The CE Marking of Geosynthetics
CE Marking & the Construction Products Directive

Since the late 1980’s the CEN TC 189 committee has standardised testing methods and procedures to encourage continuity and consistency across the industry. Since the early part of 2002 it has become a mandatory requirement to CE mark geotextile and geotextile-related products to demonstrate compliance with the European Construction Products Directive (Council directive 89/106/EEC) (CPD). Since October 2002, it has been a mandatory requirement to CE mark geotextiles within the majority of EU member states.

The CPD has now been replaced by the Construction Products Regulation (CPR), the CPR was formally published in the Official Journal of the European Union on the 4th April 2011. The first parts of the Regulation came into force 20 days after its publication in the OJEU and the remaining parts became a legal requirement on 1 July 2013. In the UK, the Sustainable Building Division of the Department for Communities and Local Government has the government lead.

A Regulation is the most direct form of EU law – as soon as they are passed, they have binding legal force throughout every Member State on a par with national laws. This is different to a Directive which requires authorisation within each Member State to make it legally binding at a national level.

The CPR builds upon the CPD and aims to break down technical barriers to trade in construction products within the European Economic Area (EEA). To achieve this, the CPR provides for four main elements:

- an agreed system of conformity assessment for each product family
- a framework of notified bodies
- the CE marking of products

CE marking is a passport that enables a product to be placed legally on the market in any Member State. However, this does not necessarily mean that the product will be suitable for all end uses in all Member States.

CE marking does not mean that the product is suitable for an end use. It simply means that the manufacturer has complied with the regulations set out within the CPR and that it must report on the harmonised declared values set out within the standards. As such, decision makers (e.g. designers and specifiers) should understand the relevant performance requirements for the product.
Harmonised Standards

Harmonised European standards create a common technical language used by all parties in the construction sector to:

- Define their requirements (regulatory authorities in EU countries);
- declare the product’s performance (manufacturers);
- verify compliance with requirements and demands (design engineers, contractors).

Harmonised European standards on construction products are developed by technical experts from the European Standardisation Organisations. The Technical Committees of are working on completing the necessary set of harmonised European standards and test standards, and further improving existing ones. There are two principal Committees developing standards for geosynthetics, at a European level this is CE TC 189, and at an International Level (ISO) this is TC 221.

Notified Bodies

Notified Bodies are the only recognised third party carrying out the assessment of performance of construction products. Notified bodies are designated by EU countries. The European Commission ensures co-operation between Notified Bodies.

The tasks of notified bodies include:

- assessment of the performance of a construction products;
- certification of constancy of performance;
- factory production control Certificate

Assessment

The system of Assessment and Verification of Constancy of Performance is the term applied to define the degree of involvement of third parties in assessing the conformity of the product according to the relevant technical specification(s). For each product family, the system of AVCP is decided collectively by the Member States and the European Commission. They do so on the basis of the implications of the product on health and safety and on the particular nature and production process for the product itself.

There are five systems of AVCP and the levels of involvement of notified bodies. The system for geosynthetics is 2+, whereby Factory production control is based on the initial inspection and continuing surveillance together with an initial inspection of the manufacturing plant by the notified factory production control certification body.

It should be noted that under this system of attestation the manufacturers are responsible for the figures provided on the declaration and that the notified body has no powers to check that these figures are accurate. It is therefore advisable that CE marking is not used as the only method for CQA and that any figures reported by verified by additional independent conformance testing.
The DOP (Declaration of Performance)

The Declaration of Performance is a key part of the Construction Products Regulation. It provides information on the performance of a product. Each construction product covered by a European harmonised standard or for which a European Technical Assessment has been issued needs this Declaration and has to be CE marked. This helps increase transparency and improves the functioning of the Single Market.

For geosynthetics, there are several standards published by CEN TC 189 for CE marking based on product applications. These are:

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<thead>
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<th>Standard</th>
<th>Description</th>
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<tbody>
<tr>
<td>EN 13249</td>
<td>Geotextiles for roads and other trafficked areas</td>
</tr>
<tr>
<td>EN 13250</td>
<td>Geotextiles for railways</td>
</tr>
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<td>EN 13251</td>
<td>Geotextiles for earthworks, foundations and retaining structures</td>
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<tr>
<td>EN 13252</td>
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<td>EN 13253</td>
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<td>EN 13254</td>
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<td>EN 13256</td>
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</tr>
<tr>
<td>EN 13257</td>
<td>Geotextiles for solid waste disposal</td>
</tr>
<tr>
<td>EN 13265</td>
<td>Geotextiles for liquid waste disposal</td>
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The testing that needs to be performed on a product depends on the function that the product is required to perform within the application.

The five functions are set out within ISO 10318. These are:
- Filtration (f)
- Separation (s)
- Reinforcement (r)
- Protection (p)
- Barrier (b)

There is a table within each of the application standards that identifies the tests that need to be reported on the DOP, the manufacturer is required to report the arithmetic mean of each parameter and a given tolerance based on a 95% confidence limit.
### Declaration of Performance

**GEOFabrics HPS11**

GEOFabrics Limited, Skelton Grange Rd, Skipton, Leeds LS18 1RZ, United Kingdom

**Standards & Functions**

- **EN 13203:2001** - Geotextiles for roads and other trafficked areas - Intended uses: F, F+S
- **EN 13205:2001** - Geotextiles for carriage - Intended uses: F, F+S
- **EN 13201:2001** - Geotextiles for construction - Intended uses: F, F+S
- **EN 13202:2001** - Geotextiles for drainage systems - Intended uses: F, F+S
- **EN 13204:2001** - Geotextiles for erosion control works - Intended uses: F, F+S
- **EN 13206:2001** - Geotextiles for reinforced and drained structures - Intended uses: F, F+S

**Test Method**

- **BS EN ISO 19210**: MD-40 (mm) CMD-10 (mm)
- **BS EN 1923**: 1mm (12mm)
- **BS EN ISO 12696**: 11mm (-11mm)
- **EN ISO 15719**: 10x10 mm (2x2 mm)
- **EN 13474**: 10 mm (2x2 mm)
- **EN 13205**: 10 mm (2x2 mm)

**Performance Property**

- Tenacity
- Compressive strength
- Resistance to static puncture
- Water permeability
- Impact resistance
- Flame retardancy

**Reported values & Applied Tolerances**

- The properties of this product are such that the reported values cannot be accurately measured and must be assumed to be within the applied tolerances.

**Durability Statement**

To be stored within 1 month after installation. Produced to be durable for more than 100 years in soils pH 1.5 or <1.1 on the basis of a durability assessment (Engineering Geotechnical document).

**System 2: Notified factory production control certification body No. ET0770 performed the initial inspection of the manufacturing plant and of factory production center (FFC) test and the continuous surveillance, assessment and evaluation of FFC and the certificate of conformity of the FFC.**

The performance of the product HPS11 is in conformity with the declared performance in the table above.

Signed for and on behalf of the manufacturer: Clare Harvey - Laboratory Manager

Date and place of issue: Leeds, West Yorkshire 08/09/2014