

Clothoid Transition Curve Report

University of Tehran - Civil Engineering Department

Input Parameters:

Clothoid Length (L_s):	120 meters
Main Circle Radius (R_c):	500 meters
Deflection Angle (δ):	45 degrees
Max Segment Length:	50 meters
Kilometrage of Intersection (Km_T):	1000 km
Direction:	Right Turn

Calculated Parameters:

Clothoid Parameter (A)	244.948974
Θ_s (radians)	0.120000
Θ_s (degrees)	6.875494
Δ_c (degrees)	31.249013
k	60.143896
p	1.204318
External Distance (E_s)	20.435742
Tangent Distance (T_s)	267.749522
X_s	120.000000
Y_s	4.800000
Length of Circular Arc (L_c)	272.699082
Total Curve Length	512.699082

Construction Points Table:

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Point	Arc Length	Deflection Angle	Chord	Kilometrage
0	0.000	0.000	0.000	732.250
1	17.750	0.922	17.750	750.000
2	50.000	4.149	50.007	800.000
3	50.000	6.666	50.135	850.000
4	2.250	9.561	2.266	852.250
5	47.750	15.162	47.731	900.000
6	50.000	20.891	49.979	950.000
7	50.000	26.621	49.979	1000.000
8	50.000	32.351	49.979	1050.000
9	50.000	36.645	49.979	1100.000
10	24.950	38.233	24.947	1124.950
11	17.750	40.751	2.266	1142.699
12	50.000	43.978	50.135	1192.699
13	50.000	44.900	50.007	1242.699

Clothoid Curve Plot:

