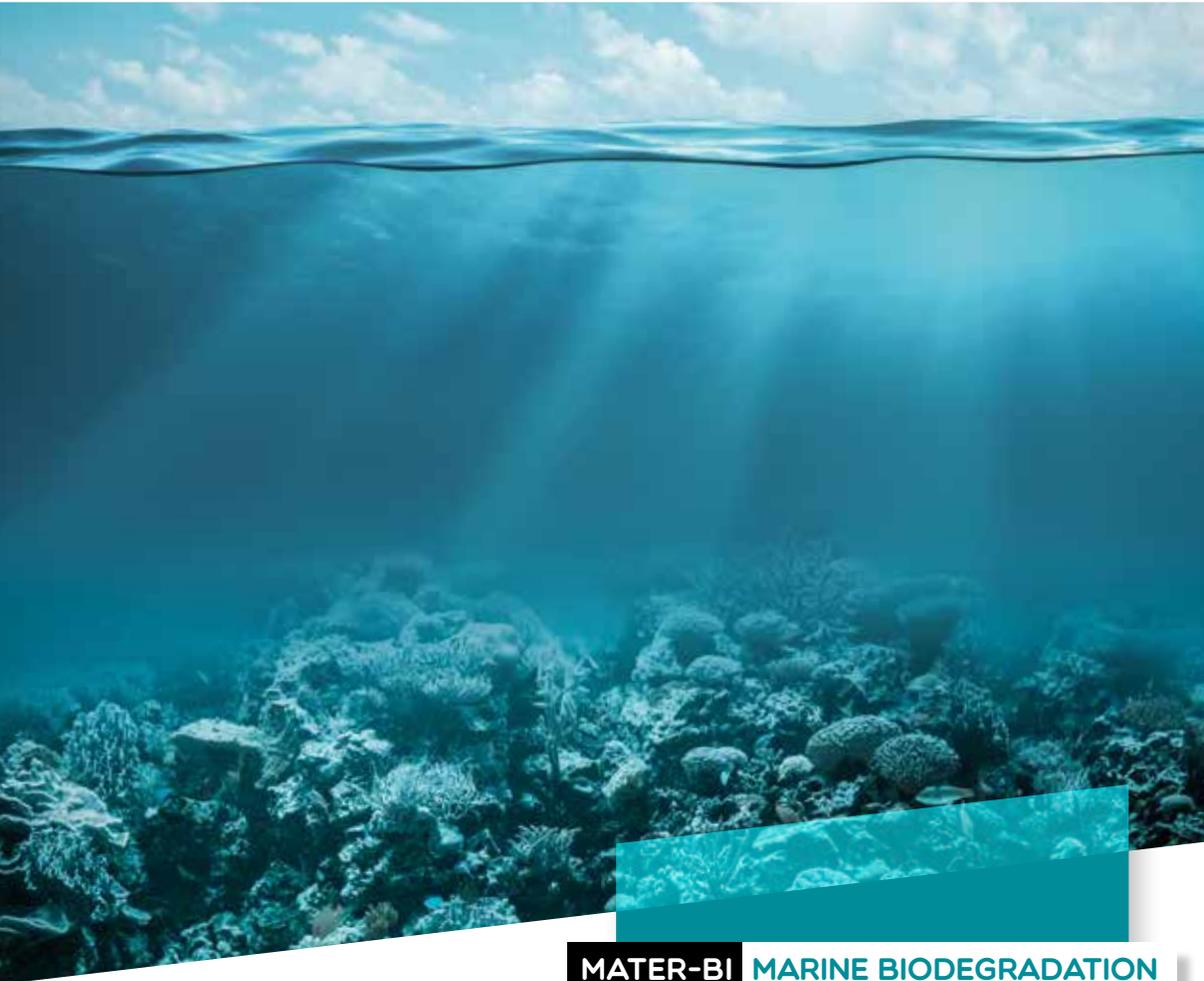


MARINE BIODEGRADATION OF MATER-BI



MATER-BI MARINE BIODEGRADATION

MATER-BI is a family of fully **biodegradable and compostable** bioplastics which use renewable resources to provide a solution with low environmental impact and to solve specific environmental problems in various sectors, such as foodservice, packaging and separate collection of organic waste.

In laboratory tests, samples of MATER-BI were exposed to marine sediments from coastal areas, a habitat where a lot of plastic waste ends up.

The test data confirm that MATER-BI tends to biodegrade in relatively short times.

WASTE SHOULD NOT BE DUMPED

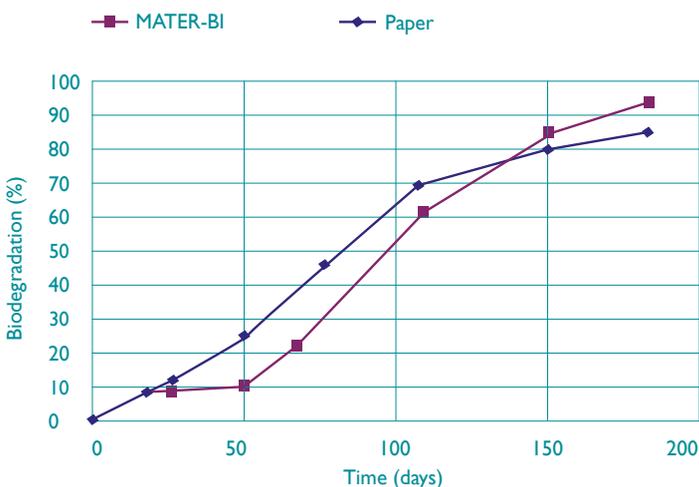
Plastic waste in our oceans is a growing concern. The uncontrolled disposal of waste is a major social problem which needs to be resolved by increasing environmental and civic education, that is, environmental awareness among citizens. Products made of MATER-BI are not

designed for uncontrolled disposal but for recovery through organic waste recycling (i.e. composting and anaerobic digestion). Biodegradability cannot be used as an excuse to dump waste – our oceans are not rubbish dumps and cannot support the uncontrolled

discharge of waste (regardless of whether or not it is biodegradable). That said, it is interesting to note the marine biodegradation properties of biodegradable plastics made of MATER-BI to determine the potential impact in case of uncontrolled disposal.

MARINE BIODEGRADATION TESTS ON MATER-BI

NOVAMONT has verified the behaviour of products made of MATER-BI using test methods prepared by international standards organisations. The results are positive. Samples of MATER-BI were tested and biodegradation was tracked by monitoring metabolism by the bacteria that “digest” bioplastic. High levels of biodegradation were achieved in relatively short timeframes (less than 1 year). More specifically, the biodegradation of the materials tested was over 90%, in absolute terms and relative to a reference material such as paper (see example in the chart). When abandoned products made of MATER-BI reach the sea (from rivers, land or boats), they do not “disappear” immediately. Nevertheless, the environmental risk caused by a product released in the



natural environment, such as soil or sea, is lessened by rapid biodegradation that reduces the time the product remains. The results of the environmental biodegradation of MATER-BI have been verified by Certiquality within the framework of

the “Environmental Technology Verification (ETV)” pilot programme.

More information on this new environmental technology verification tool can be found at: <http://iet.jrc.ec.europa.eu/etv/>

MATER-BI is certified as biodegradable and compostable. If disposed of in the wet waste fraction, it is converted into fertile, useful compost. www.materbi.com

