

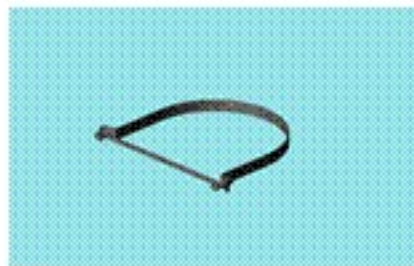
APSE

9th June 2010

Tim Daly
SignPost Solutions Ltd

The History of SignPost Solutions

- The company was originally formed in 1972 as Signfix Ltd, producing & selling aluminium channel extrusions and associated fixings.



The History of SignPost Solutions



SignPost
SOLUTIONS LTD

WHY PASSIVE SAFETY ????



Lattix Sign Supports

- Lattix was developed in Norway in the Early 1990's by Juralco (now known as Lattix AS)



The First Lattix Sign assembly

Development of Lattix

1995 saw the first U.K installation



LATTIX SAVES LIFE



Energy Classifications

- Energy absorption categories
- Non Energy (NE)
 - designed to fail and detach at base
 - lighting columns or tall signs or signals normally fall back over impacting vehicle, landing in approximately the original position
 - smaller traffic signs may fall a short distance from foundation, usually in direction of travel, and may be passed over by impacting vehicle
- Low Energy (LE)
 - generally designed to yield in front of and under impacting vehicle, before shearing/detaching towards the end of impact event
- High Energy (HE)
 - generally designed to yield in front of and under impacting vehicle
 - usually wrap around vehicle
 - may straighten out again as the impact event proceeds

The Passive Standards & Advice

- EN 12767
- revised 2007 version now issued (in early 2008)
- performance criteria has not changed, but
- meaning of some text is clarified, and
- a UK *National Annexe* has been created

EN 12767 & UK National Annexe

- The performance class designations to be used when specifying products consist of three elements:
 - 1) impact speed
 - 2) energy absorption category
 - 3) occupant safety level
- Purchasers should be aware of these and ensure that they specify their requirements correctly, following the recommendations of this National Annexe.

The Passive Theory

- Human tolerance for biomechanical forces should be the starting-point for design
- Aim: to create an *error-tolerant* transport system, where mistakes can happen without severe injury

The KAPU "HE" Lighting Column

High energy
columns...



NO CRASH BARRIER PROTECTION REQUIRED

...slow down
and stop vehicles



NO CRASH BARRIER PROTECTION REQUIRED

...with a short



NO CRASH BARRIER PROTECTION REQUIRED

...yet gradual
retardation.



NO CRASH BARRIER PROTECTION REQUIRED

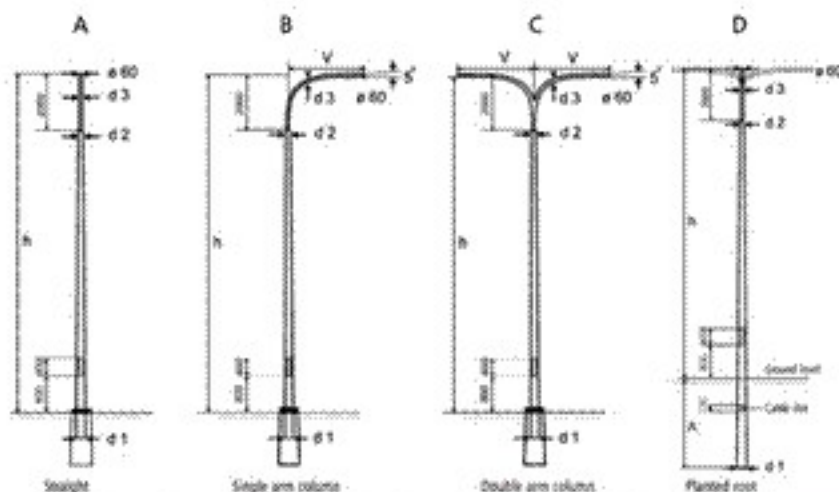
The KAPU "HE" Lighting Column



The KAPU "HE" Lighting Column

- The KAPU column is fully compliant with the requirements of EN40, whilst being Passively Safe.
- We currently have full accreditation for 10mtr, 12mtr & 15mtr columns, with an outreach of upto 2.5mtrs.
- Further full scale testing was completed on 6mtr & 8mtr columns in October 2007, to give compliance with EN 12767.

Kapu Lighting columns



Columns A, B and C show prefabricated concrete foundation. Column D has a flatted root for traditional installation techniques.

The KAPU "HE" Lighting Column

- By using "HE" Columns, Initial Impact speeds such as these....
- Will give Exit speeds of these to the errant vehicle
- Thus reducing the potential for Secondary Accidents

Impact speed, v km/h	50	70	100
Energy absorption category	Exit speed, w km/h		
HE	$w = 0$	$0 \leq w \leq 5$	$0 \leq w \leq 50$
LE	$0 \leq w \leq 5$	$5 \leq w \leq 30$	$50 \leq w \leq 70$
HE	$5 \leq w \leq 50$	$30 \leq w \leq 70$	$70 \leq w \leq 100$

KAPU RTA, August 2009



■ A167 Kapu quote from Karen

- I was travelling south from the roundabout in the nearside lane when the car suddenly swerved on the wet road surface. I tried to control the car but it left the road hitting the kerb and then the lamp column.
- After hitting the lamp column on the drivers side the car came to rest on the verge and another motorist helped me to get out of the car.
- An ambulance was called to the crash and the paramedics found that apart from initial shock my only injury was a small 2/3 mm cut on the back of my hand caused by broken glass from the driver's door window.
- I was amazed that I did not suffer any more serious injuries especially when I saw the column flat on the ground combined with the fact that I was driving a soft top sports car.
- When officers from the County Council Traffic Section and Durham Police Collision Investigation Unit came to see me they explained that it was a new type of lamp column fitted with an electrical safety cut out system. When the Police Officer described from previous experiences what could have happened to me if it had been an ordinary column I realised how lucky I really was.
- I can never be able to express my thanks to the people who have developed these new systems and the Council for using the systems which allowed me to walk away uninjured from this crash and I hope that my experience will encourage more of these columns to be used to protect other people who may have a crash in future.
- I just feel so lucky to still be alive!

The Future

- With Lattix & KAPU, we have done a lot of work over the last 15 years to minimise injury to the occupants of errant vehicles
- Over the years, we have been asked on many occasions how we can help with minimising injury to motorcyclists.....

Biker Mate - The Concept

- Biker Mate is an energy absorbing structure which can be easily fixed to many types of road side furniture
- It uses a highly efficient energy absorbing material called Press Load, that controls the impact, mitigating injury to the motorcyclist.





- Thank You for your time

- *Tim Daly*

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- Any Questions?