



Associazione costruttori
italiani macchine
ed accessori
per la lavorazione del legno

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press release No. 2/2015

Assago, April 14, 2015

IMAL PAL AND ACIMALL TOGETHER FOR LIFE+ EUROPEAN PROJECTS

“HPRS-High Pressure Resination System” (www.hprsproject.eu) is an innovative solution designed to minimize the quantity of resin (glue) in wood-based panels.

“Plastic Killer” (www.plastickiller.eu) is an innovative system to remove all plastic residues from recycled wood, so that it can be used instead of virgin wood to make high-quality panels or clean fuel. The creator of both projects, within the framework of the European program **LIFE+** for the financing of sustainable, environmental-friendly technology innovation, is the IMAL-PAL group, an Italian leader in the construction of complete panel production plants, in collaboration with a few partners including Acimall, through its service company Cebra spa.

The innovative **HPRS** solution adopts special nozzles (injectors) provided with a variable diameter orifice to adjust and control resin pressure while preserving its high speed, in order to achieve a quick and even distribution of glue onto the chip or strand layer. Innovative resin distribution proportional to the surface to be glued also minimizes waste, ensuring an overall optimization of the mixing process.

Summing up, by dosing and spreading resin more efficiently, the “over-spreading” method adopted in conventional processes compensates for possible inaccuracies in glue distribution onto the wood surface, whereby such inaccuracy is inherent in the process. Significant results are expected: HPRS reduces consumption by 10 to 20 percent, according to panel type and previous process, with significant savings in terms of costs and harmful emissions due to formaldehyde contained in the glue.

Installation and startup at a pilot site have given more than satisfactory results.

The new resination system will soon be marketed.

So far, MDF panels have been mainly manufactured using virgin wood and only a small fraction of recycled wood, as the cleaning process requires several operations and still cannot thoroughly remove all “foreign materials”.

“Plastic Killer” fills this gap, providing totally purified recycled wood that can be used to make high-quality, compliant MDF panels, more sustainably and cost-effectively: it has been estimated that up to 60 percent of production might come from recycled wood. In addition, the wood processed by Plastic Killer is so pure that it can also be used as biomass for clean energy generation, without the risk of pollutants released from plastic materials, as the latter are completely eliminated.

The benefits are evident. With only 58 kilowatt installed power, the plant can process about 78 cubic meters per hour of wood wastes, saving approximately 40 trees. Considering carbon dioxide “trapped” in trees and released during transport, you get a total reduction of CO2 emissions by approximately 88 equivalent tons each day. Finally, Plastic Killer, unlike other conventional plants, uses no water. Cost savings are huge, estimated at 2,340 Euro per day, or more than 500 thousand Euro annually. The parameters of the machine and its design were finalized in 2014. A prototype was built and installed in early 2015 and the plant will soon be available for sale.

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