



#### ARMASEAL

Asphalt pavement surface preservation

P.O.Box 16169, 2086 Nicosia, Cyprus

Tel: 0035722836999 -OR- 00357 99597387

Email: clasphaltsolutions@gmail.com

#### who we are

- C.L. Asphalt Solutions is a Cypriot based business entity
- C.L. Asphalt Solutions has an agreement with Jobling Purser (UK based company manufacturer of ARMASEAL) to promote, market and sell ARMASEAL in Europe, Mediterranean, Middle East, Asia and Africa
- ARMASEAL is currently marketed and applied in a number of countries across the globe

#### What is Armaseal?



- Fast breaking cationic bitumen emulsion
- Rich in polymers and other ingredients
- Specially formulated to "lock in" chippings on asphalt road surfaces
- Less than 40 PEN bitumen which makes it non sticky in high temperatures
- Non brittle in low temperatures
- CE certified

#### What is Armaseal?



- Armaseal process was developed in England
- Suitable for all types of asphalt pavement surfaces (hot mix, SMA, chipseal, ottaseal, micro surface, slurryseal)
- May be repeated every 4 to 6 years subject to sufficient retained texture and SRV
- Totally sustainable process
- Extremely cost effective

#### Why spray armaseal on asphalt pavement surface?



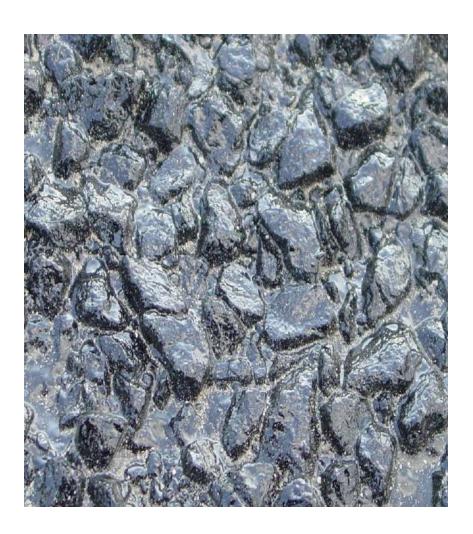
- Financially cheaper than having to do milling and re-surfacing of the wearing course
- Seals in "chippings"
- Prevent aggregate loss
- Reduce binder ageing
- Protects asphalt road surface against water ingress
- Extremely resistant to oxidization
- Has minimal effect on Skid Resistance Value (SRV) or texture depth
- Very quick to apply
- Not affected by salt on roads
- Environmentally friendly

#### Benefits of Armaseal on asphalt pavement surface



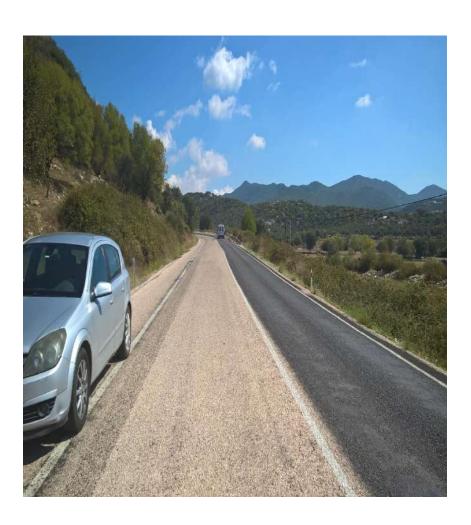
- low cost and sustainable
- locks and seals loose chippings
- gives "black" appearance to the surface
- milling and re-surface of the wearing course could be avoided or postponed
- creates no waste material
- resists water ingress
- significantly extends functional life of all bituminous bound surfaces
- quick and easy to apply
- fast cure process minimizes site occupation
- minimizes need for aggregate extraction
- no adverse effects to Highways safety measures

#### **Armaseal Strong Points**



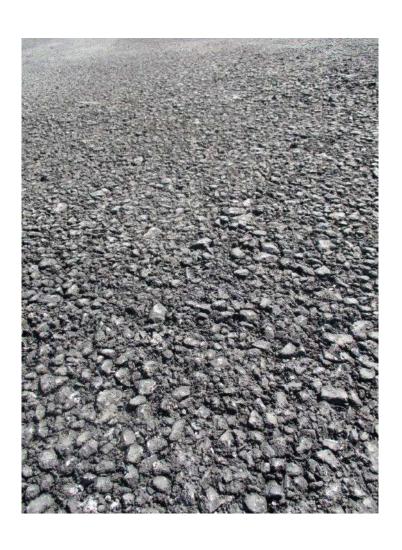
- **Excellent adhesion.** This means that it sticks very well to the aggregates
- <u>it has a low PENETRATION (less than</u>
  <u>40 PEN)</u>, The advantage of this is
  that it provides a high softening point
  and tack free surface
- <u>it has a high softening point i.e. it</u>
   <u>is more than 75C celcius.</u> This means
   that it will not melt or go soft in the
   summer-it will not be sticky on car
   tyres
- Good storage stability This means that you can store it and use it up to 8 months from date manufactured
- <u>Cures quickly</u> This means that it dries up quickly and can be trafficked in 30 90 minutes, depending on weather conditions

## When and where Armaseal can be sprayed on asphalt pavement surfaces:



- on any type of asphalt pavement surface, no matter what age, subject to satisfactory retained texture and SRV
- Immediately after the asphalt pavement wearing course is done or at any stage afterwards
- on motorways and highways
- on rural roads and unclassified roads
- on A & B roads
- on well trafficked roads
- on car parks, footways, cycle roads
- on platforms, airports, docks and ports

#### The current situation of hot mix asphalt surface road



- Roads in their worst ever condition
- Cost of construction materials going up
- Maintenance budgets going down
- Authorities struggling to manage
- Government demanding innovation
- Environmental pressure growing

Chippings start coming off from hot mix asphalt road surface and traditionally no immediate action is taken to preserve the surface



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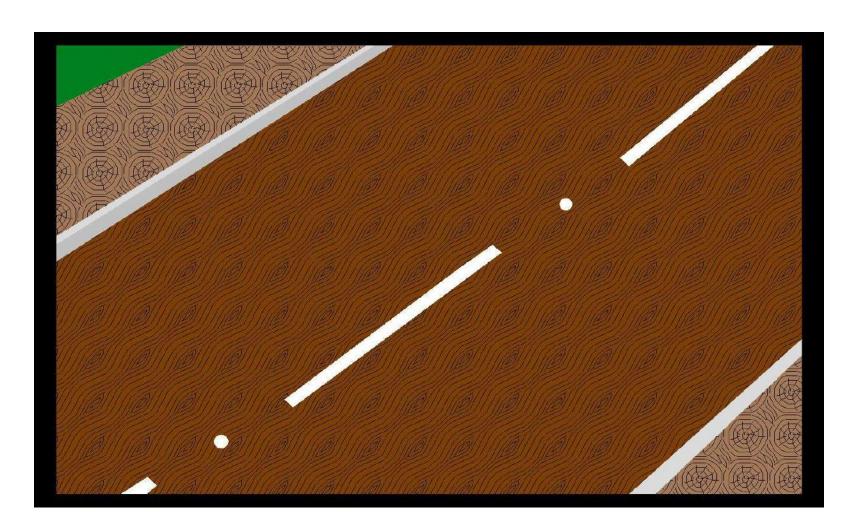
# Chippings start coming off from chip seal road surface and traditionally there is the need for another layer



## Cracks start appearing on hot mix asphalt road surface and traditionally no immediate action is taken to preserve the surface



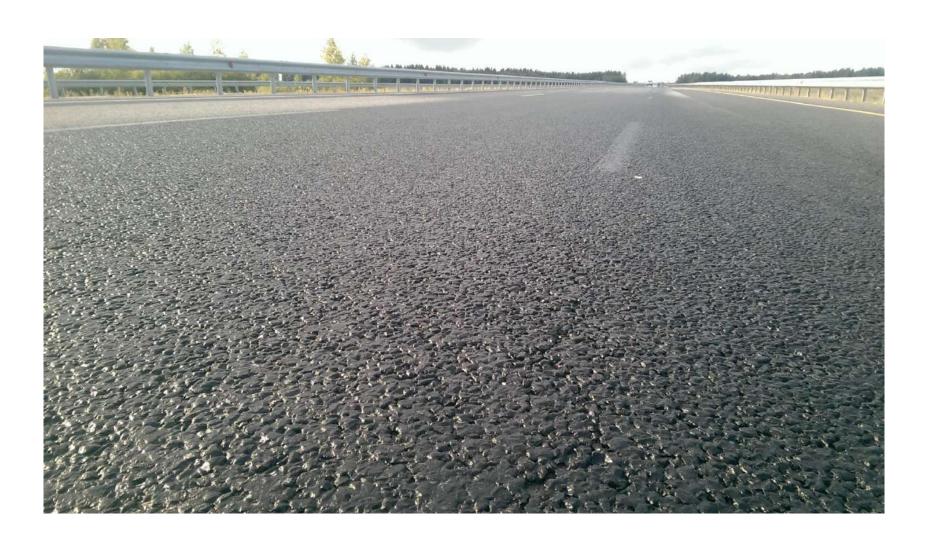
# We all understand that wood must be preserved Why shouldn't asphalt road surface be preserved?



#### Armaseal sprayed over SMA surface on a motorway



#### Armaseal sprayed over hot mix asphalt motorway



#### Armaseal sprayed over chipseal road surface



#### Armaseal sprayed over chip seal road



#### Armaseal sprayed over hot mix asphalt motorway



#### Armaseal comparison on a chipseal road surface

Before application



12 months after application



## Armaseal comparison on hot mix asphalt



## Armaseal comparison on hot mix asphalt



#### Armaseal comparison on micro surface



#### Armaseal sprayed over chip seal road



### Armaseal sprayed on secondary road



## Thank you

