

## Position statement:

### CIRIA report C737

This position statement has been issued by the BPF Pipes Group (March 2021) on behalf of its members

<https://www.bfpipesgroup.com/members/member-listings/>

CIRIA report C737 (Structural and geotechnical design of modular geocellular drainage systems) has been available for some time but has not been widely taken up by the industry. This position statement attempts to explain why the BPF Pipes Group members feel that there are ongoing issues with C737 and how we want to move forward.

In relation to testing of geocellular systems, C737 recognised that the thermoplastics used in geocellular systems behave differently to rigid materials and incorporated many improvements over the previous CIRIA guide (C680), such as long term testing via creep rupture. Since publication of C737, tests methods are now standardised in the European standards for short term testing (EN 17150:2019) and long term testing (EN 17151:2019), and in the product standard (EN 17152-1:2019). BPF members were actively involved in the production of these standards.

Unfortunately, C737 did not carry over the philosophy of thermoplastic behaviour to geotechnical design, instead treating geocellular structures in the same way as rigid structures such as concrete. Failure models based on rigid structures lead to overdesign inconsistent with industry experience of plastic behaviour. The BPF Guide to C737 modified some of the 'errors' but did not substantially change the underlying approach.

Recognising that the C737 approach is 'out of step' with geotechnical design for these structures in mainland Europe, BPF members have been fully engaged with European standards committees in continuing to develop a Europe wide approach.

These products have been in use for over twenty years and failures of installed systems are rare. CIRIA C680 (Structural design of modular geocellular drainage tanks, 2008) continues to provide an effective and conservative approach to designing and installing plastic modular geocellular drainage systems, until Europe-wide guidance is available.