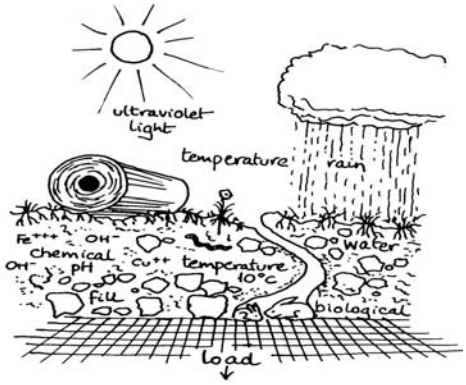
Long-Term Strength of Geogrids: Assessment of Reduction Factors to ISO TR 20432

COBHAM

Céline Lechat, Cobham Technical Services – ERA, Cleeve Road, Leatherhead, KT22 7SA, UK
Celine.lechat@cobham.com

Geogrids subject to various sources of degradation during their installation & service life



For safe design, need for use of reduction/safety factors

ISO TR 20432 gives guidance on which reduction factors to use & which tests to perform to obtain them

CREEP

Combination of conventional creep tests (ISO 13431)

and

accelerated SIM test (ASTM D 6992)

↓

Reduction of strength of … % after … years → RF_{CR}

INSTALLATION DAMAGE

Full scale test (BS 8006 Annex D)

↓

RF_{ID}

(for specific soil & level of compaction)

Equivalent to f_{m211} of BS 8006

CHEMICAL DEGRADATION

Hydrolysis (EN 12447) | Oxidation (ISO 13438) | Resistance to Acids / alkali (EN 14030)

↓

RF_{CH}

Equivalent to f_{m22} of BS 8006

WEATHERING

Accelerated test (EN 12224)

↓

RF_{W}

+

Recommendations on maximum exposure time