

## Technology Offer

### Title:

Innovative aluminium sandwich technology for light weight components (Ref: 10 DE 1486 3GUW )  
(Open)

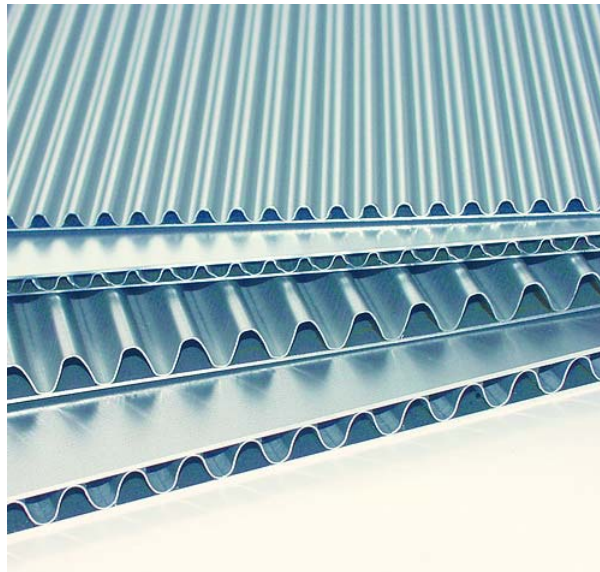
### Abstract:

**A German medium sized company developed a technology for manufacturing lightweight aluminium sandwich components in curved geometries with good temperatur stability. Due to the smooth surface of the aluminium elements, they are an ideal supporting material for various kinds of finishing - from printing over varnishing to foil lamination. The company offers technical cooperation, material supply and transfer of knowledge to manufactures interested in using aluminum lightweight sandwich panels.**

### Description:

The patented aluminium sandwich structure have a unique property profile which opens technicians and engineers as well as architects and designers new possibilities in light weight construction. The purely metal lightweight panel has a corrugated core that is bonded to one or two thin cover sheets with a hot-melt glue. This unique structure makes it a very light but extremely rigid metal sandwich panel which allows significant savings in weight particularly when used in big formats.

Depending on the final application the sandwich panels can be supplied with different layer thicknesses and surface treatments. By varying the cover sheets, by modifying the height of the core or the surface finish, and by bonding several panels to double and triple panels a broad range of characteristics can be provided. The special construction ensures high thermal, chemical and physical durability. The standard panels are resistant to temperatures of up to 100°C under both static and dynamic loads. Furthermore a new developed gluing system allows panels with a temperature resistance of 200°C for powder coating.



### Innovations and advantages of the offer

New patented solution for lightweight constructions, suitable as a cost-efficient alternative to carbon fibre reinforced polymers.

#### Appearance:

The panels can be mounted to a sub-construction either visibly (e.g. in a post and rail system) or invisibly (e.g. with blind rivets).

#### Surface:

Whether plain or multicoloured, whether fancy design or wood structure, whether film, print, paint or natural stone, whether with an even or structured surface: a broad range of alternatives for subsequent surface treatment is possible

#### Statics:

The high static rigidity and the extraordinary dynamic strength together with the low weight and the small overall thickness of the panels make the panel an ideal element for interior accommodation works in buildings, rail vehicles, automotive and ships.

#### Acoustics:

Good sound attenuation characteristics.

#### Thermodynamics:

Efficient temperature conducting



**General durability:**

Resistant against all kinds of environmental influences (humidity, temperature change, UV-light, light acids and lyes).

**Simple recycling:**

Full recycling without separation of materials.

**Easy machining:**

Machining can be done with traditional tools as used in a locksmith's or joiner's workshop. Therefore no machine investment is requested. Due to the design of the panels out of thin aluminium sheets a high feeding speed when cutting is possible.

**Current and Potential Domain of Application**

Sector Transport: automotive, rail vehicles, shipbuilding (marine applications)

Sector Building Industry: façades interior works radiant ceilings

Sector industry in general

**Other Profile Details**

Organisation: Bayern Innovativ Bayerische Gesellschaft für Innovation und Wissenstra

Network Partner: Bavaria2Europe

Country: Germany

Entry Date: Wed, March 10, 2010

Validation Date:

Deadline: Thu, January 27, 2011

**List of Keywords**

**Technology**

- + Composite materials
- + Metals and Alloys

**Market**

- + Furnishing and Furniture
- + Transportation
- + Manufacture of building materials

**Current Stage of Development**

Already on the market

**Exploitation of RTD Results**

Others

**Intellectual Property Rights**

Patent(s) granted

*Comments*

**Organisation/Company**

Type: Industry

Size: 50-249

**Collaboration Type**

- + Joint further development
- + Transfer of knowledge in new raw materials
- + Change in the partner sought's currently used technologies (installations, process, facilities)
- + Engineering

*Comments*

- Type of partner sought:

Industrie

- Specific area of activity of the partner:

Transport: automotive, rail vehicles, shipbuilding (marine applications)

Building Industry: façades interior works radiant ceilings

- Task to be performed by the partner sought:

Definition of requirements, test of the materials and semi finished parts and learn how to use them, purchase of the materials and use for their own products

**Targeted Countries**

ALL

**Contact Details**

Contact Person	Uwe Schuessler
Phone	+49-911-20671-313
Email	<a href="mailto:schuessler@bayern-innovativ.de">schuessler@bayern-innovativ.de</a>

Close