

**ALLEGATO 7**  
**VERIFICHE DI STABILITÀ INTERFERENZA 15**  
**SEZIONE A-A' - RELAZIONI DI CALCOLO**

**VERIFICA DI STABILITÀ PRE-OPERAM IN ASSENZA DI FALDA ACQUIFERA**

**Analisi di stabilità dei pendii con BISHOP**

Numero di strati	3.0
Numero dei conci	50.0
Coefficiente di sicurezza [R2]	1.1
<b>Superficie di forma circolare</b>	

**Maglia dei Centri**

Ascissa vertice sinistro inferiore xi	78.21 m
Ordinata vertice sinistro inferiore yi	194.32 m
Ascissa vertice destro superiore xs	184.59 m
Ordinata vertice destro superiore ys	268.65 m
Passo di ricerca	10.0
Numero di celle lungo x	10.0
Numero di celle lungo y	10.0

**Coefficienti sismici [N.T.C.] 2018**

**Dati generali**

Descrizione:	
Latitudine:	41.86
Longitudine:	14.9
Tipo di costruzione:	2 - Opere ordinarie
Classe d'uso:	Classe IV
Vita nominale:	50.0 [anni]
Vita di riferimento:	100.0 [anni]

**Parametri sismici su sito di riferimento**

Categoria sottosuolo:	C
Categoria topografica:	T2

S.L. Stato limite	TR Tempo ritorno [anni]	ag [m/s <sup>2</sup> ]	F0 [-]	TC* [sec]
S.L.O.	60.0	0.7	2.47	0.32
S.L.D.	101.0	0.89	2.52	0.33
S.L.V.	949.0	2.23	2.49	0.36
S.L.C.	1950.0	2.89	2.47	0.36

**Coefficienti sismici orizzontali e verticali**

Opera: Stabilità dei pendii

S.L. Stato limite	amax [m/s <sup>2</sup> ]	beta [-]	kh [-]	kv [sec]
S.L.O.	1.26	0.2	0.0257	0.0128
S.L.D.	1.602	0.2	0.0327	0.0163
S.L.V.	3.64	0.28	0.1039	0.052

S.L.C.	4.3809	0.28	0.1251	0.0625
Coefficiente azione sismica orizzontale		0.1039		
Coefficiente azione sismica verticale		0.052		

### Vertici profilo

N	X m	y m
1	0.0	50.0
2	24.72	50.5
3	38.79	51.0
4	47.94	51.5
5	55.5	52.0
6	64.72	52.5
7	89.29	53.0
8	96.49	53.5
9	100.58	54.0
10	103.89	54.5
11	106.81	55.0
12	109.43	55.5
13	112.0	56.0
14	114.41	56.5
15	116.75	57.0
16	119.06	57.5
17	121.33	58.0
18	123.54	58.5
19	125.65	59.0
20	127.66	59.5
21	129.64	60.0
22	131.5	60.5
23	133.29	61.0
24	135.06	61.5
25	136.72	62.0
26	138.33	62.5
27	139.93	63.0
28	141.45	63.5
29	142.96	64.0
30	144.47	64.5
31	146.01	65.0
32	147.54	65.5
33	149.06	66.0
34	150.63	66.5
35	152.22	67.0
36	153.78	67.5
37	155.37	68.0
38	156.98	68.5
39	158.59	69.0
40	160.24	69.5
41	161.89	70.0
42	163.54	70.5
43	165.2	71.0
44	166.84	71.5
45	168.46	72.0
46	170.08	72.5
47	171.68	73.0
48	173.27	73.5
49	174.85	74.0
50	176.4	74.5
51	177.95	75.0
52	179.47	75.5

53	180.98	76.0
54	182.49	76.5
55	183.98	77.0
56	185.47	77.5
57	186.96	78.0
58	188.45	78.5
59	189.49	79.0
60	191.47	79.5
61	193.01	80.0
62	194.58	80.5
63	196.18	81.0
64	197.78	81.5
65	199.42	82.0
66	201.14	82.5
67	202.84	83.0
68	204.63	83.5
69	206.48	84.0
70	208.4	84.5
71	210.42	85.0
72	212.54	85.5
73	214.76	86.0
74	217.0	86.5
75	219.27	87.0
76	221.79	87.5
77	224.71	88.0
78	228.22	88.5

**Vertici strato .....1**

N	X m	y m
1	0.0	50.0
2	24.72	50.5
3	38.79	51.0
4	47.94	51.5
5	55.5	52.0
6	64.72	52.5
7	75.05	50.18
8	82.09	49.37
9	89.04	48.46
10	96.25	48.46
11	100.31	48.91
12	103.56	49.46
13	106.9	50.09
14	109.16	50.54
15	112.04	51.35
16	115.83	52.34
17	122.24	54.53
18	127.55	56.38
19	129.72	57.06
20	131.5	57.7
21	133.29	58.2
22	135.06	58.7
23	136.72	59.2
24	138.33	59.7
25	139.93	60.2
26	141.45	60.7
27	142.96	61.2
28	144.47	61.7
29	146.01	62.2

30	147.54	62.7
31	149.06	63.2
32	150.63	63.7
33	152.22	64.2
34	153.78	64.7
35	155.37	65.2
36	156.98	65.7
37	158.59	66.2
38	160.24	66.7
39	161.89	67.2
40	163.54	67.7
41	165.2	68.2
42	166.84	68.7
43	168.46	69.2
44	170.08	69.7
45	171.68	70.2
46	173.27	70.7
47	174.85	71.2
48	176.4	71.7
49	177.95	72.2
50	179.47	72.7
51	180.98	73.2
52	182.49	73.7
53	183.98	74.2
54	185.47	74.7
55	186.96	75.2
56	188.85	75.91
57	189.49	76.2
58	192.18	77.29
59	194.88	78.3
60	197.26	79.55
61	199.65	81.0
62	201.14	82.5
63	202.84	83.0
64	204.63	83.5
65	206.48	84.0
66	208.4	84.5
67	210.42	85.0
68	212.54	85.5
69	214.76	86.0
70	217.0	86.5
71	219.27	87.0
72	221.79	87.5
73	224.71	88.0
74	228.22	88.5

**Vertici strato .....2**

N	X m	y m
1	0.0	40.2
2	24.72	40.7
3	38.79	41.2
4	47.94	41.7
5	55.5	42.2
6	64.72	42.7
7	89.29	43.2
8	96.49	43.7
9	100.58	44.2
10	103.89	44.7

11	106.81	45.2
12	109.43	45.7
13	112.0	46.2
14	114.41	46.7
15	116.75	47.2
16	119.06	47.7
17	121.33	48.2
18	123.54	48.7
19	125.65	49.2
20	127.66	49.7
21	129.64	50.2
22	131.5	50.7
23	133.29	51.2
24	135.06	51.7
25	136.72	52.2
26	138.33	52.7
27	139.93	53.2
28	141.45	53.7
29	142.96	54.2
30	144.47	54.7
31	146.01	55.2
32	147.54	55.7
33	149.06	56.2
34	150.63	56.7
35	152.22	57.2
36	153.78	57.7
37	155.37	58.2
38	156.98	58.7
39	158.59	59.2
40	160.24	59.7
41	161.89	60.2
42	163.54	60.7
43	165.2	61.2
44	166.84	61.7
45	168.46	62.2
46	170.08	62.7
47	171.68	63.2
48	173.27	63.7
49	174.85	64.2
50	176.4	64.7
51	177.95	65.2
52	179.47	65.7
53	180.98	66.2
54	182.49	66.7
55	183.98	67.2
56	185.47	67.7
57	186.96	68.2
58	188.45	68.7
59	189.49	69.2
60	191.47	69.7
61	193.01	70.2
62	194.58	70.7
63	196.18	71.2
64	197.78	71.7
65	199.42	72.2
66	201.14	72.7
67	202.84	73.2
68	204.63	73.7
69	206.48	74.2

70	208.4	74.7
71	210.42	75.2
72	212.54	75.7
73	214.76	76.2
74	217.0	76.7
75	219.27	77.2
76	221.79	77.7
77	224.71	78.2
78	228.22	78.7

### Stratigrafia

c: coesione; Fi: Angolo di attrito; G: Peso Specifico; Gs: Peso Specifico Saturo

Strato	c (kg/cm <sup>2</sup> )	Fi (°)	G (Kg/m <sup>3</sup> )	Gs (Kg/m <sup>3</sup> )	Litologia
1	0	23	1850	1950	
2	0	27	1900	1950	
3	0.42	15.7	2009	2060	

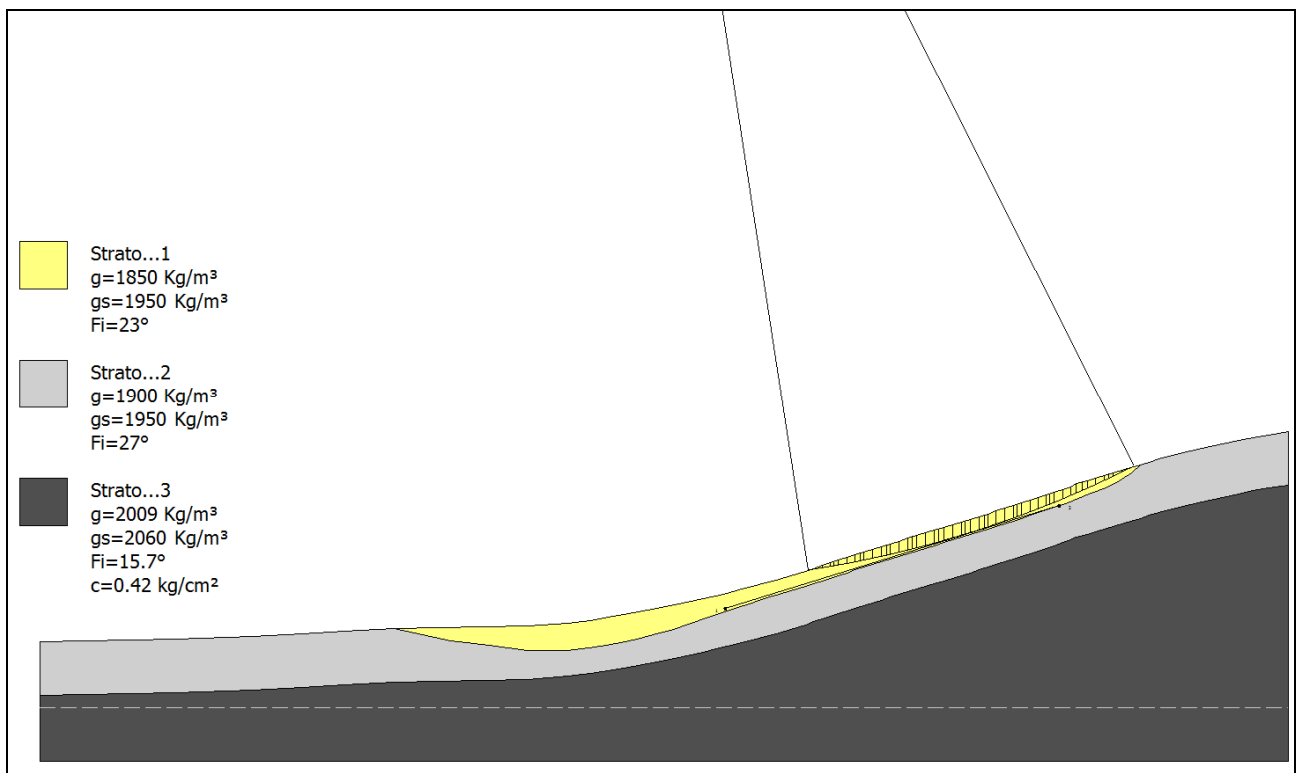
### Risultati analisi pendio [A2+M2+R2]

Fs minimo individuato	0.75
Ascissa centro superficie	110.12 m
Ordinata centro superficie	261.22 m
Raggio superficie	200.37 m

### Analisi dei conci. Superficie...xc = 110.12 yc = 261.221 Rc = 200.37 Fs=0.7523

Nr.	B m	Alfa (°)	Li m	Wi (Kg)	Kh•Wi (Kg)	Kv•Wi (Kg)	c (kg/cm <sup>2</sup> )	Fi (°)	Ui (Kg)	N'i (Kg)	Ti (Kg)
1	1.06	8.8	1.08	182.42	18.95	9.49	0.0	18.8	0.0	172.5	77.9
2	1.51	9.2	1.53	874.94	90.91	45.5	0.0	18.8	0.0	825.9	372.8
3	1.51	9.7	1.53	1570.83	163.21	81.68	0.0	18.8	0.0	1479.8	668.0
4	0.7	10.0	0.71	947.33	98.43	49.26	0.0	18.8	0.0	891.1	402.2
5	0.84	10.2	0.86	1321.92	137.35	68.74	0.0	18.8	0.0	1242.3	560.8
6	1.53	10.5	1.56	2879.86	299.22	149.75	0.0	18.8	0.0	2702.3	1219.8
7	1.52	11.0	1.55	3451.91	358.65	179.5	0.0	18.8	0.0	3233.1	1459.4
8	0.89	11.3	0.9	2265.37	235.37	117.8	0.0	18.8	0.0	2118.7	956.4
9	0.68	11.6	0.7	1861.84	193.45	96.82	0.0	18.8	0.0	1739.7	785.3
10	1.59	11.9	1.62	4692.11	487.51	243.99	0.0	18.8	0.0	4378.7	1976.5
11	1.56	12.4	1.6	5069.91	526.76	263.64	0.0	18.8	0.0	4723.1	2132.0
12	0.95	12.7	0.97	3284.08	341.22	170.77	0.0	18.8	0.0	3055.4	1379.2
13	0.64	13.0	0.66	2318.35	240.88	120.55	0.0	18.8	0.0	2155.1	972.8
14	1.61	13.3	1.65	6058.44	629.47	315.04	0.0	18.8	0.0	5625.4	2539.3
15	1.61	13.8	1.66	6394.26	664.36	332.5	0.0	18.8	0.0	5927.9	2675.8
16	0.92	14.1	0.94	3762.29	390.9	195.64	0.0	18.8	0.0	3483.8	1572.5
17	0.73	14.4	0.76	3074.99	319.49	159.9	0.0	18.8	0.0	2845.2	1284.3
18	1.65	14.7	1.71	7063.61	733.91	367.31	0.0	18.8	0.0	6528.9	2947.1
19	1.65	15.2	1.71	7242.81	752.53	376.63	0.0	18.8	0.0	6685.1	3017.6
20	0.74	15.6	0.77	3313.67	344.29	172.31	0.0	18.8	0.0	3055.6	1379.3
21	0.92	15.8	0.95	4101.12	426.11	213.26	0.0	18.8	0.0	3779.2	1705.9
22	1.64	16.2	1.71	7412.71	770.18	385.46	0.0	18.8	0.0	6824.3	3080.4
23	1.62	16.7	1.69	7379.16	766.69	383.72	0.0	18.8	0.0	6785.4	3062.9
24	0.6	17.0	0.63	2758.8	286.64	143.46	0.0	18.8	0.0	2534.9	1144.2
25	1.02	17.3	1.06	4639.82	482.08	241.27	0.0	18.8	0.0	4261.0	1923.4
26	1.6	17.7	1.68	7294.09	757.86	379.29	0.0	18.8	0.0	6693.1	3021.2
27	0.97	18.0	1.02	4396.02	456.75	228.59	0.0	18.8	0.0	4030.7	1819.4
28	0.62	18.3	0.65	2807.41	291.69	145.99	0.0	18.8	0.0	2573.0	1161.4

29	1.58	18.6	1.67	7082.34	735.85	368.28	0.0	18.8	0.0	6487.1	2928.2
30	1.55	19.1	1.64	6849.86	711.7	356.19	0.0	18.8	0.0	6269.2	2829.9
31	1.55	19.6	1.64	6725.75	698.81	349.74	0.0	18.8	0.0	6151.2	2776.6
32	0.67	19.9	0.72	2872.99	298.5	149.4	0.0	18.8	0.0	2626.3	1185.5
33	0.85	20.1	0.9	3574.65	371.41	185.88	0.0	18.8	0.0	3266.8	1474.6
34	1.51	20.5	1.61	6241.9	648.53	324.58	0.0	18.8	0.0	5701.8	2573.7
35	1.51	20.9	1.62	6043.9	627.96	314.28	0.0	18.8	0.0	5518.1	2490.8
36	1.49	21.4	1.6	5740.6	596.45	298.51	0.0	18.8	0.0	5238.9	2364.8
37	0.62	21.7	0.66	2306.17	239.61	119.92	0.0	18.8	0.0	2104.1	949.8
38	0.87	22.0	0.94	3182.9	330.7	165.51	0.0	18.8	0.0	2903.5	1310.6
39	1.49	22.3	1.61	5201.62	540.45	270.48	0.0	18.8	0.0	4743.8	2141.3
40	1.49	22.8	1.62	4874.32	506.44	253.46	0.0	18.8	0.0	4444.2	2006.1
41	1.04	23.2	1.13	3332.28	346.22	173.28	0.0	18.8	0.0	3037.8	1371.2
42	1.08	23.5	1.18	3322.72	345.23	172.78	0.0	18.8	0.0	3028.8	1367.2
43	0.9	23.8	0.98	2455.39	255.12	127.68	0.0	18.8	0.0	2238.0	1010.2
44	1.54	24.2	1.69	3696.78	384.1	192.23	0.0	18.8	0.0	3369.4	1520.9
45	1.57	24.7	1.73	3168.59	329.22	164.77	0.0	18.8	0.0	2888.1	1303.6
46	0.77	25.1	0.85	1310.39	136.15	68.14	0.0	18.8	0.0	1194.5	539.2
47	0.83	25.3	0.92	1216.05	126.35	63.23	0.0	18.8	0.0	1108.5	500.4
48	1.6	25.7	1.78	1755.57	182.4	91.29	0.0	18.8	0.0	1600.6	722.5
49	1.16	26.1	1.29	748.08	77.73	38.9	0.0	18.8	0.0	682.2	307.9
50	1.19	26.5	1.34	277.37	28.82	14.42	0.0	18.8	0.0	253.0	114.2



## VERIFICA DI STABILITÀ POST-OPERAM IN ASSENZA DI FALDA ACQUIFERA

### Analisi di stabilità dei pendii con BISHOP

Numero di strati	3.0
Numero dei conci	50.0
Coefficiente di sicurezza [R2]	1.1
<b>Superficie di forma circolare</b>	

### Maglia dei Centri

Ascissa vertice sinistro inferiore xi	78.21 m
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Ascissa vertice destro superiore xs	184.59 m
Ordinata vertice destro superiore ys	268.65 m
Passo di ricerca	10.0
Numero di celle lungo x	10.0
Numero di celle lungo y	10.0

### Coefficienti sismici [N.T.C.] 2018

#### Dati generali

Descrizione:	
Latitudine:	41.86
Longitudine:	14.9
Tipo di costruzione:	2 - Opere ordinarie
Classe d'uso:	Classe IV
Vita nominale:	50.0 [anni]
Vita di riferimento:	100.0 [anni]

#### Parametri sismici su sito di riferimento

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S.L.D.	101.0	0.89	2.52	0.33
S.L.V.	949.0	2.23	2.49	0.36
S.L.C.	1950.0	2.89	2.47	0.36

#### Coefficienti sismici orizzontali e verticali

Opera: Stabilità dei pendii

S.L. Stato limite	amax [m/s <sup>2</sup> ]	beta [-]	kh [-]	kv [sec]
S.L.O.	1.26	0.2	0.0257	0.0128
S.L.D.	1.602	0.2	0.0327	0.0163
S.L.V.	3.64	0.28	0.1039	0.052
S.L.C.	4.3809	0.28	0.1251	0.0625

Coefficiente azione sismica orizzontale	0.1039
Coefficiente azione sismica verticale	0.052



**Vertici profilo**

N	X m	y m
1	0.0	50.0
2	24.72	50.5
3	38.79	51.0
4	47.94	51.5
5	55.5	52.0
6	64.72	52.5
7	89.29	53.0
8	96.49	53.5
9	100.58	54.0
10	103.89	54.5
11	106.81	55.0
12	109.43	55.5
13	112.0	56.0
14	114.41	56.5
15	116.75	57.0
16	119.06	57.5
17	121.33	58.0
18	123.54	58.5
19	125.65	59.0
20	127.66	59.5
21	129.64	60.0
22	131.5	60.5
23	133.29	61.0
24	135.06	61.5
25	136.72	62.0
26	138.33	62.5
27	139.93	63.0
28	141.45	63.5
29	142.96	64.0
30	144.47	64.5
31	146.01	65.0
32	147.54	65.5
33	149.06	66.0
34	150.63	66.5
35	152.22	67.0
36	153.78	67.5
37	155.37	68.0
38	156.98	68.5
39	158.59	69.0
40	160.24	69.5
41	161.89	70.0
42	163.54	70.5
43	165.2	71.0
44	166.84	71.5
45	168.46	72.0
46	170.08	72.5
47	171.68	73.0
48	173.27	73.5
49	174.85	74.0
50	176.4	74.5
51	177.95	75.0
52	179.47	75.5
53	180.98	76.0
54	182.49	76.5
55	183.98	77.0
56	185.47	77.5

57	186.96	78.0
58	188.45	78.5
59	189.49	79.0
60	191.47	79.5
61	193.01	80.0
62	194.58	80.5
63	196.18	81.0
64	197.78	81.5
65	199.42	82.0
66	201.14	82.5
67	202.84	83.0
68	204.63	83.5
69	206.48	84.0
70	208.4	84.5
71	210.42	85.0
72	212.54	85.5
73	214.76	86.0
74	217.0	86.5
75	219.27	87.0
76	221.79	87.5
77	224.71	88.0
78	228.22	88.5

**Vertici strato .....1**

N	X m	y m
1	0.0	50.0
2	24.72	50.5
3	38.79	51.0
4	47.94	51.5
5	55.5	52.0
6	64.72	52.5
7	75.05	50.18
8	82.09	49.37
9	89.04	48.46
10	96.25	48.46
11	100.31	48.91
12	103.56	49.46
13	106.9	50.09
14	109.16	50.54
15	112.04	51.35
16	115.83	52.34
17	122.24	54.53
18	127.55	56.38
19	129.72	57.06
20	131.5	57.7
21	133.29	58.2
22	135.06	58.7
23	136.72	59.2
24	138.33	59.7
25	139.93	60.2
26	141.45	60.7
27	142.96	61.2
28	144.47	61.7
29	146.01	62.2
30	147.54	62.7
31	149.06	63.2
32	150.63	63.7
33	152.22	64.2

34	153.78	64.7
35	155.37	65.2
36	156.98	65.7
37	158.59	66.2
38	160.24	66.7
39	161.89	67.2
40	163.54	67.7
41	165.2	68.2
42	166.84	68.7
43	168.46	69.2
44	170.08	69.7
45	171.68	70.2
46	173.27	70.7
47	174.85	71.2
48	176.4	71.7
49	177.95	72.2
50	179.47	72.7
51	180.98	73.2
52	182.49	73.7
53	183.98	74.2
54	185.47	74.7
55	186.96	75.2
56	188.85	75.91
57	189.49	76.2
58	192.18	77.29
59	194.88	78.3
60	197.26	79.55
61	199.65	81.0
62	201.14	82.5
63	202.84	83.0
64	204.63	83.5
65	206.48	84.0
66	208.4	84.5
67	210.42	85.0
68	212.54	85.5
69	214.76	86.0
70	217.0	86.5
71	219.27	87.0
72	221.79	87.5
73	224.71	88.0
74	228.22	88.5

**Vertici strato .....2**

N	X m	y m
1	0.0	40.2
2	24.72	40.7
3	38.79	41.2
4	47.94	41.7
5	55.5	42.2
6	64.72	42.7
7	89.29	43.2
8	96.49	43.7
9	100.58	44.2
10	103.89	44.7
11	106.81	45.2
12	109.43	45.7
13	112.0	46.2
14	114.41	46.7

15	116.75	47.2
16	119.06	47.7
17	121.33	48.2
18	123.54	48.7
19	125.65	49.2
20	127.66	49.7
21	129.64	50.2
22	131.5	50.7
23	133.29	51.2
24	135.06	51.7
25	136.72	52.2
26	138.33	52.7
27	139.93	53.2
28	141.45	53.7
29	142.96	54.2
30	144.47	54.7
31	146.01	55.2
32	147.54	55.7
33	149.06	56.2
34	150.63	56.7
35	152.22	57.2
36	153.78	57.7
37	155.37	58.2
38	156.98	58.7
39	158.59	59.2
40	160.24	59.7
41	161.89	60.2
42	163.54	60.7
43	165.2	61.2
44	166.84	61.7
45	168.46	62.2
46	170.08	62.7
47	171.68	63.2
48	173.27	63.7
49	174.85	64.2
50	176.4	64.7
51	177.95	65.2
52	179.47	65.7
53	180.98	66.2
54	182.49	66.7
55	183.98	67.2
56	185.47	67.7
57	186.96	68.2
58	188.45	68.7
59	189.49	69.2
60	191.47	69.7
61	193.01	70.2
62	194.58	70.7
63	196.18	71.2
64	197.78	71.7
65	199.42	72.2
66	201.14	72.7
67	202.84	73.2
68	204.63	73.7
69	206.48	74.2
70	208.4	74.7
71	210.42	75.2
72	212.54	75.7
73	214.76	76.2

74	217.0	76.7
75	219.27	77.2
76	221.79	77.7
77	224.71	78.2
78	228.22	78.7

### Stratigrafia

c: coesione; Fi: Angolo di attrito; G: Peso Specifico; Gs: Peso Specifico Saturo

Strato	c (kg/cm <sup>2</sup> )	Fi (°)	G (Kg/m <sup>3</sup> )	Gs (Kg/m <sup>3</sup> )	Litologia
1	0	23	1850	1950	
2	0	27	1900	1950	
3	0.42	15.7	2009	2060	

### Terra rinforzata

No	X (m)	Y (m)	Stato
1	89.48804	48.0117	Attivato
2	100.1344	48.64326	Attivato
3	110.6003	51.16951	Attivato
4	120.9759	54.05664	Attivato
5	133.1344	58.7154	Attivato
6	145.1557	62.4474	Attivato
7	155.8923	65.33453	Attivato
8	167.4879	69.60799	Attivato
9	178.448	72.82306	Attivato
10	188.9589	76.31113	Attivato
11	199.7957	80.06422	Attivato
12	210.4677	81.96992	Attivato

### Risultati analisi pendio [A2+M2+R2]

Fs minimo individuato	1.15
Ascissa centro superficie	115.44 m
Ordinata centro superficie	250.07 m
Raggio superficie	188.14 m

B: Larghezza del concio; Alfa: Angolo di inclinazione della base del concio; Li: Lunghezza della base del concio; Wi: Peso del concio ; Ui: Forze derivanti dalle pressioni neutre; Ni: forze agenti normalmente alla direzione di scivolamento; Ti: forze agenti parallelamente alla superficie di scivolamento; Fi: Angolo di attrito; c: coesione.

### Analisi dei concii. Superficie...xc = 115.439 yc = 250.071 Rc = 188.144 Fs=1.1531

Nr.	B m	Alfa (°)	Li m	Wi (Kg)	Kh•Wi (Kg)	Kv•Wi (Kg)	c (kg/cm <sup>2</sup> )	Fi (°)	Ui (Kg)	N'i (Kg)	Ti (Kg)
1	0.27	8.4	0.27	12.22	1.27	0.64	0.0	18.8	0.0	11.8	3.5
2	1.51	8.6	1.53	519.75	54.0	27.03	0.0	18.8	0.0	503.2	148.2
3	1.54	9.1	1.56	1275.88	132.56	66.35	0.0	18.8	0.0	1233.9	363.4
4	1.53	9.6	1.55	1967.43	204.42	102.31	0.0	18.8	0.0	1900.8	559.7
5	1.52	10.1	1.54	2618.06	272.02	136.14	0.0	18.8	0.0	2526.9	744.1
6	0.6	10.4	0.61	1210.58	125.78	62.95	0.0	18.8	0.0	1167.7	343.9
7	0.97	10.6	0.98	2129.37	221.24	110.73	0.0	18.8	0.0	2053.1	604.6
8	1.59	11.0	1.62	3969.35	412.42	206.41	0.0	18.8	0.0	3824.5	1126.3
9	0.93	11.4	0.95	2572.37	267.27	133.76	0.0	18.8	0.0	2477.0	729.4
10	0.63	11.7	0.65	1858.0	193.05	96.62	0.0	18.8	0.0	1788.5	526.7
11	1.59	12.0	1.63	5022.97	521.89	261.19	0.0	18.8	0.0	4832.6	1423.2

12	1.61	12.5	1.65	5540.26	575.63	288.09	0.0	18.8	0.0	5327.0	1568.7
13	0.81	12.9	0.84	2960.4	307.59	153.94	0.0	18.8	0.0	2845.2	837.9
14	0.8	13.1	0.82	2982.13	309.84	155.07	0.0	18.8	0.0	2865.3	843.8
15	1.65	13.5	1.7	6445.17	669.65	335.15	0.0	18.8	0.0	6190.5	1823.0
16	1.04	13.9	1.07	4215.25	437.96	219.19	0.0	18.8	0.0	4047.3	1191.9
17	0.61	14.2	0.63	2519.85	261.81	131.03	0.0	18.8	0.0	2419.0	712.4
18	1.65	14.6	1.7	6979.54	725.17	362.94	0.0	18.8	0.0	6698.8	1972.7
19	1.66	15.1	1.72	7213.23	749.45	375.09	0.0	18.8	0.0	6921.3	2038.2
20	0.73	15.5	0.75	3207.16	333.22	166.77	0.0	18.8	0.0	3077.0	906.1
21	0.91	15.7	0.95	4061.88	422.03	211.22	0.0	18.8	0.0	3896.7	1147.5
22	1.62	16.1	1.69	7293.16	757.76	379.24	0.0	18.8	0.0	6996.2	2060.3
23	0.95	16.5	0.99	4323.76	449.24	224.84	0.0	18.8	0.0	4147.7	1221.4
24	0.67	16.8	0.7	3040.35	315.89	158.1	0.0	18.8	0.0	2916.6	858.9
25	1.6	17.1	1.67	7308.34	759.34	380.03	0.0	18.8	0.0	7011.2	2064.7
26	1.59	17.6	1.67	7263.9	754.72	377.72	0.0	18.8	0.0	6969.7	2052.5
27	0.79	18.0	0.83	3594.77	373.5	186.93	0.0	18.8	0.0	3449.7	1015.9
28	0.79	18.3	0.83	3587.04	372.69	186.53	0.0	18.8	0.0	3442.8	1013.9
29	1.55	18.7	1.64	6987.22	725.97	363.34	0.0	18.8	0.0	6707.8	1975.4
30	1.55	19.2	1.64	6898.8	716.79	358.74	0.0	18.8	0.0	6625.4	1951.1
31	0.76	19.5	0.8	3324.02	345.37	172.85	0.0	18.8	0.0	3193.4	940.4
32	0.76	19.8	0.81	3325.65	345.54	172.93	0.0	18.8	0.0	3195.7	941.1
33	1.51	20.1	1.61	6472.2	672.46	336.55	0.0	18.8	0.0	6221.8	1832.2
34	1.51	20.6	1.61	6301.38	654.71	327.67	0.0	18.8	0.0	6061.2	1784.9
35	0.86	21.0	0.92	3512.57	364.96	182.65	0.0	18.8	0.0	3380.4	995.5
36	0.63	21.3	0.67	2505.31	260.3	130.28	0.0	18.8	0.0	2411.9	710.3
37	1.49	21.6	1.6	5790.75	601.66	301.12	0.0	18.8	0.0	5577.8	1642.6
38	1.49	22.1	1.61	5521.85	573.72	287.14	0.0	18.8	0.0	5323.2	1567.6
39	1.49	22.6	1.61	5212.0	541.53	271.02	0.0	18.8	0.0	5028.9	1481.0
40	1.04	23.0	1.13	3577.04	371.65	186.01	0.0	18.8	0.0	3454.2	1017.2
41	0.83	23.3	0.91	2797.61	290.67	145.48	0.0	18.8	0.0	2703.3	796.1
42	1.15	23.6	1.25	3463.82	359.89	180.12	0.0	18.8	0.0	3349.4	986.4
43	1.54	24.1	1.69	4085.42	424.48	212.44	0.0	18.8	0.0	3954.5	1164.6
44	0.8	24.5	0.88	1897.3	197.13	98.66	0.0	18.8	0.0	1838.2	541.3
45	0.77	24.7	0.85	1674.2	173.95	87.06	0.0	18.8	0.0	1623.2	478.0
46	1.6	25.1	1.77	2945.76	306.06	153.18	0.0	18.8	0.0	2858.9	841.9
47	1.6	25.7	1.78	2175.61	226.05	113.13	0.0	18.8	0.0	2114.6	622.7
48	0.68	26.1	0.75	670.42	69.66	34.86	0.0	18.8	0.0	652.4	192.1
49	0.96	26.3	1.08	682.0	70.86	35.46	0.0	18.8	0.0	664.2	195.6
50	1.36	26.7	1.52	368.81	38.32	19.18	0.0	18.8	0.0	359.6	105.9

