



Road Surface Treatments Association

# **Steel mesh case histories**

**Richard Bennett**

Maccaferri

[www.rsta-uk.org](http://www.rsta-uk.org)

# Steelmesh

- Over 100 installations in UK since 2005
- Over 300 installations worldwide
- Extreme sites
  - Soft ground
  - Extreme temperatures
  - Widening
  - High wheel load
    - Junctions
    - Bus/ Crawler lanes

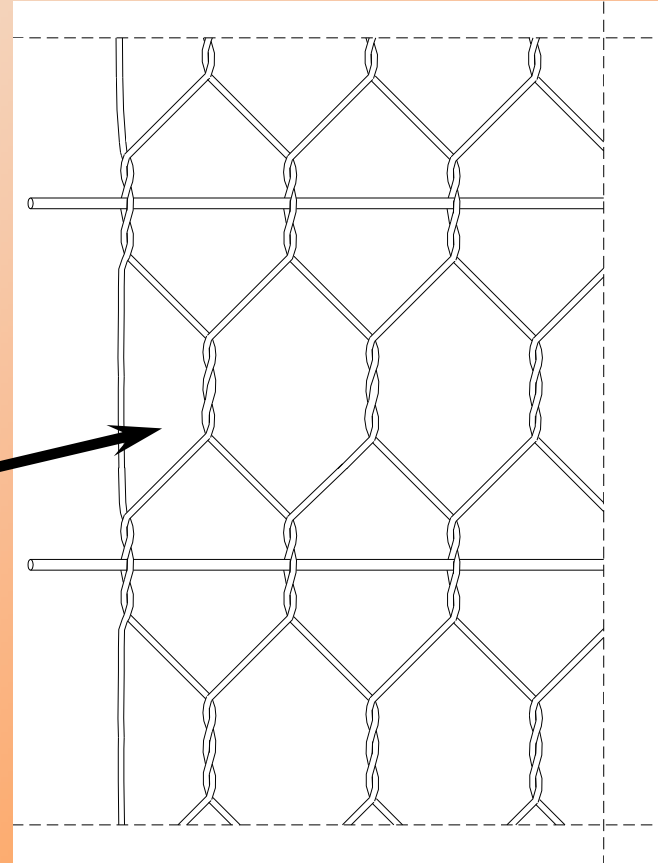


# Steelmesh

Reinforcing bar

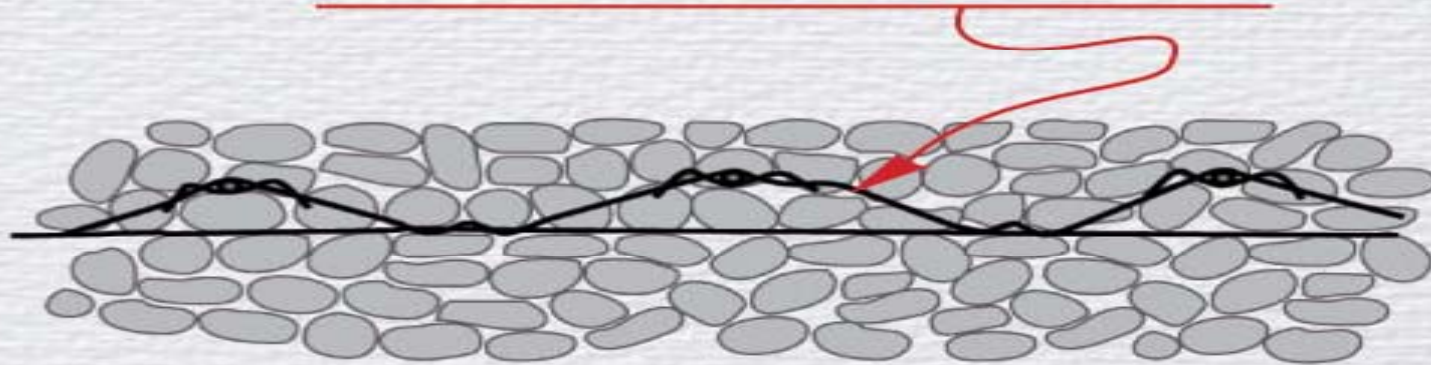


Double twisted  
wire mesh



# Steelmesh

The unique geometry of Road Mesh™ allows full compaction to occur around the wire strands resulting in full interlock with the asphalt matrix



**Interlock with asphalt**

# Steel mesh interlock



# Installation – Unrolling and stretching



# Installation – Rolling with PTR



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# Installation – Nailing



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# Installation – Slurry seal



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# Installation – Blinding



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# Installation – Paving



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# Installation – Problems



# A4144, Abingdon Road, Oxford

- Heavily trafficked section on alluvium, low CBR
  - Fixed kerb height
  - Shallow services
  - Norman causeway
- Required constant maintenance for fatigue cracking
- Resurfaced in 2003
  - Geogrids in the sub-base
  - Steel mesh nailed overlain by 260mm HDM
- No fatigue cracking after 8 years



# A507, Ampthill Bypass, Bedfordshire

- Heavily trafficked bypass
- Resurfaced in 2001
  - 80mm overlay
- No return of cracking after 10 years



# A157, Orby Bypass, Lincolnshire

- Soft ground
- Constructed in 2005
  - 100mm overlay



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# State route, 453 Blair County, Pennsylvania, USA

- Reflection cracks from rocking concrete slabs
  - Grouted, steel mesh and 60mm overlay in 2002
  - No return of cracking in 9 years





# B7052, Whauphill, Dumfries and Galloway

- Quarry road
- 1.6km section on peat
  - Required Monthly maintenance
  - Cracking and potholes
- Resurfaced in 2003
  - No maintenance in 11 years



# Steel mesh installations

- A167 Durham, 1997
  - HA trial on old section of A1
- A631 Shepcote Lane, 2005
  - New heavy traffic to steelworks
- Moss roads Lancashire, 1991
  - 50km of roads on peat
- A9 Daviot, 2001
  - 4km Soft ground



# B873, Sutherland

- Floating roads trial
  - Peat
    - Differential settlement
    - Expensive to excavate or pile
    - Wetting and drying cycle
    - Avoid disturbing the equilibrium
      - Geogrid in the sub-base reduces weight
      - Steel mesh in the asphalt controls cracking



# B873, Floating road trials

- Constructed in 1995
- <http://www.roadex.org>



# A75, Dumfries and Galloway

- Truck route links Stranraer with M74
- Poorly drained section east of Newton Stewart
- Required constant maintenance during 80' and 90's
- Resurfaced in 1999
  - Regulating layer,
  - Steel mesh
  - 80mm overlay
- No cracking after 11 years





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**Thank you**

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