

TUNNEL

Solutions for roadway, railway and undergrounds



VENTILATION



LIGHTING

AUXILIARY





EDITION 2013





In 1904 PALAZZOLI began its activity in Brescia when electrical energy was first used in the industry.

The Company is specialized in manufacturing electrical appliances with safety features that are protected and watertight, for industrial, marine, civil, agricultural and OEM applications. The offer of PALAZZOLI extends into a wide range of finished products, to which special customized solutions are specifically developed in accordance to the needs of end-users.

The products conform to technical and safety standards and are manufactured with

very high quality materials, in metal and self-extinguishing isolated

thermosetting (GRP) and thermoplastic. PALAZZOLI undertakes

the commitment towards all end-users to offer reliable,

safe and lasting quality products. This task, as

in the last century of activity, continues to honour the trust and respect that customers have posted

in its trademark.

RESISTANCE, LONG LIFE AND RELIABILITY FOR SUSTAINABLE PRODUCT DEVELOPMENT AND APPLICATION

DI DIT I

LEADING EXPERIENCE AND KNOW-HOW IN ELECTROTECHNOLOGY

HIGH QUALITY PERFORMANCE OF TECHNICAL SOLUTIONS

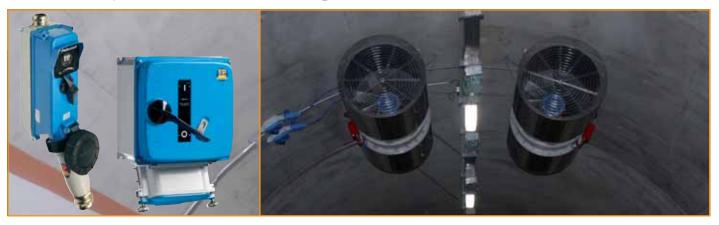
SUPPORT FOR THE INSTALLATION

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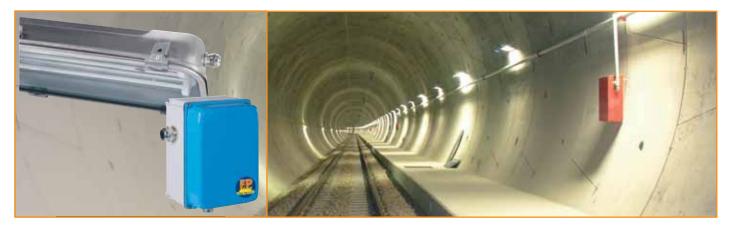
All the Palazzoli systems are studied to reduce the installation time guaranteeing a high and continuous standard of performance. In the website www.palazzoli.com you can find installation advices, references and videos.



Solutions for roadway, railway and undergrounds



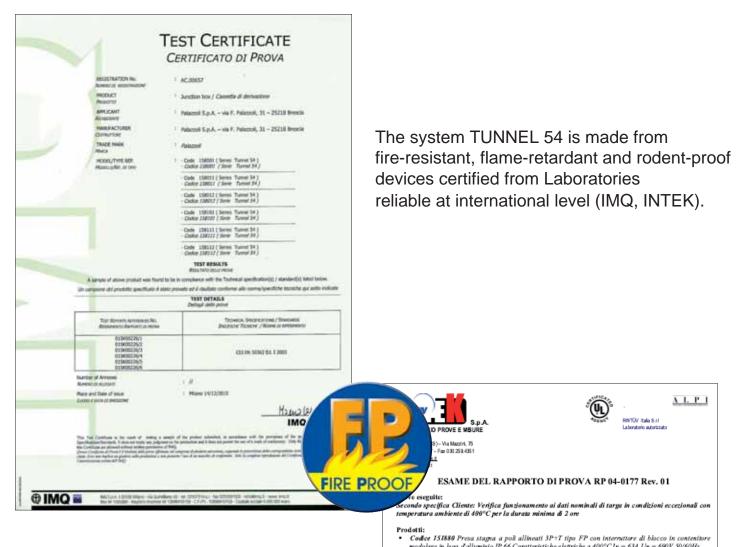








Certified quality



The system TUNNEL 54 is made of FIRE PROOF certified aluminum alloy. This certification guarantees the resistance at test performed at 400°C for 120' (in compliance with the guidelines for the design of Safety in roadway tunnels - ANAS/2009) and at 850°C for 90' (EN50200)

Tecnico di Laboratorio: Enrico Veronesi Verificato da: Anna Baruzzi.

Responsabile del laboratorio: Enrico Veronesi

i I rimitati delle prove riportati in questo esame si riferiscono acchastvamente al campioni provati e descritti nel ns. Rapporto Prova 04-0177.

Rev.	Data	descrizione della revisione	Tecnico BT	Respons ASQ	Dir Laboratorio
0	2004.04.30	emissione	E.Veronesi	A. Mina	E. Veronesi
01		sostituiti ed integrati codici prodotti	E.Veronesi	A. Baruzzi	E. Veronesi

2005.06.07

Mod. MD-09-01-04

Data emissione:

INTEK, via Mazzini 75, 25086 Rezzato (BS) - Italy



Produtti:

 • Codice 151880 Presa stagna a poli allineati 3P+T tipo FP con interruttore di blocco in contenitore modulare in lega d'alluminio IP 66 Caratteristiche eletriche a 400°C1n = 63A Un = 690V 50/60Hz

 • Codice 151881 Presa stagna a poli allineati 3P+T tipo FP con interruttore di blocco in contenitore modulare in lega d'alluminio IP 66 Caratteristiche eletriche a 400°C1n = 12A Un = 690V 50/60Hz

 • Codice 151881 Presa stagna a poli allineati 3P+T tipo FP con corpo in lega d'alluminio Caratteristiche eletriche a 400°C1n = 63A Un = 690V 50/60Hz

 • Codice 151891 Spina stagna a poli allineati 3P+T tipo FP con corpo in lega d'alluminio Caratteristiche elettriche a 400°C1n = 125A Un = 690V 50/60Hz

 Costerutore: Palazzoli S.p.A. - Via F. Palazzoli, 31 - 25188 BRESCL4

 Esto della prova

 I'msieme della presa con interruttare di blocco con conicon trifuse 690V 63 - 125A 50Hz, ha regolarmente funzionamento con carico trifuse 690V 63 - 125A 50Hz, ha regolarmente funzionamento con carico trifuse 690V 63 - 125A 50Hz, ha regolarmente funzionamento con carico trifuse 690V 64 - 125A 50Hz, ha regolarmente funzionation en la Rapporto di Prova RP 04-0177 del 2004.04.30

 Clene
 Laboratorio di Prova: Palazzoli S.p.A. Via F. Palazzoli, 31 - via Mazzoli S.p.A. Intek SpA Via F. Palazzoli S.p.A. Intek SpA Via F. 640.530

 Clene
 Laboratorio di Prova: Palazzoli S.p.A. Intek SpA Via F. 640.530

 Clene
 Laboratorio di Prova: Palazzoli S.p.A. Via F. 640.530

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 Laboratorio di Prova: Palazzoli S.p.A. Via F. 640.530

 Palazzoli S.p.A. Intek SpA Via F.



TUNNEL54 SERIES Interlocked compact socket-outlets for tunnel fans with inlets for single-pole cables 50-60Hz IP66 - > IK10 400°C for 120'

Ø 15÷27mm

Rated current (A)	Rated use voltage	Poles	Auxiliary contact (AUX)	Palazzoli Code	Pack Q.ty
63	380÷415V	3P+÷	-	151511	1
63	600÷690V	3P+÷	-	151512	1
63	380÷415V	3P+÷	1 NO	151611	1
63	600÷690V	3P+÷	1 NO	151612	1

Equipment:

n. 1 63A 3P+ + plug IP67. Cable glands included External earth terminal



TUNNEL54 SERIES

Interlocked compact socket-outlets for tunnel fans with inlets for multi-pole cables 50-60Hz IP66 - > IK10 400°C for 120'

M40 💓
15÷27mm
10.2711111

Rated current (A)	Rated use voltage	Poles	Auxiliary contact (AUX)	Palazzoli Code	Pack Q.ty
63	380÷415V	3P+÷	-	151513	1
63	600÷690V	3P+÷	-	151514	1
63	380÷415V	3P+÷	1 NO	151613	1
63	600÷690V	3P+÷	1 NO	151614	1

Equipment:

n. 1 63A 3P+ + plug IP67. Cable glands included External earth terminal



TUNNEL54 SERIES Reduction adaptors for large diameter single-pole cables 50-60Hz IP66 - > IK10 400°C for 120'

Line cables sections (mm²)	Terminals poles sections (mm²)	External dimensions (mm)	Cable gland line (ømm)	Palazzoli Code	Pack Q.ty
from 50 to 70	3x70	185x252x152	M32 (11-21)	151533	1
from 95 to 120	3x125	252x319x193	M40 (15-27)	151534	1
from 150 to 185	200	315x315x193	M40 (15-27)	151535	1

Equipment:

Fittings for internal and external earth screws M40 output sized for 3x25mm² or 3x16mm cables² Code 151535 with cable glands installes on a raised flange F5.



TUNNEL54 SERIES Reduction adaptors for large diameter multi-pole cables 50-60Hz IP66 - > IK10 400°C for 120'

Line cables sections (mm²)	Terminals poles sections (mm²)	External dimensions (mm)	Cable gland line (ømm)	Palazzoli Code	Pack Q.ty
50	3x70	185x252x152	M50 (22÷35)	151531	1
70	3x70	185x252x152	M63 (35÷48)	151532	1

Equipment:

Fittings for internal and external earth screws M40 output sized for 3x25mm² or 3x16mm cables²



TUNNEL54 SERIES Rapid fastening supports of interlocked socket-outlets for tunnel fans

Application	Palazzoli Code	Pack Q.ty
Wall mounting bracket	151541	1



TUNNEL54 SERIES Rapid fastening supports of interlocked socket-outlets for tunnel fans

Application	Palazzoli Code	Pack Q.ty
For trunking H 200m	151542	1
For trunking H 300m	151543	1



TUNNEL54 SERIES Rapid fastening supports of interlocked socket-outlets for tunnel fans

Application	Palazzoli Code	Pack Q.ty
Mounting on support of trunking	151544	1





2P+÷ 230V

Class

Ш

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Line cable section

(mm²) 4 - 16

4 - 16

External dimensions

(mm)

164x242x135

164x242x135

Palazzoli Code

158201

158211

Protections

-

-

Pack

Q.ty

1

1



TUNNEL54 SERIES Electrical line enclosures for single-pole cables with puncture insulation connections in aluminum alloy for emergency lighting with IEC309-2 socket-outlet IP66 - > IK10 850°C for 90'

2P+÷ 230V

Class	External dimensions (mm)	Protections	Palazzoli Code	Pack Q.ty
I	247x225x130	1 fuse 6A (L)	157001	1
I	247x225x130	2 fuses 6A (L+N)	157101	1
П	247x225x130	1 fuse 6A (L)	158001	1
Ш	247x225x130	2 fuses 6A (L+N)	158101	1
	 	Class dimensions (mm) I 247x225x130 I 247x225x130 II 247x225x130	Class dimensions (mm) Protections I 247x225x130 1 fuse 6A (L) I 247x225x130 2 fuses 6A (L+N) II 247x225x130 1 fuse 6A (L)	Class unrestors (mm) Protections Code I 247x225x130 1 fuse 6A (L) 157001 I 247x225x130 2 fuses 6A (L+N) 157101 II 247x225x130 1 fuse 6A (L) 158001



TUNNEL54 SERIES Electrical line enclosures for single-pole cables with puncture insulation connections in aluminum alloy for emergency lighting with cable gland IP66 - > IK10 850°C for 90'

Line cable section (mm ²)	Class	External dimensions (mm)	Protections	Palazzoli Code	Pack Q.ty
4-35	I	247x225x130	1 fuse 6A (L)	157011	1
4-35	I	247x225x130	2 fuses 6A (L+N)	157111	1
4-35	П	247x225x130	1 fuse 6A (L)	158011	1
4-35	11	247x225x130	2 fuses 6A (L+N)	158111	1



TUNNEL54 SERIES Puncture insulation fixing support for junction enclosures

Material	Palazzoli Code	Pack Q.ty
Stainless steel AISI304	157050	20
Painted galvanised steel RAL7035	157051	20

Equipment:

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ideal in trunking with maximum height of 100 mm.



TUNNEL54 SERIES Electrical line enclosures for single-pole cables with puncture insulation connections in aluminum alloy for emergency lighting with 2 cable glands IP66 - > IK10 850°C for 90'

Line cable section (mm ²)	Class	External dimensions (mm)	Protections	Palazzoli Code	Pack
4-35	I	247x225x130	1 fuse 6A (L)	157012	1
4-35	I	247x225x130	2 fuses 6A (L+N)	157112	1
4-35	Ш	247x225x130	1 fuse 6A (L)	158012	1
4-35	Ш	247x225x130	2 fuses 6A (L+N)	158112	1



TUNNEL54 SERIES Screws for fixing the support for junction enclosures

Material	Palazzoli Code	Pack Q.ty
Stainless steel	157060	100



TUNNEL54 SERIES Interlocked compact socket-outlets high power for tunnel fans 50-60Hz IP66 - >IK10 400°C for 120'



TUNNEL54 SERIES Raised closing flanges in aluminum alloy with brass cable glands for multi-pole cables IP67 >IK10 400°C for 120'

Rated current (A)	Rated use voltage	Poles	Palazzoli Code	Pack Q.ty
63	400÷690V	3P+÷	151880	1
125	400÷690V	3P+÷	151881	1

Cable glands Line	Allowed diameter (mm)	Palazzoli Code	Pack Q.ty
M32	(11÷21)	151930	1
M40	(15÷27)	151931	1
M50	(22÷35)	151932	1
M63	(35÷48)	151933	1



TUNNEL54 SERIES Tunnel fan plugs in aluminum alloy 50-60Hz IP66 - >IK10 400°C for 120'



TUNNEL54 SERIES Raised closing flanges in aluminum alloy with brass cable glands for single-pole cables IP67 >IK10

400°C for 120'

Rated current	Rated use	Poles	Palazzoli Code	Pack Q.ty	Cabl Li
63	400÷690V	3P+÷	151890	1	n.3
125	400÷690V	3P+÷	151891	1	n.3
					n.3 .

Cable glands Line	Allowed diameter (mm)	Palazzoli Code	Pack Q.ty
n.3 x M25	(8÷16)	151940	1
n.3 x M32	(11÷21)	151941	1
n.3 x M40	(15÷27)	151942	1



TUNNEL54 SERIES Pair of supports for fastening interlocked socket-outlets to the ceiling

Pack

Q.ty

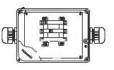
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Palazzoli Code

151900



TUNNEL54 SERIES Glazing enclosures fan power supply lines IP66 >IK10 400°C for 120'/850°C for 90'



Line cables sections	Terminals poles sections	External dimensions	Cable gland line	Palazzoli Code	Pack Q.ty
3x10-3x16- 3x25	3x25	185x185x105	M40 (15÷27)	151553	1
3x35	3x40	252x185x152	M40 (15÷27)	151564	1
3x50	3x70	252x185x152	M50 (22÷35)	151575	1
3x70	3x70	252x185x152	M63 (35÷48)	151585	1

Characteristics:

complete with adjustable coupling for mounting to ceiling with profile 50x30mm and socket fastening screws

Material

Stainless steel AISI304





TUNNEL54 SERIES Enclosures for electrical line for unipolar cables for tunnel floodlights, branch line with cable gland IP66 - >IK10 850° C for 90'



Line cables sections	Terminals poles sections	External dimensions	Cable gland line	Palazzoli Code	Pack Q.ty
2x (1x4)-2x (1x6)	2x6	185x185x105	M16 (4÷9,5)	151011	1
2x (1x10)-2x (1x16)	2x16	185x185x105	M20 (7÷13)	151022	1
2x (1x25)-2x (1x35)	2x40	185x252x152	M25 (8÷16)	151034	1
2x (1x50)-2x (1x70)	2x70	252x315x193	M32 (11÷21)	151045	1

Equipment:

Reduction flanges



TUNNEL54 SERIES Enclosures for electrical line for single-pole cables for tunnel floodlights, branch line with IEC309-2 socket-outlet IP66 - >IK10 850° C for 90'



Line cables sections	Terminals poles sections	External dimensions	Cable gland line	Palazzoli Code	Pack Q.ty
2x (1x4)-2x (1x6)	2x6	185x185x105	M16 (4÷9,5)	151311	1
2x (1x10)-2x (1x16)	2x16	185x185x105	M20 (7÷13)	151322	1
2x (1x25)-2x (1x35)	2x40	185x252x152	M25 (8÷16)	151334	1
2x (1x50)-2x (1x70)	2x70	252x315x193	M32 (11÷21)	151345	1

Characteristics:

2-pin terminal block fixed on ceramic base with brass conductive bars and two screws non-loosening terminals.

Nickel-plated brass cable glands with ISO metric thread and cable radial fastening. M6 inside and outside earth terminal. Protection of the power supply phase of the light body using an E14-D01 ceramic fuse-holder base complete with fuses. The fuse base is prewired at junction box.

With socket-outlet 16A - 2P+ \div

The resistance at 850° C for 90' is applied to the enclosure.

Complementary items: fastening brackets.



TUNNEL54 SERIES Enclosures for electrical line for multi-pole cables for tunnel floodlights, branch line with cable gland IP66 - >IK10 850° C for 90'



Line cables sections	Terminals poles sections	External dimensions	Cable gland line	Palazzoli Code	Pack Q.ty
4x4 - 4x6	4x6	185x252x152	M32 (11÷21)	151241	1
4x10	4x16	185x252x152	M32 (11÷21)	151242	1
4x16	4x16	185x252x152	M40 (15÷27)	151252	1
4x25 - 4x35	4x40	185x252x152	M40 (15÷27)	151264	1
3x50+25 - 3x70+35	5 4x70	252x315x193	M50 (22÷35)	151275	1
70	4x70	252x315x193	M63 (35÷48)	151285	1



TUNNEL54 SERIES

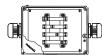
Enclosures for electrical line for multi-pole cables for tunnel floodlights, branch line with IEC309-2 socket-outlet IP66 - >IK10 850° C for 90'



Line cables sections	Terminals poles sections	External dimensions	Cable gland line	Palazzoli Code	Pack Q.ty
4x4 - 4x6	4x6	185x252x152	M32 (11÷21)	151441	1
4x10	4x16	185x252x152	M32 (11÷21)	151442	1
4x16	4x16	185x252x152	M40 (15÷27)	151452	1
4x25 - 4x35	4x40	185x252x152	M40 (15÷27)	151464	1
3x50+25 - 3x70+35	5 4x70	252x315x193	M50 (22÷35)	151475	1
70	4x70	252x315x193	M63 (35÷48)	151485	1



TUNNEL54 SERIES Glazing enclosures for power supply lines for tunnel floodlights IP66 - >IK10 850° C for 90'



Line cables sections	Terminals poles sections	External dimensions	Cable gland line	Palazzoli Code	Pack Q.ty
4x4 - 4x6	4x6	252x185x152	M32 (11÷21)	151641	1
4x10	4x16	252x185x152	M32 (11÷21)	151642	1
4x16	4x16	252x185x152	M40 (15÷27)	151652	1
4x25 - 4x35	4x40	252x185x152	M40 (15÷27)	151664	1
3x50+25 - 3x70+35	4x70	315x252x193	M50 (22÷35)	151675	1
70	4x70	315x252x193	M63 (35÷48)	151685	1

Characteristics:

4-pole terminal block fixed on ceramic base with brass conductive bars and two screw non-loosening terminals.

No. 2 nickel-plated brass cable glands with ISO metric thread and cable radial fastening.

M6 internal and external earth terminal.



TUNNEL54 SERIES Pair of supports for tunnel enclosures fastening

Material	For boxes	Palazzoli	Pack
Material	dimensions	Code Q.t	
Stainless steel AISI304	185x185 / 252x185	151901	10
Stainless steel AISI304	185x252 / 315x252	151902	10
Stainless steel AISI304	252x315	151903	10

Equipment:

screws for enclosures fastening



TUNNEL54 SERIES Lighting fixtures in stainless steel AISI304 - glass with symmetrical aluminum reflector and fuse protection 230VAC/DC - IP65 Class II

Power (W)	Power supply	Lampholders and lamps	Palazzoli Code	Pack Q.ty
2x18	electronic	G13 T8	152132	1
2x36	electronic	G13 T8	152232	1
2x54	electronic	G5 T5	152962	1

Characteristics:

The lighting fixtures can be supplied in special execution complete with brackets for rapid fastening to channel and/or wired with cable and plug.



TUNNEL54 SERIES

Lighting fixtures in stainless steel AISI304 - glass with asymmetrical aluminum reflector and fuse protection 230VAC/DC - IP65 Class II

Power (W)	Power supply	Lampholders and lamps	Palazzoli Code	Pack Q.ty
2x18	electronic	G13 T8	153132	1
2x36	electronic	G13 T8	153232	1
2x54	electronic	G5 T5	153962	1

Characteristics:

The lighting fixtures can be supplied in special execution complete with brackets for rapid fastening to channel and/or wired with cable and plug.



TUNNEL54 SERIES Rapid fastening supports for lighting fixtures

Material	Applications	Palazzoli Code	Pack Q.ty
Stainless steel AISI304	for trunking H 200mm	820004	1
Stainless steel AISI304	for trunking H 300mm	820005	1







TAIS SERIES

AS wired and certified ready-to-use distribution boards with 2 16A interlocked socket-outlets with fuses, differential protection 40A 30mA, in thermosetting (GRP) material IP66/IP67

16A Interlocked socket-outlets		Palazzoli	Pack
3P+≑ 400V	protection	Code	Q.ty
	40A 2P 30mA	500461	1
1	40A 4P 30mA	500462	1
2	40A 4P 30mA	500463	1
		3P+÷ 400V protection 40A 2P 30mA 1 40A 4P 30mA	3P+÷ 400V protection Palazzon Code 40A 2P 30mA 500461 1 40A 4P 30mA 500462

Equipment:

sockets with fuses included



TAIS SERIES

AS wired and certified ready-to-use distribution boards with 2 16A interlocked socket-outlets and fuses in thermosetting (GRP) material IP66/IP67

16A Interlocke	Falazzvii		Pack
2P+÷ 230V	3P+≟ 400V	Code	Q.ty
2		500411	1
1	1	500412	1
	2	500413	1

Equipment:

board with terminal block of 4x16mm² sockets with fuses included



UNIBOX SERIES Universal enclosures in aluminum alloy IP66/IP67 - IK08

Description	Dimensi	ions (mm)	Palazzoli	Pack
Description	external	internal	Code	Q.ty
Enclosure UNI B9	100x100x59	88x88x44	520009	1
Enclosure UNI B11	140x115x60	128x103x46	520011	1
Enclosure UNI B12	166x141x64	153x125x49	520012	1
Enclosure UNI B14	192x168x80	176x152x65	520014	1
Enclosure UNI B19	253x217x93	236x201x75	520019	1
Enclosure UNI B20	314x264x122	292x243x104	520020	1
Enclosure UNI B21	410x315x150	386x291x126	520021	1

Equipment:

4 screws for fixing the cover on the box

2 screws for predispositions of earth connection

Characteristic:

Covers with anti-loosening stainless steel screws Enclosures predisposed for fixing the DIN rail horizzontally or vertically using M4x6 self-tapping screws. Palazzoli DIN rail can be mounted only diagonally.



UNIBOX SERIES Bottom plates in zinced steel for UNIBOX enclosures

Description	Dimensions (mm)	Palazzoli Code	Pack Q.ty
for enclosure UNI B11	119x78	522011	1
for enclosure UNI B12	132x108	522012	1
for enclosure UNI B14	165x125	522014	1
for enclosure UNI B19	200x165	522019	1
for enclosure UNI B20	250x210	522020	1
for enclosure UNI B21	345x257	522021	1

Equipment:

4 screws for fixing the cover on the box

2 screws for predispositions of earth connection



UNIBOX SERIES DIN EN 50022 rail for UNIBOX enclosures

Descrption	Palazzoli Code	Pack Q.ty
for enclosure UNI B9	521009	1
for enclosure UNI B11	521011	1
for enclosure UNI B12	521012	1
for enclosure UNI B14	521014	1
for enclosure UNI B19	521019	1
for enclosure UNI B20	521020	1
for enclosure UNI B21	521021	1

Equipment:

2 screws for predispositions of earth connection

SERIES TUNNEL54

Solutions for roadway, railway and undergrounds

Roadway

Railway and undergrounds



Tunnels PF Lombardia: 100 tunnels - SS. 106 Jonica Salerno-Reggio Calabria motorway - SS. 42 Tonale A1/A14 Italian motorway Catania Siracusa motorway - SS. 145 Sorrentina SS. 125 Capoboi - La Rupe Trento - Secante Cesena Undergrounds Turin - Brescia - Milan - Naples - Rome Florence - Copenhagen - London - Dubai





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