

INDONESIA SPRING / FALL

Heat Loss without Calcium insulation , 1 1/2" thick up to 450°F and 3" thick above 450° F for an ambient temperature of 80° (Spring/fall), wind of 1 mph in Btu/ft/hr

Process Temperature (F°)

Pipe Size (Inches)	150	250	350	450	550	650	750	850
2 w/insul.	16.66	42.69	71.49	103.2	94.2	120.1	148.2	178.6
Envirocage	118	326.7	592.1	927.3	1348	1873	2521	3316
3 w/insul.	21.89	56.13	94.05	135.8	119.3	152	187.6	226.3
Envirocage	157.4	444.9	817.7	1294	1896	2650	3585	4734
4 w/insul.	26.27	67.4	113	163.3	138.1	176.1	217.3	262.1
Envirocage	191.3	548.4	1016	1618	2381	3339	4530	5993
6 w/insul.	37.03	95.13	159.7	231	184.1	234.7	289.8	349.6
Envirocage	261.7	766.5	1437	2303	3407	4798	6529	8658
8 w/insul.	44.46	114.3	191.9	277.7	217.3	277.1	342.2	412.8
Envirocage	327.1	970.9	1831	2947	4370	6165	8401	11150
10 w/insul.	51.96	133.7	224.6	325.1	261.6	383.2	412.1	497.1
Envirocage	396.3	1188	2250	3629	5391	8982	10380	13790
12 w/insul.	60.32	155.3	261	378	300.4	427.2	473.3	571.1
Envirocage	461.3	1392	2644	4272	6354	9835	12260	16290
14 w/insul.	69.72	179.7	302.4	438.2	334.8	427.2	527.8	636.9
Envirocage	501.9	1520	2890	4673	6955	9835	13430	17850
16 w/insul.	77.96	201.1	338.5	490.6	374.4	477.8	590.3	712.3
Envirocage	566.8	1724	3284	5316	7917	11200	15300	20350

INDONESIA SPRING / FALL

Heat Loss without Calcium insulation , 40mm thick up to 232.2°C and 80mm thick above 232.2°C for an ambient temperature of 27° (Spring/fall), wind of .4 m/s in Heat Loss W/m

Process Temperature (C°)

Pipe Size (Millimeters)	65.6	121.1	176.7	232.2	287.8	343.3	398.9	454.4
50 w/insul.	15.98	40.93	68.59	99.01	90.49	115.3	142.3	171.6
Envirocage	110.2	307.1	559.6	879	1282	1783	2405	3167
80 w/insul.	20.99	53.81	90.23	130.3	114.6	146	180.3	217.3
Envirocage	147.6	420.3	776.3	1231	1809	2531	3429	4530
100 w/insul.	25.19	64.61	108.4	156.6	132.7	169.1	208.8	251.8
Envirocage	180	519.7	927.7	1543	2275	3194	4338	5743
150 w/insul.	35.51	91.2	121.1	221.6	176.8	225.5	278.5	335.9
Envirocage	247.5	729.5	1373	2203	3264	4598	6262	8306
200 w/insul.	42.64	109.6	184.2	266.6	208	266.2	328.8	396.6
Envirocage	310.3	926.3	1753	2823	4191	5914	8064	10710
250 w/insul.	49.84	128.2	215.6	312.1	251.3	320.5	396	477.7
Envirocage	376.8	1135	2156	3479	5173	7307	9971	13240
300 w/insul.	57.86	149	250.6	363	288.6	368.1	454.8	548.7
Envirocage	439.4	1332	2535	4098	6100	8623	11770	15650
350 w/insul.	66.87	172.4	290.4	420.8	321.7	410.5	507.2	612
Envirocage	478.5	1455	2772	4484	6678	9444	12900	17140
400 w/insul.	74.76	192.9	325.1	471.2	359.8	459	567.3	684.5
Envirocage	541.1	1651	3152	5102	7604	10760	14700	19550

INDONESIA SUMMER

Heat Loss without Calcium insulation , 1 1/2" thick up to 450°F and 3" thick above 450° F for an ambient temperature of 90° (Summer), wind of 1 mph in Btu/ft/hr

Process Temperature (F°)

Pipe Size (Inches)	150	250	350	450	550	650	750	850
2 w/insul.	14.36	35.48	69.24	101	92.67	118.5	146.7	177.1
Envirocage	101.7	260.9	574	908.6	1329	1853	2502	3296
3 w/insul.	18.88	53.15	91.1	132.9	178.8	150.1	185.7	224.4
Envirocage	135.6	421.2	792.6	1268	1869	2622	3557	4705
4 w/insul.	22.66	63.83	109.4	159.8	135.9	173.8	215.1	259.9
Envirocage	164.7	519	985.1	1585	2347	3304	4495	5958
6 w/insul.	31.96	90.11	154.7	226	181.1	231.8	286.9	346.7
Envirocage	224.9	724.9	1392	2256	3359	4748	6478	8607
8 w/insul.	38.37	108.3	186	271.8	213.8	273.7	338.8	409.4
Envirocage	280.6	917.7	1774	2886	4308	6101	8336	11090
10 w/insul.	44.85	126.6	217.6	318.1	257.4	329.5	407.9	493
Envirocage	339.5	1122	2179	3554	5314	7535	10300	13710
12 w/insul.	52.06	147.1	252.9	370	295.5	378.4	468.5	566.3
Envirocage	394.7	1315	2561	4184	6263	8889	12160	16190
14 w/insul.	60.19	170.3	293	428.9	329.5	421.9	522.5	631.7
Envirocage	429.3	1436	2799	4577	6855	9733	13320	17740
16 w/insul.	67.29	190.5	328	480.2	368.4	471.8	584.4	706.5
Envirocage	484.5	1628	3181	5207	7804	11090	15180	20230

INDONESIA SUMMER

Heat Loss without Calcium insulation , 40mm thick up to 232.2°C and 80mm thick above 232.2°C for an ambient temperature of 35° (Summer), wind of .4 m/s in Heat Loss W/m

Process Temperature (C°)

Pipe Size (Millimeters)	65.6	121.1	176.7	232.2	287.8	343.3	398.9	454.4
50 w/insul.	13.87	38.95	66.75	97.31	89.24	114.1	141.2	11.6
Envirocage	95.11	291	542.6	861.4	1264	1765	2387	1519
80 w/insul.	18.24	51.25	87.88	126.2	113	114.6	178.9	216.1
Envirocage	127.3	398	752.6	1207	1783	2505	3403	4503
100 w/insul.	21.9	61.58	105.6	154.1	130.9	167.4	207.3	250.3
Envirocage	155.1	491.9	937.9	1512	2243	3161	4305	5708
150 w/insul.	30.92	87.04	149.5	218.3	174.6	223.4	276.5	334.1
Envirocage	212.8	690	1330	2159	3218	4551	6214	8257
200 w/insul.	37.15	104.6	179.8	262.6	206.1	263.7	326.6	394.5
Envirocage	266.4	875.8	1698	2765	4132	5853	8002	394.5
250 w/insul.	43.44	122.4	210.4	307.5	248.2	317.6	393.3	475.3
Envirocage	323	1073	2088	3408	5100	7232	9895	10640
300 w/insul.	50.45	142.3	244.7	357.7	285.1	364.8	451.8	546
Envirocage	376.4	1259	2456	4014	6014	8534	11680	15550
350 w/insul.	58.36	164.8	283.6	414.9	317.9	406.9	504	609.1
Envirocage	409.7	1375	4686	4393	9584	9347	12800	17040
400 w/insul.	409.7	184.4	317.6	464.7	355.5	455.1	563.7	681.3
Envirocage	462.9	1560	3053	4998	7496	10650	14590	19430

INDONESIA WINTER

Heat Loss without Calcium insulation , 1 1/2" thick up to 450°F and 3" thick above 450°F for an ambient temperature of 73° (Winter), wind of 1 mph in Btu/ft/hr

Process Temperature (F°)

Pipe Size (Inches)	150	250	350	450	550	650	750	850
2 w/insul.	18.24	44.26	73.05	104.8	95.27	121.1	149.2	179.7
Envirocage	129.2	338.7	604.6	940.2	1361	1886	2535	3330
3 w/insul.	23.97	58.19	96.09	137.9	120.6	153.4	189	227.6
Envirocage	172.6	461.4	835.1	1312	1914	2669	3605	4753
4 w/insul.	28.76	69.87	115.4	165.7	139.7	177.6	218.9	263.6
Envirocage	209.9	568.9	1038	1640	2404	3363	4554	6018
6 w/insul.	40.54	98.61	163.1	234.4	186.1	236.8	291.9	351.6
Envirocage	287.5	795.5	1468	2336	3441	4832	6594	8694
8 w/insul.	48.67	118.5	196.1	281.8	219.7	279.5	344.6	415.2
Envirocage	359.7	1008	1871	2988	4414	6210	8446	11200
10 w/insul.	56.88	138.5	229.4	329.9	264.5	336.5	415	500
Envirocage	436.1	1233	2299	3680	5444	7668	10440	13850
12 w/insul.	66.03	161	266.7	383.6	303.7	386.5	476.6	574.3
Envirocage	507.9	1446	2702	4333	6417	9046	12320	16360
14 w/insul.	76.32	186.3	308.9	444.7	338.6	430.9	531.5	640.6
Envirocage	552.8	1579	2954	4740	7024	9906	13500	17920
16 w/insul.	85.33	208.4	345.8	467.9	378.6	481.9	594.4	716.4
Envirocage	624.6	1791	3357	5392	7995	11280	15380	20430

INDONESIA WINTER

Heat Loss without Calcium insulation , 40mm thick up to 232.2°C and 80mm thick above 232.2°C for an ambient temperature of 20° (Winter), wind of .4 m/s in Heat Loss W/m

Process Temperature (C°)

Pipe size (Millimeters)	65.6	121.1	176.7	232.2	287.8	343.3	398.9	454.4
50 w/insul.	24.42	43.52	71.16	101.6	92.25	117.1	144.1	173.3
Envirocage	172.2	326.6	580.1	900.3	1304	1806	2426	3190
80 w/insul.	24.42	57.2	93.59	133.7	116.8	148.2	182.5	219.5
Envirocage	172.2	447.2	805	1261	1839	2563	3461	4563
100 w/insul.	29.3	68.68	112.4	160.6	135.2	171.6	211.3	254.3
Envirocage	210.2	553.3	1004	1581	2314	3234	4379	5784
150 w/insul.	41.28	96.92	158.9	227.3	180.2	228.8	281.8	339.2
Envirocage	289.7	777.3	1424	2257	3320	4655	6321	8365
200 w/insul.	49.57	116.5	191	273.4	212.8	270.2	332.8	400.6
Envirocage	363.9	987.6	1819	2892	4263	5988	8139	10780
250 w/insul.	57.94	136.2	223.6	320	256.1	325.3	400.7	482.4
Envirocage	442.5	1211	2237	3565	5262	7398	10060	13340
300 w/insul.	67.26	158.3	259.9	372.2	294.1	373.6	460.3	554.2
Envirocage	516.6	1421	2631	4199	6204	8730	11880	15760
350 w/insul.	77.74	183.2	301.1	431.4	327.9	416.6	513.3	618.1
Envirocage	562.8	1552	2877	4594	6792	9561	13020	17270
400 w/insul.	86.93	205	337.1	483.1	366.6	465.9	574.1	691.3
Envirocage	636.9	1762	3271	5228	7734	10890	14840	19680