Technology Request

Development of fiber samples with specific thermal properties for application in 3D-fibre formed parts for acoustic and thermal insulation

Summary

A German SME has developed a new technology for production of 3D-fibre formed parts for acoustic and thermal insulation that can be applied e.g. in the automotive, construction or medical sector. The technology allows production from a large range of different materials and the SME is looking for new fibres for their products/applications that have suitable thermal properties. The SME searches companies for a technical or research co-operation and in a second step for a manufacturing agreement.

Expiration Date	26 January 2017
Reference	TRDE20160120001
Profile link	

Details

Description

A German SME has invented and patented an innovative technology for the production of 3D fibre formed thermal and acoustic parts for isolation and insulation from various materials. The innovation consists of a new system for blowing in fibres and flakes into the production mould. Thus varying densities and internal structures can be manufactured in one single production step. Moreover, the system allows production from a larger range of different materials than is possible with conventional technologies: The materials could be fibres or a mixture of fibres with foam flakes, thermoplastic fixed with a binder. Nearly each kind of fibres may be taken: Cotton, hemp, flax basalt, glass and PES (polyether sulfone), etc. The technology thus allows the production of isolation and insulation 3D parts for various applications. It has been successfully used in automotive, construction, medical or rehabilitation applications.
A big market are PUR (polyrutheane) foam based parts, which could be replaced with the new technology, if the right fibres are available.

Fiber based parts are lighter than PUR foam parts. Together with the new technology it is possible to implement different densities for better performance than with PUR.
It exist significant business opportunities for new materials that approach the advantages of PUR foam (good shaping properties, good combination of density, rigidity, elasticity) while at the same time eliminating its disadvantages (poor recyclability, poor consumer acceptance of PUR due to perceived dangers from precursor monomers or additives).

Up to now, however, no fibre on the market has the same resiliency like foam under higher temperature conditions.
Therefore, the SME is looking for a technological or research co-operation with a laboratory or institute which can develop fibres with thermal properties that come up to the SME’s

requirements for their applications. Once a suitable fibre has been found the SME will also look for a manufacturing agreement for these fibres.

Technical Specification or Expertise Sought

The requested partner should be experienced in fibre development and provide/develop fibres applicable for products with stable resilience of up to 80C.
For trials some kg of material are needed, for start of serial production later several 1.000t per year.

Keywords

Technology

02007005	Composite materials
02007015	Properties of Materials, Corrosion/Degradation
04007004	Thermal insulation
10002014	Noise Pollution
10003004	Recycling, Recovery

Market

06006001	Thermal insulation
08001009	Speciality/performance materials: producers and fabricators
08003005	Other industrial machinery for textile, paper & other industries
09001005	Motor vehicles, transportation equipment and parts
09007002	Manufacture of construction materials, components and systems

NACE

C.28.9.9	Manufacture of other special-purpose machinery n.e.c.
M.74.9.0	Other professional, scientific and technical activities n.e.c.

Open for EOI : Yes

Dissemination

Send to Sector Group

Materials

Client

Type and Size of Organisation Behind the Profile

Industry SME <= 10

Year Established

2003

Languages Spoken

English
German

Client Country

Germany

Partner Sought

Type and Role of Partner Sought

- Type of partner sought: Laboratory, institute

- Specific area of activity of the partner:
Laboratories with good experience in fiber development.

- Task to be performed:
Development and possibly in a second step production of fibre samples that will be tested and evaluated by the SME.

Type of Partnership Considered

Manufacturing agreement
Technical cooperation agreement
Research cooperation agreement

Technology Request

Fully funded flame retardant technology for further development in an incubator program

Summary

An Israeli MNE manufacturer and marketer of industrial chemical products is seeking flame retardant technologies and products. The company is interested in accelerating the development of sustainable new products and processes, as well as providing solutions for major global challenges within the company's incubator program. Identified technologies that meet the basic criteria (detailed in description) will receive funding to mature the technology if required, or be considered for licensing.

Expiration Date 01 March 2017
Reference TRIL20150719001
Profile link

Details

Description

An Israeli chemical company is seeking innovative Flame Retardant (FR) materials and technologies. The company's incubator will fund early stage technologies to mature them towards licensing by the company. The MNE is interested in establishing cooperation under financial or licensing agreements with innovative SMEs or research institutions developing flame retardant technologies and products.

The specific interests are:

1. Brominated flame retardants compatibility improvement with non polar matrices: MNE is seeking a cost effective technology to improve the compatibility of brominated flame retardants (BFR), with non polar matrices.
Background: Brominated flame retardants (BFR) are used in many polymers, among which polyolefins which are non-polar. Being acidic, the flame retardants tend to bloom out of non-polar matrices. As a leader in BFRs, our company seeks technologies to mitigate the problem, especially in polyolefins. Encapsulation is one solution the MNE is examining, but other technologies may be considered. Special emphasis is placed on retaining the hosting polymer's properties and on low cost, being a prerequisite in this market.
Criteria: cost effective; compatible with a variety of non polar matrices; environmentally friendly; availability of feedstock materials.

2. Antimony Trioxide (ATO) alternative as flame retardant synergist: the MNE is seeking a cost effective synergist as an alternative to Antimony Trioxide to deliver halogen in the gas phase from plastic composites during combustion
Background: As the field of flame retardants evolves, so is the need for better and more cost effective synergists. ATO has served for years as the major synergist for Halogen based FRs. Current fluctuations in price, and the ongoing need for innovation dictate the need to develop

alternatives. As a leading FR producer, with particular strength in Halogen based ones, the MNE seeks to replace the ATO with an equally effective, yet price effective material.
Criteria: cost effective; sustainable; low carbon footprint; availability; similar to Antimony Trioxide in its influence on physical/mechanical properties of the plastic

3. Intumescent flame retardants for polyolefins: the MNE is seeking novel Intumescent flame retardants for use in polyolefins. The MNE are particularly interested in polypropylene, EVA and polyethylene.
Criteria: compatible with the polymeric matrix; efficient at meeting required FR standards for the intended application; non water soluble; not intended for use as a coating; environmentally safe; cost efficient.

4. Non halogenated reactive flame retardants for textile: the MNE is seeking durable, formaldehyde free non halogenated reactive flame retardants for use in textile
Criteria: Efficient at meeting required FR standards for the intended application; Environmentally safe; Cost efficient.

5. Non halogenated flame retardants for polyamides and polyesters: the MNE is seeking novel non halogenated flame retardants for use in polyamides and polyesters.
Criteria: Compatible with the polymeric matrix; Efficient in meeting FR criteria such as UL-94 and LOI requirements; Minimal impact on electrical and mechanical properties in the end-application; Environmentally safe; Cost efficient.

6. Reactive non-halogenated flame retardants for epoxy formulations: the MNE is seeking novel reactive non-halogenated flame retardants for epoxy formulations
Criteria: Efficient in meeting FR criteria such as UL-94 and LOI requirements; Minimal impact on electrical and mechanical properties in the end-application; Environmentally safe; Cost efficient

Technical Specification or Expertise Sought

MNE is seeking collaboration with an entity that has R&D facilities and is interested in developing the technology further.
The company is seeking the following technologies and/or products:
1. Brominated FR compatibility improvement with non polar matrices
2. ATO alternative as FR synergist
3. Intumescent FR for polyolefins
4. Non halogenated reactive FR for textile
5. Non halogenated FR for polyamides and polyesters
6. Reactive non halogenated FR for epoxy formulations

Stage of Development

Available for demonstration

Comments Regarding Stage of Development

Any stage from the concept stage to the available for demonstration stage is considered to collaborate with.

IPR Status

Secret Know-how,Patent(s) applied for but not yet granted,Patents granted,Copyright

Comment Regarding IPR status

Any IPR status of the requested technology is possible for cooperation.

Keywords

Technology

02006003	Fire Resistance/Safety
02007002	Building materials
02007018	Advanced Textile Materials
10001003	Fire Safety Technology

Market

08001017	Industrial chemicals
08001023	Other chemicals and materials (not elsewhere classified)

NACE

C.13.3.0	Finishing of textiles
C.20.5.9	Manufacture of other chemical products n.e.c.

Open for EOI : Yes

Dissemination

Send to Sector Group

Materials

Client

Type and Size of Organisation Behind the Profile

Industry >500 MNE

Year Established

0

Languages Spoken

English

Client Country

Israel

Partner Sought

Type and Role of Partner Sought

Type of partner sought: SME or Research institutions.
For the purpose of maturing flame retardant innovative technologies with the utilities and expertise of the Israeli Industrial partner.

Companies/institutions of interest will receive full funding/licensing agreemnt for maturing the selected technologies.
Analytical laboratories, pilot facilities and high level R&D teams will be available to partner.

Type and Size of Partner Sought

SME 11-50,University,R&D Institution,SME <10

Type of Partnership Considered

License agreement
Financial agreement