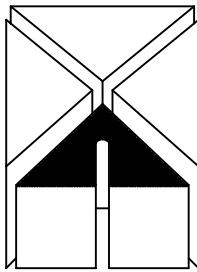




## COMUNE DI DERUTA

LAVORI DI CONSOLIDAMENTO DI ALCUNI TRATTI DELLA SCARPATA  
LUNGO VIA CASALINA-RIPABIANCA IN FRAZ. RIPABIANCA



**AREA  
PROGETTO  
ASSOCIATI**

PERUGIA \* Via della Gabbia 7 \* Tel 075 5731708 - 075 5736689

Progetto N.  
17327

Maggio 2017

Progetto

Bonifica dissesto

Fase Progettuale

PROGETTO ESECUTIVO

Committente

Comune di Deruta

Localizzazione

Via Casalina - Ripabianca

Professionista incaricato

ING. MARCO BALDUCCI  
ING. ROBERTO REGNI

Collaboratori

ING. LUCA SPACCINO

Geologia

DOTT. GEOL. GIORGIO CERQUIGLINI

rev.	data	aggiornamento	redatto	verificato	approvato
00	Maggio 2017	Emissione	Bruschini	Balducci	Balducci

Verifiche di stabilità versante -  
fascicolo dei calcoli

scala

tav.

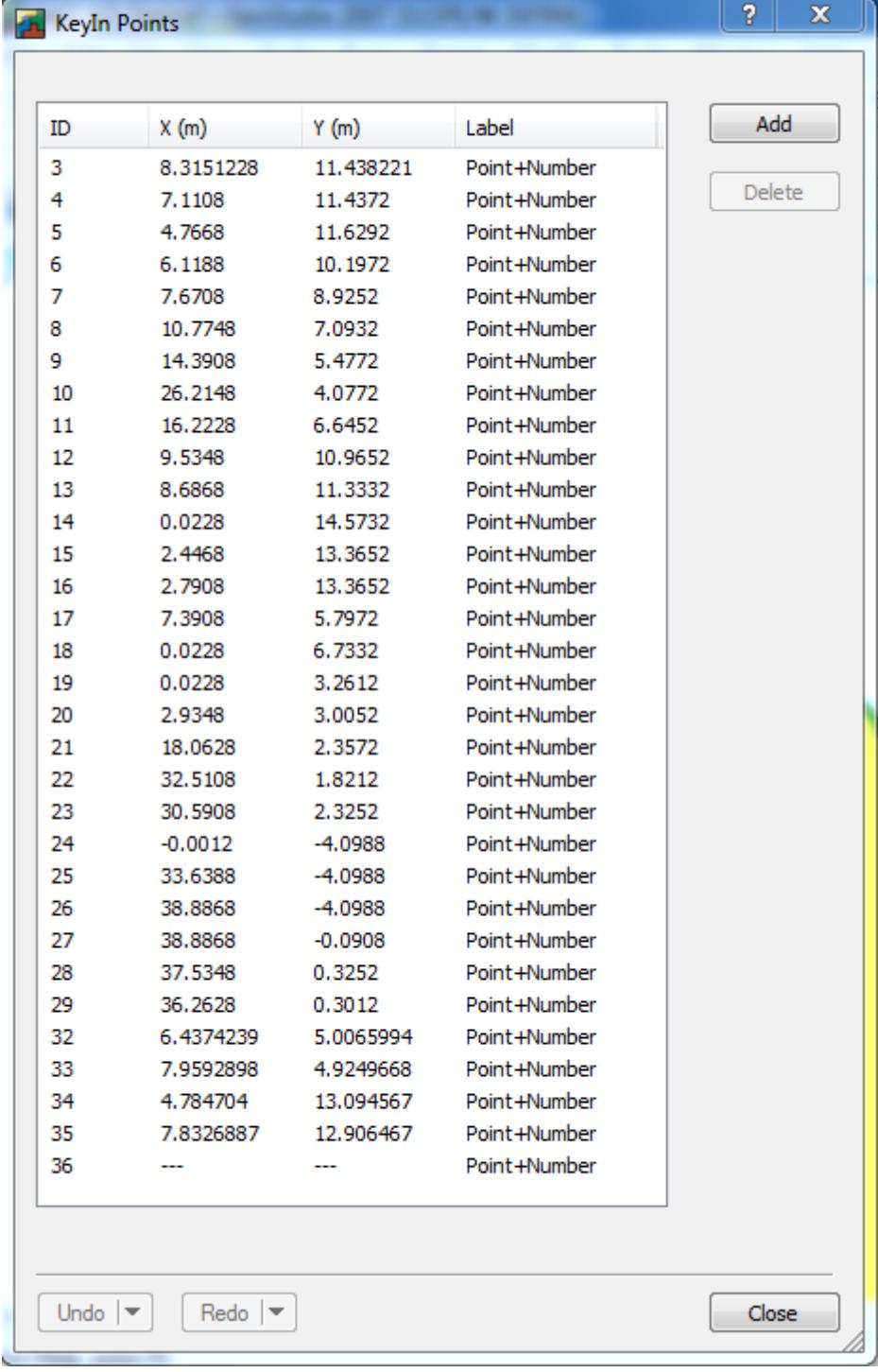
**GEOTA**

**COMUNE DI DERUTA (PG)**

**PROGETTO DI CONSOLIDAMENTO DEL DISSESTO  
IDROGEOLOGICO VERIFICATOSI SULLA STRADA CASALINA-  
RIPABIANCA NEL COMUNE DI DERUTA**

**VERIFICHE DI STABILITÀ VERSANTE**  
**FASCICOLO DEI CALCOLI**

Dati di input



The dialog box titled "KeyIn Points" contains a table with columns: ID, X (m), Y (m), and Label. The table lists 36 points, each labeled "Point+Number".

ID	X (m)	Y (m)	Label
3	8.3151228	11.438221	Point+Number
4	7.1108	11.4372	Point+Number
5	4.7668	11.6292	Point+Number
6	6.1188	10.1972	Point+Number
7	7.6708	8.9252	Point+Number
8	10.7748	7.0932	Point+Number
9	14.3908	5.4772	Point+Number
10	26.2148	4.0772	Point+Number
11	16.2228	6.6452	Point+Number
12	9.5348	10.9652	Point+Number
13	8.6868	11.3332	Point+Number
14	0.0228	14.5732	Point+Number
15	2.4468	13.3652	Point+Number
16	2.7908	13.3652	Point+Number
17	7.3908	5.7972	Point+Number
18	0.0228	6.7332	Point+Number
19	0.0228	3.2612	Point+Number
20	2.9348	3.0052	Point+Number
21	18.0628	2.3572	Point+Number
22	32.5108	1.8212	Point+Number
23	30.5908	2.3252	Point+Number
24	-0.0012	-4.0988	Point+Number
25	33.6388	-4.0988	Point+Number
26	38.8868	-4.0988	Point+Number
27	38.8868	-0.0908	Point+Number
28	37.5348	0.3252	Point+Number
29	36.2628	0.3012	Point+Number
32	6.4374239	5.0065994	Point+Number
33	7.9592898	4.9249668	Point+Number
34	4.784704	13.094567	Point+Number
35	7.8326887	12.906467	Point+Number
36	---	---	Point+Number

Undo ▾

Redo ▾

Close

 KeyIn Regions

Region	Points
1	13,3,4
2	4,5,6,7,8,9,10,11,12,13
3	14,15,16,5,6,7,8,9,17,18
4	18,19,20,21,22,23,10,9,17
5	19,24,25,26,27,28,29,22,21,20

Add | ▾

Delete

Undo | ▾ Redo | ▾ Close

Name: UG1 (PR) Color:  Set...

Material Model: Mohr-Coulomb

Basic Suction Drawdown Liquefaction Advanced

Unit Weight: 18.7 kN/m<sup>3</sup> Cohesion: 0 kPa

Phi: 21.3 °

Name: UG2 (PR) Color:  Set...

Material Model: Mohr-Coulomb

**Basic** Suction Drawdown Liquefaction Advanced

Unit Weight: Cohesion:  
19.5 kN/m<sup>3</sup> 4 kPa

Phi:  
23.9 °

Name: UG3 (PR) Color:  Set...

Material Model: Mohr-Coulomb

**Basic** Suction Drawdown Liquefaction Advanced

Unit Weight: Cohesion:  
19.5 kN/m<sup>3</sup> 13.6 kPa

Phi:  
17.9 °

Name: UG4 (PR) Color:  Set...

Material Model: Mohr-Coulomb

**Basic** Suction Drawdown Liquefaction Advanced

Unit Weight: Cohesion:  
20.5 kN/m<sup>3</sup> 0 kPa

Phi:  
26.5 °

Name: C.a. Color:  Set...

Material Model: Mohr-Coulomb

**Basic** Suction Drawdown Liquefaction Advanced

Unit Weight: Cohesion:  
25 kN/m<sup>3</sup> 500 kPa

Phi:  
0 °

### VERIFICHE ANTE OPERAM STATICHE

4

Via della Gabbia n° 7 - 06123 Perugia - Tel. 075/5731708 - Fax 075/5736689  
 e-mail: [studio@areaprogetto.it](mailto:studio@areaprogetto.it), C.F. e P. IVA 01808770547

17327GEOTAPD00-



ISO9001/2008  
 Cert. N. 3548

Pag. n. 4 di 13

**KeyIn Slip Surface Entry and Exit Range**

<b>Entry Range (Left Side)</b>			<b>Exit Range (Right Side)</b>		
Type:	Left Point:	Right Point:	Type:	Left Point:	Right Point:
Range	X: 4.000000	X: 7.000000	Range	X: 9.000000	X: 25.000000
	Y: 12.302866	Y: 11.446276		Y: 11.197283	Y: 4.389410
Number of increments over range:		10	Number of increments over range:		20
Number of radius increments: 50					
Slip Surface Projection Angle					
<input type="checkbox"/> Use Left (Active) Projection Angle:		135	<input type="checkbox"/> Use Right (Passive) Projection Angle:		45
<b>Clear</b>		<b>OK</b>	<b>Cancel</b>		<b>Apply</b>

0.85


**COMUNE DI DERUTA (PG)**

**PROGETTO DI CONSOLIDAMENTO DEL DISSESTO  
IDROGEOLOGICO VERIFICATOSI SULLA STRADA CASALINA-  
RIPABIANCA NEL COMUNE DI DERUTA**

**VERIFICHE DI STABILITÀ VERSANTE**  
**FASCICOLO DEI CALCOLI**

**Dati di input**

KeyIn Points

ID	X (m)	Y (m)	Label
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5	4.7668	11.6292	Point+Number
6	6.1188	10.1972	Point+Number
7	7.6708	8.9252	Point+Number
8	10.7748	7.0932	Point+Number
9	14.3908	5.4772	Point+Number
10	26.2148	4.0772	Point+Number
11	16.2228	6.6452	Point+Number
12	9.5348	10.9652	Point+Number
13	8.6868	11.3332	Point+Number
14	0.0228	14.5732	Point+Number
15	2.4468	13.3652	Point+Number
16	2.7908	13.3652	Point+Number
17	7.3908	5.7972	Point+Number
18	0.0228	6.7332	Point+Number
19	0.0228	3.2612	Point+Number
20	2.9348	3.0052	Point+Number
21	18.0628	2.3572	Point+Number
22	32.5108	1.8212	Point+Number
23	30.5908	2.3252	Point+Number
24	-0.0012	-4.0988	Point+Number
25	33.6388	-4.0988	Point+Number
26	38.8868	-4.0988	Point+Number
27	38.8868	-0.0908	Point+Number
28	37.5348	0.3252	Point+Number
29	36.2628	0.3012	Point+Number
32	6.4374239	5.0065994	Point+Number
33	7.9592898	4.9249668	Point+Number
34	4.784704	13.094567	Point+Number
35	7.8326887	12.906467	Point+Number
36	---	---	Point+Number

Add      Delete

Undo | Redo | Close

KeyIn Regions

Region	Points
1	13,3,4
2	4,5,6,7,8,9,10,11,12,13
3	14,15,16,5,6,7,8,9,17,18
4	18,19,20,21,22,23,10,9,17
5	19,24,25,26,27,28,29,22,21,20

Add |

**DATI SISMICI – Solo per le verifiche sismiche**

KeyIn Seismic Load

Coefficient	
Horizontal:	0.059
Vertical:	None
<input type="checkbox"/> Ignore seismic load in base shear strength calculations.	
<input type="button" value="OK"/>	<input type="button" value="Cancel"/>

Name:	<input type="text" value="UG1 (PR)"/>	Color:	<input style="background-color: yellow; width: 100px; height: 20px; border: none; vertical-align: middle;" type="color"/> <input type="button" value="Set..."/>
Material Model:	<input type="button" value="Mohr-Coulomb"/>		
<input type="radio"/> Basic <input type="radio"/> Suction <input type="radio"/> Drawdown <input type="radio"/> Liquefaction <input type="radio"/> Advanced			
Unit Weight:	<input type="text" value="18.7 kN/m³"/>	Cohesion:	<input type="text" value="0 kPa"/>
Phi:	<input type="text" value="21.3 °"/>		

Name: **UG2 (PR)** Color:  Set...

Material Model: Mohr-Coulomb

**Basic Suction Drawdown Liquefaction Advanced**

Unit Weight: Cohesion:  
19.5 kN/m<sup>3</sup>  4 kPa

Phi:  
23.9 °

Name: **UG3 (PR)** Color:  Set...

Material Model: Mohr-Coulomb

**Basic Suction Drawdown Liquefaction Advanced**

Unit Weight: Cohesion:  
19.5 kN/m<sup>3</sup>  13.6 kPa

Phi:  
17.9 °

Name: **UG4 (PR)** Color:  Set...

Material Model: Mohr-Coulomb

**Basic Suction Drawdown Liquefaction Advanced**

Unit Weight: Cohesion:  
20.5 kN/m<sup>3</sup>  0 kPa

Phi:  
26.5 °

Name: **C.a.** Color:  Set...

Material Model: Mohr-Coulomb

**Basic Suction Drawdown Liquefaction Advanced**

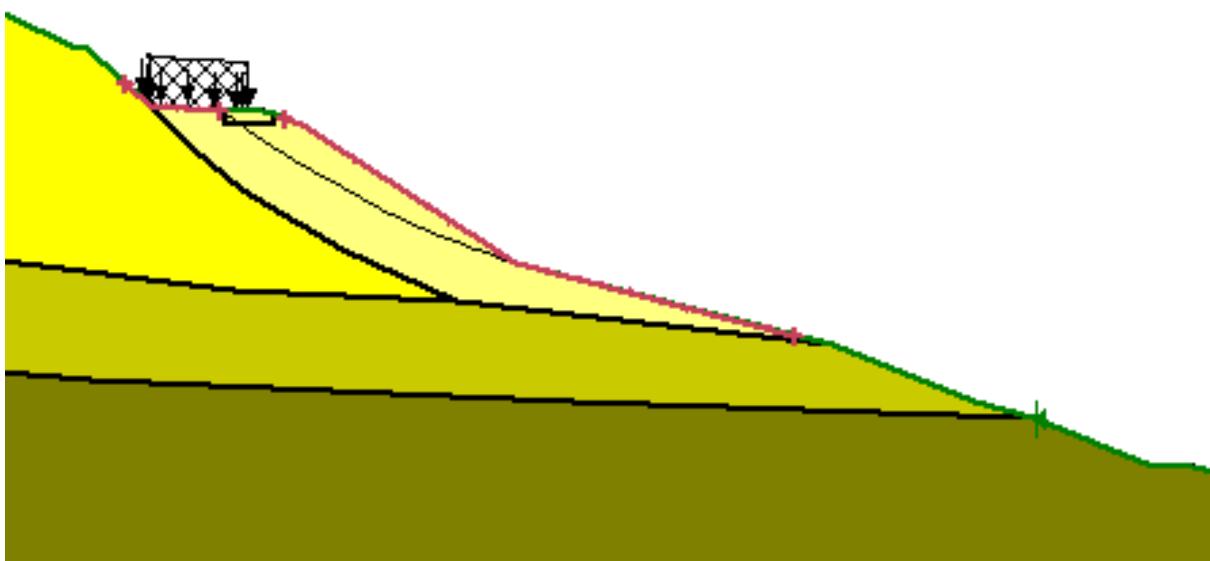
Unit Weight: Cohesion:  
25 kN/m<sup>3</sup>  500 kPa

Phi:  
0 °

**VERIFICHE ANTE OPERAM STATICHE**

KeyIn Slip Surface Entry and Exit Range

Entry Range (Left Side)			Exit Range (Right Side)		
Type:	Left Point:	Right Point:	Type:	Left Point:	Right Point:
Range	X: 4.000000 Y: 12.302866	X: 7.000000 Y: 11.446276	Range	X: 9.000000 Y: 11.197283	X: 25.000000 Y: 4.389410
Number of increments over range: 10			Number of increments over range: 20		
Number of radius increments: 50					
Slip Surface Projection Angle					
<input type="checkbox"/> Use Left (Active) Projection Angle: 135		<input type="checkbox"/> Use Right (Passive) Projection Angle: 45			
<input type="button" value="Clear"/>		<input type="button" value="OK"/>		<input type="button" value="Cancel"/>	
				<input type="button" value="Apply"/>	

0.85


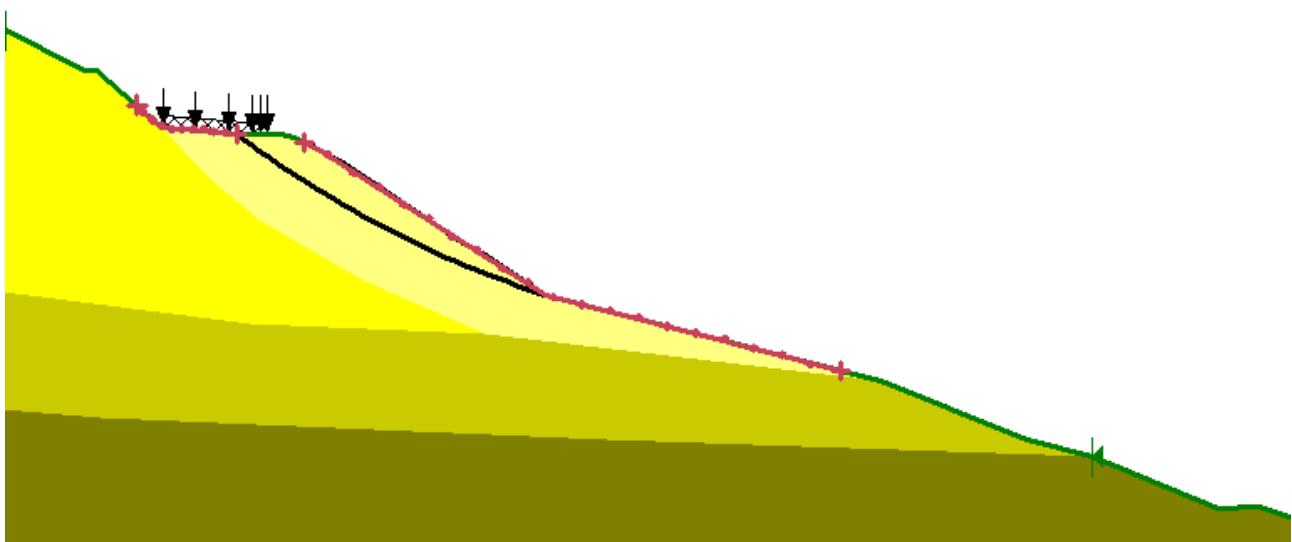
**VERIFICHE ANTE OPERAM SISMICHE**

KeyIn Slip Surface Entry and Exit Range



Entry Range (Left Side)			Exit Range (Right Side)		
Type:	Left Point:	Right Point:	Type:	Left Point:	Right Point:
<input type="button" value="Range"/>	X: 4.000000	X: 7.000000	<input type="button" value="Range"/>	X: 9.000000	X: 25.000000
	Y: 12.302866	Y: 11.446276		Y: 11.197283	Y: 4.389410
Number of increments over range:		10	Number of increments over range:		20
Number of radius increments: 50					
Slip Surface Projection Angle					
<input type="checkbox"/> Use Left (Active) Projection Angle: 135 <input type="checkbox"/> Use Right (Passive) Projection Angle: 45					
<input type="button" value="Clear"/>		<input type="button" value="OK"/>		<input type="button" value="Cancel"/>	<input type="button" value="Apply"/>

0.78

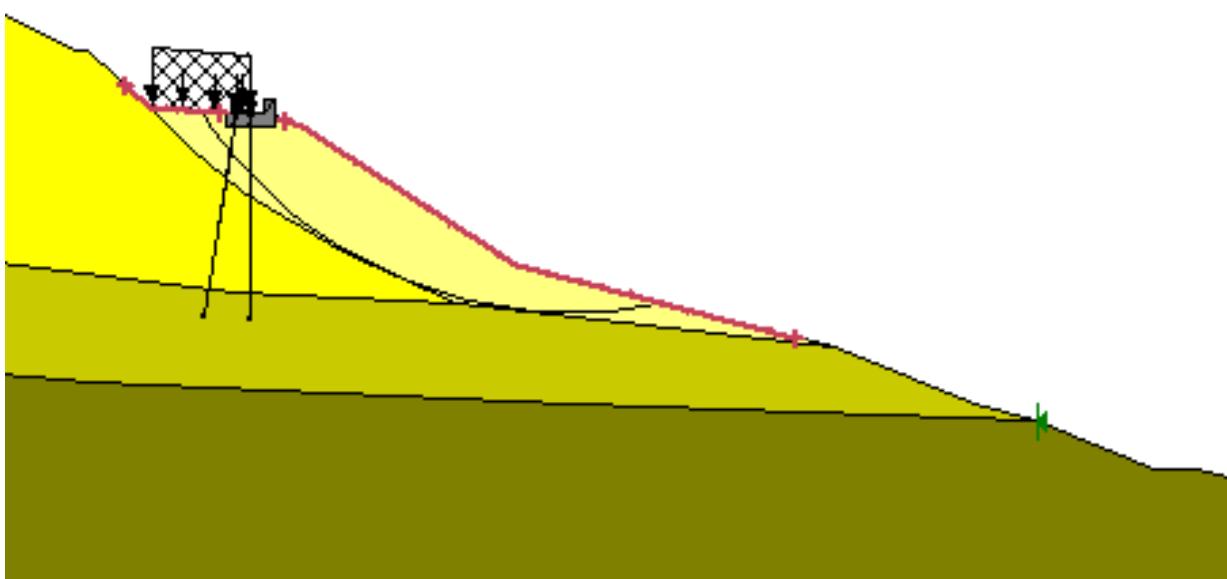


**VERIFICHE POST OPERAM STATICHE**

KeyIn Slip Surface Entry and Exit Range

Entry Range (Left Side)			Exit Range (Right Side)		
Type:	Left Point:	Right Point:	Type:	Left Point:	Right Point:
Range	X: 4.000000 Y: 12.302866	X: 7.000000 Y: 11.446276	Range	X: 9.000000 Y: 11.197283	X: 25.000000 Y: 4.389410
Number of increments over range: 10			Number of increments over range: 20		
Number of radius increments: 50					
Slip Surface Projection Angle					
<input type="checkbox"/> Use Left (Active) Projection Angle: 135 <input type="checkbox"/> Use Right (Passive) Projection Angle: 45					
<input type="button" value="Clear"/>		<input type="button" value="OK"/>		<input type="button" value="Cancel"/>	
<input type="button" value="Apply"/>					

1.22



**VERIFICHE POST OPERAM SISMICHE**

KeyIn Slip Surface Entry and Exit Range



Entry Range (Left Side)			Exit Range (Right Side)		
Type:	Left Point:	Right Point:	Type:	Left Point:	Right Point:
Range	X: 4.000000 Y: 12.302866	X: 7.000000 Y: 11.446276	Range	X: 9.000000 Y: 11.197283	X: 25.000000 Y: 4.389410
Number of increments over range: 10			Number of increments over range: 20		
Number of radius increments: 50					
Slip Surface Projection Angle					
<input type="checkbox"/> Use Left (Active) Projection Angle: 135					
<input type="checkbox"/> Use Right (Passive) Projection Angle: 45					
<input type="button" value="Clear"/>		<input type="button" value="OK"/>		<input type="button" value="Cancel"/>	<input type="button" value="Apply"/>

1.13
