

Bentofix® X

Pond Lining System

Project name
Huawei Song Shan Lake, China

Supplier
Shenzhen Silco Industrial Co., Ltd.

Contractors
Evergrande

Product
Bentofix® X2 NSP 4000





Fig. 1: Cover soil placement above Bentofix®

Challenge

Huawei Ox Horn Campus was developed on the south shore of Songshan Lake, Dongguan, Guangdong Province, China. The European-themed model village consists of 12 groups of buildings, inspired by European cities or regions. The buildings will be used as Huawei's Research and Development Centre with a capacity of 25.000 employees and a total GFA of over 1 million square meters. The total cost of the entire complex is around \$1.5 billion.

During development, Huawei Technologies Co. Ltd. as the owner intends to preserve the natural appearance of Lake Song Shan to harmonise within the structure. A solution for the pond lining was then proposed.

Solution

The multi-component geosynthetic clay liner (GCL) Bentofix® X was selected as pond lining solution due to its low permeability and immediate sealing properties. Bentofix® X provides immediate sealing at the basement of the pond, preventing any seepage loss into the soil.

Bentofix® X is manufactured with a polyethylene extruded coating layer to provide greater protection against root penetration and bentonite desiccation. The coating surface also acts as immediate sealing, even before the bentonite hydration.

An additional layer of bentonite is impregnated at the edge of the complete roll for the self-seaming overlaps. In case that the overlap is performed in another part of the GCL, i.e. cross overlap, the sections are sealed with additional bentonite powder or bentonite paste.

Installing Bentofix® X is quick and easy. The contractor can easily roll out Bentofix® X on site with a 30cm overlap. Once hydrated, the bentonite swells to form a low permeability gel layer. Powder bentonite also has self-healing properties, which can remediate any unexpected mechanical damage caused during installation.

Even slope installations can easily be accommodated by unrolling Bentofix® X from the bottom to the top. Bentofix®'s unique fibre-bonding process locks the needle-punched fibres into place, creating high internal shear strength with excellent creep resistance.

Bentofix® X was supplied to this site with the assistance of our partner Shenzhen Silco Industrial Co. Ltd. The project was carried out in 2018, and the product is performing excellently ever since.



Fig. 2: Site preparation before Bentofix® installation

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