

Ecolite 10/60
Lightweight Gravel



Ecolite LWG 10/60, Lightweight Gravel

Applications

Ecolite LWG is lightweight gravel made from recycled waste glass. Ecolite LWG has been used in infrastructure projects for construction of roads, tunnels and railways and is suitable for use as building foundations, trench and retaining wall backfill, and green roofs.



Ease of Use

Because of its porous structure, Ecolite LWG has excellent thermal insulation properties and also is ideal for forming drainage layers. The 45° angle of repose makes Ecolite stable and easy to work with.

Compaction

Ecolite LWG has a compaction factor of 1.15 to 1.2 which means a 1.25m layer of loose Ecolite LWG will compact down to 1m.

Ecolite LWG should be compacted in 1m layers for large areas and 300mm for trenches using a 90kg vibratory compaction plate to achieve a 1.15 compaction ratio.



Ecolite LWG 10/60 - Properties



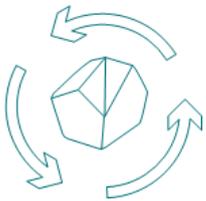
Lightweight

With an average loose bulk density of 180 kg/m³ Ecolite LWG is up to 10 times lighter than traditional rock masses and reduces ground pressure by up to 90%.



Stable

Ecolite LWG has a compaction factor of 1.15 - 1.2, achievable with a 90kg vibratory compaction plate. The roughness and grain shape of Ecolite LWG results in an angle of repose of approx. 45° and it can be walked on without any compaction.



Sustainability

Ecolite LWG is produced from recycled waste packaging glass. Ecolite does not react with other substances, is chemically stable, does not emit harmful gases and is non-combustible. At the end of its useful life Ecolite can be recycled back into the production process.



Frost Protection

Ecolite LWG is a suitable frost protection material for a number of construction applications. As a drainage layer the thermal conductivity is 0.107 W/mK and in dry conditions under floor slabs the thermal conductivity is 0.097 W/mK.



Drainage

The porosity of Ecolite LWG enables water to drain effectively and to form a capillary-breaking layer. The capillary layer height is 170mm.

Buoyancy

Buoyancy must be taken into consideration if Ecolite LWG is placed below groundwater level or within flood prone areas.

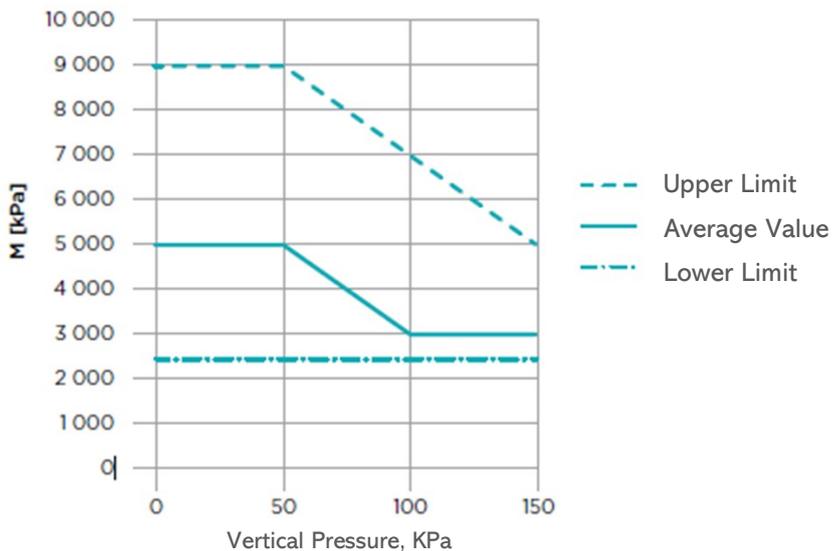
Permeability

Permeability of Ecolite LWG can be considered to be similar to coarse gravel or crushed stone.
i.e. permeability > 102cm/S

Ecolite LWG 10/60 - Material Properties

Ecolite LWG 10-60	Method	Measure
Grain size	NS-EN 933-1	10-60mm
Dry density	NS-EN 1097-3	180 kg/m ³
Particle density	NS-EN 1097-6	380 kg/m ³
Resistance to crushing (by 20% compaction)		770 kPa
Suction height	NS-EN 1097-10	170mm
Volume change by compaction	NS-EN 1097-10	15-25%
Friction angle		45°
Thermal conductivity (dry)	NS-EN 12667	0.097 W/mK
Thermal conductivity (wet)	NS-EN 12667	0.107 W/mK
Freeze-thaw resistance	NS-EN 13055-2	0.20%
Maximum layer thickness before compaction	Lightweight Fill	1.0m
	Retaining walls/abutments	0.6m
	Ditches	0.3m
Compaction	Crawler machinery with belt pressure	< 50 kN/m ²
	Plate vibratory compactor	50-200kg
Static load	Maximum pressure	80-120 kN/m ²

Oedometer Values for Constrained Soil Modulus, M at 20% Compression



PACKAGING

Ecolite LWG is available in 1.0m³ and 1.5m³ big bags.

Notes: Specifications are subject to change without notice. The data in this document is typical of average values based on tests by independent laboratories or by the manufacturer and are indicative only. Materials must be tested under intended service conditions to determine their suitability for purpose. Expanded Glass Technologies disclaims any liability for damages or consequential loss as a result of reliance solely on the information presented.

