SAFETY-PRODUCT

ZIPpole

OFFICES:
Boudewijnlaan 5
2243 Pulle
Belgium

PRODUCTION:
Hoogbuul 18
2250 Olen
Belgium

CRASH SITE:
Hoogbuul 18
2250 Olen
Belgium

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CONTENT

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WHY IS THERE NEED FOR ‘FORGIVING’ ROADSIDES

In road design, allowances that can help compensate for human error need to be made and roads and roadsides should be build in such a way that their physical characteristics minimize potential harmful consequences to all.

World Health Organization

DECADE OF ACTION FOR ROAD SAFETY 2011-2020

IRF GLOBAL

VISION ZERO INITIATIVE TRAFFIC SAFETY BY SWEDEN

Vision zero: “In every situation a person might fail, the roadsystem should not”

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WHY IS THERE NEED FOR ‘FORGIVING’ ROADSIDES

How is this in your country?

Belgium:

35,1% of people who die in traffic,
die by driving off road.

The biggest risk to die in an accident is by driving into an obstacle in the roadside.

Source: BIVV, Belgian Institute for road safety, 2013

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HOW TO DESIGN ROADSIDES?

What to do with obstacles?

1. Remove
2. Relocate
3. Fragilize or make “forgiving” → EN12767
4. Isolate obstacles with road restraint system → EN1317

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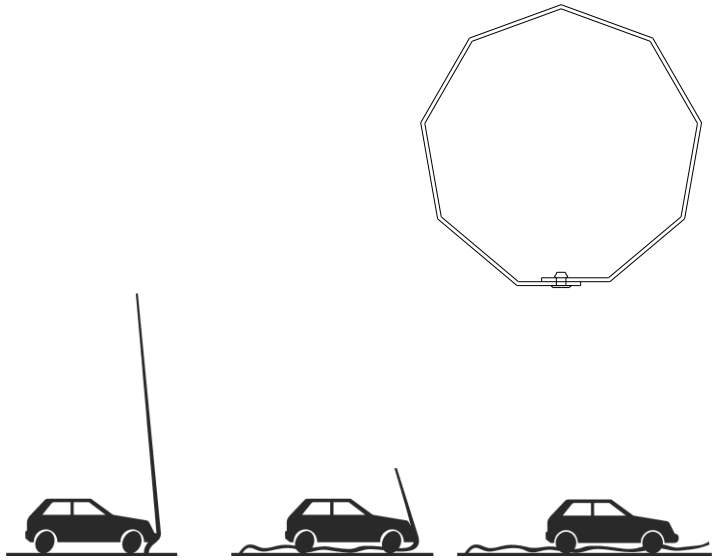
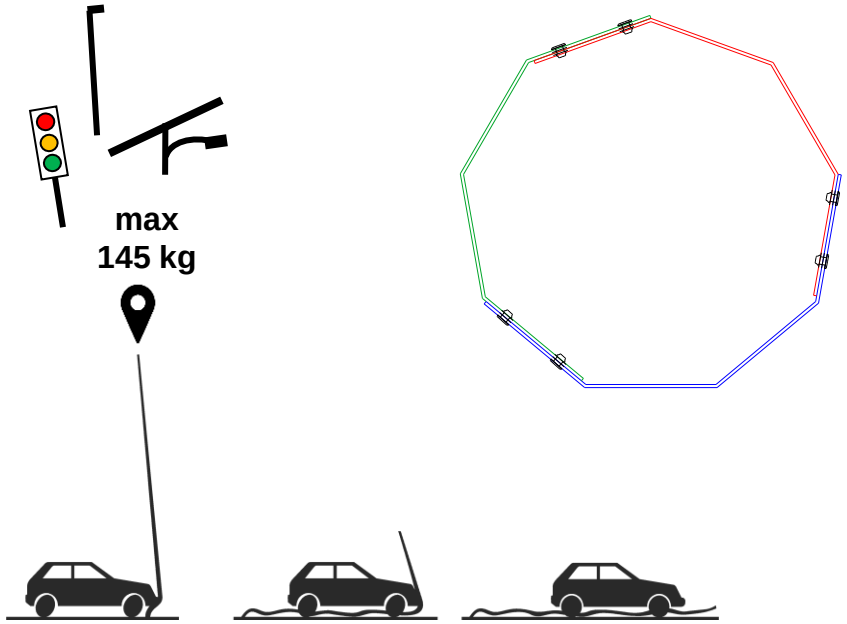
EN12767:2019, EUROPEAN STANDARD TO APPROVE PASSIVE SAFE VERTICAL ROAD INFRASTRUCTURE

ZIPpole
Ø 260
BMC= 21.000 Nm
6-12m
100HE/ High Energy absorbing
100-HE-C-S-NS-MD-1
70-HE-C-S-NS-MD-1
50-HE-C-S-NS-MD-1



ZIPpole 3XL
Ø 350mm
BMC= 40.000 Nm
6- 18m
100HE/ High Energy absorbing
100-HE-E-S-NS-MD-1
70-HE-E-S-NS-MD-1
50-HE-E-S-NS-MD-1



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WHERE TO USE EN12767 APPROVED PRODUCTS

All road authorities decide themselves where to use passive safe poles

Countries set up guidelines, here some examples

Finland
on roads where speed is ≥ 60km/h and 1000 vehicles/day

Belgium
on roads where speed is ≥ 50 km/h without guardrails

...

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WHERE TO USE EN12767 APPROVED PRODUCTS

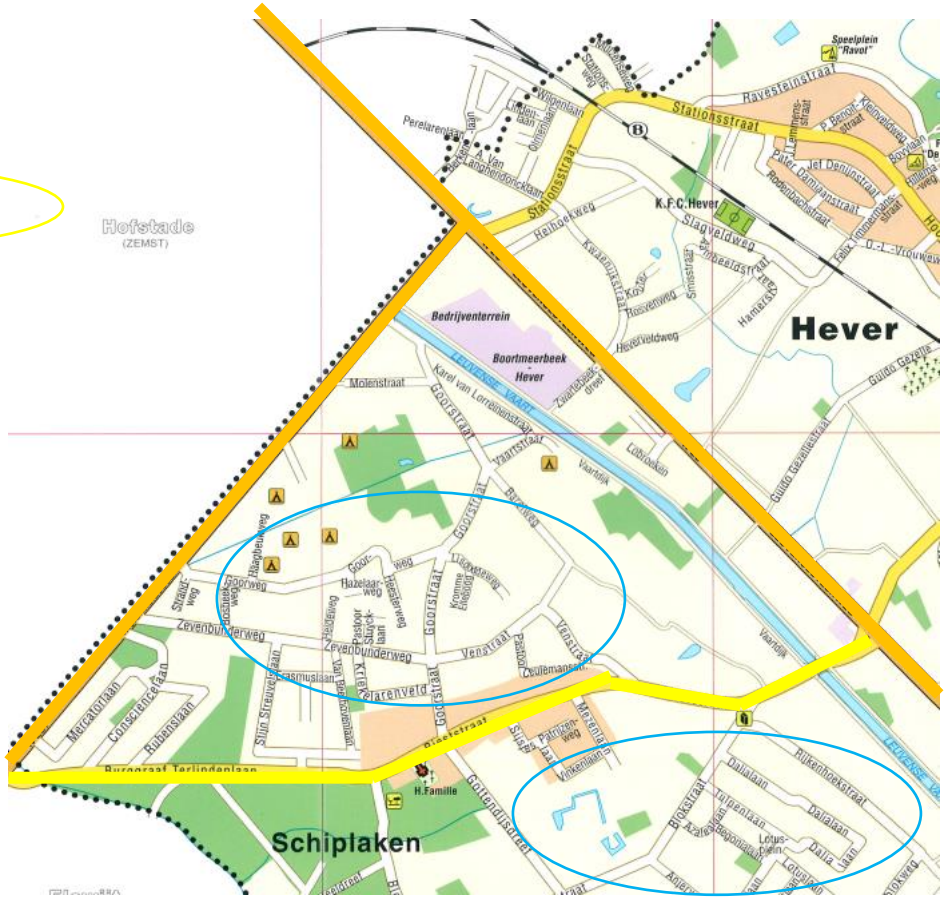
To determine priorities, roads can be **categorized: have passive safe products on the roads with the highest risks first**

urban roads

connecting roads

arterials

highest risk for injuries



The risk for injuries is the highest on roads designed for fluent traffic:

Don't only check allowed speed limits, check the design of the road, lowering speed is often not enough to avoid accidents. The design of the road pattern, determines the driver's behaviour.

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How to select the right type of passive safe pole ?

Non Energy absorbing | 100NE

- in case of no other road users
- in case of stable / flat roadside
- in case of no secondary risk
- in case of a large clear zone, > 40-40m

High Energy absorbing | 100HE

- in case of other road users
- in case of unstable roadside, ditches
- in case of secondary risk
- in case of a limited clear zone
  - < 40-40m

ZIPpole

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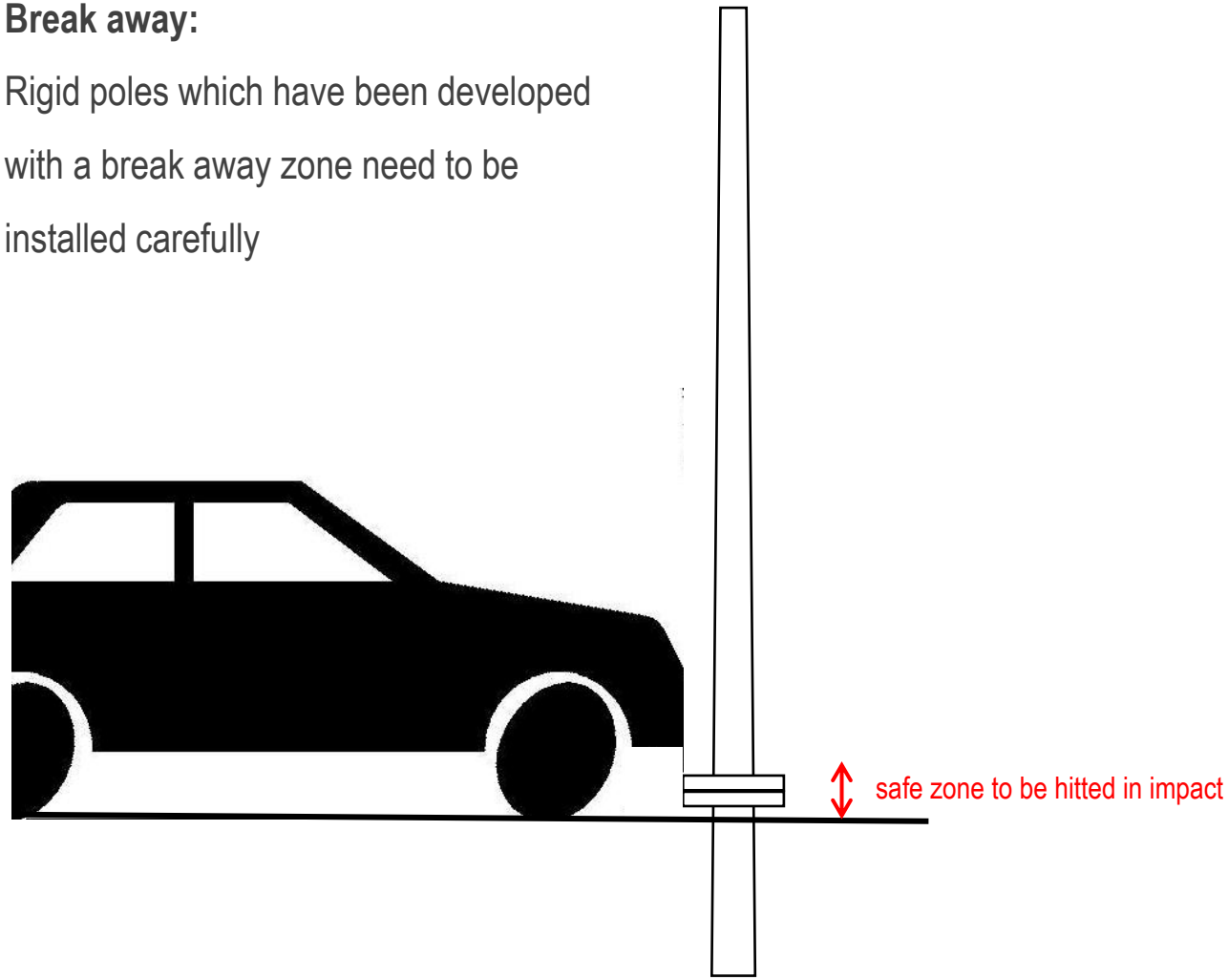
HOW TO SELECT THE RIGHT TYPE OF PASSIVE SAFE POLE – break away device

Break away:

Rigid poles which have been developed with a break away zone need to be installed carefully



The zone of impact was installed at the wrong height

Because of no fixation into the ground, the pole didn't break but was released from the ground

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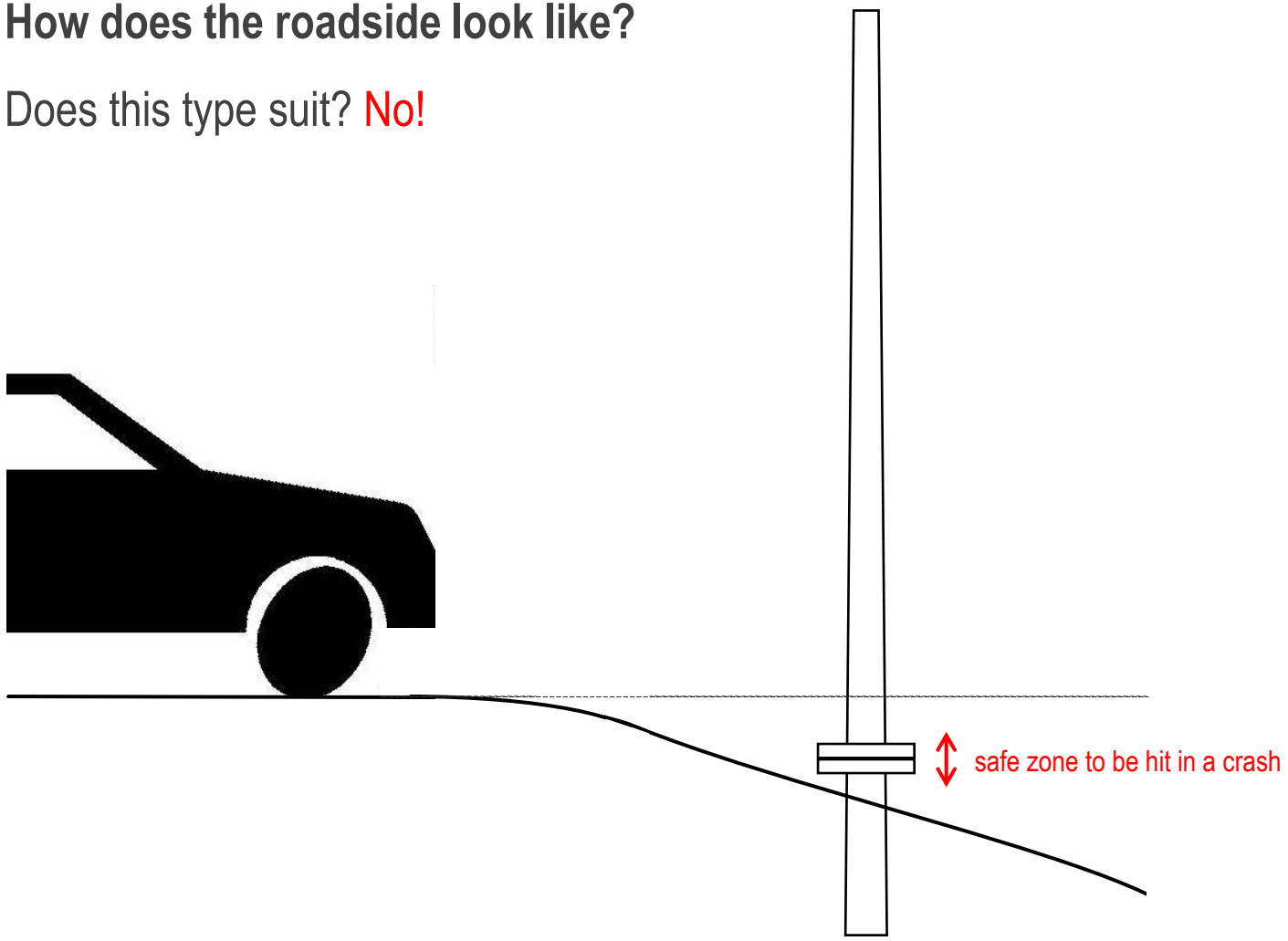
HOW TO SELECT THE RIGHT TYPE OF PASSIVE SAFE POLE – 100NE

How does the roadside look like?

Does this type suit? No!



Product didn't function in the accident

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HOW TO SELECT THE RIGHT TYPE OF PASSIVE SAFE POLE – break away device

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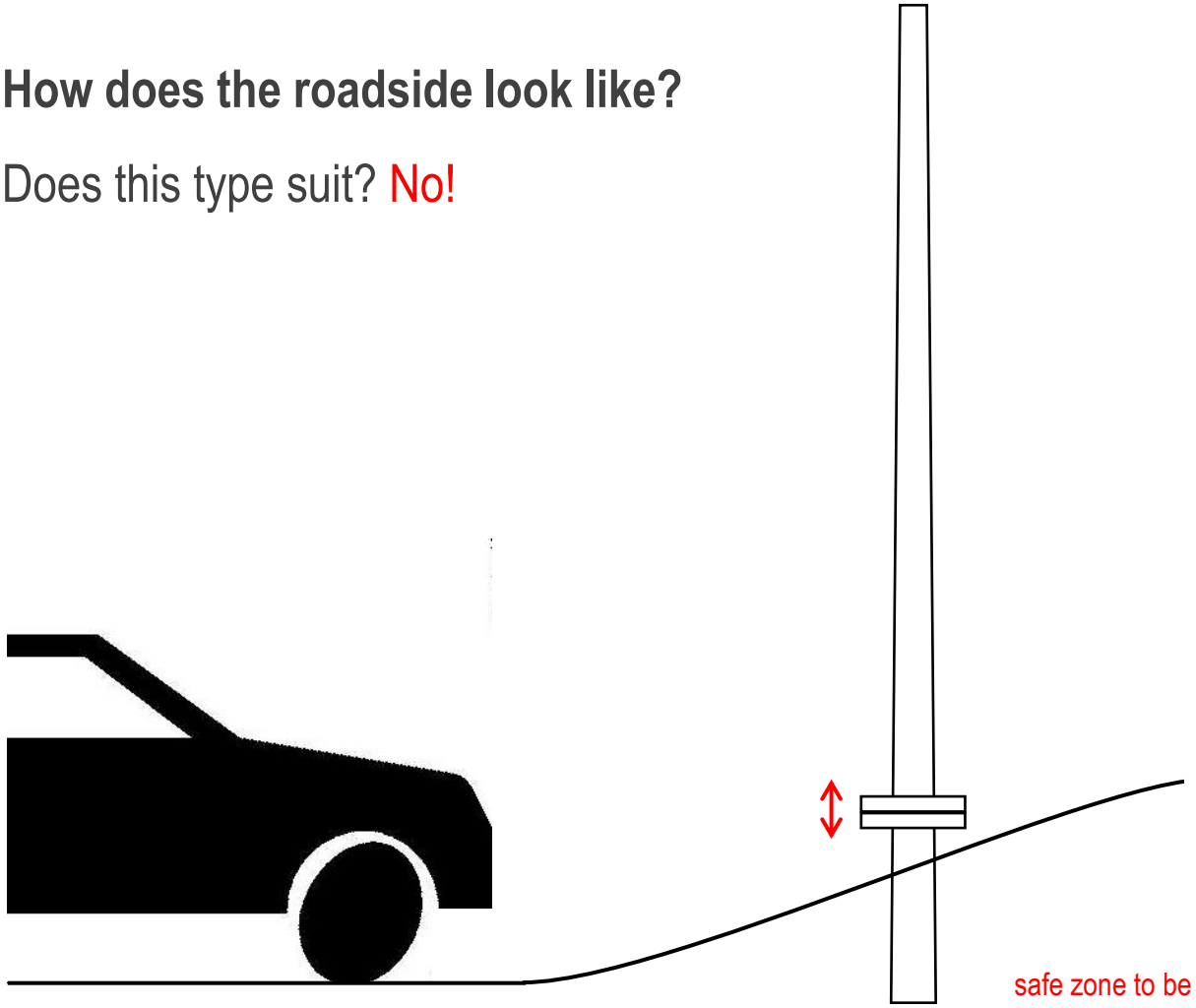


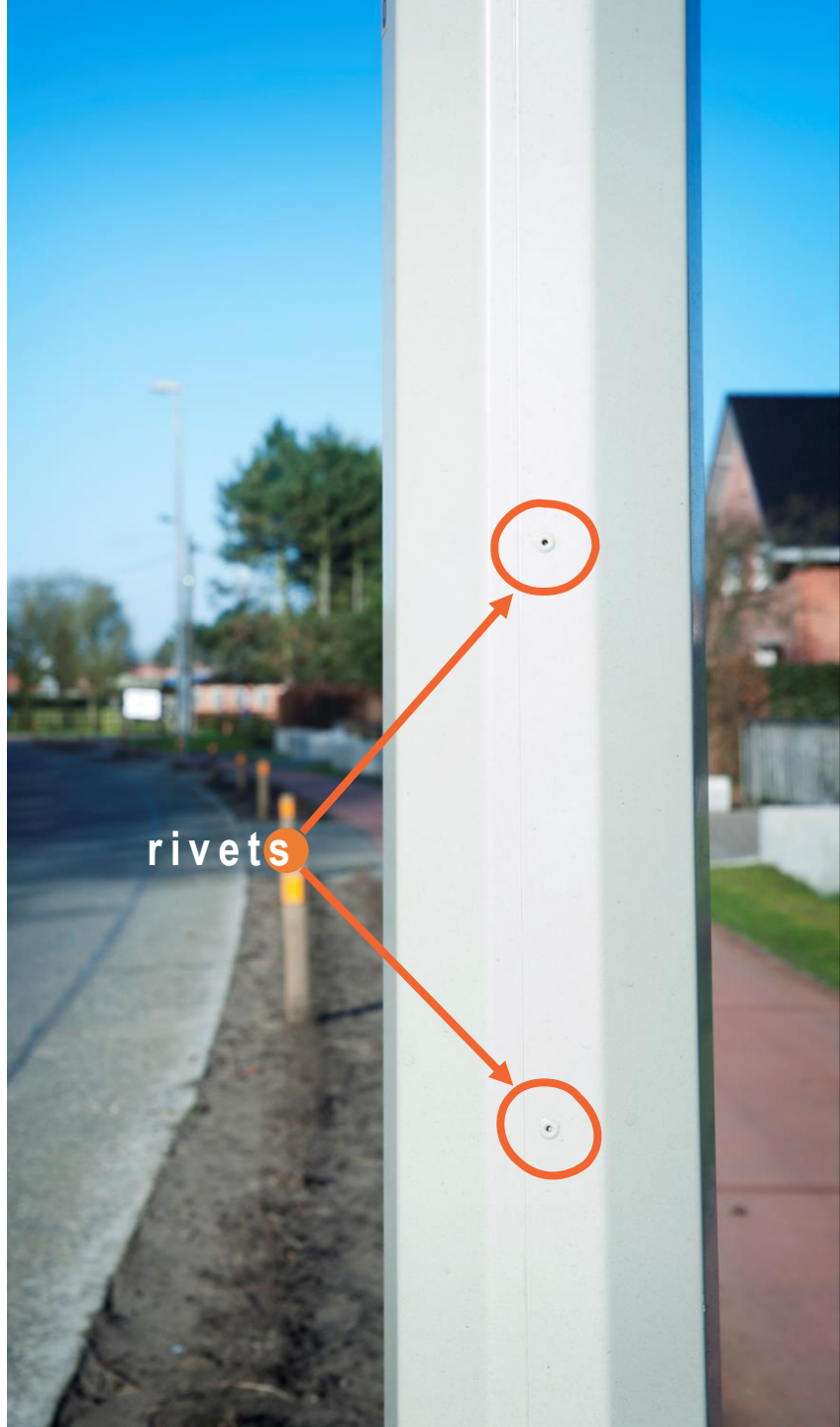
Product didn't function in the accident

CONTENT

ZIPpole

How does the ZIPpole work?

- Bended plate(s) in elastic steel, riveted together
  - » strong in vertical direction
  - » weak in horizontal direction when hit in an impact
- The rivets collapse one by one like a ZIP
- The strong shape looses its strength and the plate bends
- The energy is absorbed by the steel resisting in bending
- The car is slowed down



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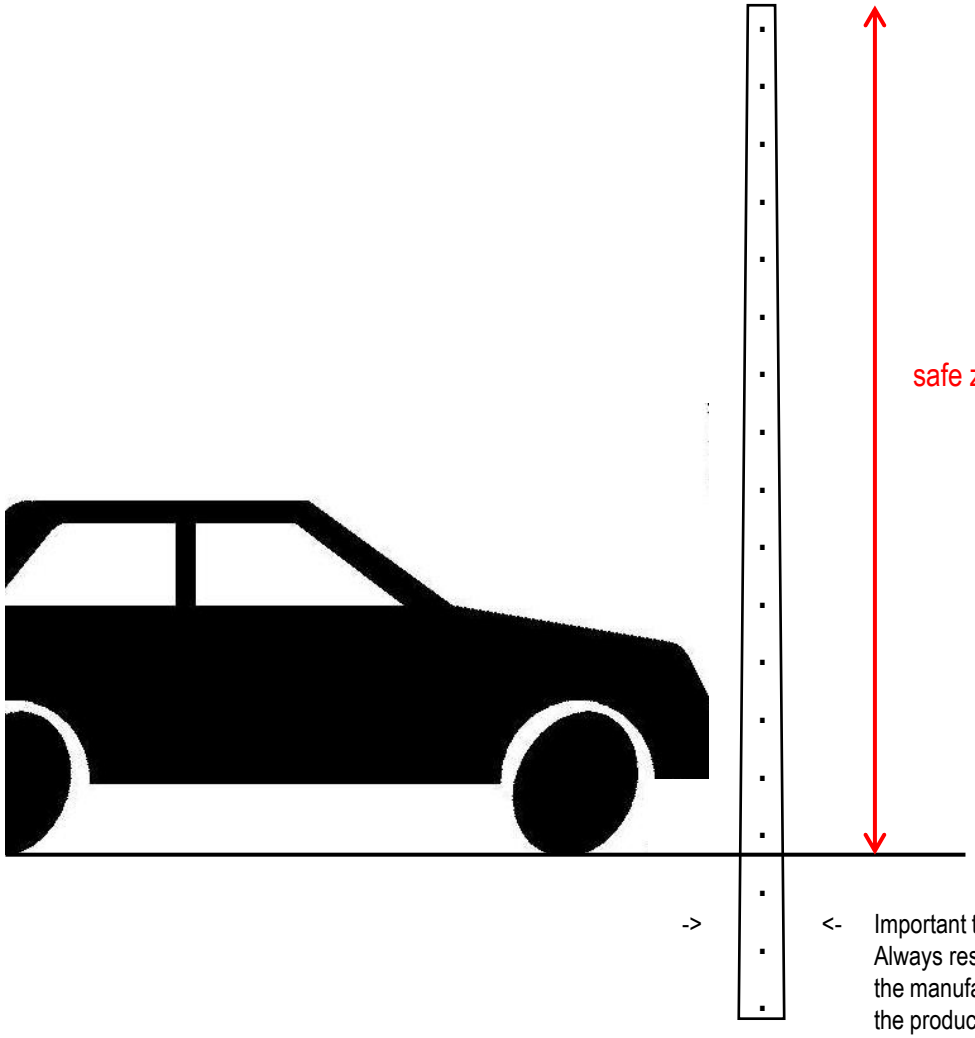
Sidewards impact into the ZIPpole.



Important to fix well below groundlevel. Always respect the installation instructions of the manufacturer. Installation makes a part of the product.

Accident into ZIPpole with a car coming from the other direction of the road

Installation of the ZIPpole

ZIPpole, EN40 as lighting pole

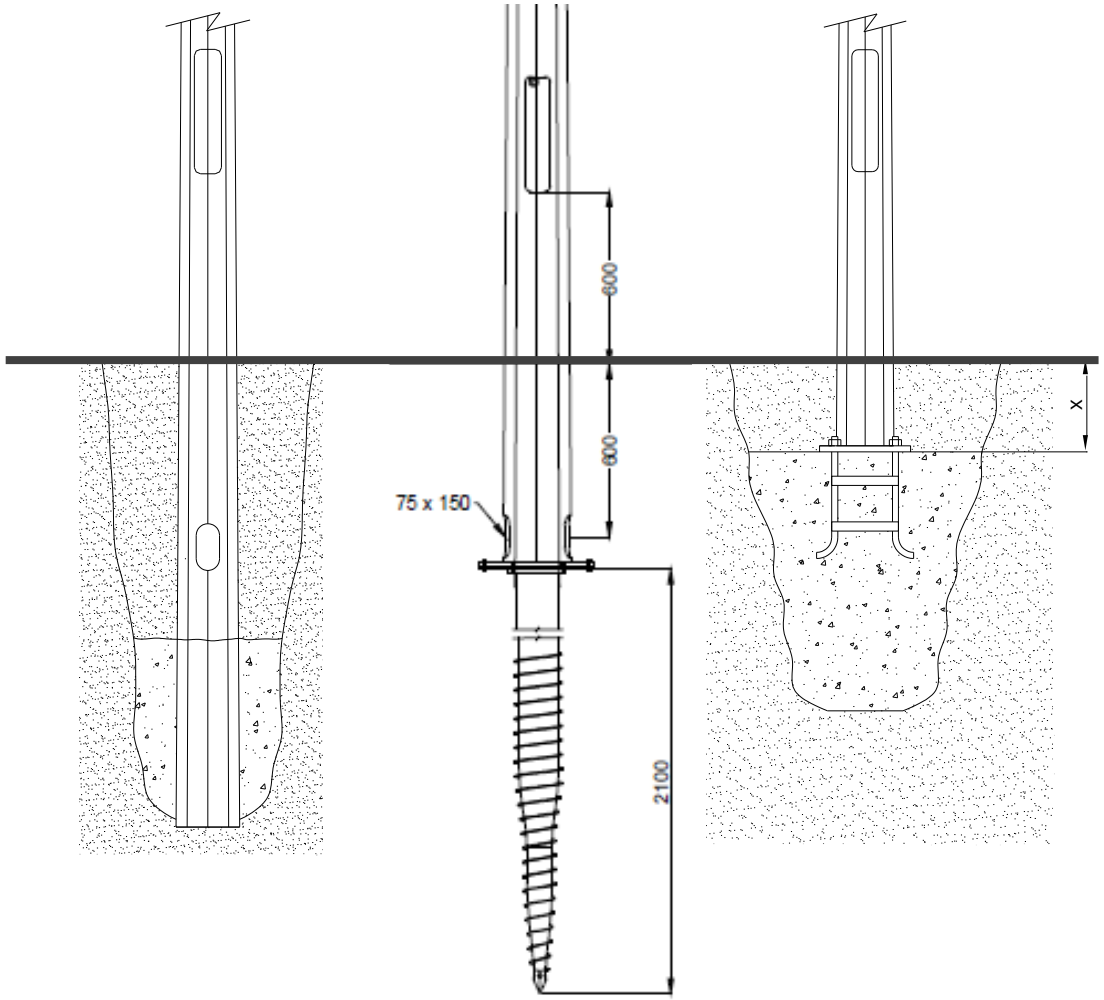
EN12767, 100HE-C

6m-12m

3 installation methods: buried, on screw, on footplate

Always ask for installation instructions

from the manufacturer !!



The ZIPpole is always safe!

INSTALLATION MAKES PART OF THE PRODUCT

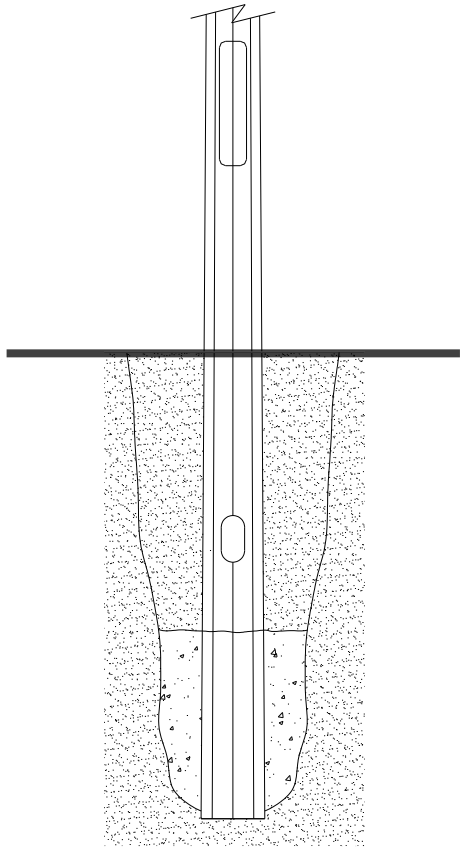
Installation of the ZIPpole3XL

ZIPpole3XL, EN40 as lighting pole

EN12767, 100HE-E

6m-18m

1 installation method: buried



Always ask for installation instructions

from the manufacturer !!

The ZIPpole3XL is always safe!

INSTALLATION MAKES PART OF THE PRODUCT

Accidents into the ZIPpole
check
www.zippole.com/experiences

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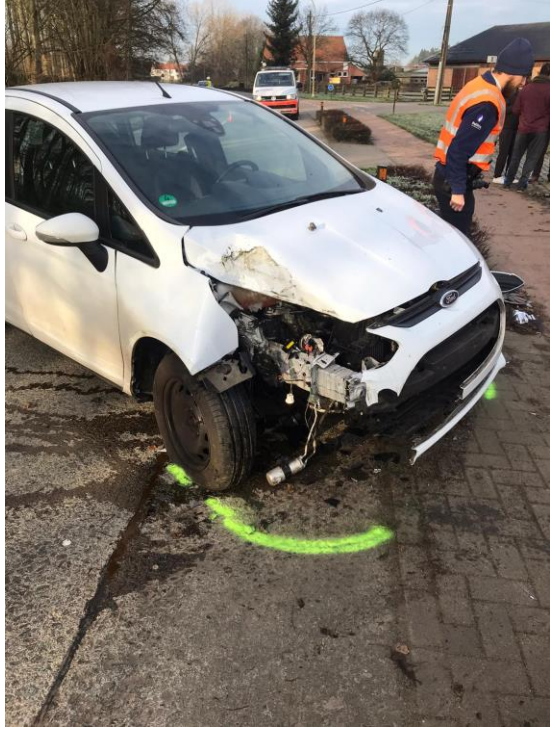

December 2019 : Dirk drove into a ZIPpole and thanked us on social media

https://www.linkedin.com/feed/update/urn:li:activity:6623182296260329472/
https://www.facebook.com/zippolebelgium/videos/593321574569463/

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ZIPpole

CONTENT

HOW TO SELECT THE RIGHT PRODUCT

RISK OF INSTALLATION
The installation guidelines of the manufacturer should be followed to guarantee the right functioning of the product

SIZE OF THE SAFETY ZONE
If the product has a specific zone to be hit in a car crash, the installation should be done accordingly

MULTIDIRECTIONAL
If the product can be hit from different directions, the product should be safe in all directions

RISK FOR SECONDARY ACCIDENTS
If there are other obstacles, it is best to slow down the colliding vehicle.

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HOW TO SELECT THE RIGHT PRODUCT

Advantages of the ZIPpole and the ZP3XL

ZIPpole
100HE from 6m till 12m

ZIPpole3XL
100HE from 6m till 18m

- safe in all impact directions as being HE or High Energy absorbing according EN12767
- safe on all heights of impact as being HE or High Energy absorbing according EN12767
- 25 years warranty to protect against corrosion, coating according EN10346, Magnelis
- strong to resist wind » bending moment capacity up to 20.000 Nm for ZIPpole and up to 40.000 Nm for ZIPpole3XL

ZIPpole by SAFETY-PRODUCT

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SAFETY-PRODUCT

LETS STAY IN TOUCH...

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