S1E Pillow Repairs in Horizontal Elliptical Pipe

When installing PipePatch sectional repairs in horizontal elliptical pipe follow these instructions:

1. Determine the inside circumference of the pipe to be repaired (See Table below)
    a. If your pipe size with relevant information is listed ignore step 3
2. Measure the length of the fiberglass patch
3. Subtract the circumference from the length of the fiberglass and divide that number by 2 (this number is your overlap)
4. Ignore the redlines on the fiberglass patch and center the packer on the fiberglass
5. Fold side 1 of the fiberglass to the middle of the packer
6. Fold side 2 onto the packer overlapping side 1 by the amount determined in Table1 or by step 3
    a. This will leave a "flap" of loose fiberglass on each side of the packer
7. Fold flap 1 over onto the packer, then flap 2 onto the packer
8. Fold side 1 of the assembly over beyond the center point of the packer
9. Fold side 2 of the assembly tightly on top of side 1
10. Secure the assembly with appropriate ties according to the kit installation instructions

Table 1: Common Horizontal Elliptical Pipe Sizes, Round Pipe Equivalents…

Elliptical Ht.	Elliptical Width	Elliptical Circum-ference	Round Pipe Eq.	PipePatch Kit	Fiberglass Length	Overlap	Pillow Packer
14	23	59	18	FPP-24x48S-NF	81	11	1524
19	30	78	24	FPP-3036x48S	119	20.5	1524
24	38	99	30	FPP-3036x48S	119	10	3036
29	45	118	36	FPP-4248x48S	154	18	3036
34	53	138	42	FPP-4248x48S	154	8	4248
38	60	156	48	FPP-60x48S	204	24	4248
43	68	177	54	FPP-60x48S	204	13.5	6072
48	76	197	60	FPP-72x48S	244	23.5	6072
58	91	237	72	Special Order	TBD	TBD	6072

All values in inches

All Kits Equipped with NF Fiberglass

Also Available in Winter Resin

Table 3 Horizontal Elliptical Concrete Pipe					
Pipe Size Rise x Span (Inch)	Approximate Equivalent Round Diameter (Inch)	A Area (Square Feet)	R Hydraulic Radius (Feet)	Values of $1.486/nxAxR^{2/3}$	
				n=0.012	n=0.013
14 x 23	18	1.8	0.367	116	108
19 x 30	24	3.3	0.490	252	232
22 x 34	27	4.1	0.546	339	313
24 x 38	30	5.1	0.613	456	421
27 x 42	33	6.3	0.686	607	560
29 x 45	36	7.4	0.736	746	686
32 x 49	39	8.8	0.712	948	875
34 x 53	42	10.2	0.875	1156	1067
38 x 60	48	12.9	0.969	1565	1445
43 x 68	54	16.6	1.106	2196	2027
48 x 76	60	20.5	1.229	2910	2689
53 x 83	66	24.8	1.352	3753	3466

Table 3 Horizontal Elliptical Concrete Pipe Cont.					
Pipe Size Rise x Span (Inch)	Approximate Equivalent Round Diameter (Inch)	A Area (Square Feet)	R Hydraulic Radius (Feet)	Values of $1.486/nxAxR^{2/3}$	
				n=0.012	n=0.013
58 x 91	72	29.5	1.475	4734	4369
63 x 98	78	34.6	1.598	5856	5406
68 x 106	84	40.1	1.721	7140	6583
72 x 113	90	46.1	1.845	8584	7925
77 x 121	96	52.4	1.967	10187	9403
82 x 128	102	59.2	2.091	11983	11061
87 x 136	108	66.4	2.215	13972	12897
92 x 143	114	74	2.310	16153	14910
97 x 151	120	82	2.461	18494	17072
106 x 166	132	99.2	2.707	23856	22021
116 x 180	144	118.6	2.968	30338	28004

Elliptical Calculator