



Concrete Safety Barriers



Road Safety. Our Way.

Abesca
Associazione Barriere Elementi Sicurezza Cemento Armato

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Who we are

A.B.E.S.C.A.

Associazione, Barriere, Elementi, Sicurezza, Cemento, Armato

is an international entity known for having introduced the use of New Jersey profile reinforced concrete road safety barriers and other innovative profiles.

Abesca was founded in 2002 by the leaders manufacturers of Italian prefabrication concrete, and in the last twenty years is driving the passive safety standards for road users through the use of highly technological and reliable products in terms of safety, maintenance and costs.

Having consolidated its leadership in Italy in the field of road safety, **Abesca** has developed over the years new partnerships with prefabrication companies abroad, with the aim of spreading the concrete road safety barriers and raising the safety standards for roads all around the world. Up to date **Abesca** road safety barriers are installed on over 10,000 km of roads around the world.

All the Italian and foreign partners cover the entire production of concrete barriers with different profiles and they all operate with strong quality standards and full commitment on environmental sustainability.



All **Abesca** products (i. e. central reserve, side edge, bridge edge, for fixed points and tunnels) have been verified by official crash tests carried out by accredited laboratories (**ILAC/MRA**) according to the European standard **EN 1317/1-2**, and are fully CE certified according to **EN 1317-5** standard.

The **main target** of the Association is the continuous improvement of the road safety through investment on research and development of new models and patterns of barriers and the use of innovative materials and technologies at the service of Smart Roads.

Road Safety barriers

The safe roadway is the one that does not present pitfalls and in addition allows you to make mistakes because, if you go too far in inattention or incorrect behavior, "something" helps you.

They are the two concepts of ACTIVE and PASSIVE safety.

The difference between active and passive safety systems is basically based on the timing of intervention. Active safety travels on the prevention of an accident, the passive one has the role of limiting the consequences to an accident that has already occurred. This second area includes reinforced concrete road safety barriers.

The passive road safety devices, whatever their function (central reserve, side edge or bridge parapet), can be designed and manufactured with different materials and different operating techniques. They are distinguished in this context in barriers with beams and posts (in steel, also called guardrail) which reduce the energy of the impact with the deformation of the steel and wall barriers (prefabricated reinforced concrete simply supported or anchored to the support) which control the collision of a vehicle with the re-directive form and the displacement of the element.

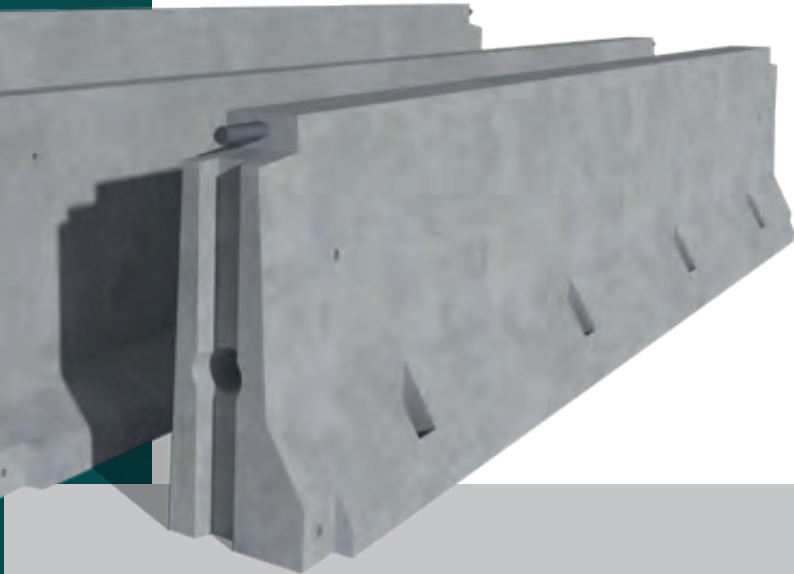
In Italy, over the years, there has been a notable use of road safety barriers which in some cases, despite being compliant with Italian and European technical regulations, did not guarantee adequate safety standards.

Not all barriers, even those that comply with regulatory requirements, offer the same potential level of safety, this is because the standards, modified several times, impose little functional requirements in terms of performance standards.

The concrete safety barriers are today decidedly very reliable and above all safe, if compared to those with steel beams and post.

In the event of a collision, in cases of medium or light impact, the impact between the barrier beam and the head of the car occupants may occur for the higher barriers.





The **concrete barrier** (in its various forms) in case of impact, thanks to its particular profile, generates a redirective effect of the car towards the roadway of the vehicle. Furthermore, the movement of the barrier makes the impact plastic, favoring a better control of the trajectory of the vehicle by sliding on it, without crossing the current of traffic.

The advantages of concrete barriers are not limited only to the case of impact. Their **shape and their small size** in the upper part also favor better visibility when cornering, compared to the steel barriers which are always high and wide at the top.

Furthermore, the choice of concrete guarantees greater durability over time, low maintenance requirements both ordinary and post-accident, with undoubted advantages also in terms of accident risks linked to the presence of repair or maintenance sites.

To these **advantages** in terms of safety can also be added the **lower cost** of concrete barriers, considering that almost double the kilometers of road are protected compared to steel barriers and the exceptional **speed of installation** which significantly reduces assembly costs.

Finally, a strong plus of concrete barriers concerns their **high environmental sustainability** as they are entirely recyclable.

High safety standards, ease of installation and low maintenance costs make concrete road safety barriers the most adopted on the busiest roadways.

The background of the entire page is a repeating pattern of various barrier models. These are rendered as light gray line drawings, showing the profile of each barrier. The barriers vary in height, width, and the shape of their top and bottom flanges. Some have multiple longitudinal ridges or grooves. They are scattered across the page in different orientations, creating a dense, textured effect.

Barrier models

ABESCA ET100



ABESCA ET100 - H2 - W5 SINGLE LINE BARRIER FOR CENTRAL RESERVE AND SIDE EDGE

Road safety barrier 1.0 m high, H2 containment level. Placed on asphalt or concrete support.

Motorcyclist crash test performed according to CEN/TS 17342 and UNE 135900: 2018.



TECHNICAL FEATURES	ET100 - H2 - W5
BARRIER	ET100
LENGTH	6,19 m
HEIGHT	100 cm
BASE	62 cm
WEIGHT	3600 kg
ANCHORED BARRIER	X
ANCHORED TERMINALS	X
CE CERTIFICATION	✓

CRASH TEST - EN 1317	ET100 - H2 - W5
ASI	B
CONTAINMENT LEVEL	H2
NORMALIZED WORKING WIDTH	W5
NORMALIZED DYNAMIC DEFLECTION	1,0 m
NORMALIZED VEHICLE INTRUSION	VI5
TEST LENGTH INCLUDING TERMINAL	99 m

ABESCA ET100



ABESCA ET100 - H4b - W7 SINGLE LINE BARRIER FOR CENTRAL RESERVE AND SIDE EDGE

Road safety barrier 1.0 m high, H4b containment level.
Placed on asphalt or concrete support.

Motorcyclist crash test performed according to CEN/
TS 17342 and UNE 135900: 2018.



TECHNICAL FEATURES	ET100 - H4b - W7
BARRIER	ET100
LENGHT	6,19 m
HEIGHT	100 cm
BASE	62 cm
WEIGHT	3600 kg
ANCHORED BARRIER	X
ANCHORED TERMINALS	X
CE CERTIFICAZION	✓

CRASH TEST - EN 1317	ET100 - H4b - W7
ASI	B
CONTAINMENT LEVEL	H4b
NORMALIZED WORKING WIDTH	W7
NORMALIZED DYNAMIC DEFLECTION	1,9 m
NORMALIZED VEHICLE INTRUSION	VI8
TEST LENGHT INCLUDING TERMINAL	99 m

ABESCA ET100



ABESCA ET100 - H4b - W8 DOUBLE LINE BARRIER FOR CENTRAL RESERVE

Road safety barrier 1.0 m high, H4b containment level. Placed on asphalt or concrete support.

Motorcyclist crash test performed according to CEN/TS 17342 and UNE 135900: 2018.



TECHNICAL FEATURES	ET100 - H4b - W8
BARRIER	ET100
LENGHT	6,19 m
HEIGHT	100 cm
BASE	62 cm
WEIGHT	3600 kg
ANCHORED BARRIER	X
ANCHORED TERMINALS	X
CE CERTIFICAZION	✓

CRASH TEST - EN 1317	ET100 - H4b - W8
ASI	B
CONTAINMENT LEVEL	H4b
NORMALIZED WORKING WIDTH	W8
NORMALIZED DYNAMIC DEFLECTION	1,8 m
NORMALIZED VEHICLE INTRUSION	VI9
TEST LENGHT INCLUDING TERMINAL	99 m

ABESCA ET100



ABESCA ET100S - H4b - W5 SINGLE LINE BARRIER FOR CENTRAL RESERVE AND SIDE EDGE

Road safety barrier 1.0 m high, H4b containment level. Placed on asphalt or concrete support except for end elements anchored to a reinforced concrete curb.

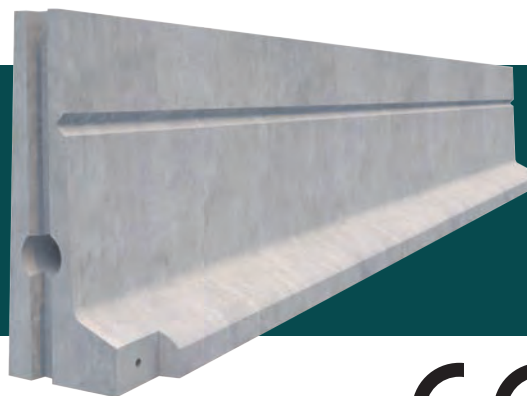
Motorcyclist crash test performed according to CEN/TS 17342 and UNE 135900: 2018.



TECHNICAL FEATURES	ET100S - H4b - W5
BARRIER	ET100S
LENGTH	6,19 m
HEIGHT	100 cm
BASE	62 cm
WEIGHT	3600 kg
ANCHORED BARRIER	X
ANCHORED TERMINALS	X
CE CERTIFICAZION	✓

CRASH TEST - EN 1317	ET100S - H4b - W5
ASI	B
CONTAINMENT LEVEL	H4b
NORMALIZED WORKING WIDTH	W5
NORMALIZED DYNAMIC DEFLECTION	1,1 m
NORMALIZED VEHICLE INTRUSION	VI9
TEST LENGHT INCLUDING TERMINAL	93 m

ABESCA ET100R



ABESCA ET100R - ET100LUX REDIRECTIVE BARRIER FOR TUNNEL

Road safety barrier 1.0 m high, H2 containment level. Placed on asphalt or concrete support

The

barrier has a redirective profile used for the protection of tunnels, retaining walls and overpass piles.

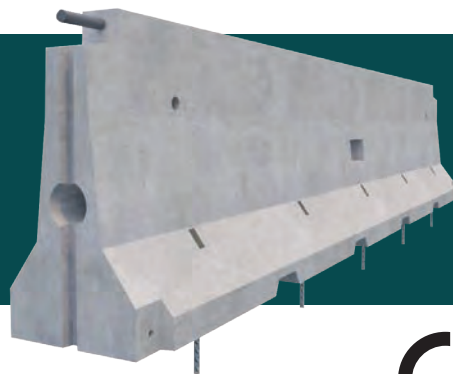
The barrier is equipped with LED lighting systems.



TECHNICAL FEATURES	ET100R
BARRIER	ET100R
LENGTH	6,19 m
HEIGHT	100 cm
BASE	43 cm
WEIGHT	3300 kg
ANCHORED BARRIER	X
ANCHORED TERMINALS	X
CE CERTIFICATION	✓

CRASH TEST - EN 1317	ET100R
ASI	C
CONTAINMENT LEVEL	H2
NORMALIZED WORKING WIDTH	W1
NORMALIZED DYNAMIC DEFLECTION	0,1 m
NORMALIZED VEHICLE INTRUSION	VI1
TEST LENGTH INCLUDING TERMINAL	78 m

ABESCA H120



ABESCA H120S2 - W2 - H4b SINGLE LINE BARRIER FOR CENTRAL RESERVE AND SIDE EDGE

Road safety barrier 1.20 m high, H4b containment level.

Placed on asphalt and pinned by 10 anchoring "nails".
Minimum working width–W2.



TECHNICAL FEATURES	H120S2 - W2 - H4b
BARRIER	H120S2-W2
LENGTH	5,99 m
HEIGHT	120 cm
BASE	66 cm
WEIGHT	4900 kg
ANCHORED BARRIER	✓
ANCHORED TERMINALS	✓
CE CERTIFICATION	✓

CRASH TEST - EN 1317	H120S2 - W2 - H4b
ASI	B
CONTAINMENT LEVEL	H4b
NORMALIZED WORKING WIDTH	W2
NORMALIZED DYNAMIC DEFLECTION	0,3 m
NORMALIZED VEHICLE INTRUSION	VI6
TEST LENGHT INCLUDING TERMINAL	78 m

ABESCA H120



ABESCA H120SC - W2 - H4b

SINGLE LINE BARRIER ON CURB FOR CENTRAL RESERVE AND SIDE EDGE

Road safety barrier 1.20 m high, H4b containment level.

Anchored on concrete curb by 10 anchoring fixing "nails".

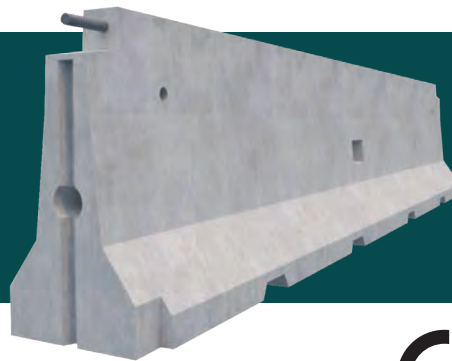
Minimum working width–W2.



TECHNICAL FEATURES	H120SC - W2 - H4b
BARRIER	H120SC-W2
LENGTH	5,99 m
HEIGHT	120 cm
BASE	66 cm
WEIGHT	4900 kg
ANCHORED BARRIER	✓
ANCHORED TERMINALS	✓
CE CERTIFICATION	✓

CRASH TEST - EN 1317	H120SC - W2 - H4b
ASI	B
CONTAINMENT LEVEL	H4b
NORMALIZED WORKING WIDTH	W2
NORMALIZED DYNAMIC DEFLECTION	0,1 m
NORMALIZED VEHICLE INTRUSION	VI6
TEST LENGHT INCLUDING TERMINAL	78 m

ABESCA H120



ABESCA H120 - H2 - W4

SINGLE LINE BARRIER FOR CENTRAL RESERVE AND SIDE EDGE

Road safety barrier 1.20 m high, H2 containment level.

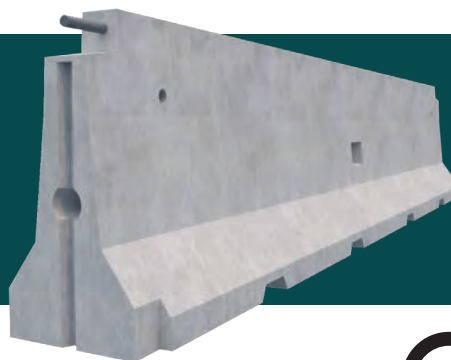
Placed on asphalt or concrete support.



TECHNICAL FEATURES	H120 - H2 - W4
BARRIER	H120 - H2
LENGTH	5,99 m
HEIGHT	120 cm
BASE	66 cm
WEIGHT	4900 kg
ANCHORED BARRIER	X
ANCHORED TERMINALS	X
CE CERTIFICATION	✓

CRASH TEST - EN 1317	H120 - H2 - W4
ASI	B
CONTAINMENT LEVEL	H4b
NORMALIZED WORKING WIDTH	W4
NORMALIZED DYNAMIC DEFLECTION	0,6 m
NORMALIZED VEHICLE INTRUSION	VI3
TEST LENGHT INCLUDING TERMINAL	96 m

ABESCA H120



ABESCA H120 - H4b - W5 SINGLE LINE BARRIER FOR CENTRAL RESERVE AND SIDE EDGE

Road safety barrier 1.20 m high, H4b containment level.

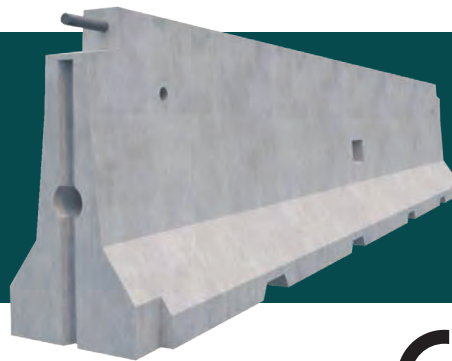
Placed on asphalt or concrete support except for end elements anchored to a reinforced concrete curb.



TECHNICAL FEATURES	H120 - H4b - W5
BARRIER	H120 - W5
LENGTH	5,99 m
HEIGHT	120 cm
BASE	66 cm
WEIGHT	4900 kg
ANCHORED BARRIER	X
ANCHORED TERMINALS	✓
CE CERTIFICATION	✓

CRASH TEST - EN 1317	H120 - H4b - W5
ASI	B
CONTAINMENT LEVEL	H4b
NORMALIZED WORKING WIDTH	W5
NORMALIZED DYNAMIC DEFLECTION	1,1 m
NORMALIZED VEHICLE INTRUSION	VI6
TEST LENGHT INCLUDING TERMINAL	102 m

ABESCA H120



ABESCA H120 - H4b - W7

SINGLE LINE BARRIER FOR CENTRAL RESERVE AND SIDE EDGE

Road safety barrier 1.20 m high, H4b containment level.

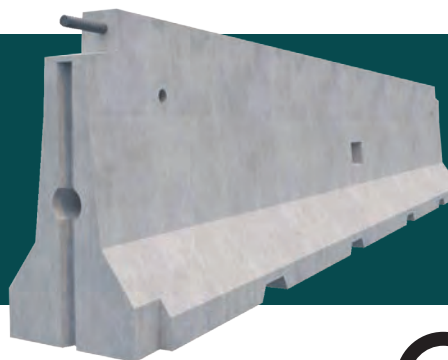
Placed on asphalt or concrete support.



TECHNICAL FEATURES	H120 - H4b - W7
BARRIER	H120 - W7
LENGTH	5,99 m
HEIGHT	120 cm
BASE	66 cm
WEIGHT	4900 kg
ANCHORED BARRIER	X
ANCHORED TERMINALS	X
CE CERTIFICATION	✓

CRASH TEST - EN 1317	H120 - H4b - W7
ASI	B
CONTAINMENT LEVEL	H4b
NORMALIZED WORKING WIDTH	W7
NORMALIZED DYNAMIC DEFLECTION	1,9 m
NORMALIZED VEHICLE INTRUSION	VI8
TEST LENGHT INCLUDING TERMINAL	99 m

ABESCA H120



ABESCA H120 - H4b - W8

DOUBLE LINE BARRIER FOR FOR CENTRAL RESERVE

Road safety barrier 1.20 m high, H4b containment level.

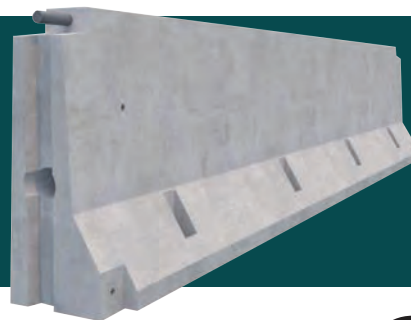
Placed on asphalt or concrete support.



TECHNICAL FEATURES	H120 - H4b - W8
BARRIER	H120 - W8
LENGTH	5,99 m
HEIGHT	120 cm
BASE	66 cm
WEIGHT	4900 kg
ANCHORED BARRIER	X
ANCHORED TERMINALS	X
CE CERTIFICATION	✓

CRASH TEST - EN 1317	H120 - H4b - W8
ASI	B
CONTAINMENT LEVEL	H4b
NORMALIZED WORKING WIDTH	W8
NORMALIZED DYNAMIC DEFLECTION	1,6 m
NORMALIZED VEHICLE INTRUSION	VI8
TEST LENGHT INCLUDING TERMINAL	106 m

ABESCA NJBP



ABESCA NJBP - H4b - W5

BRIDGE PARAPET

Road safety barrier 1.0 m high with a steel handrail on top, for a total height from the ground of 1.60 m, H4b containment level.

The barrier can be used as a bridge parapet protection (or bridge edge), as a curved edge protection (or even a straight one) in the case of separate carriageways and staggered heights.

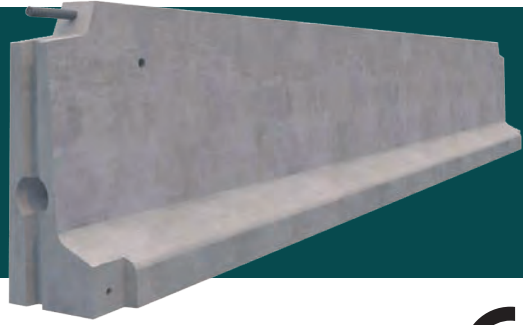
Anchored to the concrete curb by anchoring made with threaded steel bars and chemical anchor.



TECHNICAL FEATURES	NJBP - H4b - W5
BARRIER	NJBP
LENGTH	5,98 m
HEIGHT	100 cm
BASE	50 cm
WEIGHT	4900 kg
ANCHORED BARRIER	✓
ANCHORED TERMINALS	✓
CE CERTIFICATION	✓

CRASH TEST - EN 1317	NJBP - H4b - W5
ASI	B
CONTAINMENT LEVEL	H4b
NORMALIZED WORKING WIDTH	W5
NORMALIZED DYNAMIC DEFLECTION	1,1 m
NORMALIZED VEHICLE INTRUSION	VI7
TEST LENGHT INCLUDING TERMINAL	102 m

ABESCA ET105BT



ABESCA ET105BT

SINGLE LINE BARRIERE FOR CENTRAL RESERVE WITH INTERPOSED GROUND

Two lines road safety barrier 1.05 m high with interposed ground, H4b containment level.

Transversal concret partitions can be inserted.
Placed on asphalt or concrete.



TECHNICAL FEATURES	ET105BT
BARRIER	ET105
LENGTH	6,19 m
HEIGHT	105 cm
BASE	43,5 cm
WEIGHT	3800 kg
ANCHORED BARRIER	X
ANCHORED TERMINALS	X
CE CERTIFICATION	✓

CRASH TEST - EN 1317	ET105BT
ASI	B
CONTAINMENT LEVEL	H4b
NORMALIZED WORKING WIDTH	W6
NORMALIZED DYNAMIC DEFLECTION	0,2 m
NORMALIZED VEHICLE INTRUSION	VI8
TEST LENGHT INCLUDING TERMINAL	92,8 m

ABESCA NJ100



ABESCA NJ100 - H3

SINGLE LINE BARRIER FOR CENTRAL RESERVE AND SIDE EDGE

Road safety barrier New Jersey profile 1.20 m high, H3 containment level.

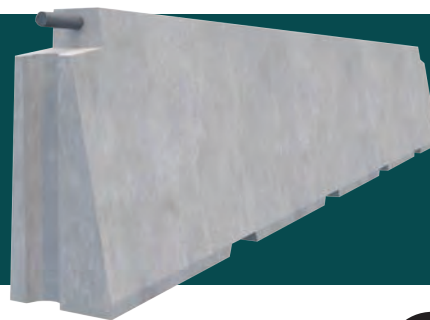
Placed on asphalt or concrete support.



TECHNICAL FEATURES	NJ100 - H3
BARRIER	NJ100
LENGTH	6,19 m
HEIGHT	100 cm
BASE	62 cm
WEIGHT	3600 kg
ANCHORED BARRIER	X
ANCHORED TERMINALS	X
CE CERTIFICATION	✓

CRASH TEST - EN 1317	NJ100 - H3
ASI	C
CONTAINMENT LEVEL	H4b
NORMALIZED WORKING WIDTH	W8
NORMALIZED DYNAMIC DEFLECTION	2,9 m
NORMALIZED VEHICLE INTRUSION	VI9
TEST LENGHT INCLUDING TERMINAL	90 m

ABESCA ET98



ABESCA ET98 - H2 - W5

BARRIER FOR SIDE EDGE

Road safety barrier 0.98 m high, H2 containment level.

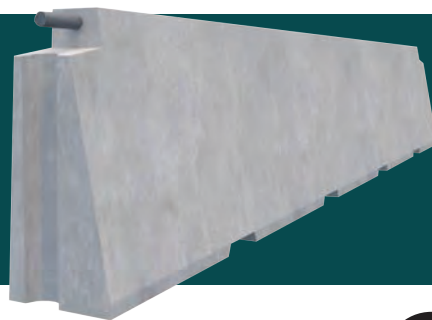
Installed on concrete curb or asphalt except for end elements anchored to a reinforced concrete curb by steel posts inserted inside the barrier.



TECHNICAL FEATURES	ET98 - H2 - W5
BARRIER	ET98
LENGTH	5,98 m
HEIGHT	98 cm
BASE	41 cm
WEIGHT	4200 kg
ANCHORED BARRIER	✓
ANCHORED TERMINALS	✓
CE CERTIFICATION	✓

CRASH TEST - EN 1317	ET98 - H2 - W5
ASI	B
CONTAINMENT LEVEL	H2
NORMALIZED WORKING WIDTH	W5
NORMALIZED DYNAMIC DEFLECTION	1,1 m
NORMALIZED VEHICLE INTRUSION	VI4
TEST LENGHT INCLUDING TERMINAL	72 m

ABESCA ET98



ABESCA ET98 BP - H2 - W6

BRIDGE PARAPET

Road safety barrier 0.98 m high, H2 containment level.

Steel brackets must be installed on the bridge curb which allow the barrier to be moved during the impact.



TECHNICAL FEATURES	ET98 BP - H2 - W6
BARRIER	ET98 BP
LENGTH	5,98 m
HEIGHT	98 cm
BASE	41 cm
WEIGHT	4200 kg
ANCHORED BARRIER	✓
ANCHORED TERMINALS	✓
CE CERTIFICATION	✓

CRASH TEST - EN 1317	ET98 BP - H2 - W6
ASI	B
CONTAINMENT LEVEL	H2
NORMALIZED WORKING WIDTH	W6
NORMALIZED DYNAMIC DEFLECTION	1,7 m
NORMALIZED VEHICLE INTRUSION	VI6
TEST LENGHT INCLUDING TERMINAL	72 m

ABESCA ET75



ABESCA ET75 - H1 - W5

SINGLE LINE BARRIER FOR CENTRAL RESERVE

Road safety barrier 0.75 m high, H1 containment level.

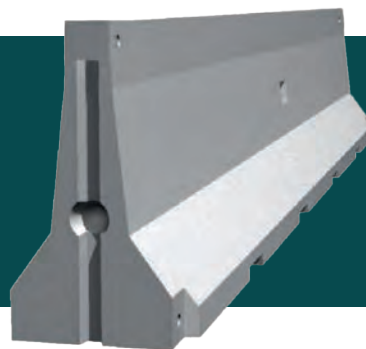
Installed on concrete curb or asphalt, in this case end elements are anchored to a reinforced concrete curb.



TECHNICAL FEATURES	ET75 - H1 - W5
BARRIER	ET75
LENGTH	5,99 m
HEIGHT	75 cm
BASE	30 cm
WEIGHT	2700 kg
ANCHORED BARRIER	X
ANCHORED TERMINALS	✓
CE CERTIFICATION	✓

CRASH TEST - EN 1317	ET75 - H1 - W5
ASI	C
CONTAINMENT LEVEL	H1
NORMALIZED WORKING WIDTH	W5
NORMALIZED DYNAMIC DEFLECTION	1,2 m
NORMALIZED VEHICLE INTRUSION	VI4
TEST LENGHT INCLUDING TERMINAL	72,2 m

ABESCA S100



ABESCA S100 - H1 - W5

SINGLE LINE BARRIER FOR CENTRAL RESERVE AND SIDE EDGE

Road safety barrier 1.0 m high, H1 containment level.

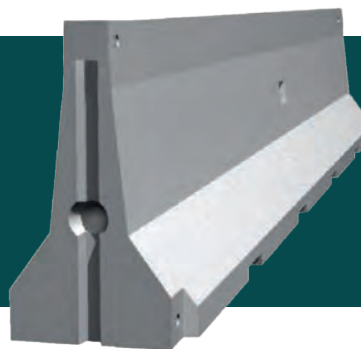
Placed on asphalt and pinned by steel post



TECHNICAL FEATURES	S100 - H1 - W5
BARRIER	S100
LENGTH	6,19 m
HEIGHT	100 cm
BASE	62 cm
WEIGHT	3600 kg
ANCHORED BARRIER	X
ANCHORED TERMINALS	X
CE CERTIFICATION	✓

CRASH TEST - EN 1317	S100 - H1 - W5
ASI	B
CONTAINMENT LEVEL	H1
NORMALIZED WORKING WIDTH	W5
NORMALIZED DYNAMIC DEFLECTION	0,9 m
NORMALIZED VEHICLE INTRUSION	V15
TEST LENGHT INCLUDING TERMINAL	72,2 m

ABESCA S102



ABESCA S102 - H2 - W3

SINGLE LINE BARRIER FOR CENTRAL RESERVE AND SIDE EDGE

Road safety barrier 1.0 m high, H2 containment level.

Placed on asphalt and pinned by steel post.



TECHNICAL FEATURES	S102 - H2 - W3
BARRIER	S102
LENGTH	6,19 m
HEIGHT	100 cm
BASE	62 cm
WEIGHT	3600 kg
ANCHORED BARRIER	✓
ANCHORED TERMINALS	✓
CE CERTIFICATION	✓

CRASH TEST - EN 1317	S102 - H2 - W3
ASI	B
CONTAINMENT LEVEL	H2
NORMALIZED WORKING WIDTH	W3
NORMALIZED DYNAMIC DEFLECTION	0,4 m
NORMALIZED VEHICLE INTRUSION	VI3
TEST LENGHT INCLUDING TERMINAL	72,2 m



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