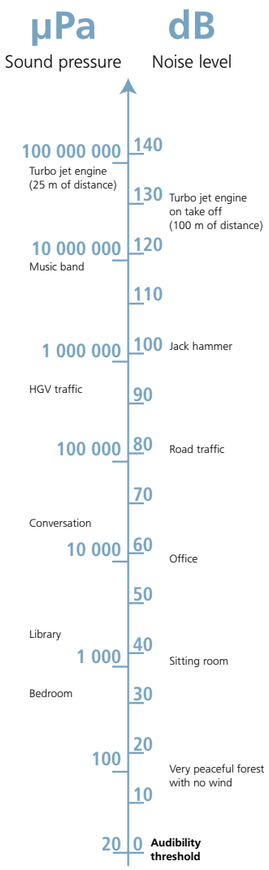
Reflecting screens

Compared to all other sound barrier systems consuming CO2 during their production process, the ecologic balance of a timber panel which does store CO2 is significantly more eco-friendly. Not to mention that all wooden pressure treated components are 100% recyclable, an additional contribution to a better quality of life.



Wood pressure treated with arsenic and chromium preservatives

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61160 Villedieu-lès-Bailleul
FRANCE

Tel: +33 2 33 36 11 02
Fax: +33 2 33 39 28 75

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Photos TERTU - Maquette J. SOURD - IMPRIMERIE CAEN REPRO 02 31 95 27 66 - Mars 2013

Reflecting screens

Efficient and Eco friendly

Road noises reduced
to improve people well-being

- The warmth of the wood material is combined with acoustics performance tested according to European standards
- Natural storage of CO^2
- Low size compared to other systems
- The lightness/performance ratio does considerably reduce the costs of structures and foundations
- Very easy to install
- CE marked

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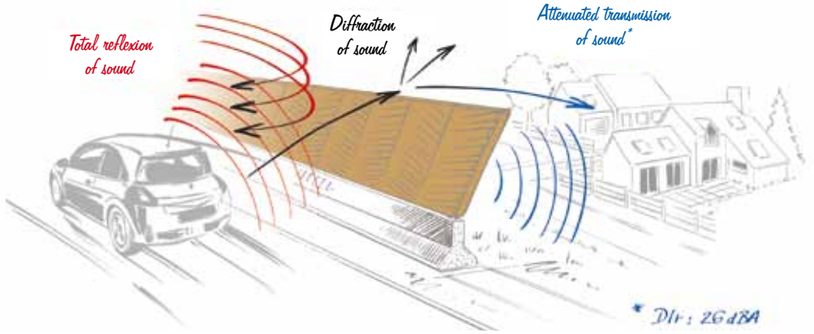
Reflecting screens

All TERTU wooden screens have been tested according to standard EN 1793 by the Laboratoire Européen d'Essais Acoustiques du CSTB (European laboratory for acoustic testing), France.
In order to guarantee on-site the compliance with the performance achieved in the laboratory, it is essential to follow the assembly procedure described in the manual provided with the goods.

Member of the AREBOIS professional association.

▶ Technical description

The reflective screens come in standard modules of 4.00 m in length for a height of 1.00 m. These modules are stacked to obtain heights of 2.00 m, 3.00 m and 4.00 m. The panels are covered with 1/2 logs, diameter 120 mm positioned alternately at 45° right / left. They slide into HEA type galvanized steel posts, the size of which depends on the height of the panel and the conditions of snow and wind in the considered region.

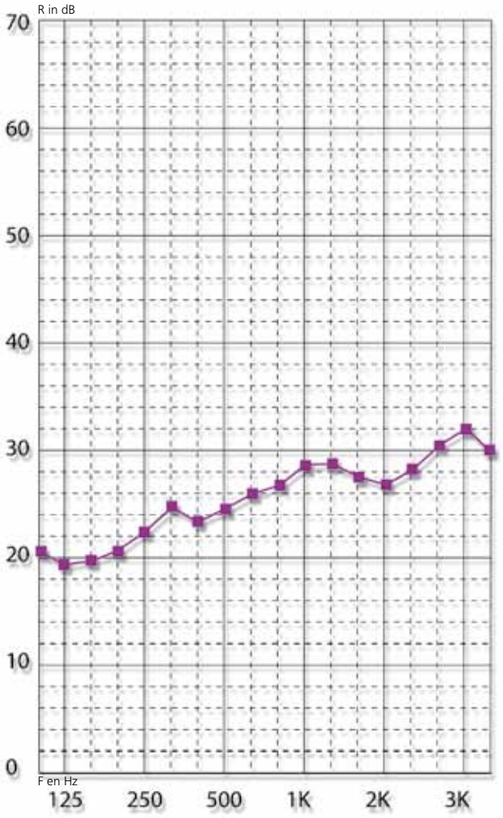


Reflective screens tested according to standard EN 1793

Back view

Front view

▶ Insulation against aerial noise DL_R



f	R
100	20,5
125	19,4
160	19,8
200	20,6
250	22,4
315	24,8
400	23,4
500	24,6
630	26,0
800	26,8
1000	28,6
1250	28,7
1600	27,6
2000	26,9
2500	28,3
3150	30,6
4000	32,1
5000	30,2
Hz	**dB**

DL_R = 26 dBA*

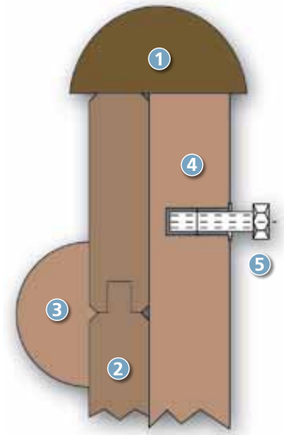
Category DL_R in dB

B0	B1	B2	B3
ND	<15	15 à 24	>24

Classification **B3**

*These results have been obtained in laboratory. They are intrinsic data relative to the acoustic panel itself and do not provide its efficiency level that depends on the panel height, the distance from the noise, etc. The efficiency level of the acoustic panel on site has to be determined by an acoustic study which will specify the height and the lay-out of the panels for a required result.

▶ Block diagram

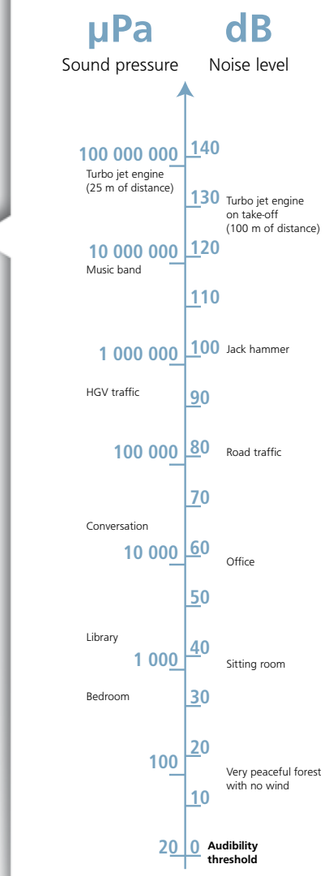


1. Ridge piece: 1/2 round log, diameter 160 mm
2. Tongue and groove board
3. Decoration: 1/2 round log, diameter 120 mm
4. Stiffener
5. Clamping screw

Absorbing screen

Compared to all other sound barrier systems consuming CO2 during their production process, the ecologic balance of a timber panel which does store CO2 is significantly more eco-friendly.

Not to mention that all wooden pressure treated components are 100% recyclable, an additional contribution to a better quality of life



Wood pressure treated with arsenic and chromium preservatives

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61160 Villedieu-lès-Bailleul
FRANCE

Tel: +33 2 33 36 11 02
Fax: +33 2 33 39 28 75

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Absorbing screens

Efficient and Eco friendly

Road noises reduced to improve people well-being

- The warmth of the wood material is combined with acoustics performance tested according to European standards
- Natural storage of CO^2
- Low size compared to other systems
- The lightness/performance ratio does considerably reduce the costs of structures and foundations
- Very easy to install
- CE marked
- Environmental Product Declaration sheet (EPD's) available

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Absorbing screen

All TERTU wooden screens have been tested according to standard EN 1793 by the Laboratoire Européen d'Essais Acoustiques du CSTB (European laboratory for acoustic testing), France. In order to guarantee on-site the compliance with the performance achieved in the laboratory, it is essential to follow the assembly procedure described in the manual provided with the goods.

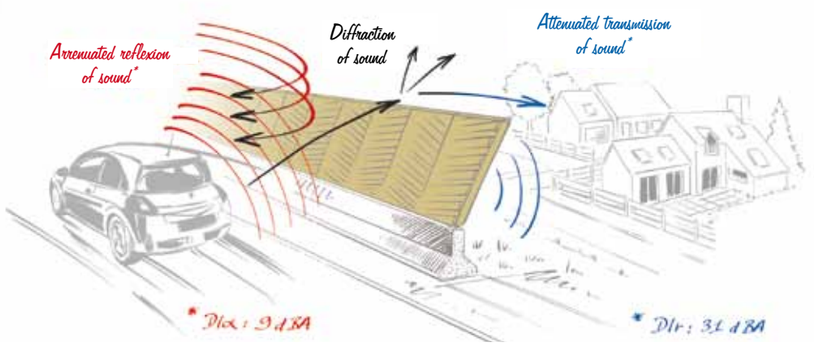
Member of the AREBOIS professional association.

Acoustic screens present Environmental Product Declaration (EPD's) established according to the French standard NF EN 15804

▶ Technical description

Absorbing barriers come in standard modules of 4.00 m in length for a height of 1.00 m. These modules are stacked to obtain heights of 2.00 m, 3.00 m and 4.00 m. The panels are covered in open latticework on the traffic side and positioned alternately at 45° right/left, and with planed boards arranged vertically on the resident side.

The panels slide into HEA-type galvanized steel posts, the size of which depends on the height of the panel and the «snow-wind" properties of the considered region.

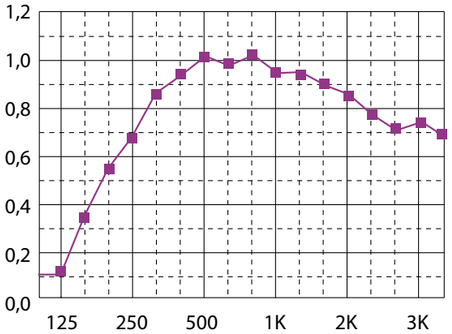


Absorbing screens tested according to EN 1793

Back view

Front view

▶ Acoustic absorption DLα



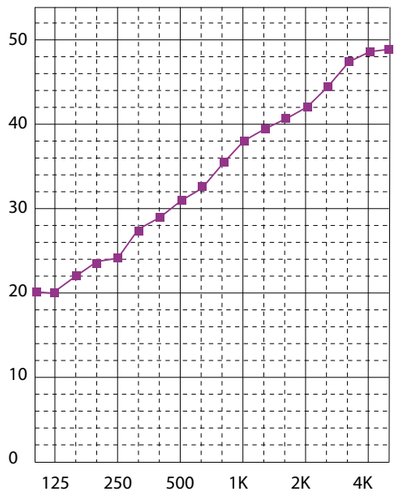
f	α_s
100	0,11
125	0,12
160	0,34
200	0,54
250	0,67
315	0,85
400	0,94
500	1,01
630	0,98
800	1,02
1000	0,95
1250	0,94
1600	0,90
2000	0,85
2500	0,77
3150	0,71
4000	0,74
5000	0,69
Hz	

A4	A3	A2	A1	A0
>12	8-11	4-7	<4	non testé

DLα = 9 dBA*
Classification DL ALPHA

Category **A3**

▶ Insulation against aerial noises DLR



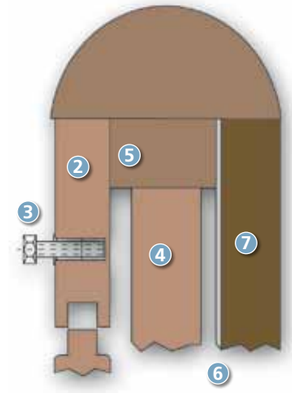
f	R
100	20,1
125	20,0
160	21,8
200	23,4
250	24,1
315	27,4
400	29,2
500	31,0
630	32,4
800	35,5
1000	38,1
1250	39,4
1600	40,6
2000	42,0
2500	44,8
3150	47,4
4000	48,7
5000	48,9
Hz	**dB**

DLR = 31 dBA*
Classification DLR in dB

B0	B1	B2	B3
>12	8-11	4-7	<4

Category **B3**

▶ Block diagram

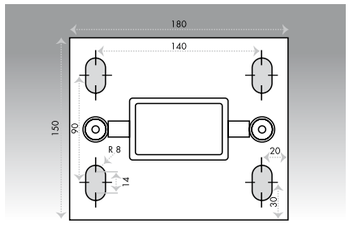


1. Ridge piece: 1/2 round log, Ø 160 mm
2. Tongue and groove board 40 x 200 mm
3. Clamping screw
4. Rock wool panel (500 mm, density 70 kg/m)
5. Air gap: 15 mm
6. Plastic netting for protection against birds and rodents
7. Cladding: trapezoid lathes

*These results have been obtained in laboratory. They are intrinsic data relative to the acoustic panel itself and do not provide its efficiency level that depends on the panel height, the distance from the noise, etc. The efficiency level of the acoustic panel on site has to be determined by an acoustic study which will specify the height and the lay-out of the panels for a required result.

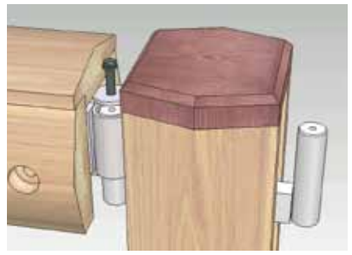
Pedestrian parapets

▶ Steel base details



Post steel base

▶ Locking system



"Panel to post" locking system

▶ Static loads

Pedestrian parapet on bridges - Test reports available upon request.

T100	T140	T100H
1 Uniform, normal & horizontal Tested q1 = 2740 N per M (XP98405: max 2500 N per M)	1 Uniform, normal & horizontal Tested q1 = 2140 N per M (XP98405: max 2500 N per M)	1 Uniform, normal & horizontal Tested q1 = 2400 N per M (XP98405: max 2500 N per M)
2 q2 uniform & vertical Tested q2 = 1000 N per M (XP98405: 1000 N per M)	2 q2 uniform & vertical Tested q2 = 1000 N per M (XP98405: 1000 N per M)	2 q2 uniform & vertical Tested q2 = 1000 N per M (XP98405: 1000 N per M)
3 q3 focused on any non vertical parapet component Tested q3 = 1000 N (XP98405: 1000 N per M)	3 q3 focused on any non vertical parapet component Tested q3 = 1000 N (XP98405: 1000 N per M)	3 q3 focused on any non vertical parapet component Tested q3 = 1000 N (XP98405: 1000 N per M)
Dynamic loads 4 Tested with: 50 Kg bag/alpha < 65° 0.5 Kg marble: L > 1.75 h Acceptable pavement width: 4.40 m and more	**Dynamic loads** 4 Tested with: 50 Kg bag/alpha < 65° 0.5 Kg marble: L > 1.75 h Acceptable pavement width: 3.28 m and more	**Dynamic loads** 4 Tested with: 50 Kg bag/alpha < 65° 0.5 Kg marble: L > 1.75 h Acceptable pavement width: 3.80 m and more

Important recommendations for installation:

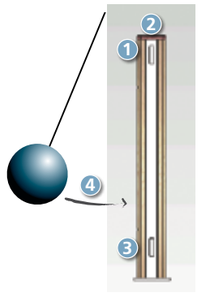
When testing the system, each post has been anchored with 4 mechanical studs Ø 12-120 on concrete base of a compressive strength of 25 Mpa.

These specifications shall be considered as a minimum for the installation.

▶ Standards:

Tested according to the French standards XP P98-405.

Designed according to NF 01-012



Pressure treated wood with chromium and arsenic free preservatives.

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61160 Villedieu-lès-Bailleul
FRANCE

Tel: +33 2 33 36 11 02
Fax: +33 2 33 39 28 75

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T100 - T140 - T100H Pedestrian parapets

Tested pedestrian parapets

The mixed wood & steel solution

- ▶ Suitable product for curves and slopes
- ▶ Convenient solution for terminals ends
- ▶ Galvanized steel parts
- ▶ "Quick'n Easy" installation process
- ▶ Tested according to the French standard XP98-405

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T100 Pedestrian parapet

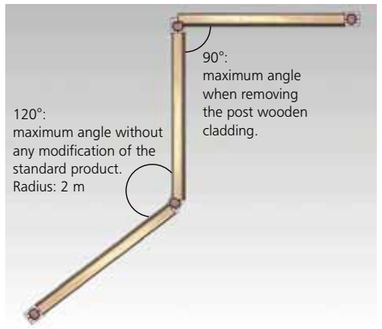
▶ Technical description

Galvanized steel post to be bolted, with wooden cladding.
Wooden panel with vertical barrels.
Connections “panel-post” with galvanized steel parts.
“Panel to post” locking system.

0.10 m ground clearance
2.00 m post spacing
0.10 m barrel spacing
1.03 m above ground height

Acceptable pavement width: 4.40 m and more

▶ Angles



15%: Maximum gradient
without any modification of the standard product.

T140 Pedestrian parapet

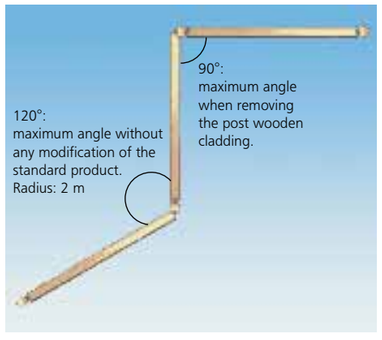
▶ Technical description

Galvanized steel post to be bolted, with wooden cladding.
Wooden panel with vertical barrels and handrail.
Connections “panel-post” with galvanized steel parts.
“Panel to post” locking system.

2.00 m post spacing
0.10 m ground clearance
0.10 m barrel spacing
1.40 m above ground height with barrels panel above ground height at 1.10 m.

Acceptable pavement width: 3.28 m and more

▶ Angles



15%: Maximum gradient
without any modification of the standard product.

T100H Pedestrian parapet

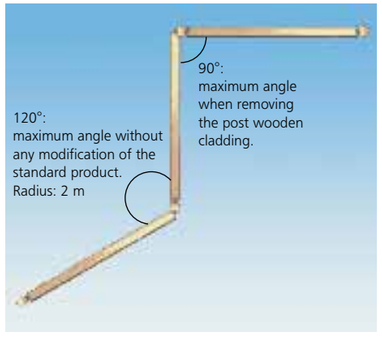
▶ Technical description

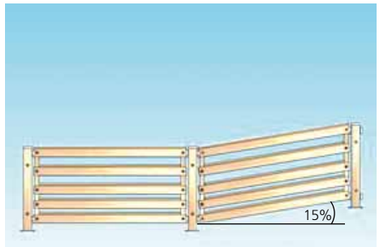
Galvanized steel post on steel base to be bolted, with wooden cladding. Wooden panel with horizontal beams. Connections “panel-post” with galvanized steel parts.

0.10 m ground clearance
2.00m post spacing
Beam-spacing: 45 mm between the 3 lower beams and 95 mm between the 2 upper beams.
1.03 m above ground height

Acceptable pavement width: 3.80 m and more

▶ Angles





15%: Maximum gradient
without any modification of the standard product.

Laying out roads and car parks

▶ Removable lane spacers

Tertu 28-28
Two round logs, Ø 28 cm, length 3.00 m
Block wheel: round log, Ø 14 cm
Mounted on galvanized steel legs
Height above the ground 0.56 m
Galvanized steel connections
Ref: AP 106 - Low

Tertu 28-16
Handrail: round log, Ø 16 cm,
length 2.90 m - Basis: round log, Ø 28 cm,
length: 3.00 m - Block wheels: round log,
Ø 14cm - Mounted on galvanized steel legs
height above the ground 0.75 m
Galvanized steel connections
Ref: AP 107 - High

Tertu Croisillon
Handrail: round log, Ø 16 cm
Basis: round log, Ø 28 cm
Block wheels: round log, Ø 14 cm,
Mounted on galvanized steel legs
Length 3.00 m, width 0.54 m, height 0.75 m
Ref : AP 108

Tertu 28-28 with handrail
Handrail: round log, Ø 16 cm,
Base: 2 round logs, Ø 28 cm,
Block wheel: round log, Ø 14 cm,
Mounted on galvanized steel legs
Length 3.00 m, width 0.54 m, height 0.75 m
Galvanized steel connections
Ref: AP 109

▶ Standard boundary

Ø 14 cm, length 1.50 m
Rethioflex: green, red or white

- *Fixed: Ref: AP 105*
- *Removable with sleeve: Ref: AP 104*

▶ Boundary diameter 28

Round log diameter 28 cm, length 1.40 m,
above ground 0.95 m
Galvanized cap and binding

- *Fixed: Ref: AP 105 G*
- *Removable with steel socket: Ref: AP 105 H*

▶ Safety 75 - Safety 110

C100 Steel post, 1.50 m or 2.00 m,
wooden spacer diameter 18 cm in 0.75 m
or 1.10 m, rear wooden cover
Height above ground 0.75 m or 1.10 m
Ref: AP 105 S

The wooden ecological balance is clearly favorable compared to other materials used for the same purpose with equivalent mechanical properties.

Pressure-treated wood
Chromium and arsenic-free preservatives

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61160 Villedieu-lès-Bailleul
FRANCE
Tel: +33 2 33 36 11 02
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Laying out roads and car parks

Directing and Securing

Controlling and orienting the flow of vehicles whilst protecting pedestrians.
Isolating the flow of pedestrians from vehicles and ensuring the safety of both

- **Efficient solutions**
- **The frequent use of mixed wood & steel posts in our products makes the adjustment and replacement easy**
- **In most cases, our solutions can be used in any side of the road with maximum safety**

tertu EQUIPEMENTS
routes et sites autour du monde

Laying out roads and car parks

Even after being treated, wood remains a living material which works with variations in temperature and humidity.

Cracks may appear; this is a natural phenomenon which does not affect the quality of the product. They should be accepted as inherent to the characteristics of the material.

Swinging gate Ø 28

Bar Ø 14 cm - Post Ø 28 cm,
Galvanized cap
Height of rail above ground: 1.10 m
Passage up to 3.50 m
Sleeve on steel base
Option: reception post with sleeve or reception post to seal
Ref: BV 100

Mixed swinging gate

Round beam 12 cm - Round pivot Ø 14 cm
Assembly with sleeves
Round support post 16cm
Reception post round Ø 14 cm
Passage up to 4.00 m
Height of rail above ground: 1.10 m
Anti-jimmying system
Ref: BV 108

Sliding safety barrier

Log Ø 18 cm in 4.00 m with mounted steel U section (guardrail component)
Posts : 6 C100 posts in 2.00 m, 6 wooden spacers Ø 18 cm in 0.85 m, 6 wooden covers
Height of rail above ground : 0.73m
Width of passage: 3.80 m
Locking system by captive screw
Ref: BV 105

Standard sliding barrier

Bar Ø 12 cm
Post Ø 14 cm,
Height of rail above ground: 1.10 m
Passage up to 5.00 m
Options: reception posts (open position)

Ref: BV 103

Safety gauge

Two mixed wood & steel posts Ø 18 cm to be sealed.
One horizontal round rail Ø 14 cm reinforced with a steel tube, opening from the middle of the tube
For a minimum height of 2.25 m,
Maximum width 4.30 m.
For a maximum height of 3.00 m,
Maximum width 5.80 m.
Ref: AP 103 S

Car park railing

Round beam Ø 16 cm, length 4.00 m
Connection fishplate and hardware
Galvanized steel post + wooden spacer
Steel post C 100, length 1.50 m, wooden spacer, length 0.75 m
Ref: AP 101 A – Spacer without C100
Ref: AG 103 – Post Wooden Cover + Anti Vandalism Fastening

Lavandou railing

Round beam, Ø 14 cm, length 2.50 m or Ø 16 cm, length 4.00 m Connection fishplate. For Lavandou Ø 16 cm: galvanized steel post C100 and wooden spacer height above the ground 0.96m. For Lavandou, Ø 14cm or 16cm: round wooden post, length 1.50m above the ground 0.94m or 0.96m.
Ref: CV 103-1, CV 103-2, CV 103-4, CV 103-5,: CV 103-6
Option: Réf : AG 103 - C100 wooden cladding + fixing

Pays d'Auge railing

Round beam, Ø 8 cm, length 2.00 m
Square post 120 mm x 120 mm, 1.60 m long, planed
Edges and heads beveled and pre drilled 2 m post spacing, beam height above the ground: 1.00 m to 1.10 m
Ref: CV 200-1 - 1 rail
Ref: CV 200-2 - 2 rails
Ref: CV 200-3 - 1 low rail - 0.50 m height above the ground

Aquitaine railing

Round beam, Ø 8 cm, length 2.00 m, assembled in oblong posts 0.14m x 0.14m
Length 1.60m, planed, rounded edges
2 m post spacing, beam height above the ground: 1.00 m to 1.10 m
Ref: CV 200-1 - 1 rail
Ref: CV 200-2 - 2 rails
Ref: CV 200-3 - 1 low rail - 0.50 m height above the ground

Fencing

Planed posts 120 x 120 mm, length: 1.60 m
Panel of barrels: length 2.00 m, height: 0.93m,
10 barrels 80 mmx 30 mm, planed, to be connected on the posts
One post every 2.00 m, height above the ground barrels 1.03m, height above the ground post 1.03m, ground clearance 0.10 m
Ref: RP 500

Mixed wood & steel products are available with wooden cladding so that the wooden finish be visible from both sides, front and back.

All products for «planting» are available with variants:

«wood & steel posts»

or

"Steel bases»
for all types of ground.