

DALLA NATURA PER LA NATURA. LE FIBRE VEGETALI PRENDONO IL POSTO DEL CEMENTO

From nature to nature.

Vegetable fibers take the place of cement

GRAZIA SIGNORI

Mapei SpA

g.signori@mapei.it

Abstract.

Designers, citizens and administrators have been paying more and more attention to the quality of landscape and urban open spaces design, also following the pandemic and related lockdowns. This new sensitivity adds further awareness to the issues of sustainability, circular economy and, for outdoor paving, of de-paving.

In the context of the European provisions aimed to sustainability in the construction and redevelopment sector, including the *European Green Deal*, *Green Public Procurement* and *Bringing nature back into our lives*, the availability of highly sustainable products is increasingly becoming one of the key-requirements either for new construction, refurbishing and conservation of historical buildings and archaeological sites.

Thanks to the research and selection of materials recovered from other industrial processes, a premixed mortar free from cement and lime and based on mineral aggregates and re-used vegetable fibers was developed, to be used as grouting for pedestrian and low traffic architectural paving.

Durability tests (weathering cycles) and environmental profile have been performed. Test results show that the vegetable fiber mortar is weathering resistant and that, compared to a traditional cement grout, its CO₂ emissions are reduced by 95%.

Keywords: *grouting mortar, re-used vegetable fibers, stone paving, sustainability*