Advantages of Metawell®:

- high rigidity combined with low weight
- small overall panel thicknesses
- big formats and form stability
- even and attractive surfaces
- various alternatives for cover sheets and corrugation, adjusted to the customer requirements
- Metawell® Aluflex for curved sandwich constructions
- sound attenuation characteristics
- fire rating following e.g. EN 45545, DIN 5510-9, GOST 8
- easy processing and recycling
- numerous possibilities for design (coating, painting, film application, digital printing, powder-coating on request etc.)

Applications in trams and trains (high speed, regional transport and mass rapid transit):

- large-sized ceiling elements (flat or curved)
- partition walls
- seating structures
- safety/rots
- curved interior elements
- reinforcements
- floor panels (treaded/unthreaded)
- access doors (such as sliding-gates or lift-systems)
- inspection hatches (e.g. in floors or ceilings)
- exterior cladding and casings

Metawell at a glance

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Metawell® Rail Vehicle Applications

- Large-sized ceiling elements (flat or curved)
- Partition walls
- Seating structures
- Tables, tracks
- Curved interior elements
- Reinforcements
- Floor panels (heated/unheated)
- Access aids (such as ramps, sliding steps or lift systems)
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- Sound attenuation characteristics
- Fire rating following e.g. EN 13501-1, DIN 4102, GOST 33.4-62
- Easy processing and recycling
- Numerous possibilities for design (coating, painting, film application, digital printing, powder coating on request etc.)
- Panels, tailor-made elements or pre-finished components
- Certified acc. DNV-OS-J101 for adhesive bonding of class A1
- Long-time experience

Metawell® at a glance

Applications in tramways and trains (high speed, regional transport and mass rapid transit):
- Large-sized ceiling elements (flat or curved)
- Partition walls
- Seating structures
- Safety / rescue
- Curved interior elements
- Reinforcements
- Floor panels (heated/unheated)
- Access aids (such as ramps, sliding steps or lift systems)
- Inspection hatches (e.g. in floors or ceilings)
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Metawell GmbH
metal sandwich technology
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EXPERIENCE AND COMPETENCE

Since the mid-eighties Metawell® panels have been very successfully used for various applications in high speed trains, coaches, metros and tramways. The light aluminium sandwich panels meet, in an ideal way, the continually increasing demands made on materials with regard to weight, rigidity, possible surface design and fire behaviour.

With Metawell® planners and designers have a highly performing material, which can be adjusted to optimum to the various applications in rail vehicles and which offers both economically and technically convincing solutions.

The supply range covers panels in numerous dimensions and designs as well as machined or pre-finished components, which at least for an individual adjustment to the customer's requirements.

A team of engineers helps you to find the best solution for the technical and cost effective implementation of your projects.

Ceilings and Walls

Metawell® panels are perfectly suited for use in rail vehicles. Thanks to their high stiffness and their low weight the number of anchorage points can be minimized. With the possibility of hidden fixing (e.g. blind rivets) and various options for the edge finish the interior cannot be realized as difficult as with other materials. The flexibility of the core material enables of course high demands without difficulty. And for the surface finishing, there are numerous possibilities. For example, an elegant plastering is a matter of course. Coating on demand. With the product Metawell® Aluflex especially curved components with an astonishingly low weight and high rigidity can be easily fabricated.

Floor Systems (Heated/Unheated)

Particular requirements have to be fulfilled by floor panels: they have to tolerate high surface and extremely high point loads (caused by high heels), they have to be rigid in order to reduce the supports, they are expected to have special attenuation qualities and must be light but strong enough to get extraordinarily attractive (e.g. sound) results. Particularly for these demands Metawell® has developed sandwich panels, which, besides the high stiffness in the cover sheets, also all extremely high strength in the core material.

Certificates and Approvals


Aluminium sandwich panel Metawell® complies with several fire rating standards (e.g. EN 45545, DIN 511, GOST R).

Exterior Cladding and Casing Systems

The aluminium sheets out of which Metawell® sandwich panels are made have a corrosion protection primer on both sides: the primer and the exposed side, inner and outer case materials. Thus the panels correspond themselves also for external applications in rail vehicles e.g. as encasements and signs.

Interior

High rigidity, low weight and a small overall thickness make Metawell® panels an ideal material for safety, soundproofing and noise. The particular requirements regarding stability (against vandalism) and fire performance are also met to a high degree.

Access Aids

Especially the entrance areas of vehicles for mass rapid transit are highly stressed. Metawell® panels, used for ramps, sliding steps (including cover plates) or lift systems, are tried and tested in thousands times.

Rail Vehicle Applications

Exterior cladding: EMU St. Petersburg, Russia

Interior cladding: EMU St. Petersburg, Russia

FLIRT SNTF Algeria (Stadler) – Metawell® for access aids (Bode)

Avanto/S70 San Diego (Photo Siemens) – Metawell® for sliding steps

Shinkansen (JR) – Metawell® panels for ceilings, walls and tracks

London Subway – Metawell® panels for seats (Beamlight Automotive)

Metro New Delhi (Bombardier) – Metawell® floor panels
Rail Vehicle Applications

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CERTIFICATES AND APPROVALS


As aluminium sandwich panels Metawell® comply with several fire rating standards (e.g. EN 65545, DIN 5111, GOST R).

CEILINGS AND WALLS

Metawell® panels are perfectly suited for use in walls and ceilings. Thanks to their high stiffness and their low weight the number of anchorage points can be minimized (with the possibility of hidden fixings e.g. blind rivets) and various options for the edge finish are available. With the possibility of a hidden fixing or of acoustically quiet edges the scope of design is wide.

Lights, air exits etc. can be integrated without difficulty. And for the surface finishing there are various optional finishing films or painting systems available.

FLOOR SYSTEMS (HEATED/UNHEATED)

Particular requirements have to be fulfilled by floor panels: they have to tolerate high surface and extremely high point loads (caused by high heels), they have to be rigid in order to reduce the supports, they are expected to have special aesthetic qualities and must be light but strong enough to get the customers' enthusiastic and passionate (e.g. poles). Particularly for these demands Metawell® has developed sandwich panels, which, besides the high rigidity in the cover sheets, also an externally very high strength in the core material.

INTERIOR

High rigidity, low weight and a small overall thickness make Metawell® panels an ideal material for tables, seatings and rails. The particular requirements regarding stability against vandalism and fire performance are also met to a high degree.

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FLOOR SYSTEMS (HEATED/UNHEATED)

Particular requirements have to be fulfilled by floor panels: they have to tolerate high surface and extremely high point loads. Issued by high heels, they have to be rigid in order to reduce the impacts, they have to be easy to clean. In addition, people have to feel good standing on the cover plates. Finally, the panel has to have sound attenuation qualities and it must have high fire protection. The result of these demands is a sandwich panel system, which, besides the high stiffness in the cover plates, also an extremely high strength in the core material.

EXTERIOR CLADDING AND CASING SYSTEMS

The aluminium sheets out of which Metawell® sandwich panels are made have a corrosion protection primer on both sides: the interior and the exposed side, even core material. Thus the panels correspond themselves for external applications in rail vehicles as e.g. for enclosures and signs.

INTERIOR

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Especially the entrance areas of vehicles for mass rapid transit are highly compact. Metawell® panels, used for ramps, sliding steps (including cover plates) or lift systems, are tried and tested in thousands of times.

Ceiling FLIRT SNTF Algerie (Stadler) – Metawell® for access aids (Bode)

Avanto/S70 San Diego (Photo Siemens) – Metawell® for sliding steps

Shinkansen (JR) – Metawell® panels for ceilings, walls and tracks

London Subway – Metawell® panels for seats (Beamlight Automotive)

Exterior cladding Metro St. Petersburg, Russia

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- Metawell® Aluflex for curved sandwich constructions
- Sound attenuation characteristics
- Fire rating following e. g. EN 45545, DIN5510, GOST 8
- Easy mounting and recycling
- Numerous possibilities for design (coating, painting, film application, digital printing, powder-coating etc.)
- Panels, tailor-made elements or pre-finished components
- Certified acc. DVI/0701-2 for adhesive bonding of class A1
- Long-time experience

Applications in trams and trains (high speed, regional transport and mass rapid transit):
- Large-sized ceiling elements (flat or curved)
- Partition walls
- Existing structures
- Safety doors
- Curved interior elements
- Reinforcements
- Floor panels (brushed/unbrushed)
- Access doors (e.g. in doors or carriages)
- Interior cladding and savings

Metawell® at a glance