OUR NEW RANGE OF ROAD RESTRAINT SYSTEM

DESAMI

Outstanding design

With about fifteen years of experience and close collaboration with the various stakeholders in the road sector, this new range of products was created. We felt that we could develop a system that combined security with safety and with aesthetically design integrated.

With strong and committed partners, this concept has become a reality.

Less effort, less reinforcement

Thanks to its geometry, its fuse system and the disconnection of the deck, DOLRE causes transmitted forces reduced by more than 50% compared to a conventional safety barrier construction. Thus, a majority of existing structures to be rehabilitated will no longer need to be reinforced. This results in limited intervention and more effective work management.

Adaptable to your needs

DOLRE can be connected to:
- concrete or wooden bridge decks
- engineered structures like high retaining walls
- steel piles for roadside safety barriers
- independent (non-anchored) or connect concrete kerbs

Further DOLRE can offer a motorcycle rail protection and cladding protection for pedestrian safety.

How to chose the right DOLRE ?

Stavelot, N232 (2018)

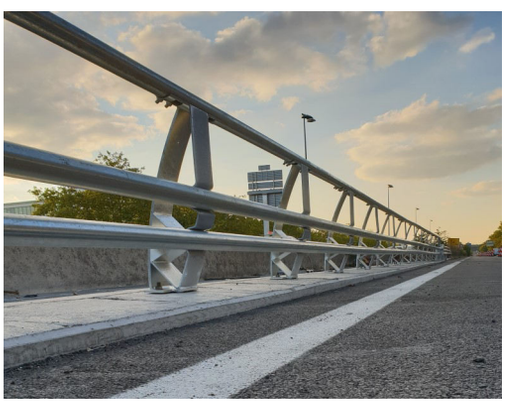
DOLRE: four variants

DOLRE N232 is an N2 (=TL2) W3 VI3 Asi B device with a pole every 6 meters.

It makes it possible to no longer have to be satisfied with a simple guardrail. Thanks to it, the choice between car and pedestrian will no longer have to be made.

Designed to hold a 1.5 tonne car travelling at 110 km/h, it is therefore the ideal system to equip a large number of bridges over highways, municipal roads, urban bridges, roads along rivers or hoppers.

DOLRE H241 is an H2 (=TL4) W4 VI3 Asi B device with a pole every 2 meters. It is used to equip most of the structures on the secondary network as well as short-span bridges on motorways. It retains a 13-tonne coach launched at 70km/h.

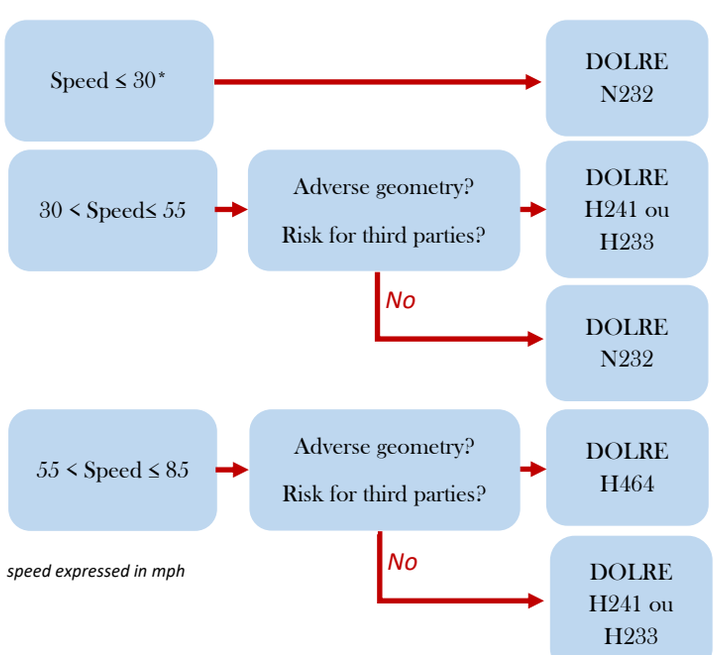


Rungis (Fr), H233 LNA (2018)

A variant of the TL4 model, **DOLRE H233 LNA**, allows the installation on a non-anchored kerb. Thus, the waterproofing of the structure is not affected, which reduces the installation time. There is therefore a reduction in the transmitted forces (no transmitted moment).

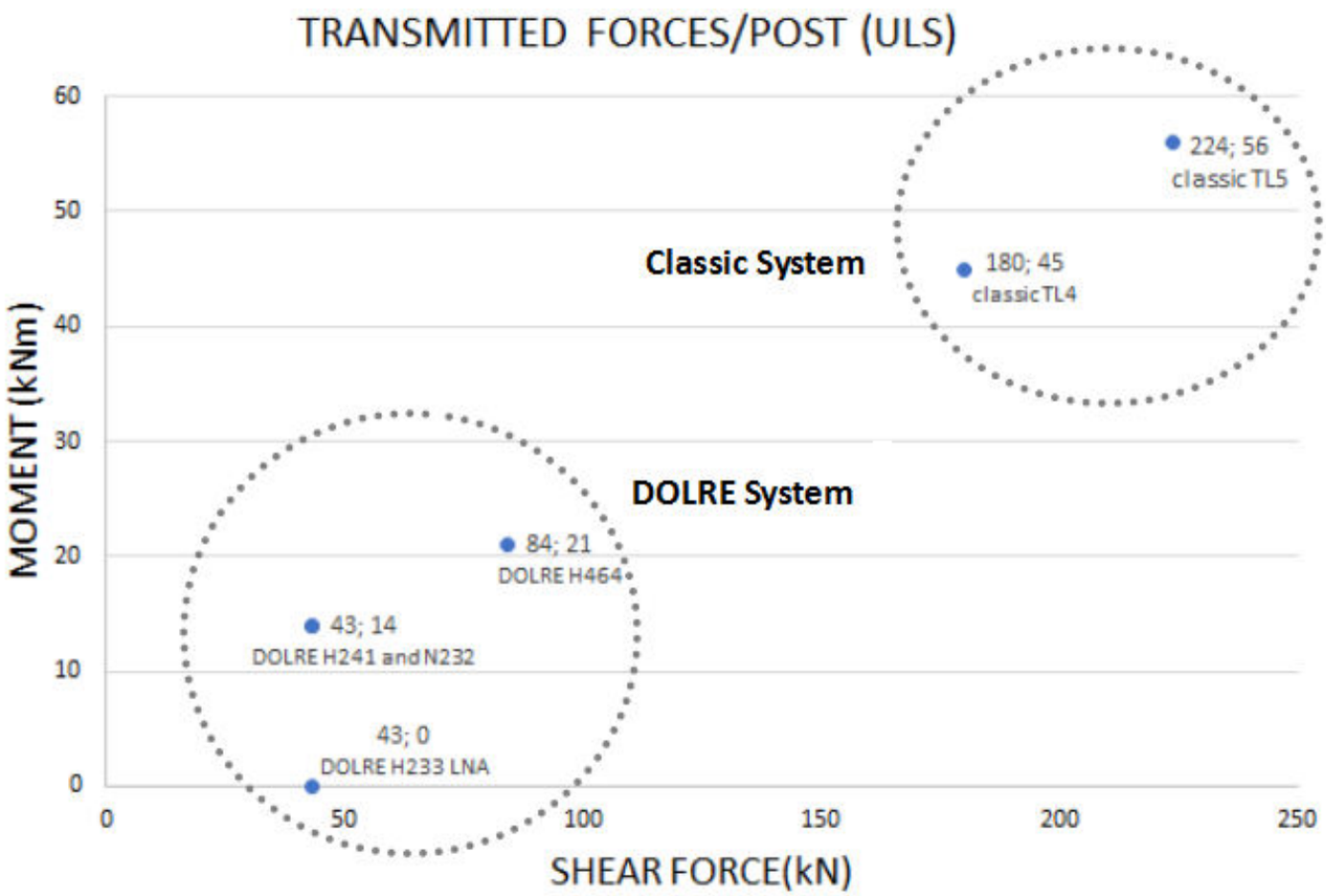
DOLRE H464 is an TL5 W6 VI8 Asi B device with a pole every 1.5 meters. It is holding back a 38-ton truck going at 65 km/h. It is the ideal system for equipping risk areas for third parties on high speed sections.

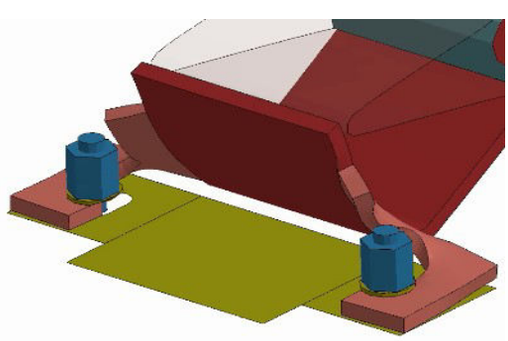
Choice of the DOLRE: example of requirements according to the speed

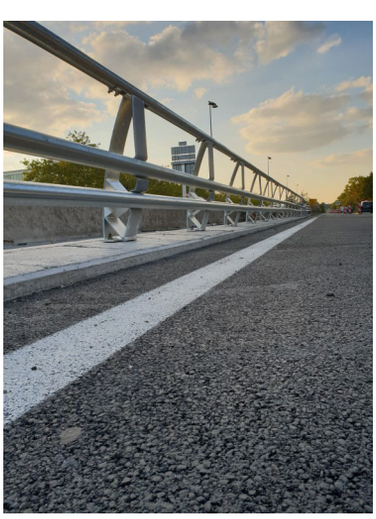


The new range of RRS for structure: DOLRE

Thanks to its innovative fuse disconnection technology and the rigidity of its longitudinal elements, the DOLRE transmits low forces to the structure.







Road Restraint System for laying on a concrete support

> DOLRE N232

V201908

DOLRE N232 (TL2 according to MASH*)

Containment Level	N1	**N2 (=TL2)**	H1	H2	H3	H4a	H4b
Working width (W)	W8	W7	W6	W5	W4	**W3**	W2	W1
Vehicule Intrusion (VI)	VI8	VI7	VI6	VI5	VI4	**VI3**	VI2	VI1
Acceleration Severity Index (ASI)	ASI A			**ASI B**		ASI C	

Unique design for a device with architectural guardrail**

Fuse system allows the reuse of anchors after an impact

Technical specifications DOLRE N232	
Containment Level	N2
Working Width	W3
Acceleration Severity Index (ASI)	B
Vehicule Intrusion (VI)	VI3
Height of the device	1,2 m
Dimensions of the device	40 cm
Anchoring depth	15 cm
Pole spacing	6 m
Required rear overhang	0,07 m

The lowest transmitted forces of the market:
M=14 kNm and V=43 kN / post

*determined by numerical computation **optional grid

DOLRE N232 (TL2 according to MASH*)

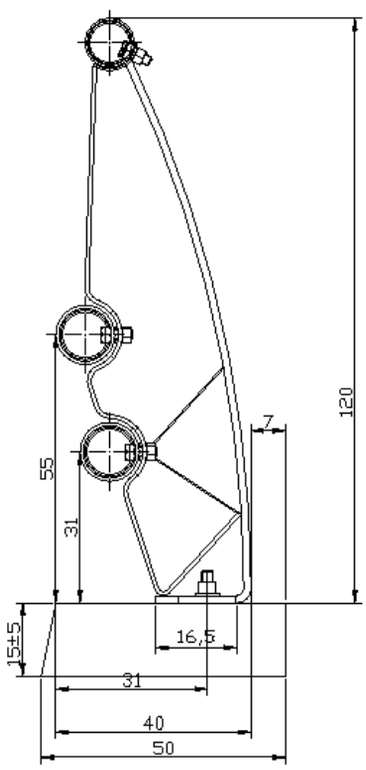
Steel restraint systems are linear elements designed to straighten the path of vehicles. They are made by assembling steel components.

In accordance with NBN EN 1317-1/2/5, the performance are:

- √ The minimum retention level = N2 (TL2)
- √ Maximum operating width = W_n 3
- √ Vehicle intrusion = VI_n 3
- √ Acceleration Severity Index (ASI) = ASI B

The additional features are:

- √ Minimum distance between posts = 6 m
- √ To ensure the guardrail function, the overall height in relation to the concrete support = 1,20 m
- √ To limit the influence on the structure, the maximum space requirement between front and rear post face = 40 cm
- √ For aesthetic reasons, the longitudinal elements are tubes with a diameter of: 12 cm +/- 1 cm
- √ For aesthetic reasons, the connections between the longitudinal elements are not visible on the 180° front panel (the fixing points will only be located on the 180° rear panel)
- √ In order to limit the number of sealing holes, the average number of anchors per meter of device = 0.33 pieces/m
- √ To limit or even avoid reinforcements, the forces transmitted by post are M=14 kNm, V=43 kN



*determined by numerical computation

Road Restraint System for laying on a concrete support

> DOLRE H241

V201908

DOLRE H241 (TL4 according to MASH*)

Containment Level	N1	N2	H1	**H2 (=TL4)**	H3	H4a	H4b
Working width (W)	W8	W7	W6	W5	**W4**	W3	W2	W1
Vehicule Intrusion (VI)	VI8	VI7	VI6	VI5	VI4	**VI3**	VI2	VI1
Acceleration Severity Index (ASI)	ASI C			**ASI B**		ASI A	

Unique design for a device with architectural guardrail**

Fuse system allows the reuse of anchors after an impact

Technical specifications DOLRE H241	
Containment Level	H2
Working Width	W4
Acceleration Severity Index (ASI)	B
Vehicule Intrusion (VI)	VI3
Height of the device	1,2 m
Dimensions of the device	40 cm
Anchoring depth	15 cm
Pole spacing	2 m
Required rear overhang	0,07 m

The lowest transmitted forces of the market:
M=14 kNm and V=43 kN / post

*determined by numerical computation **optional grid

DOLRE H241 (TL4 according to MASH*)

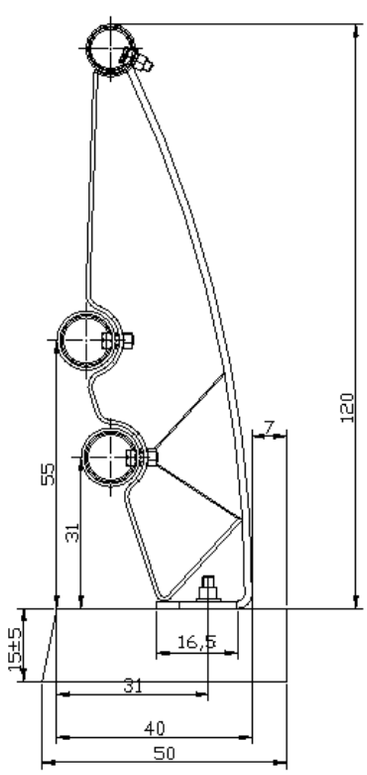
Steel restraint systems are linear elements designed to straighten the path of vehicles. They are made by assembling steel components.

In accordance with NBN EN 1317-1/2/5, the performance are:

- √ The minimum retention level = H2 (TL4)
- √ Maximum operating width = W_n 4
- √ Vehicle intrusion = VI_n 3
- √ Acceleration Severity Index (ASI) = ASI B

The additional features are:

- √ Minimum distance between posts = 2 m
- √ To ensure the guardrail function, the overall height in relation to the concrete support = 1,20 m
- √ To limit the influence on the structure, the maximum space requirement between front and rear post face = 40 cm
- √ For aesthetic reasons, the longitudinal elements are tubes with a diameter of: 12 cm +/- 1 cm
- √ For aesthetic reasons, the connections between the longitudinal elements are not visible on the 180° front panel (the fixing points will only be located on the 180° rear panel)
- √ In order to limit the number of sealing holes, the average number of anchors per meter of device = 1 pieces/m
- √ To limit or even avoid reinforcements, the forces transmitted by post are M=14 kNm, V=43 kN



*determined by numerical computation

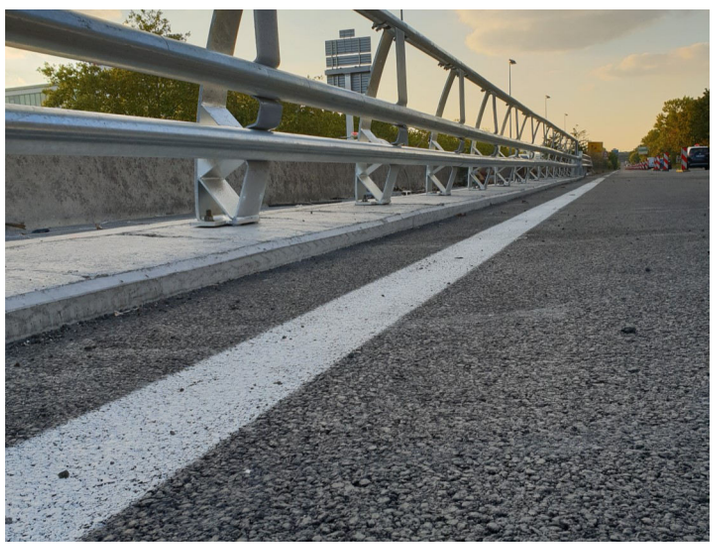
Road Restraint System for laying on a concrete support

> DOLRE H233 LNA

V201908

DOLRE H233 non-anchored kerb (TL4 according to MASH*)

Containment Level	N1	N2	H1	**H2 (=TL4)**	H3	H4a	H4b
Working width (W)	W8	W7	W6	W5	W4	**W3**	W2	W1
Vehicule Intrusion (VI)	VI8	VI7	VI6	VI5	VI4	**VI3**	VI2	VI1
Acceleration Severity Index (ASI)	ASI C			**ASI B**		ASI A	



Technical specifications DOLRE H233 LNA	
Containment Level	H2
Working Width	W3
Acceleration Severity Index (ASI)	B
Vehicule Intrusion (VI)	VI3
Height of the device	1,2 m
Dimensions of the device	40 cm
Anchoring depth	15 cm
Pole spacing	2 m
Required rear overhang	0,07 m
step height	15 cm
minimum thickness of sill	15 cm
minimum sill width	65 cm

The lowest transmitted forces of the market:
M=0 kNm and V=43 kN / post

*determined by numerical computation

DOLRE H233 non-anchored kerb (TL4 according to MASH*)

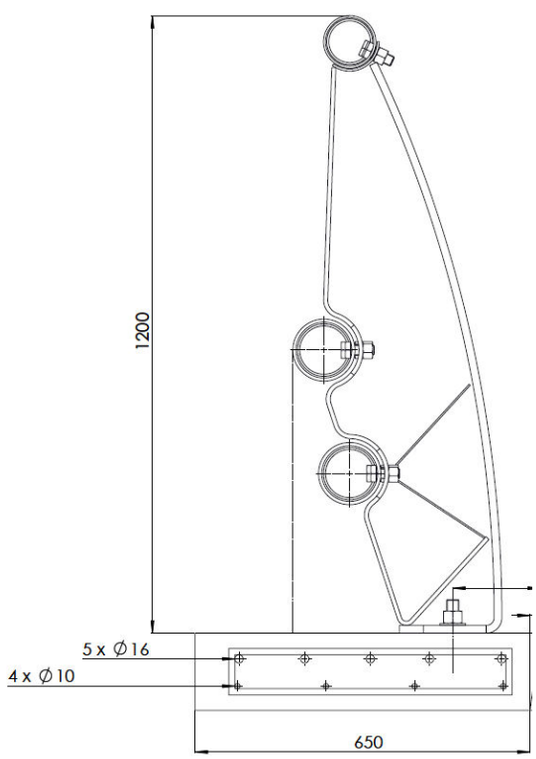
Steel restraint systems are linear elements designed to straighten the path of vehicles. They are made by assembling steel components.

In accordance with NBN EN 1317-1/2/5, the performance are:

- √ The minimum retention level = H2 (TL4)
- √ Maximum operating width = W_n 3
- √ Vehicle intrusion = VI_n 3
- √ Acceleration Severity Index (ASI) = ASI B

The additional features are:

- √ Minimum distance between posts = 2 m
- √ To ensure the guardrail function, the overall height in relation to the concrete support = 1,20 m
- √ To limit the influence on the structure, the maximum space requirement between front and rear post face = 40 cm
- √ For aesthetic reasons, the longitudinal elements are tubes with a diameter of: 12 cm +/- 1 cm
- √ For aesthetic reasons, the connections between the longitudinal elements are not visible on the 180° front panel (the fixing points will only be located on the 180° rear panel)
- √ The kerb is not anchored to the deck and a counter-feed is put in place to resume horizontal forces
- √ To limit or even avoid reinforcements, the forces transmitted by post are M=0 kNm, V=43 kN



*determined by numerical computation

Road Restraint System for laying on a concrete support

> DOLRE H464

V201908

DOLRE H464 (TL5 according to MASH*)

Containment Level	N1	N2	H1	H2	H3	H4a	**H4b (TL5)**
Working width (W)	W8	W7	**W6**	W5	W4	W3	W2	W1
Vehicule Intrusion (VI)	**VI8**	VI7	VI6	VI5	VI4	VI3	VI2	VI1
Acceleration Severity Index (ASI)	ASI C		**ASI B**		ASI A		

Unique design to meet architectural requirements

Fuse system that limits the transmitted forces

Technical specifications DOLRE H241	
Containment Level	H4b
Working Width	W6
Acceleration Severity Index (ASI)	B
Vehicule Intrusion (VI)	VI8
Height of the device	1,4 m
Dimensions of the device	47 cm
Anchoring depth	15 cm
Pole spacing	1,5 m
Required rear overhang	0,03 m
step height	To def
minimum thickness of sill	15 cm
minimum sill width	32 cm

The lowest transmitted forces of the market:
M=21 kNm and V=84 kN / post

*determined by numerical computation

DOLRE H464 (TL5 according to MASH*)

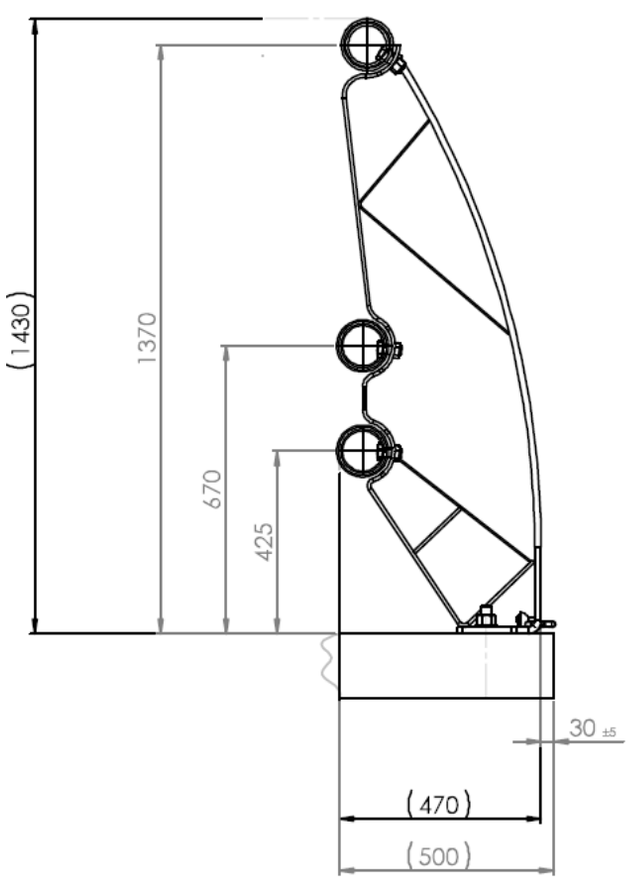
Steel restraint systems are linear elements designed to straighten the path of vehicles. They are made by assembling steel components.

In accordance with NBN EN 1317-1/2/5, the performance are:

- ✓ The minimum retention level = H4b (TL5)
- ✓ Maximum operating width = W_n 6
- ✓ Vehicle intrusion = VI_n 8
- ✓ Acceleration Severity Index (ASI) = ASI B

The additional features are:

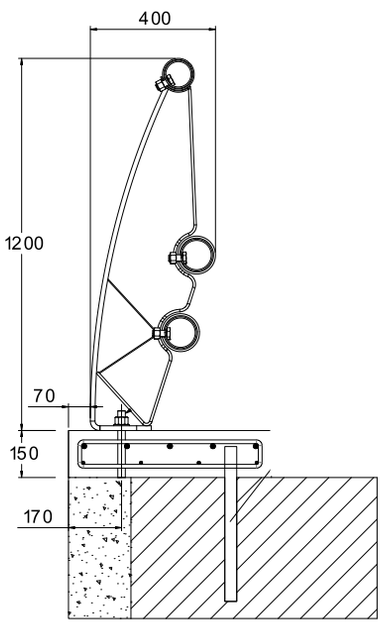
- ✓ Minimum distance between posts = 1,5 m
- ✓ To ensure the guardrail function, the overall height in relation to the concrete support = 1,40 m
- ✓ To limit the influence on the structure, the maximum space requirement between front and rear post face = 50 cm
- ✓ For aesthetic reasons, the longitudinal elements are tubes with a diameter of: 12 cm +/- 1 cm
- ✓ For aesthetic reasons, the connections between the longitudinal elements are not visible on the 180° front panel (the fixing points will only be located on the 180° rear panel)
- ✓ To limit or even avoid reinforcements, the forces transmitted by post are M=21 kNm, V= 84 kN



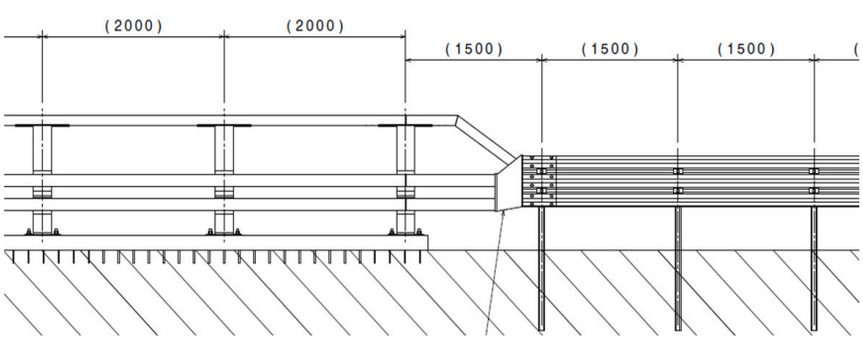
*determined by numerical computation

DOLRE N232 et H233 LNA near the structure

In order to ensure an aesthetic and efficient connection, DOLRE N232 and H233 LNA can be installed **out-side the structure.**



It is then possible to leak the end of the DOLRE, or to connect to a steel (or concrete) device, thanks to the various transitions developed.



Connection to steel device (available in N2 and H2 versions)

	Characteristics	Dimensions+ overhang	Moment / Shear force	Guardrail function	Minimum width of kerb
DOLRE N232	N2 / TL2 W3 VI3 Asi B	40 cm + 7 cm	14 kNm / 43 kN	height of the handrail = 1,2 m	50 cm
DOLRE H241	H2 / TL4 W4 VI3 Asi B				50 cm
DOLRE H233 LNA	H2 / TL4 W3 VI3 Asi B		0 kNm / 43 kN		65 cm
DOLRE H464	H4b / TL5 W6 VI8 Asi B	48 cm + 3 cm	21 kNm / 84 kN	height of the handrail = 1,4 m	32 cm

Scan and consult our achievements!

DESAMI sprl

Rue Salinas 17—5380 Fernelmont—Belgium

Contact: info@desami.be

www.desami.be TVA: BE 0501 791 688

CE