

Title (en)

Geocomposite system for roads and bridges and construction method

Title (de)

Geo-Verbundmembran für Strasse und Brücken und Verfahren zu deren Konstruktion

Title (fr)

Membrane géocomposite pour des routes et des ponts et procédé de construction associé

Publication

EP 1045071 A3 20010627 (EN)

Application

EP 00107523 A 20000407

Priority

US 28985899 A 19990412

Abstract (en)

[origin: EP1045071A2] A geocomposite system (10,40) for increasing the service life of roads, bridges, or the like, includes a geocomposite layer (12,42) having a geomembrane (18,60) disposed between two geotextile backings (20,22,56,58), a structural layer (14,44) for supporting the geocomposite layer (12,42), and a base layer (16,46) formed on top of the geocomposite layer (12,42). The geomembrane (18,60) is impermeable and the geotextile backings (20,22,56,58) are sufficiently porous to provide a wicking action of moisture or liquid laterally along the geomembrane (18,60) and out of the geocomposite system (10,40) to prevent moisture or liquid damage. The geomembrane (18,60) prevents the intrusion of liquids including deicing salts into the structural layers of roads, bridges, or the like abating deterioration in the structural layers such as corrosion of reinforcing steel. The geocomposite layer (12,42) is bonded to and conforms to the structural layer (14,44), thus reducing reflective, shrinkage and fatigue cracking and increasing the structural capacity of the road or bridge. Preferably, the geomembrane (18,60) is an extruded polyvinylchloride web and the geotextile backings (20,22,56,58) are fabricated of a mat of non-woven polyester fibers. The geotextile backings (20,22,56,58) are heat coupled to the geomembrane (18,60), preferably using a calendaring process. The geocomposite layer (12,42) is also bonded to the base layer (16,46). In the related method, the geocomposite system is constructed by fabricating the geocomposite layer, applying a tack coat to the structural layer, placing the geocomposite layer with the geotextile backing down on the prepared structural layer, rolling the geocomposite to provide conformity with the structural layer, applying a tack coat to the other geotextile backing and forming and bonding the base layer on the geocomposite layer. <IMAGE>

IPC 1-7

E01C 11/16; **E01F 5/00**; **E01C 3/06**; **E01D 19/08**

IPC 8 full level

E01C 3/06 (2006.01); **E01C 11/22** (2006.01); **E01D 19/08** (2006.01); **E01F 5/00** (2006.01)

CPC (source: EP US)

E01C 3/06 (2013.01 - EP US); **E01C 11/228** (2013.01 - EP US); **E01D 19/083** (2013.01 - EP US); **E01F 5/00** (2013.01 - EP US)

Citation (search report)

- [X] US 4768897 A 19880906 - NUSSBAUMER MANFRED [DE], et al
- [XA] DE 19543991 A1 19970528 - SYNTEEN GEWEBETECHNIK GMBH [DE]
- [A] US 4503107 A 19850305 - COGLIANO JOSEPH A [US]
- [A] US 4251586 A 19810217 - MARZOCCHI ALFRED, et al
- [A] EP 0348364 A1 19891227 - DERBIT DERIVATI BITUMINOSI ED [IT]

Cited by

CN102505624A; CN111441211A; EP1312714A1; PL127009U1; CN106149497A; NL1019939C2; NL1039592C2; GB2424617A; GB2424617B; NL2003313C2; CN102294848A; CN109629361A; US8834065B2; US7337981B2; WO03042457A1

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