

## **TERMS OF CONTRACT FOR THE “DAKU EXTENSIVE PITCHED” SYSTEM**

This is an agreement for the realization of the DAKU EXTENSIVE PITCHED system, with a vegetal substrate made of Sedum and in compliance with the prescriptions of the UNI 11235/2015 standards. The system, installed on a waterproof anti-rooting substrate, must meet the following requirement regarding efficiency and sustainability:

- To have a thickness (without vegetation) not superior to 16 cm.
- To have a weight for the saturated system (without vegetation) not superior to 103 kg/m<sup>2</sup>
- To have an air volume not inferior to 49,5 l/m<sup>2</sup>
- To have a total amount of retained water not inferior to 46,5 l/m<sup>2</sup>
- To have an amount of water retained by porous media not inferior to 35,5 l/m<sup>2</sup>
- To have a total amount of usable water not inferior to 38,5 l/m<sup>2</sup>
- To have a usability ratio not inferior to 0,83
- To have an efficiency ratio not inferior to 0,71
- To have an outflow coefficient (in compliance with UNI 11235/2015 - FLL test) not superior to 0,51

The DAKU EXTENSIVE PITCHED system is composed of:

- DAKU FSD 20: it is the fundamental basis and engine package. It is a component made of prefabricated sintered expanded polystyrene, which performs a threefold function of protection, drainage and water storage. It has a gross mass of 25 kg/m<sup>3</sup>, a thickness of 82 mm and a hydric storage capacity of 13.1 l/m<sup>2</sup>. The horizontal drainage capacity at 20 kPa ( $i=0.01$ ) is not inferior to 1.44 l/m<sup>2</sup>. The vertical drainage capacity is not inferior to 0.73 l/m<sup>2</sup>. The air volume of the system when fully saturated is of 21.5 l/m<sup>2</sup>.
- DAKU STABILFILTER SFE: it is a geotextile stabilizer in polypropylene with filtering capabilities. It has a thickness of 1.35 mm (at 2k Pa) and weights 220 g/m<sup>2</sup> (+/-10%). The filtering speed is of 85 mm/s (-30%), with the maximum pore openness of 0.08 mm (+/-30%).
- DAKU GRID 4: it is a cellular confinement grid, which supports and links the surface. It is made of polypropylene and has a tridimensional bi-oriented structure. Each cell is quadrangular, 40x27 mm wide.
- DAKU GEO 75: it is a retainment cell made of polyethylene, with a tridimensional ovoidal shape. It has a height of 75 mm and an internal diameter of 30 mm.
- DAKU ROOF SOIL 2: is a substrate mainly composed of volcanic material (lapillus, pumice stone) and organic matter (DAKU KOMPOST). Its granulometry respects the levels established by the UNI 11235/2015 standards and its dry volumetric mass has a value between 650 e 750 kg/m<sup>3</sup>. The substrate weight, when saturated, is lower than 1.072 kg/m<sup>3</sup>. The PH levels are between 7/8 and the CEC is not lower than 16.3 m<sup>2</sup>/100g. The water retention capability is not inferior to 40% and the usable water is never less than 30%. The substrate thickness is of 8 cm.
- DAKU PLUS E: it is a fertilizer, in the form of granules, which gradually releases the nutritive substances. It has a concentration of 8 g/m<sup>2</sup> for each centimeter of the substrate. In the fertilizer there is a 14% percentage of nitrogen, a 13% percentage of phosphorous pentoxide (soluble) and a 12% percentage of potassium oxide.
- DAKU SEDUM TALEA: it is a vegetal substrate composed of perennial grasses. the mixture includes different species of Sedum with different length and size. The minimum density is of 80 g/ m<sup>2</sup>.
- STABILIZATION SUBSTRATE: it is a perimetral substrate (50 cm wide) for drainage and protection made of gravel with a granulometry of 20 - 30 mm. The thickness is equal to the one of the stabilized substrates.

Depending on the geo-morphological and climatic conditions it may be necessary to equip the system with an irrigation mechanism. All DAKU products comply with the UNI 11235/2015 standards. The sustainability and efficiency certification of the system will be granted only if the guidelines provided by DAKU Srl regarding materials and installation procedures will be respected.



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