



THE METHOD AND DEVICE FOR CLEANING THE PLASTIC SURFACE FROM THE RESIDUES OF POLYURETHANE FOAM

Ideas on utilisation

The subject of the offer is a method and a device for cleaning the plastic surface from the residues of polyurethane foam, used in particular for recovery of secondary raw materials and recycling, which can be applied to contaminated elements of refrigerators (plastic recovered from refrigerator housings is contaminated with residues of polyurethane insulation foam that strongly adhere to plastic elements).

Potential adopters of technology

The essence of the solution lies in the fact that a plastic sheet is placed on a substrate made of a susceptible material. The plastic is protected by a net, with which plastic is pressed against the surface of the cleaned surface, after which at least one nozzle with a stream of clean liquid (water flowing out of nozzles under high pressure, the stream removes the residues of polyurethane foam from the cleaned plastic surface) is directed to the plastic surface cleaned. The nozzles are arranged so that the stream generated by them simultaneously cleans the entire width of the plastic surface. The surface cleaning device, on the other hand, has a linear cleaning and washing head in the form of a beam with at least one nozzle spraying liquid at high pressure directed with the outlet to the surface cleaned. The nozzles are connected by flexible hoses through a liquid flow distributor, a valve (solenoid valve), a tee with a throttling valve and a hose connecting the pump with a cleaning system and a pump supplying the liquid to the system under high pressure. The solutions will be applied in the recycling of freezers and refrigerators as well as in the granulate production industry for further use).

Advantages of technology

The solution has a beneficial effect on the natural environment by restoring usability to products that have been withdrawn from service - freezers and refrigerators. The method of cleaning the plastic surface according to the invention allows, by means of a liquid stream under high pressure, to completely remove any foam residues from the plastic surface and consequently to obtain a secondary raw material with a high purity class. Thanks to high purity, this plastic can be ground and sold at a higher price in the market. The system, according to the invention, can be built in a device allowing automatic transfer of the boards to the station and their receipt after cleaning.

Market and context of technology

Companies interested in this solution are primarily refrigerator manufacturers

Preconditions in adopting enterprises

Not determined

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