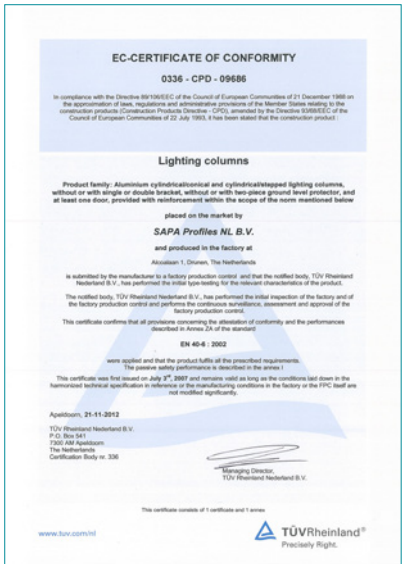


# Crash friendly columns of Sapa Pole Products No.1 in passive safety



Have you ever thought of the impact of a car crashing into a tree? Even with low speeds, a tree crash can be fatal. This is not the case with aluminium lighting columns from Sapa.

**Crash tests**

Since the 1970's, Sapa Pole Products has been conducting crash tests, to investigate the safest constructions for your roads. This long history of building up knowledge on this topic, has resulted in a range of safe, secure and sustainable

aluminium solutions, for all of your lighting needs. We are able to give you the opportunity to design and create safe roads with Fully Certified (and endorsed by a Notified Body) passively safe columns in all shapes and sizes.



**The advantages of our passive safe lighting columns are:**

- We can offer a complete range of passive safe products (HE, LE, NE).
- The columns are tested according to the EN12767.
- They are certified according to the EN40 (CE).
- The NE3 and HE3 columns have special built in constructions.
- No special foundation is required.

If you would like to easily select a passive safe lighting column, go to our website, under the tab Passive Safe you can find the selection table.



Sapa is accredited by UKAS for National Highway Sector Scheme 6.

# Explanation of classifications

## Impact speed

The 100 (for highways) and 70 (for rural roads) numbers in the family certifications indicate the impact speed of the vehicle.

## Performance Level

The three categories of passive safety support structures:

- **High energy absorbing (HE)** Slow the vehicle considerably on impact. The risk of secondary collisions with trees, pedestrians and other road users is reduced, however the severity of the impact for vehicle occupants can be high.
- **Low energy absorbing (LE)** Are generally designed to bend in front of and under the impacting vehicle, before shearing or detaching towards the end of the impact.
- **Non-energy absorbing (NE)** Permits the vehicle to

continue after the impact with a limited reduction in speed. They may therefore provide a lower primary injury risk than energy absorbing support structures, but a higher secondary injury risk if other hazards exist behind the support structure.

## Occupant safety level

The occupant safety level is based on the results of ASI (Acceleration Severity Index) and THIV (Theoretical Head Impact Velocity). The levels of 1, 2 and 3 provide increasing levels of safety, in that order, by reducing impact severity. For the occupant HE3 and NE3 are the safest options. All other classifications are in between solutions.

## Available family classifications

Occupant Safety Level	Energy level			
	70NE3	100NE3	100LE3	100HE3
↑	70NE2	100NE2	100LE2	100HE2
		100NE1	100LE1	

Note: The 3 behind NE is much better for the occupant safety then the 3 behind LE or HE

## Non-energy absorbing (NE) lighting columns

NE3 is the safest passive safe classification for medium and high speed roads. The impact speed of non-energy absorption (NE), combined with the third occupant safety level, demand special requirements of a column. Sapa Pole Products has developed a special shear-off solution. This built in solution is unique, as it will shear-off in the event of an impact, and is unaffected by the direction of the impact. The solution is based just above the ground level of the column.



## High energy absorbing (HE) lighting columns

In urban areas where risk of a secondary impact is high, lighting columns require a high energy absorbing classification. The best high energy absorbing classification for the occupants is HE3. To obtain the HE3 classification, a patented 'catch-up' construction is integrated into the column. The construction ensures that during an impact, the speed of the vehicle is heavily reduced, whilst at the same time, guaranteeing maximum occupant safety.



## Sapa Pole Products

### Postal address

P.O. Box 75  
NL-5150 AB Drunen  
Netherlands

### Visiting address

Alcoalaan 12  
NL-5151 RW Drunen  
Netherlands

Phone +31 416 386 200

Fax +31 416 386 230

Email [info.poleproducts.nl@sapagroup.com](mailto:info.poleproducts.nl@sapagroup.com)

Website [www.sapapoleproducts.com](http://www.sapapoleproducts.com)

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