

# Tree Root Protection Using Cellweb TRP®

## Fact Sheet 4: Treetex™ Geotextile and Oil Pollution



### Introduction

The Cellweb TRP® tree root protection system traps pollution in a number of different locations. This makes it robust and minimises the risk of pollution passing into the ground below when it is used as part of a permeable pavement. The Treetex™ geotextile is one part of this system that helps trap and treat oil pollution, especially when an unexpected larger oil spill occurs.

### Treetex™

Treetex™ is a heavy duty needle punched non-woven geotextile fleece manufactured from polypropylene. Treetex™ is ideal for use in the tree root protection system as it is easily moulded to the shape of the aggregates used in the pavement and does not form a plane of weakness in the pavement construction. Elvidge and Raymond (1999) found that the greater the mass per unit area of a geotextile the less it is likely to be damaged. The Treetex™ is unlikely to be damaged by the traffic loads it will be subjected to.

### Oil Pollution

Day to day small drips of oil pollution in permeable pavements generally trapped and treated in the joints and in the aggregate. However larger spills of oil can overcome this element of the system and the oil retaining capability of these systems has been shown to fail under certain circumstances (e.g. Puehmeier et al. 2004). This is where the Treetex™ geotextile can help trap the excess oil and allow it to degrade aerobically within the pavement construction. Tests have shown that Treetex™ will absorb 1.7 litres of oil per m<sup>2</sup>. It provides a substrate on which bacteria necessary for oil degradation can survive.

### Product Testing

Tests undertaken at Coventry University have concluded that the Treetex™ will absorb 1.7 litres of oil per m<sup>2</sup>, which is four times more effective than standard geotextiles.

### References

Elvidge CB and Raymond GP (1999). Laboratory survivability of non woven geotextiles on open graded crushed aggregate. Geosynthetics International 1999, Vol 6, No 2.

Puehmeier T, Coupe SJ, Newman AP, Shuttleworth A and Pratt CJ (2004). Recent Developments in Oil Degrading Pervious Pavement Systems-Improving Sustainability. In: Proc 5th Int. Conf. Sustainable Techniques and Strategies in Urban Water Management, 6-10 June 2004, Lyon, France, 811-818

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