

Technology Offer

Title:

Functionalising surfaces of industrial parts (damping, friction, insulation, absorption, water dripping, air flow noise etc) (Ref: 10 DE 1486 3GPI)

(Open)

Abstract:

A small German company owns specific knowhow and scalable technology for flock coating of complex 3D surfaces. They modify functional surface properties of industrial parts with respect to damping, friction, noise emission/absorption, thermal insulation, thawing, air flow, optics, haptic etc. Technical cooperation in development of solutions for tricky surface problems is offered to industrial designers/manufacturers with demanding functional requirements, from prototype/single piece upwards.

Description:

The basic principle of flock coating is about 3000 years old and has been used already in ancient China for decorative purposes. Today, significantly advanced materials, chemicals and processing technologies, open new possibilities of what can be achieved with this traditional technology. Flock coating has developed far beyond pure decorative purposes and has become a powerful tool to solve industrial problems of different kinds. However, the full potential of flock coating is still not sufficiently known in many industries. Applying it to new fields offers an enormous innovation potential for manufacturing SMEs.

Physical properties of complex 3-dimensional industrial parts can be changed significantly by flock coating critical surface areas with tailored materials. Some examples may demonstrate the broad range of applications: Selective flock coating of thread rods in linear positioning systems can reduce friction and noise emission during operation. Flock coating of channels and pulleys can improve the gliding properties and reliability of complex force transmission systems. Flock coating can be used on springs, catches, locks, bearings and sealings. It can close seams and gaps between components. It can be used to improve the gas flow in tubes and gas channels, and to avoid noise generation at edges and constrictions. It can prevent dropping of condensates at critical points in machines and facilities, guide condensates in a specific direction and act as a barrier against liquids. Heat resistant flock coatings can be used as thermal insulation or to protect humans from accidental contact to hot surfaces. Flock coated surfaces can be used as filters, for adsorbing chemicals or absorbing noise or light. The range of potential applications is enormous and far from being fully utilised today, especially at SMEs.



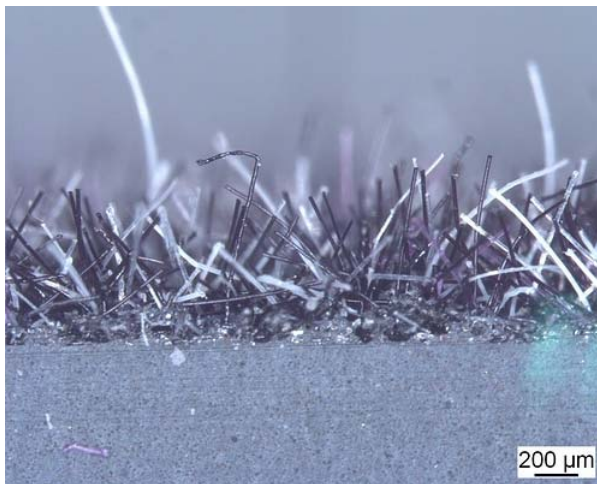
Technically flock coating is achieved by a combined electrostatic-pneumatic process that has to be tailored to the specific application. The dedicated fibres or particles are transferred to the defined surface areas in an orientated way and permanently fixed there by suitable gluing technology. Flock coating is offered as an industrial service by a comparatively small number of specialised companies. As the process has to be redesigned for new applications, most providers focus on long running large scale productions and are not very open for prototypes or small-scale production of SMEs.

Contrary to that, the small German flock coating company is specialised in developing new solutions for specific technical problems. They coat single pieces (like prototypes, unique devices or pieces of artwork) up to small series of some ten to hundred copies. The company offers its expertise to designers and product developers at SMEs, who need a technical solution for surface related problems like the examples described above.

Innovations and advantages of the offer

Small scale facilities and equipment that allow flexible adaptation to specific needs and requirements far below the threshold of mass production. Individual assistance to SMEs in different industries, helping them to innovate their products, regarding convenience and functionality:

- Development of tailored solutions for specific technical problems
- Individual adaptation of process, materials and chemicals to the specific problem
- Flexible process, applicable from prototypes or single pieces upwards



Current and Potential Domain of Application

Universal; can be applied to industrial parts and products from nearly any kind of material

Other Profile Details

Organisation: Bayern Innovativ Bayerische Gesellschaft für Innovation und Wissenstra
Network Partner: Bavaria2Europe
Country: Germany
Entry Date: Mon, March 01, 2010
Validation Date:
Deadline: Thu, January 27, 2011

List of Keywords

Technology

- ✦ Coatings
- ✦ Surface treatment (painting, galvano, polishing, CVD, PVD)
- ✦ Composite materials

Market

- ✦ Consumer Products
- ✦ Plastic fabricators
- ✦ Other Industrial Products (not elsewhere classified)

Current Stage of Development

Already on the market

Exploitation of RTD Results

Private Research

Intellectual Property Rights

Secret know-how

Comments

Organisation/Company

Type: Industry
Size: 11-50

Collaboration Type

- ✦ Joint further development
- ✦ Testing of new applications
- ✦ New way to use an existing production line
- ✦ Change in the partner sought's currently used technologies (installations, process, facilities)
- ✦ Assembly
- ✦ Technical consultancy

Comments

- Type of partner sought:

Industry

- Specific area of activity of the partner:

Manufacturers of industrial parts and products; designers and prototype developers

- Task to be performed by the partner sought:

Defining the specific problem and requirements, delivering the parts that shall be improved, testing and feedback on results

Targeted Countries

ALL

Contact Details

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