*F	Expected Useful Life of Insulation System	20 yrs.
Insulation selected	Fiberglass	Operating hours per year	8320
		Efficiency of fuel Conversion%	75%

THICKNESS	HEAT LOSS	FUEL COST $/yr	1styr SAVINGS.	5yr. SAVINGS	CO2 EMMISSIONS
0	34020	$ 223.93	$ 895.72	$ 4478.60	2.24
1	4148	$ 27.30	$109.20	$ 3932.60	0.28
1.5	2772	$ 18.25	$73.00	$4113.60	0.02

*Estimated Calculations supplied by 3E Plus Mechanical Insulation Energy Calculator *

Boiler Room

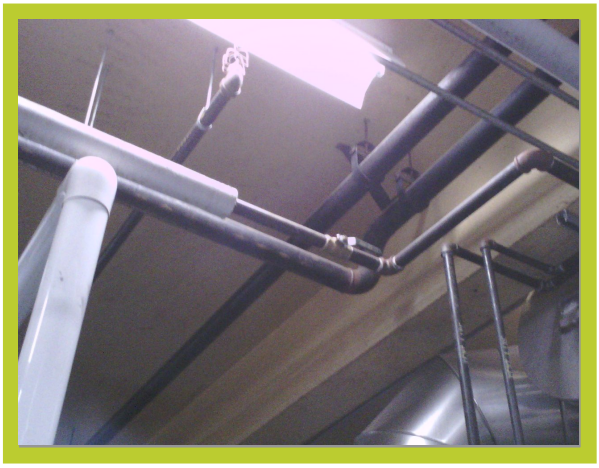


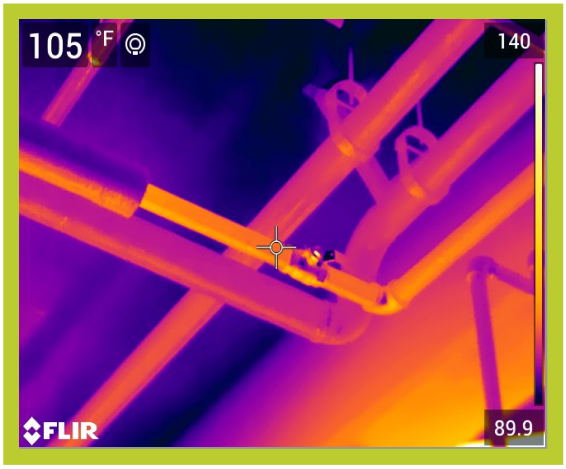
Operating Temperature,	198*F	Emittance of Surface	0.95
Ambient Temperature,	81*F	Expected Useful Life of Insulation System	20 yrs.
Insulation selected	Fiberglass	Operating hours per year	8320
		Efficiency of fuel Conversion%	75%

THICKNESS	HEAT LOSS	FUEL COST $/yr	1styr SAVINGS.	5yr. SAVINGS	CO2 EMMISSIONS
0	5,049	$ 132.99	$132.99	$664.95	0.33
1	1,023	$ 27.06	$105.93	$529.65	0
1.5	726	$ 19.14	$113.85	$569.25	0

*Estimated Calculations supplied by 3E Plus Mechanical Insulation Energy Calculator *

Boiler Room





Operating Temperature,	104*F	Emittance of Surface	0.95
Ambient Temperature,	81*F	Expected Useful Life of Insulation System	20 yrs.
Insulation selected	Fiberglass	Operating hours per year	8320
		Efficiency of fuel Conversion%	75%

THICKNESS	HEAT LOSS	FUEL COST $/yr	1styr SAVINGS.	5yr. SAVINGS	CO2 EMMISSIONS
0	3,633	$ 95.34	$95.34	$476.70	0.21
1	651	$ 17.43	$77.91	$389.55	0
1.5	525	$ 13.86	$81.48	$407.40	0

*Estimated Calculations supplied by 3E Plus Mechanical Insulation Energy Calculator *

Results	
Simple Payback Period, yrs	0.7
Internal Rate of Return (IRR or ROI)	139.6%
Net Present Value,	$1,178,370

Calculations				
Year	**Investment**	**Annual Savings**	**Annual Cash Flow**	**Cumulative Cash Flow**
0	$-43,790	$0	$-43,790	$-43,790
1	$0	$61,108	$61,108	$17,318
2	$0	$61,108	$61,108	$78,426
3	$0	$61,108	$61,108	$139,534
4	$0	$61,108	$61,108	$200,642
5	$0	$61,108	$61,108	$261,750
6	$0	$61,108	$61,108	$322,858
7	$0	$61,108	$61,108	$383,966
8	$0	$61,108	$61,108	$445,074
9	$0	$61,108	$61,108	$506,182
10	$0	$61,108	$61,108	$567,290
11	$0	$61,108	$61,108	$628,398
12	$0	$61,108	$61,108	$689,506
13	$0	$61,108	$61,108	$750,614
14	$0	$61,108	$61,108	$811,722
15	$0	$61,108	$61,108	$872,830
16	$0	$61,108	$61,108	$933,938
17	$0	$61,108	$61,108	$995,046
18	$0	$61,108	$61,108	$1,056,154
19	$0	$61,108	$61,108	$1,117,262
20	$0	$61,108	$61,108	$1,178,370