

Uniclass L6129	EPIC F122
CI/SfB (-A) Cp3	



Technical Manual – Section 10 Lytag® products in drainage applications

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Introduction

The unique properties of Lytag® products allow them to be used in a variety of drainage applications. It is a rounded, manufactured aggregate that does not degrade over time. Placing on site is relatively easy as the material “flows” into voids and needs little additional compaction, saving time and money.

General properties

Lytag® products have a typical insitu density of 815kg/m³ based on a moisture content of 15%. This may however vary slightly, and current bulk densities may be obtained from the Lytag Ltd sales office.

Further details on specific properties are given in the appropriate section of the Lytag® Technical manual.

Applications

Land Drainage - Hortag® horticultural media is ideal for smaller land drainage projects. Its rounded shape and regular grading give excellent hydraulic conductivity. It is used to construct golf course greens and is used in slit trenching and gravel banding, including Shelton Systems.

For further information please see Section 19 of the Lytag® Technical Manual.

Geo fill® civil engineering bulk fill may be used for bulk fill purposes, where efficient drainage is important, in contracts using the Specification for Highway Works or is to be used as a granular bedding and sidefill for rigid and flexible pipes. BS EN 1610 – Construction and testing of drains and sewers details the design requirements.

For further information please see section 16 of the Lytag® Technical Manual.

Sports Fields - Hortag® is excellent for both open trenching and for turf slitting. 6/14mm aggregate can also be used for trench fill around bowling greens.

For further information please see section 19 of the Lytag® Technical Manual.



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Applications (cont.)

Green Roof and Architectural Landscaping - When mixed with soil, Hortag® makes an excellent lightweight growing medium. Careful consideration has to be given to the component parts of the system to ensure they provide a suitable medium for sustaining vegetation, provide adequate drainage while still retaining moisture, minimise the weight on the building and should aim to protect the environment but, at the same time minimise the use of finite natural resources and provide reasonable value to those involved in its design, construction and operation. For further information please see section 22 of the Lytag® Technical Manual.

Benefits of specifying Lytag® products in drainage applications

Quality – Effective Quality Management Systems ensure consistent product manufacture.

Stability - They will not degrade, clog or impede drainage. It will aid long life and high performance to any scheme.

Cost Saving - It is half the weight of natural stone or gravel thus savings are made in transportation and laying costs – a 30 tonne tipper truck can collect 36.5m³ of Lytag® products compared with only 18m³ of natural aggregate.

Ease of placing - Being a rounded aggregate, Lytag® products “flow” easily and quickly into position, reducing any need for specialist placing techniques.

Use in Soft Ground - In wet and difficult ground conditions, they can be used when it would be difficult or impossible to transport heavier natural aggregate.

Pellet Shape - Due to the rounded shape of the pellet, no damage is caused to plastic pipes, membranes or bags.

Non-Compactable - Unlike irregular shaped aggregate, which over time often compact and silt up, Lytag® products’ rounded shape maximises the proportions of voids necessary for efficient drainage and aeration. Even after many years of service underground the compaction is minimal so free flowing properties are maintained.

High Absorption - Rapid dispersion of water is improved by both high absorption characteristics and non-compactability (A soak away system using Lytag® products can retain as much as one third its weight in water). Due to its non-compactability it offers a much improved rate of hydraulic conductivity when compared to natural aggregates.

Easy on machinery - Damage to machinery can be reduced due to the rounded shape, weight, and impact reduction and non-abrasive qualities of the pellet.

Manual Handling - Due to the weight of Lytag® products being approximately half that of natural aggregate, handling is less arduous and the risk of physical injury is reduced.



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Environmental considerations

As Lytag® products are manufactured from a waste stream material, the need to extract virgin materials to obtain the aggregate is negated. The original waste ash from the power station does not need to be sent for landfill, hence reducing the requirement for valuable land space.

As Lytag® products are approximately 50% of the weight of 'normal' aggregate, twice the volume can be carried in road vehicles. This significantly reduces vehicle movements on the highway and on and of site.

Where manual handling of the aggregate is required the lighter weight of the aggregate makes it easier to move, hence reducing the physical strain on operatives.



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