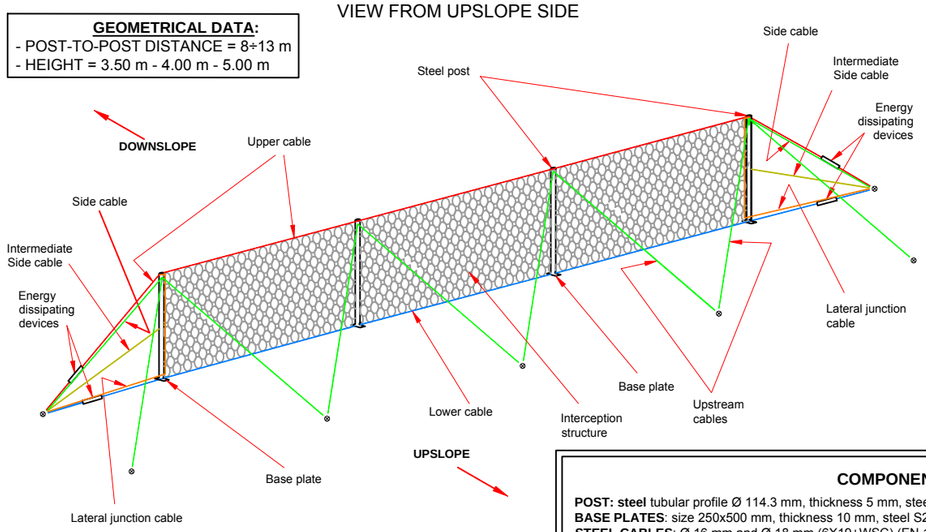
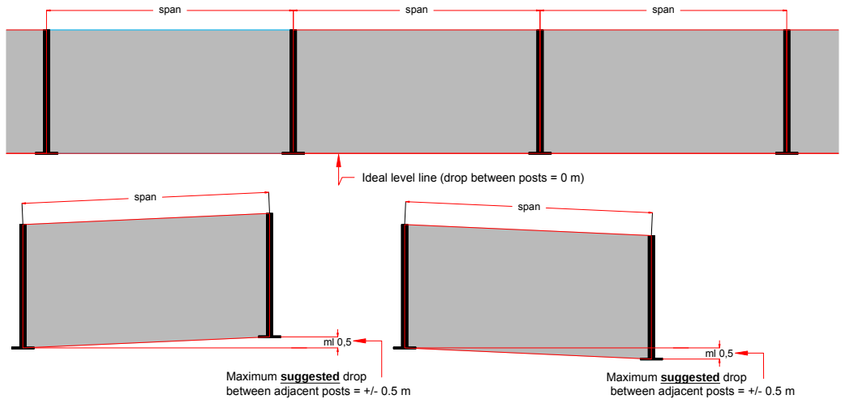
PERSPECTIVE VIEW
VIEW FROM UPSLOPE SIDE

GEOMETRICAL DATA:
- POST-TO-POST DISTANCE = 8÷13 m
- HEIGHT = 3.50 m - 4.00 m - 5.00 m

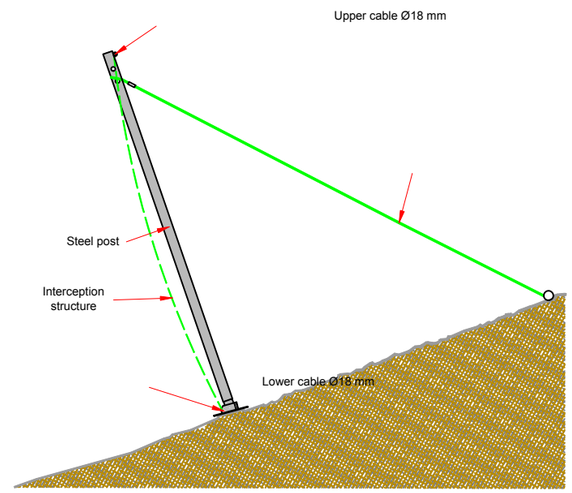


SCHEME OF MAXIMUM POST DROP
FRONT VIEW



Note: the reported values refers to the standard barrier installation, and they are mainly intended to obtain an easy and quick assembling.
Anyway, higher drops can be allowed without reducing the barrier functionality.

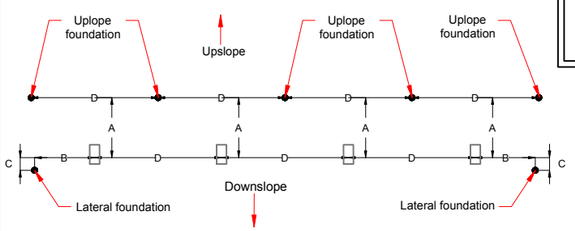
SIDE VIEW OF THE ROCKFALL BARRIER



COMPONENTS AND MATERIALS

POST: steel tubular profile Ø 114.3 mm, thickness 5 mm, steel S235JRH (EN 10219-1);
BASE PLATES: size 250x500 mm, thickness 10 mm, steel S235JR (EN 10025);
STEEL CABLES: Ø 16 mm and Ø 18 mm (6X19+WSC) (EN 12385-4), grade 1770 Mpa;
ENERGY DISSIPATING DEVICES: Aluminium tubes Ø 30 mm, length 1000 mm, thickness 1.5 mm, in which two cable run (one for each tube);
PRINCIPAL NET: ring net panels, Ø 3.00 mm steel wire (strength grade ≥ 1380 MPa), zinc coated (EN 10244-2, Class A);
OPTIONAL NET: hexagonal double twisted wire mesh type 8x10, Ø 2.20 mm wire (EN 10223-3), zinc coated (EN 10244-2, Class A);
SHACKLES: Dee-type ("U" shape) measure 16, zinc coated steel S235JR (EN 10025) and high strength Bow-shackles size 5/8" (EN 13889);
U-BOLT WIRE ROPE GRIPS: for steel cables Ø 16 mm and Ø 18 mm (EN 13411-5).

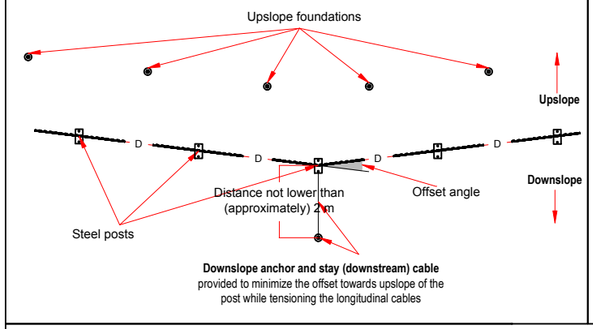
FOUNDATION LAYOUT
PLAN VIEW



Note: A, B, C values vary on the post height H, as shown in the following table.
For further details please refer to the "Installation manual"

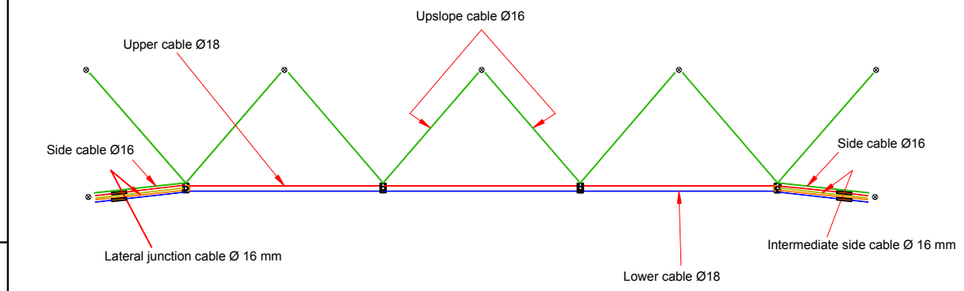
H (m)	A (m)	B (m)	C (m)
3.5	3.5	4.0	1.0
4.0	4.0	4.0	1.0
5.0	5.0	5.0	1.0

FOUNDATION LAYOUT: ALIGNMENT OFFSET
PLAN VIEW

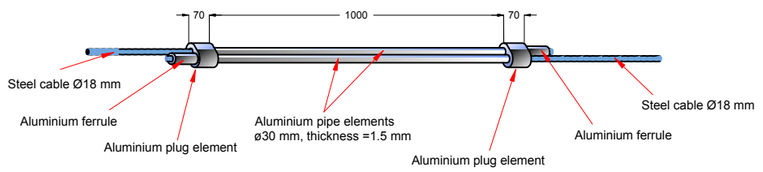


Downslope anchor and stay (downstream) cable
provided to minimize the offset towards upslope of the post while tensioning the longitudinal cables

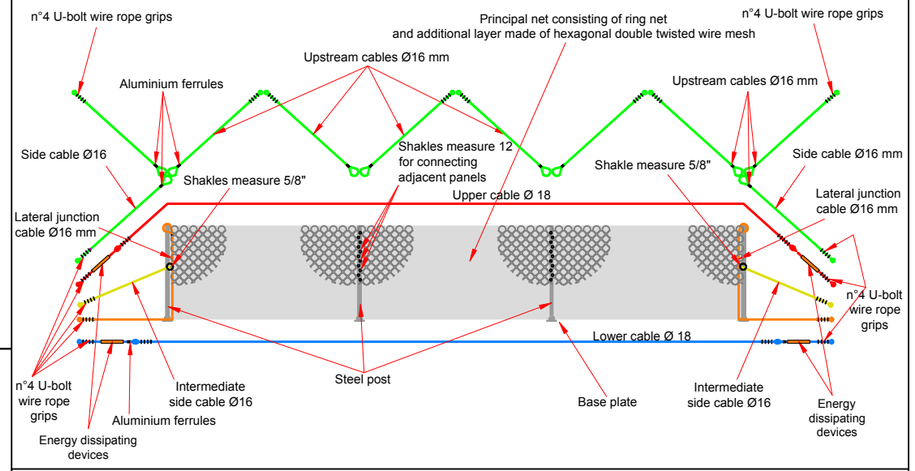
SCHEMATIC PLAN VIEW OF A BARRIER WITH 3 SPANS



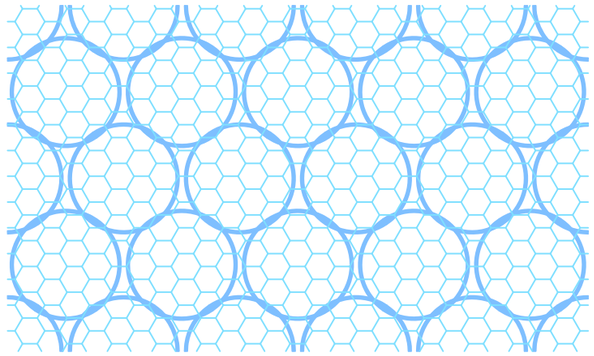
ENERGY DISSIPATING DEVICE
Detail



GENERAL SCHEME OF COMPONENTS



PRINCIPAL NET AND ADDITIONAL NET LAYER DETAILS

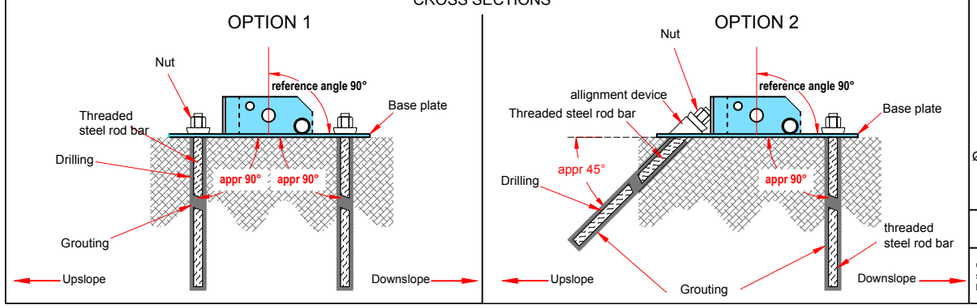


Steel ring net consisting of rings having a diameter of approximately 350 mm

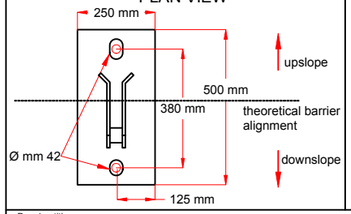
and

hexagonal double twisted wire mesh type 8x10, wire Ø 2,20 mm (optional)

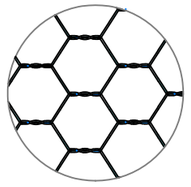
FOUNDATIONS FOR BASE PLATE
CROSS SECTIONS



BASE PLATE LAYOUT
PLAN VIEW



SECONDARY NET



Drawing title:
ROCKFALL BARRIER- RB 1000 - Typical Drawings

Rev. and date: 00 del 17 / 11 / 2016		Designed: SC	Client:
Scale:	Project N°:	Drawn: SC	
File name: Typical drawings RB 1000-eng.dwg		Approved: FF	NOT FOR CONSTRUCTION

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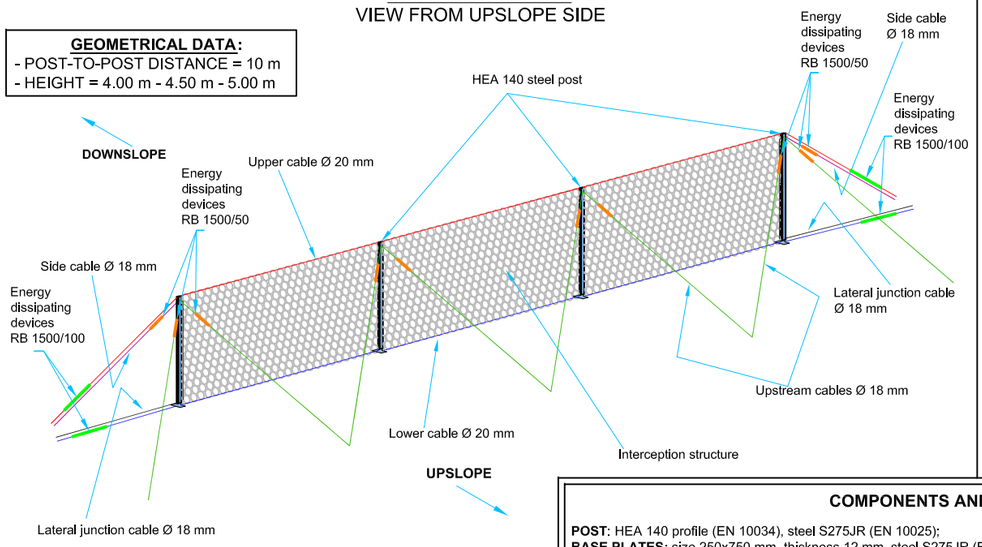
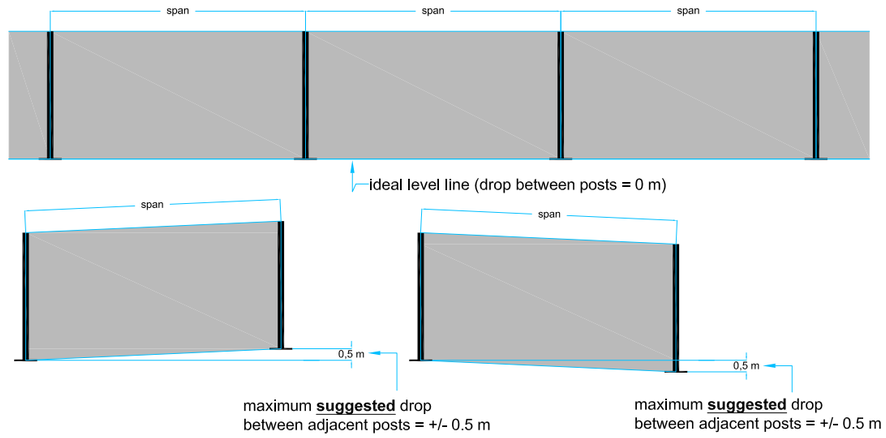
PERSPECTIVE VIEW
VIEW FROM UPSLOPE SIDE

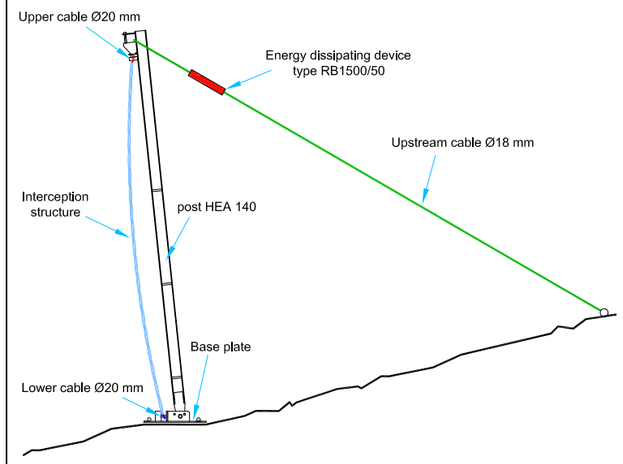
GEOMETRICAL DATA:
- POST-TO-POST DISTANCE = 10 m
- HEIGHT = 4.00 m - 4.50 m - 5.00 m



SCHEME OF MAXIMUM POST DROP
FRONT VIEW



SIDE VIEW OF THE ROCKFALL BARRIER



COMPONENTS AND MATERIALS

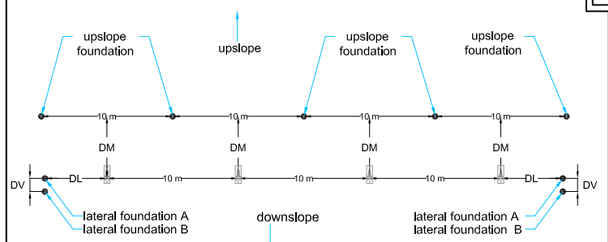
POST: HEA 140 profile (EN 10034), steel S275JR (EN 10025);
BASE PLATES: size 250x750 mm, thickness 12 mm, steel S275JR (EN 10025);
STEEL CABLES: Ø 18 mm and Ø 20 mm (6X19+WSC) (EN 12385-4), steel wire tensile strength 1770 Mpa;
ENERGY DISSIPATING DEVICES: Aluminium tubes Ø 30 mm thickness 2 mm, in which two cable run (one for each tube);
PRINCIPAL NET: ring net panels made up of rings with diameter 350 mm; each ring is connected to the adjacent n. 4 rings; the wire of ring net has a diameter of 3.00 mm (strength grade ≥ 1380 MPa) and it is zinc coated in Class A (EN 10244-2);
ADDITIONAL NET: hexagonal double twisted wire mesh type 8x10, wire Ø 2.20 mm (EN 10223-3), zinc coated in Class A (EN 10244-2);
SHACKLES: Dee-type ("U" shape) measure 16, zinc coated steel S235JR (EN 10025);
U-BOLT WIRE ROPE GRIPS: for steel cables Ø 18 mm and Ø 20 mm (EN 13411-5).

Note: the reported values refers to the standard barrier installation, and they are mainly intended to obtain an easy and quick assembling. Anyway, higher drops can be allowed without reducing the barrier functionality.

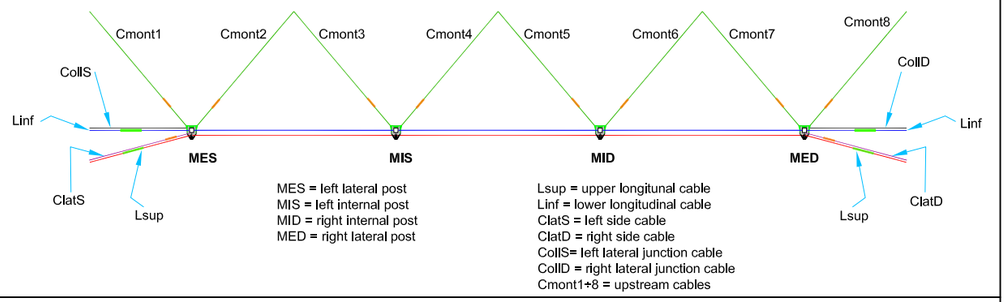
Note: DM, DV e DL values vary on the post height H, as shown in the following table.
For further details please refer to the "Installation manual".

H (m)	DM (m)	DV (m)	DL (m)
4.0	4.0	1.5	4.5
4.5	4.5	1.5	4.5
5.0	5.0	1.5	5.0

FOUNDATION LAYOUT
PLAN VIEW



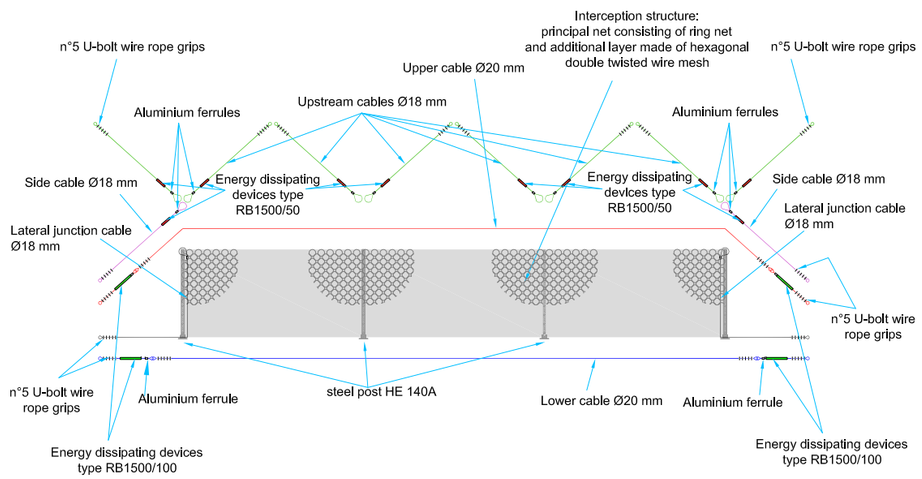
SCHEMATIC PLAN VIEW OF A BARRIER WITH 3 SPANS



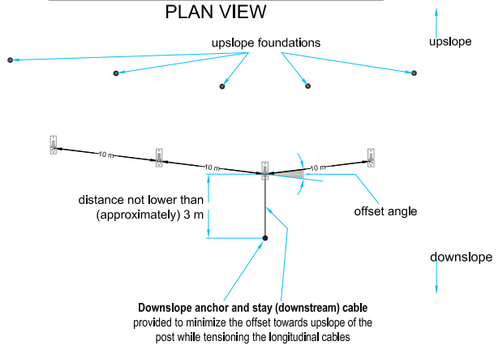
MES = left lateral post
MIS = left internal post
MID = right internal post
MED = right lateral post

Lsup = upper longitunal cable
Linf = lower longitudinal cable
ClatS = left side cable
ClatD = right side cable
CollS= left lateral junction cable
CollD = right lateral junction cable
Cmont1+8 = upstream cables

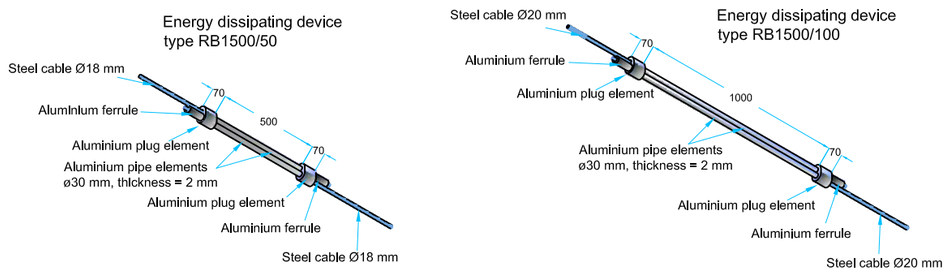
GENERAL SCHEME OF COMPONENTS



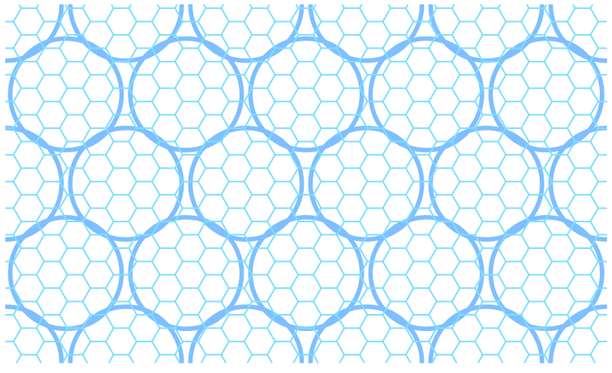
FOUNDATION LAYOUT: ALIGNMENT OFFSET
PLAN VIEW



ENERGY DISSIPATING DEVICES



PRINCIPAL NET AND ADDITIONAL NET LAYER DETAILS

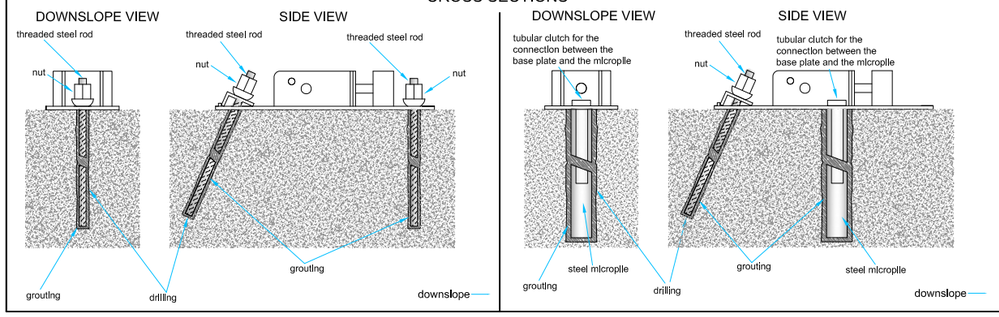


Steel ring net consisting of rings having a diameter of approximately 350 mm

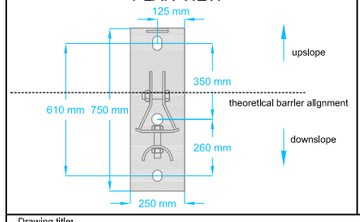
and

hexagonal double twisted wire mesh type 8x10, wire Ø 2,20 mm

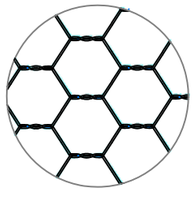
FOUNDATIONS (with and without micropile) FOR BASE PLATE
CROSS SECTIONS



BASE PLATE LAYOUT
PLAN VIEW



ADDITIONAL NET
Detail



Drawing title:
ROCKFALL BARRIER- RB 1500 - Typical Drawings

Officine Maccaferri S.p.A. assumes no responsability for drawings and calculations provided, as they must be intended as a general indication to suggest the proper use of its product.
In any case no responsability for improper use of the drawings and calculation in the design will be attributed to the manufacturer or its distributors.

Rev. and date: 01 del 25 / 02 / 2013
Designed: SC
Client:
Scale:
Project N°:
Drawn: SC
File name: Typical drawings RB 1500-eng.dwg
Approved: FF
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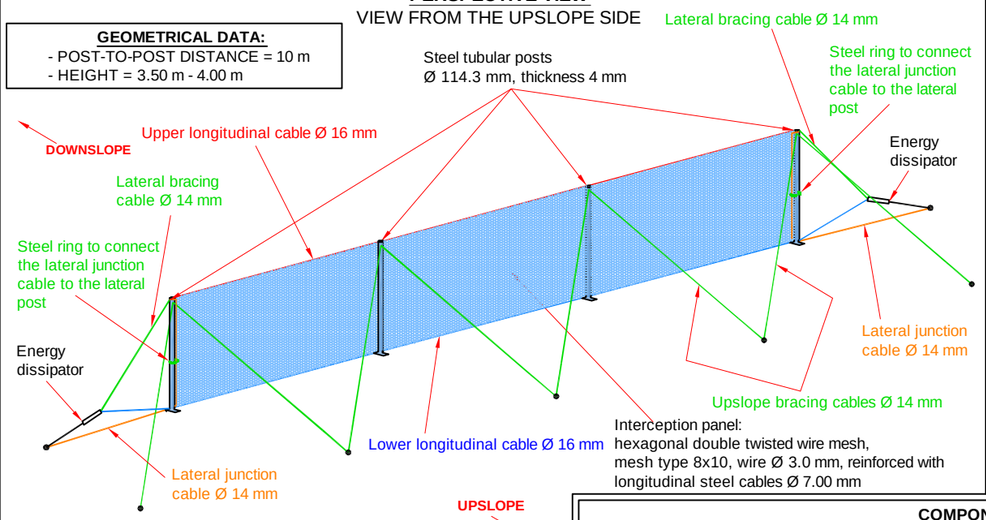
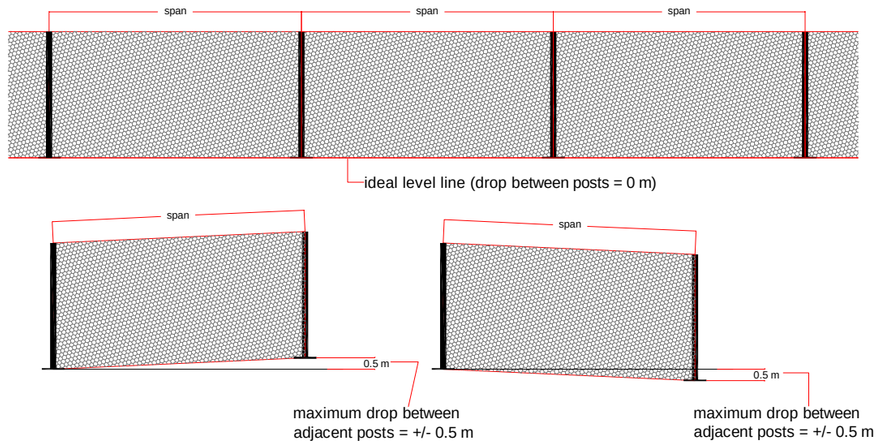
PERSPECTIVE VIEW
VIEW FROM THE UPSLOPE SIDE

GEOMETRICAL DATA:
- POST-TO-POST DISTANCE = 10 m
- HEIGHT = 3.50 m - 4.00 m

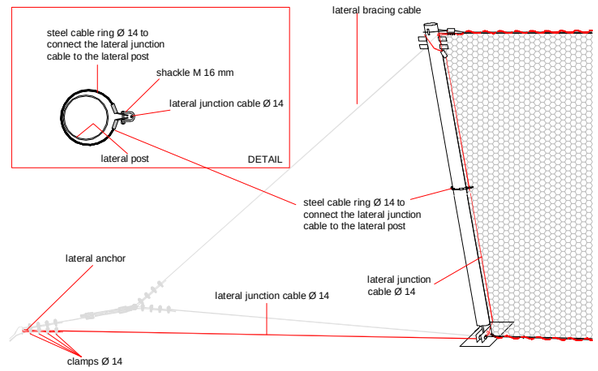


MAXIMUN POST DROP
FRONT VIEW



Note: the reported values refers to the standard barrier installation, and they are mainly intended to obtain an easy and quick assembling.
Anyway, higher drops can be allowed without reducing the barrier functionality.

LATERAL JUNCTION CABLE
VIEW FROM THE DOWNSLOPE SIDE



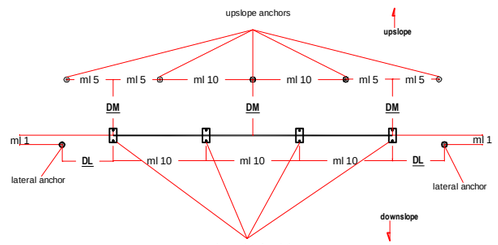
COMPONENTS AND MATERIALS

POST: steel tubular post Ø 114.3 mm, thickness 4 mm, S235JRH steel (EN 10219-1);
BASE PLATE: dimensions 250x500 mm, thickness 10 mm, S235JR steel (EN 10025);
STEEL LONGITUDINAL CABLES: Ø 16 mm (6x19+IWRC) (EN 12385-4), wire tensile strength 1770 MPa;
STEEL BRACING CABLES AND LATERAL JUNCTION CABLES: Ø 14 mm (6X19+IWRC) (EN 12385-4), wire tensile strength 1770 MPa;
STEEL JUNCTION CABLE: Ø 7 mm (7x7) (EN 12385-4), wire tensile strength 1770 MPa;
INTERCEPTION PANEL: double twisted steel wire mesh, mesh type 8x10, heavily galvanized wire Ø 3.00 mm (EN 10223-3) reinforced with steel cables Ø 7 mm (6x7+WSC) (EN 12385-4), wire tensile strength 1770 MPa;
CLAMPS: for steel cables Ø 16, Ø 14, Ø 7 mm (EN 13411-5).

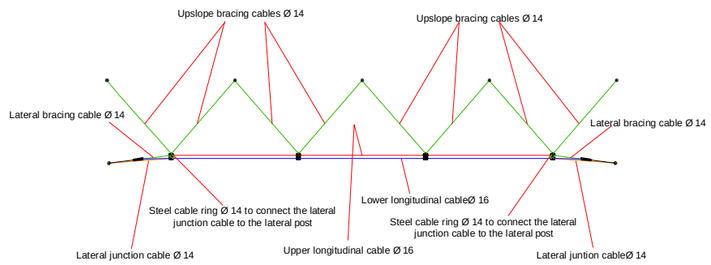
Note: DM, DV e DL values vary on the post height H, as shown in the following table.
Per further details refer to the "Installation manual".

H (m)	DM (m)	DL (m)
3.5	4.0	3.5
4.0	4.5	4.0

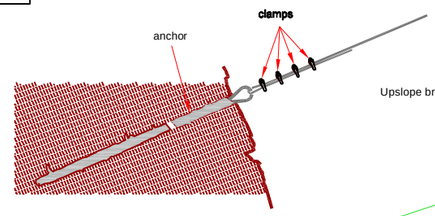
FOUNDATION LAYOUT
PLAN VIEW



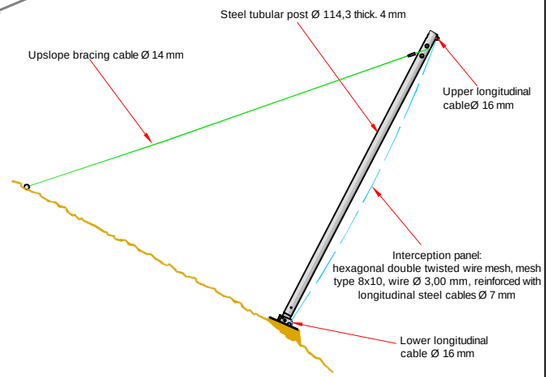
SCHEMATIC 3 SPAN BARRIER PLAN VIEW



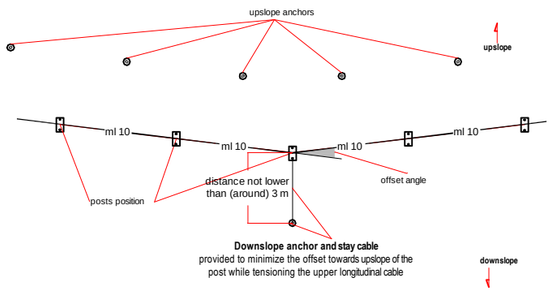
CONNECTION BETWEEN ANCHOR AND BRACING ROPE
- DETAIL -



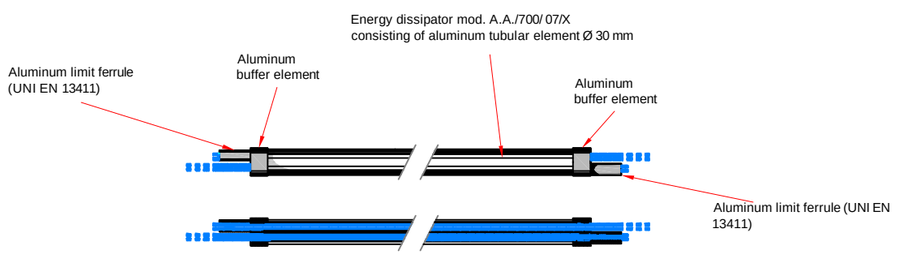
BARRIER CROSS SECTION
- SCHEMATIC CROSS SECTION -



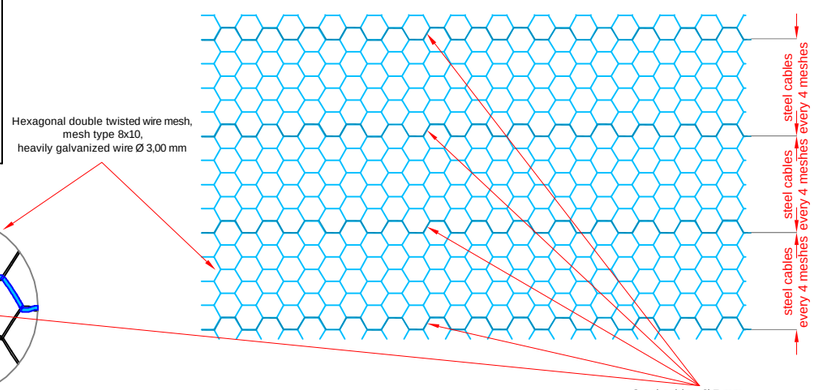
FOUNDATION LAYOUT: ALIGNMENT OFFSET
PLAN VIEW



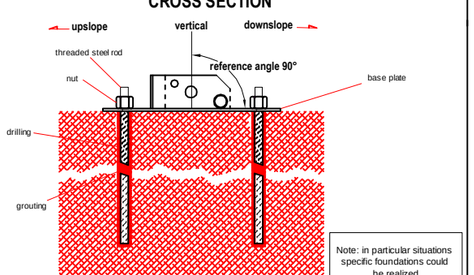
ENERGY DISSIPATOR DETAILS



INTERCEPTION PANEL
- FRONT VIEW AND DETAIL -

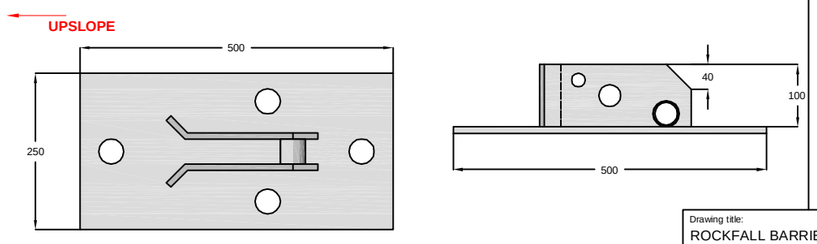


INDICATIONS FOR INSTALLING THE BASE PLATES
CROSS SECTION



Note: in particular situations specific foundations could be realized

BASE PLATE LAYOUT



Drawing title:
ROCKFALL BARRIER- RMC 100 A - Typical Drawings

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Rev. and date: 00 del 25 / 11 / 2010
Scale:
Project N°:
File name: Typical Drawings RMC100 A-Eng.dwg
Designed: AG/SC
Drawn: AG/SC
Approved: FF
Client:
NOT FOR CONSTRUCTION

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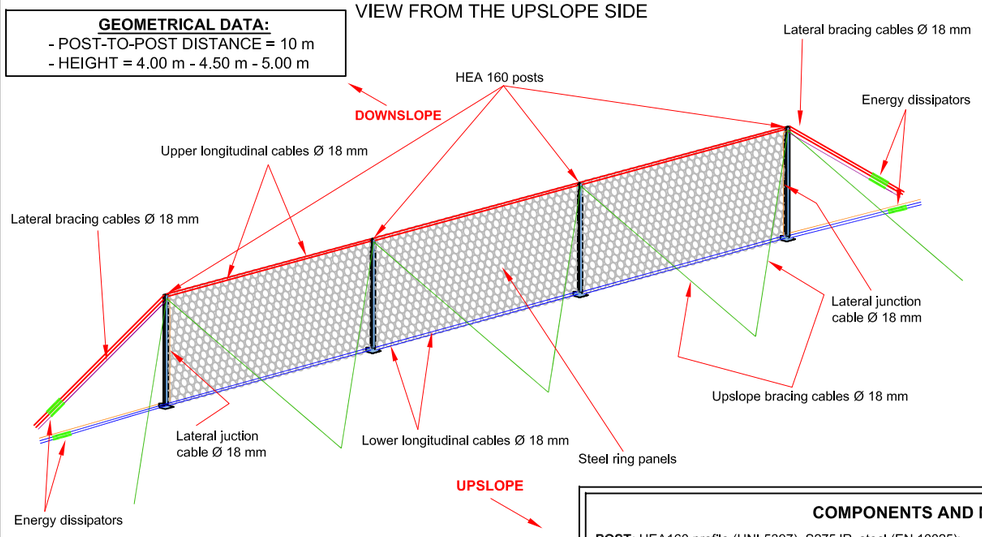
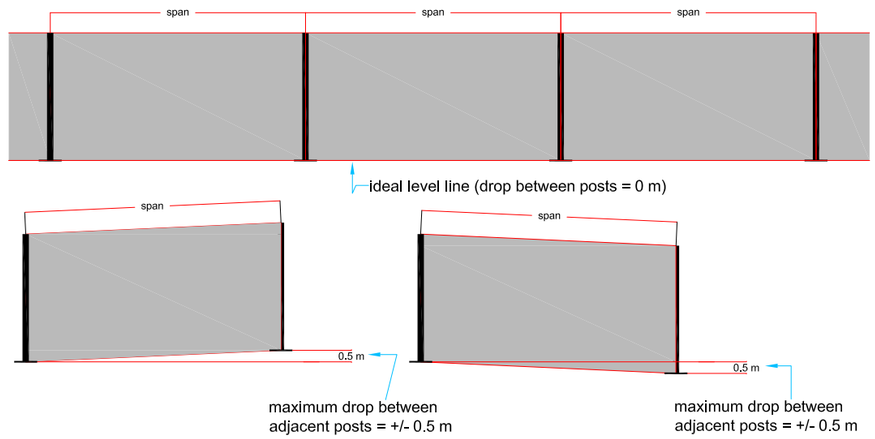
PERSPECTIVE VIEW
VIEW FROM THE UPSLOPE SIDE

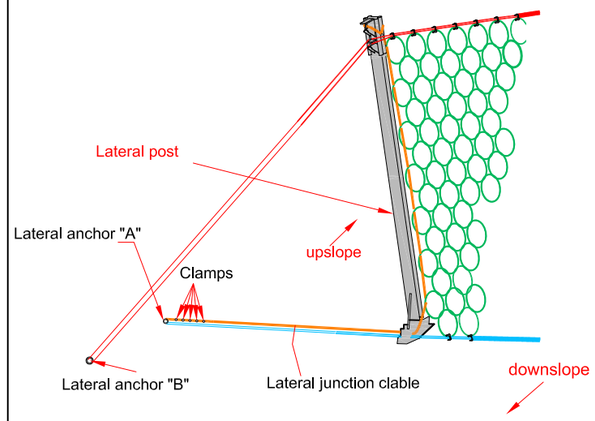
GEOMETRICAL DATA:
- POST-TO-POST DISTANCE = 10 m
- HEIGHT = 4.00 m - 4.50 m - 5.00 m



MAXIMUN POST DROP
FRONT VIEW



LATERAL JUNCTION CABLE
VIEW FROM THE DOWNSLOPE SIDE



COMPONENTS AND MATERIALS

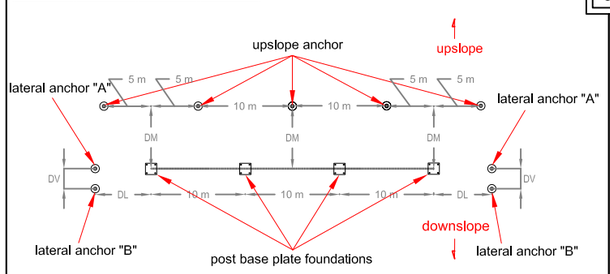
POST: HEA160 profile (UNI 5397), S275JR steel (EN 10025);
BASE PLATE: dimensions 400x550 mm, thickness 15 mm, S235JR steel (EN 10025);
STEEL CABLES: Ø 18 mm (6X19+WSC) (EN 12385-4), wire tensile strength 1770 MPa;
STEEL RING PANELS: ring net panel type ASM 3-4-350/200, heavily galvanized wire Ø 3.00 mm (EN 10244-2, Class A), wire tensile strength ≥ 1380 MPa;
ADDITIONAL NET LAYER: hexagonal double twisted wire mesh, mesh type 8x10, wire Ø 2.20 mm (EN 10223-3);
SHACKLES: U shape M16, S235JR steel galvanized (EN 10025);
CLAMPS: for steel cables Ø 18 mm (EN 13411-5).

Note: the reported values refers to the standard barrier installation, and they are mainly intended to obtain an easy and quick assembling. Anyway, higher drops can be allowed without reducing the barrier functionality.

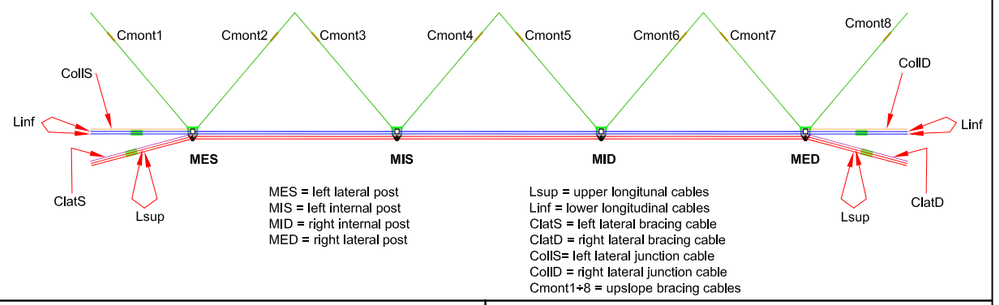
Note: DM, DV e DL values vary on the post height H, as shown in the following table.
Per further details refer to the "Installation manual".

H (m)	DM (m)	DV (m)	DL (m)
4.0	4.0	1.5	4.5
4.5	4.5	1.5	4.5
5.0	5.0	1.5	5.0

FOUNDATION LAYOUT
PLAN VIEW



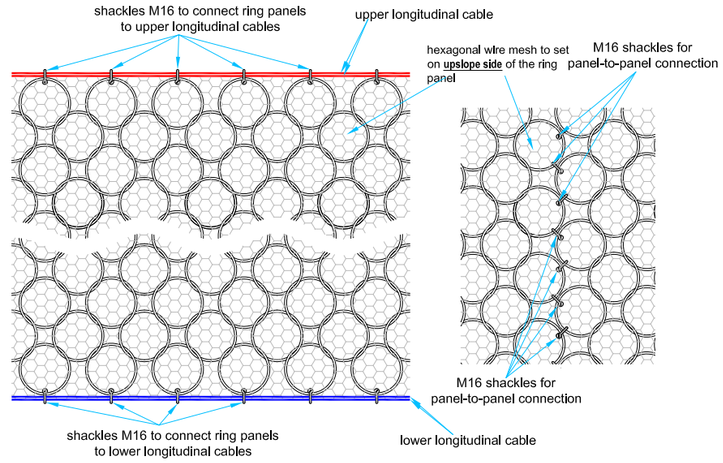
SCHEMATIC 3 SPAN BARRIER PLAN VIEW



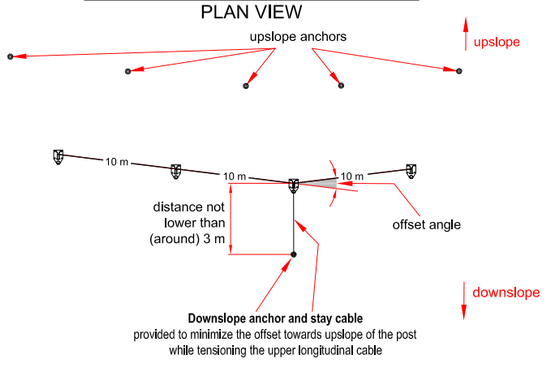
MES = left lateral post
MIS = left internal post
MID = right internal post
MED = right lateral post

Lsup = upper longitunal cables
Linf = lower longitudinal cables
ClatS = left lateral bracing cable
ClatD = right lateral bracing cable
ColIS= left lateral junction cable
ColID = right lateral junction cable
Cmont1÷8 = upslope bracing cables

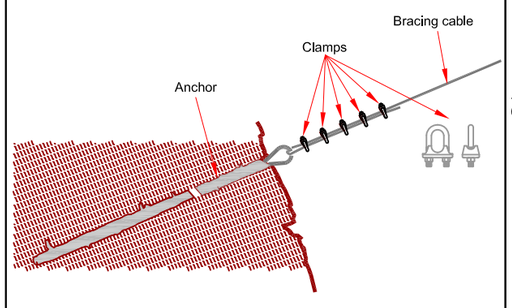
PANEL TO PANEL CONNECTION
FRONT VIEW and DETAIL



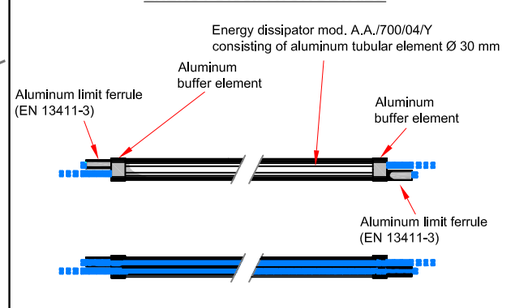
FOUNDATION LAYOUT: ALIGNMENT OFFSET
PLAN VIEW



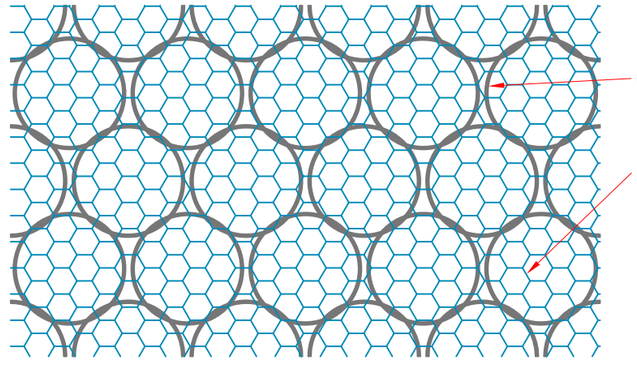
CONNECTION BETWEEN ANCHOR AND BRACING ROPE



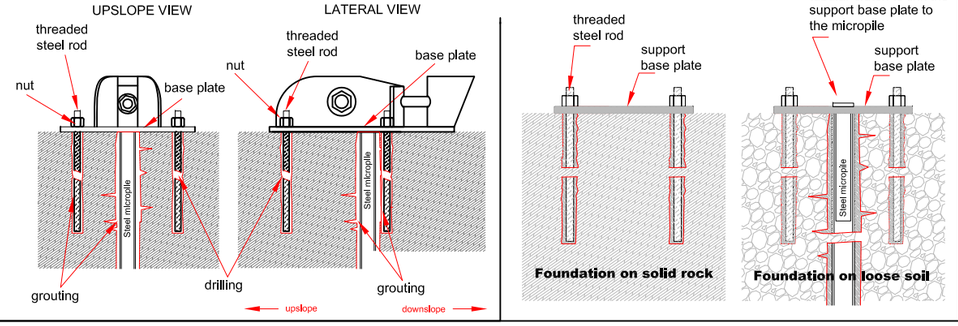
ENERGY DISSIPATOR DETAILS



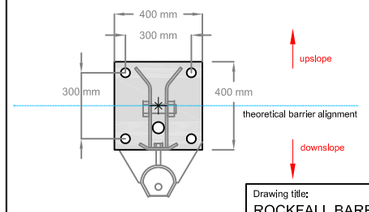
MAIN INTERCEPTION PANEL AND ADDITIONAL NET LAYER DETAILS



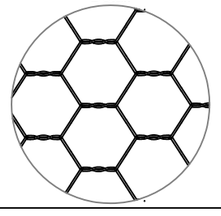
FOUNDATION FOR BASE PLATE



BASE PLATE LAYOUT
PLAN VIEW



ADDITIONAL NET LAYER
Detail



Drawing title:
ROCKFALL BARRIER- RMC 200 A - Typical Drawings

Rev. and date: 02 del 4 / 9 / 2013
Scale:
Project N°:
File name: Typical Drawings RMC200 A-Eng.dwg
Designed: AG/SC
Drawn: AG/SC
Approved: FF
Client:
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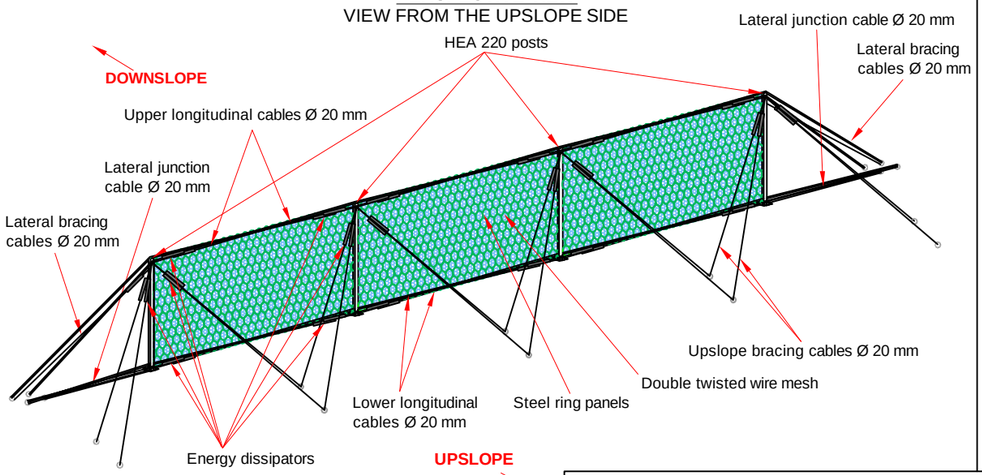
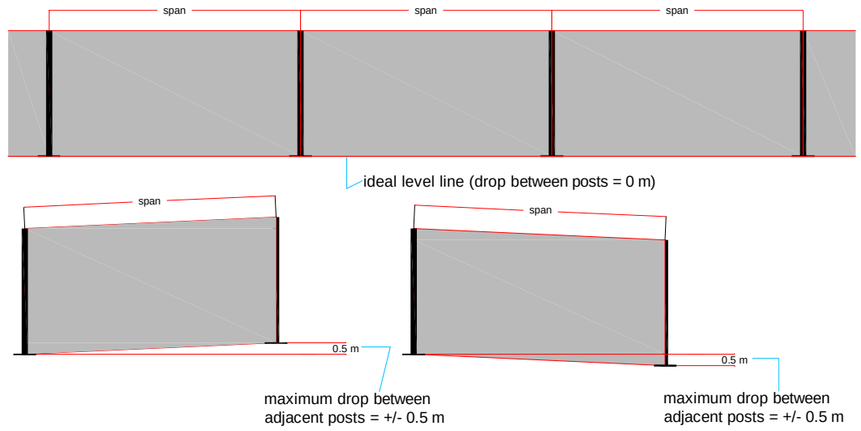
PERSPECTIVE VIEW
VIEW FROM THE UPSLOPE SIDE



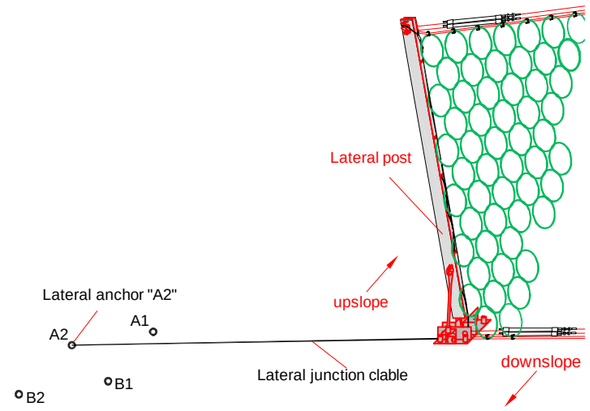
GEOMETRICAL DATA:
- POST-TO-POST DISTANCE = 10 m
- HEIGHT = 6.00 m - 6.50 m - 7.00 m

MAXIMUN POSTS DROP
FRONT VIEW



Note: the reported values refers to the standard barrier installation, and they are mainly intended to obtain an easy and quick assembling. Anyway, higher drops can be allowed without reducing the barrier functionality.

LATERAL JUNCTION CABLE
VIEW FROM THE DOWNSLOPE SIDE



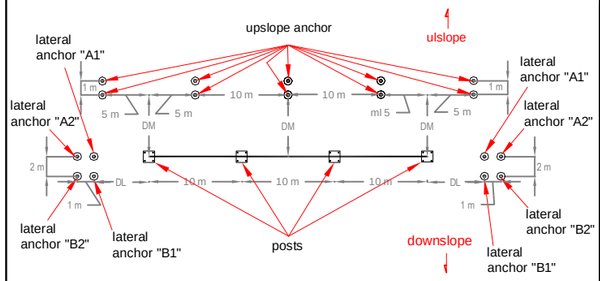
COMPONENTS AND MATERIALS

POST: HEA220 profile (UNI 5397), S275JR steel (EN 10025);
BASE PLATE: dimensions 400x450 mm, thickness 15 mm, S235JR steel (EN 10025);
STEEL CABLES: Ø 20 mm (6X36+IWRC) (EN 12385-4), wire tensile strength 1770 MPa;
STEEL RING PANELS: ring net panel type ASM 3-4-420/500, heavily galvanized wire Ø 3.00 mm (EN 10244-2, Class A), wire tensile strength Ó1380 MPa;
ADDITIONAL NET LAYER: hexagonal double twisted wire mesh, mesh type 8x10, wire Ø 3.00 mm (EN 10223-3);
SHACKLES: U shape M20, S275JR steel galvanized (EN 10025);
CLAMPS: for steel cables Ø 20 mm (EN 13411-5).

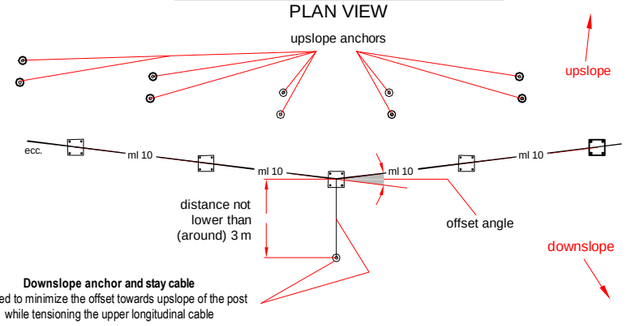
Note: DM, DV e DL values vary on the post height H,
as shown in the following table.
For further details please refer to the "Installation manual".

H (m)	DM (m)	DL (m)
6.0	5.0	5.0
6.5	5.5	5.5
7.0	6.0	6.0

FOUNDATION LAYOUT
PLAN VIEW

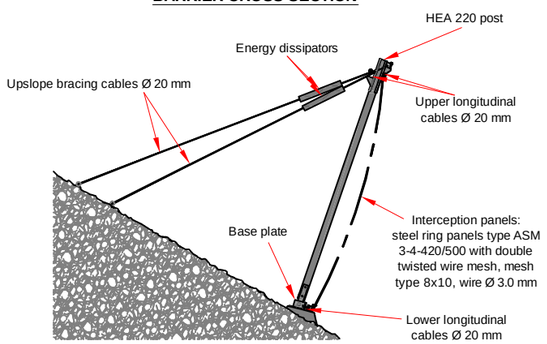


FOUNDATION LAYOUT: ALIGNMENT OFFSET
PLAN VIEW

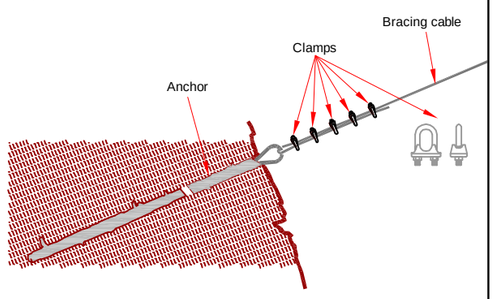


Downslope anchor and stay cable
provided to minimize the offset towards upslope of the post while tensioning the upper longitudinal cable

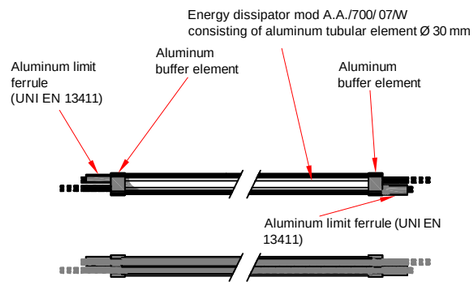
BARRIER CROSS SECTION



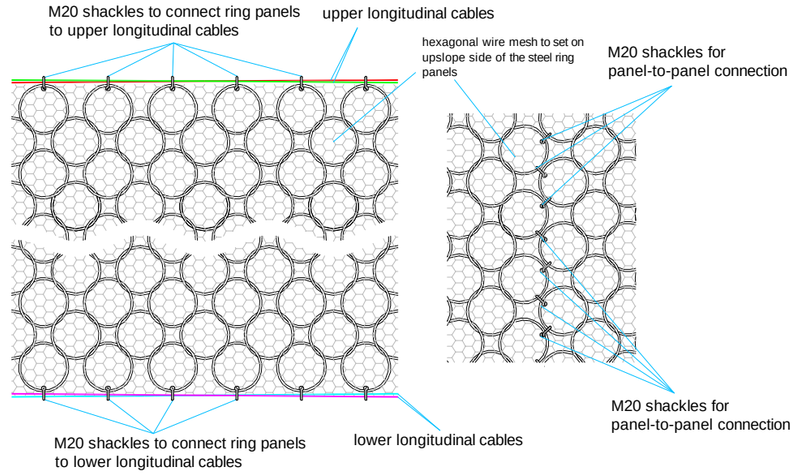
CONNECTION BETWEEN ANCHOR AND BRACING ROPE



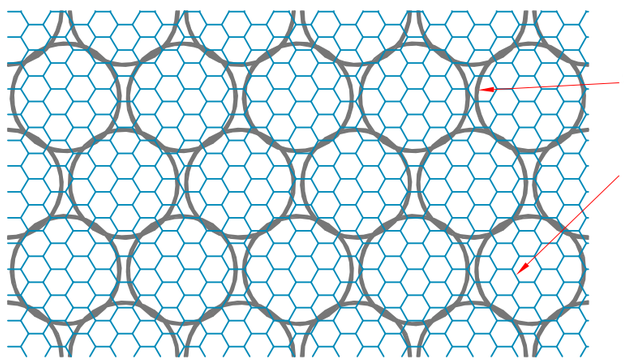
ENERGY DISSIPATOR DETAILS



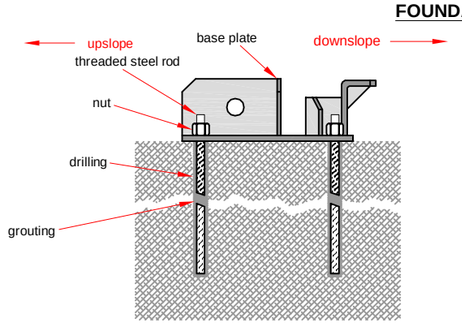
PANEL TO PANEL CONNECTION AND PANEL TO LONGITUDINAL CABLES CONNECTION
FRONT VIEW

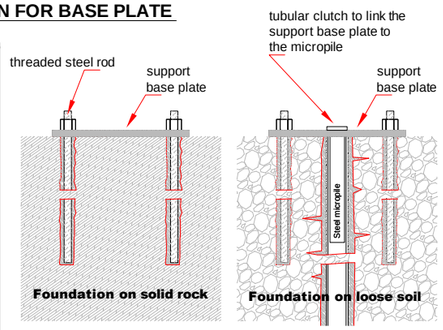


MAIN INTERCEPTION PANEL AND ADDITIONAL NET LAYER DETAILS

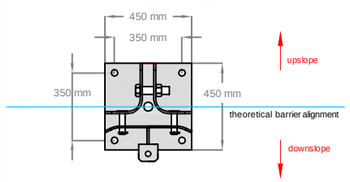


FOUNDATION FOR BASE PLATE

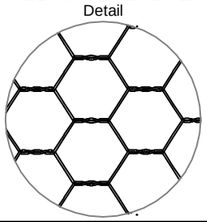




BASE PLATE LAYOUT
PLAN VIEW



ADDITIONAL NET LAYER
Detail



Drawing title: ROCKFALL BARRIER- RMC 500 A - Typical Drawings	Rev. and date: 00 - 20 / 01 / 2011	Designed: AG/SC	Client:
	Scale: / Project N°:	Drawn: AG/SC	NOT FOR CONSTRUCTION
	File name: Typical Drawings RMC500 A-Eng.dwg	Approved: FF	

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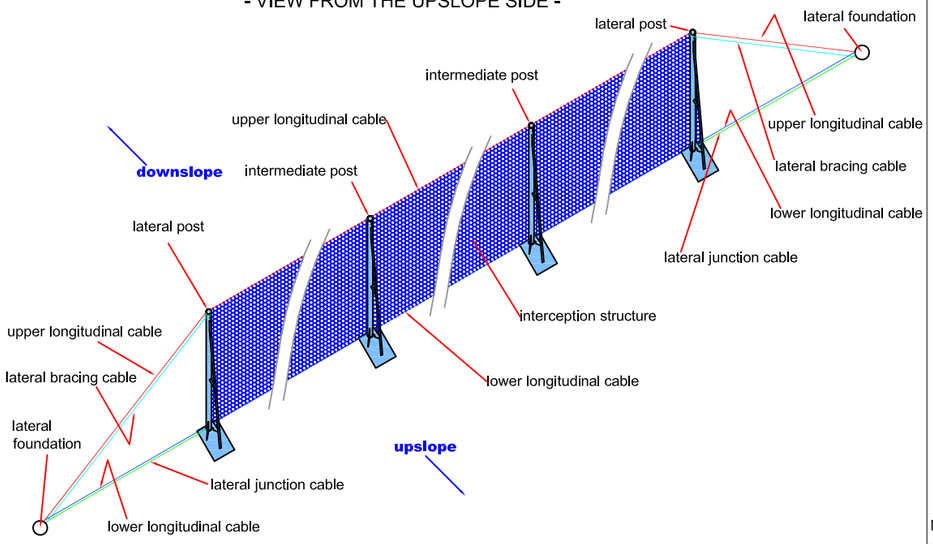
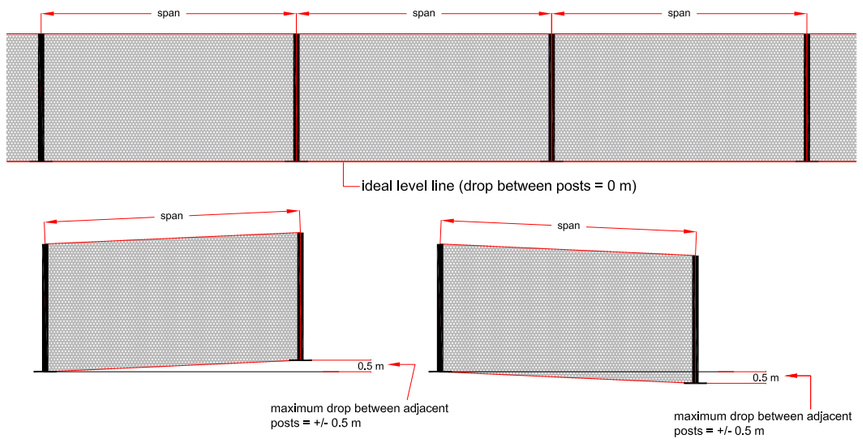
PERSPECTIVE VIEW
- VIEW FROM THE UPSLOPE SIDE -

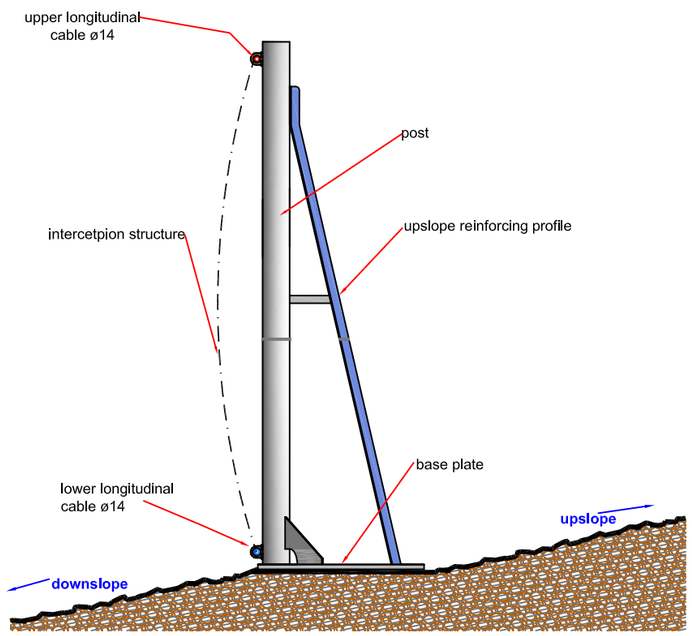


MAXIMUM POST DROP
- FRONT VIEW -



Note: the reported values refers to the standard barrier installation, and they are mainly intended to obtain an easy and quick assembling. Anyway, please contact the manufacturer in case of higher drops.

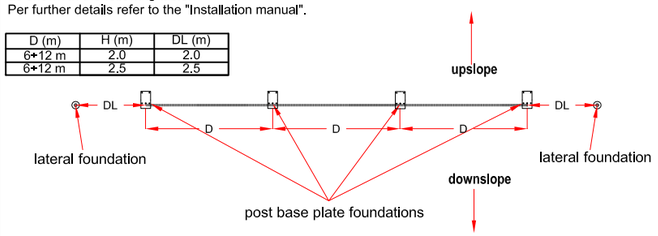
ROCKFALL BARRIER
- CROSS SECTION -



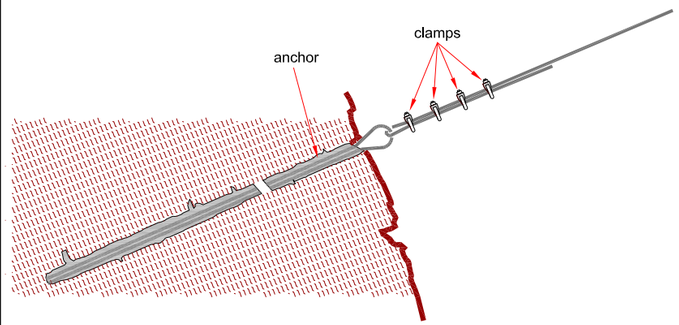
FOUNDATION LAYOUT
- PLAN VIEW -

Note: DM, DV e DL values vary on the post height H, as shown in the following table.
Per further details refer to the "Installation manual".

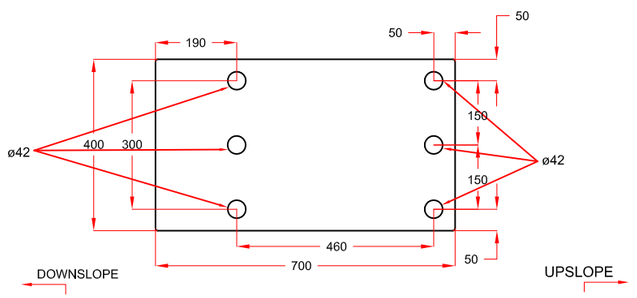
D (m)	H (m)	DL (m)
6+12 m	2.0	2.0
6+12 m	2.5	2.5



CONNECTION BETWEEN ANCHOR AND BRACING CABLE
- DETAILS -



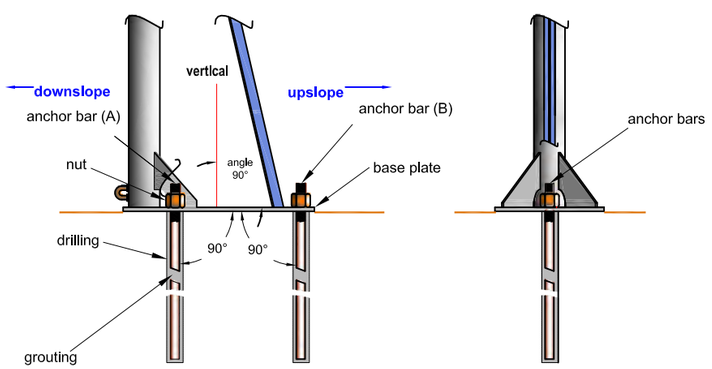
BASE PLATE LAYOUT
- PLAN VIEW -

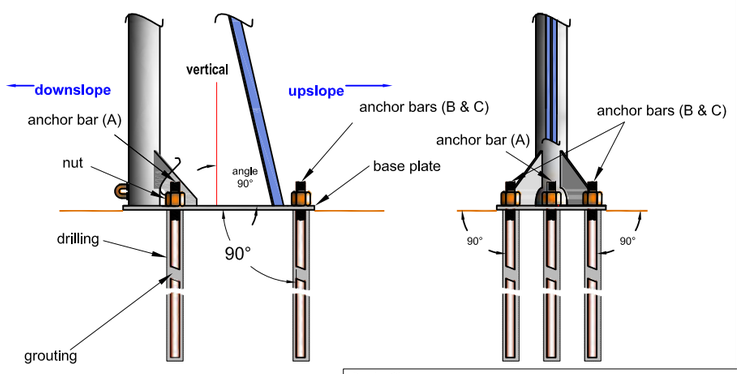


COMPONENTS AND MATERIALS

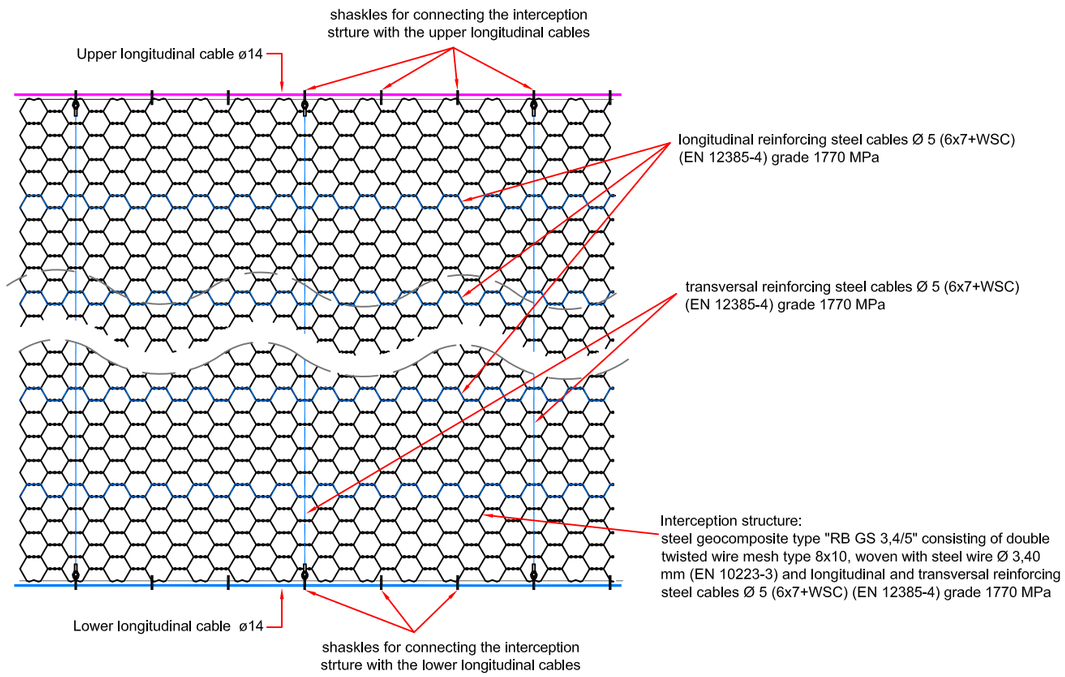
POST: steel tubular post Ø 114.3 mm, thickness 4 mm, S235JRH steel (EN 10219-1);
BASE PLATE: dimensions 700x400 mm, thickness 15 mm, welded to the tubular profile, S235JR steel (EN 10025);
LONGITUDINAL CABLES: Ø 14 mm (6x19+WSC) (EN 12385-4), wire tensile strength 1770 MPa;
LATERAL BRACING CABLES AND LATERAL JUNCTION CABLES : Ø 12 mm (6x19+WSC) (EN 12385-4), wire tensile strength 1770 MPa;
INTERCEPTION STRUCTURE: steel geocomposite type "RB GS 3,4/5" consisting pf double twisted wire mesh type 8x10, woven with steel wire Ø 3,40 mm (EN 10223-3) and reinforcing steel cables Ø 5 (6x7+WSC) (EN 12385-4) grade 1770 MPa;
CLAMPS: for steel cables Ø 12 and Ø 14 (EN 13411-5).

FOUNDATIONS FOR BASE PLATE
- CROSS SECTIONS -





INTERCEPTION STRCTURE
- FRONT VIEW -



Drawing title:
ROCKFALL BARRIER- RB 100 UAF - Typical drawings

Rev. and date:
01 del 11 / 02/ 2016

Scale:

Project N°:

File name:
Typical drawings RB 100 UAF-eng.dwg

Designed:
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Drawn:
SC

Approved:
FF

Client:

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