

Method and device for recycling of shredder light fraction (SLF)

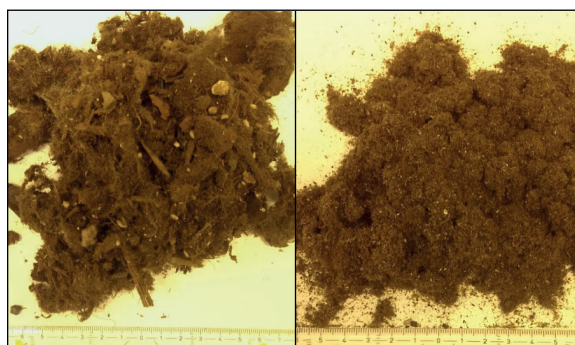
Researchers at TU Wien have developed a new technology to recycle shredder light fraction (SLF). SLF remains after separation of metallic fractions in shredder-facilities and contains considerable amounts of fibers, which can be processed to a fiber-containing aggregate. The amount of waste can be considerably reduced and additives for construction materials can be substituted.

BACKGROUND

The end-of-life vehicles directive 2000/53/EC demands a minimum quota of 85% for recycling and re-use, which cannot be reached solely by recycling of metals. Several technologies based on mechanical and thermal processes are available for the treatment of SLF (appr. 25% of vehicle weight), but these methods cannot fulfil necessary recycling rates. Especially the so called fluff fraction, containing a considerable portion of fibers, is problematic and has to be combusted or deposited. Due to ecological, economical and legislative reasons, a better solution was necessary and has been found.

TECHNOLOGY

The new method allows to process the fluff derived from SLF and to produce a material which can be used as an additive for a broad spectrum of bituminous or concrete materials (e.g. binder carriers in asphalt). Various types of waste containing a high amount of fibers can be processed, without generating any additional waste and minimizing energy consumption. The process is environmentally and economically feasible and is in accordance with severe legislation (e.g., deposition ban).



Untreated fluff

Processed fluff

ADVANTAGES

- Amount of waste from vehicles can be reduced
- Applicable for a broad spectrum of fiber containing wastes
- Waste can be converted to a valuable recycling product
- The recycling product can be used as additive in the bitumen and concrete industry
- Simple and very cost-effective way of compliance with directive of the EU (e.g. end-of-life-vehicle - 2000/53/EC)
- The process allows adapting the properties of fluff which can thus be adjusted to the specific demands of an application

REFERENCE:

M051/2006

APPLICATIONS:

- Waste facilities
- Shredder companies
- Construction industry i.e. asphalt and concrete production

DEVELOPMENT STATUS:

Proof of Concept

KEYWORDS:

shredder light fraction (SLF), fluff, end-of-life vehicle recycling, binder

IPR:

Patent granted in AT (AT 504 885), IT, FR, GB, DE, BE and NL (see EP 2 146 938)

OPTIONS:

- R&D - Cooperation
- License Agreement
- Patent sale

INVENTORS:

Andreas BARTL, Michael WISTUBA, Markus SPIEGL, Ingo MARINI, Ronald BLAB

CONTACT:

Angelika Valenta

TU Wien

Vienna, Austria

T: +43.1.58801.41538

angelika.valenta@tuwien.ac.at

www.rt.tuwien.ac.at