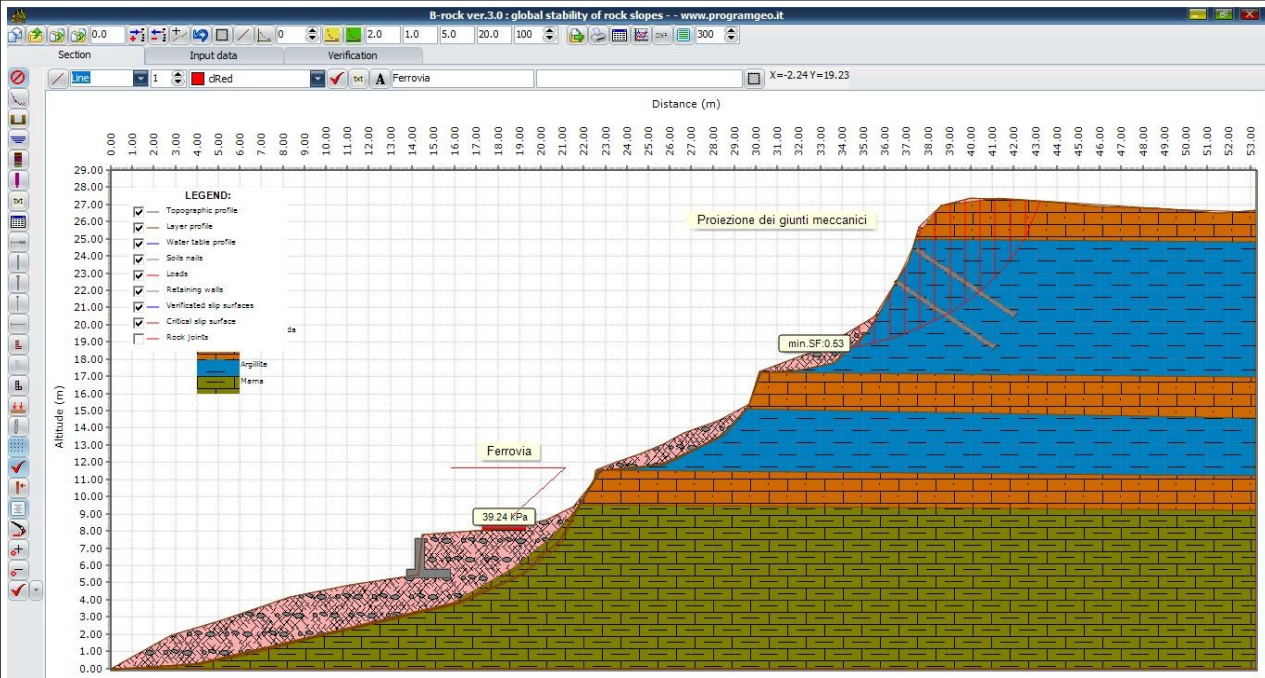


B-rock ver.3:
 stability analysis of rock slopes
 analisi di stabilità di pendii in roccia



Limit equilibrium methods – metodi dell'equilibrio limite:

- Fellenius;**
- Bishop;**
- Janbu;**
- Spencer;**
- G.L.E.;**
- Sarma;**
- 3D wedges.**

Shear strength criterion – criterio di resistenza al taglio

- Hoek & Brown;**
- Barton.**

Seismic analysis – analisi sismica:

Pseudostatic method – metodo pseudostatico;

Simplified dynamic method by empirical formulas – metodo dinamico semplificato da formule empiriche;

Simplified dynamic method by Newmark – metodo dinamico semplificato con Newmark.

Rock slope improvement techniques – interventi di stabilizzazione:

Tiebacks- Tiranti;

Concrete retaining walls – muri di contenimento in cls;

Diaphragm walls – diaframmi rigidi;

Gabion walls – Gabbionate;

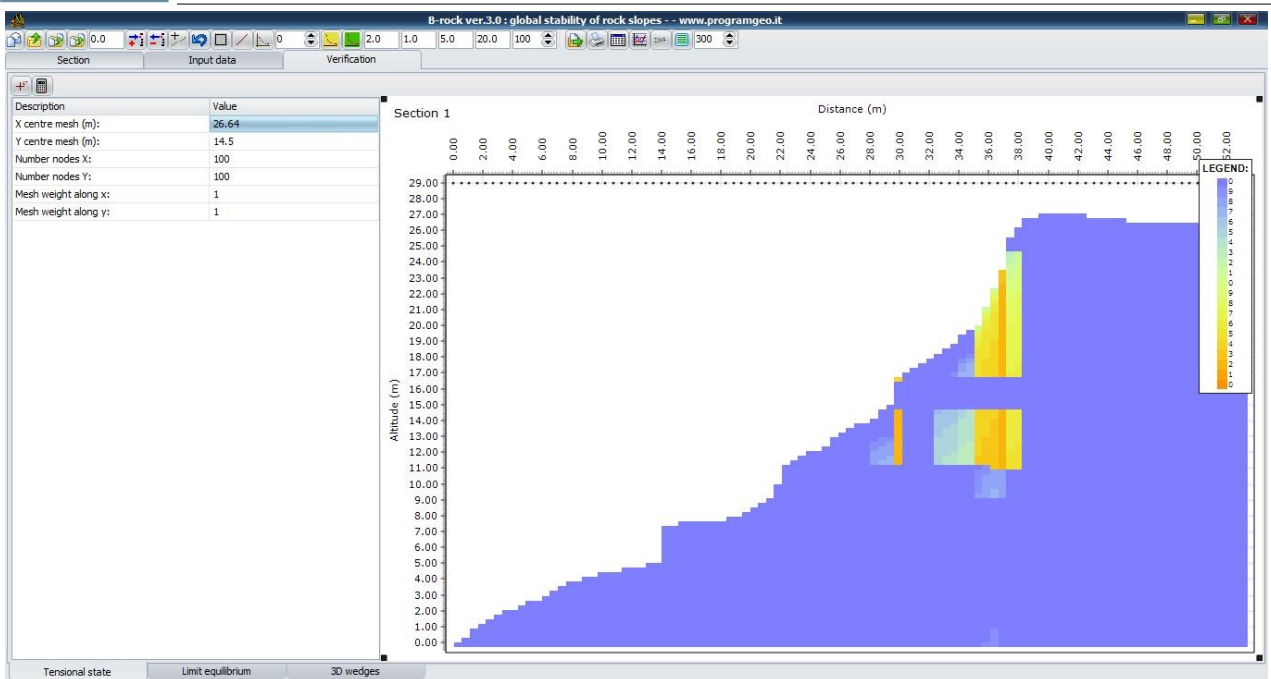
Soil nailing – Chiodature;

Pile groups – Palificate;

Micropiles – micropali.

Probabilistic analysis by Montecarlo method – analisi probabilistica con il metodo di Montecarlo

Stability analysis by fuzzy logic method – analisi di stabilità con il metodo della logica fuzzy.



Verification 1

NTC2018: pendii naturali Static

Summary of safety factors

N.	Xdownslope(m)	Ydownslope(m)	Xupslope(m)	Yupslope(m)	Xcentre(m)	Ycentre(m)	Alfa°	Fellenius SF
1	31.53	17.92	41.39	27.31	28.89	30.56	-11.8	1.918
2	31.22	17.77	41.53	27.31	29.03	30.49	-9.8	1.857
3	31.85	18.07	42.59	27.25	31.5	29.35	-1.8	1.629
4	31.84	18.06	42.72	27.24	31.38	29.65	-2.3	1.634
5	32.86	18.57	42.85	27.23	29.53	32.52	-13.4	1.757
6	32.86	18.58	42.43	27.26	31.82	29.33	-5.5	1.628
7	32.26	18.26	42.22	27.28	32.23	28.3	-0.1	1.601
8	32.75	18.5	43.58	27.17	28.79	34.55	-13.9	1.781
9	32.38	18.32	42.78	27.24	30.81	30.68	-7.2	1.646
10	32.17	18.22	41.77	27.3	30.63	29.47	-7.8	1.707
11	32.66	18.45	41.75	27.3	32.47	27.74	-1.2	1.621
12	31.39	17.85	41.27	27.31	31.22	27.92	-1.0	1.705
13	31.12	17.73	42.92	27.22	30.3	30.83	-3.6	1.68
14	31.93	18.11	43.88	27.14	30.62	32.27	-5.3	1.694
15	31.61	17.96	41.71	27.3	28.54	31.41	-12.9	1.911
16	32.04	18.16	43.51	27.17	31.7	30.4	-1.6	1.65
17	32.2	18.23	42.98	27.22	28.66	33.45	-13.1	1.791
18	32.1	18.19	43.6	27.17	31.74	30.49	-1.7	1.64
19	31.72	18.01	41.18	27.32	28.47	30.78	-14.3	2.04
20	32.85	18.57	41.83	27.29	32.39	28.03	-2.8	1.609
21	31.42	17.87	41.89	27.29	29.1	30.98	-10.0	1.938
22	32.46	18.36	41.5	27.31	29.99	29.9	-12.1	1.806

SF/smax table SF/smax chart Crit.ag table crit.ag chart

Tensional state Limit equilibrium 3D wedges

