



Materials & Solutions

Transportation Industries



www.advancedmaterialsus.com



At the APM workshop, materials meet designers, engineers, fabricators and installers. Together, we transform materials and supporting materials into ultra-performing panels, structural parts, and components. We select the finest quality materials and components to produce products and solutions for the transportation industry's super-structural and structural thermal and noise insulation projects. As experienced professionals in the field, we understand each project is unique, and because of that, we select materials and components based on project specifications and technical requirements. No matter the project's complexity, we have the materials and expertise to complete the project successfully.



At APM, we offer our clients a complete turnkey solution from materials selection to design, fabrication, testing, certification, and installation.

We offer a range of structural, thermal, and noise insulation products and solutions for transportation and heavy industries. The materials and associated components used in various development projects are sustainable, lightweight, fire retardant, and 100% recyclable. Most of the structural core materials used in our products and solutions are manufactured in-house, and

the necessary supporting materials are sourced domestically, depending on the project specification and scope of work. Because of that, we can meet the highest quality and safety standards for any project. APM offers products and solutions that meet necessary industry standards and requirements.

PRODUCTS & SOLUTIONS:

Structural thermal insulation project

- ✓ Custom cutting and fabrication of design-specific structural thermal insulation panels, parts, and components from PU, PIR, and PVC foam core sheets and boards for rail car, train, and bus interior and exterior construction projects.
- ✓ Aluminum laminated PU and PIR foam core-based structural thermal insulation panels, parts, and components—project-specific custom cutting and fabrication of thermal insulation panels, components, and large structures.
- ✓ Custom fabrication and mass production of PET and PP laminated Cellulose, PU, and PIR foam core-based structural thermal insulation panels and large structures for rail car and train interior and exterior projects.
- ✓ Project-specific custom fabrication and mass manufacturing of PLA and biopolymer laminated PU, Cellulose, and PIR foam core-based interior structural thermal insulation panels and components.
- ✓ Custom manufacturing of glass fiber and carbon fiber laminated cellulose, PU, and PIR foam core-based thermal insulation sandwich composite panels and structures for rail car, train, and bus interior and exterior construction projects.
- ✓ Custom fabrication of HPL Phenolic laminated PU and PIR foam core-based structural thermal insulation panels and large structures for interior projects.
- ✓ Thermoforming and mass production of structural insulation body parts and components.



- ✓ Structural insulation materials testing, standardization, and certification according to local standards.



Material Specification:

- ✓ Available thermal insulation value (R-value): 4-60
- ✓ Available density: 1- 60 lbs./cf. (pcf)
- ✓ Customized thickness: 3/4 – 40”
- ✓ Length and width: completely customized
- ✓ Material finish: unfaced, foil faced, fsk facing, custom laminated, customized panels
- ✓ OEM Fabrication: Drawing and design specific OEM component fabrication and production
- ✓ Mold and anti-bacterial resistance
- ✓ Fire performance: Class A fire rated and non-combustible
- ✓ Chemical and weather resistant
- ✓ Moisture and humidity resistant
- ✓ Material appearance: Rigid, semi-flexible, and flexible
- ✓ Compressive strength: 5- 50 psi
- ✓ Recycled content: up to 70% recycled content depending on the needs
- ✓ Ready to install products and solution
- ✓ Fully custom produced composite and laminated insulation panels
- ✓ 100% Made in USA



Thermal insulation material
PU/PIR foam sheet



Thermal insulation panel
Aluminum laminated PIR



Thermal insulation panel
Polyester film laminated PIR



Thermal insulation panel
PET laminated PU/PIR



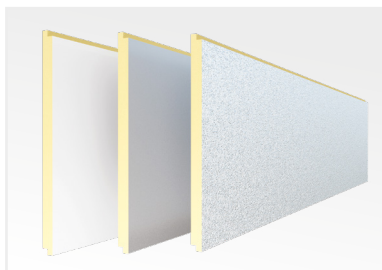
Thermal insulation panel
PP laminated PIR



**Fiberglass Insulation
Blanket**



Thermal insulation panel
HPL Phenolic-foam
composite



Thermal insulation panel
Thermoplastic laminated PIR



Thermal insulation panel
HPL laminated PU



Fiberglass Insulation Board



Thermal insulation panel
Plywood-foam composite

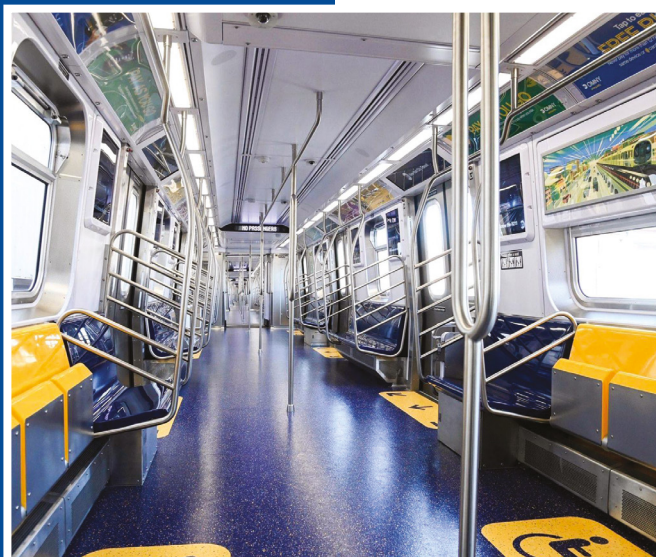


Thermal insulation panel
PIR-Plywood-HPL composite

PRODUCTS & SOLUTIONS:

Structural noise and acoustic insulation project

- ✓ Custom cutting and fabrication of design-specific structural noise insulation panels, parts, and components from Wood fiber, Balsa, and Cellulose foam-based sheets and boards for rail car, train, and bus interior and exterior construction projects.
- ✓ Project-specific custom fabrication of Wood fiber, Balsa, and Cellulose foam-based noise, acoustic insulation panels, and large structures.
- ✓ Fabrication and mass production of Polyester film laminated fiberglass composite sheets and sandwich structures for interior sound insulation.
- ✓ Custom fabrication and manufacturing of Polyester and Fiberglass laminated Wood fiber, Balsa, and Cellulose foam core-based structural noise and acoustic insulation panels and large structures.
- ✓ Project-specific custom fabrication of Polyester film laminated PET, Cellulose, and PU foam core-based noise insulation panels and components.
- ✓ Custom fabrication and mass production of HPL Phenolic laminated Cellulose, wood fiber, and PET foam core-based sandwich composite acoustic insulation panels and components.
- ✓ Fabrication and mass manufacturing of PLA and biopolymer laminated Wood fiber, PU, and Cellulose foam core-based noise insulation panels and large structures.
- ✓ Custom fabrication and mass production of EVA-Cotton fabric laminated Wood fiber, Cellulose, and PET foam core-based sound insulation-absorption sandwich composite panels, parts, and components.
- ✓ Custom fabrication and mass production of Wood and Plywood laminated Wood fiber, Cellulose, and PET foam core-based sound insulation-absorption sandwich composite panels, parts, and components.
- ✓ Thermoforming and mass production of structural noise and acoustic insulation body parts and components.
- ✓ Structural noise and acoustic insulation materials testing, standardization, and certification according to local and industry standards.



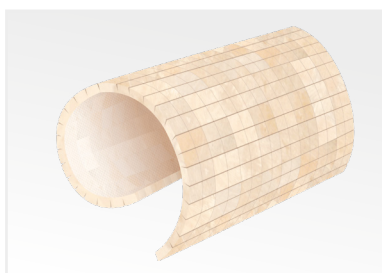


Material Specification:

- ✓ Ultimate sound blocking and maximum acoustic insulation.
- ✓ Close to ideal sound and noise absorption.
- ✓ Ultimate sound and noise reduction.
- ✓ Sound Absorption (NRC): Up to 0.95.
- ✓ Sound Attenuation: Up to 40 CAC.
- ✓ Custom manufacturing and ready-to-install solutions.
- ✓ 100% recyclable, made from recycled materials.
- ✓ Super lightweight and excellent strength-to-weight ratio.
- ✓ No water and moisture absorption.
- ✓ Standard fire-retardancy. Class A fire performance.
- ✓ Fully weather-resistant, added antimicrobial properties.
- ✓ Mold and sag-resistant.
- ✓ EPD, LCA, IMO/MED, and DNV-GL certified.
- ✓ Meet US, Canada, and EU regulatory standards.
- ✓ Durability: Impact Resistance, Scratch Resistance
- ✓ Fully customized products and solutions.
- ✓ Fully customized light reflection performance.
- ✓ Made in USA.



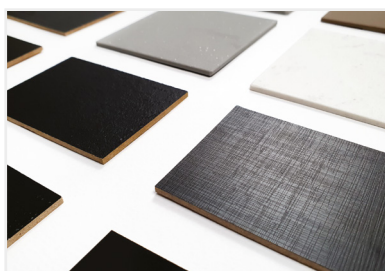
Noise blocking
Wood fiber sheet



Acoustic insulation
Balsa wood core

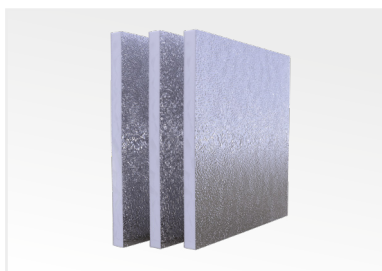


Sound blocking
PET foam core



Sound insulation/blocking panel

Polyester film laminated
wood fiber



Acoustic insulation/blocking

Polyester film laminated
PET foam



Sound blocking

Custom fabricated PET Felt



Noise blocking/insulation

PET Acoustic Panel



Sound insulation

PLA laminated wood fiber



Acoustic blocking

Cotton laminated wood fiber



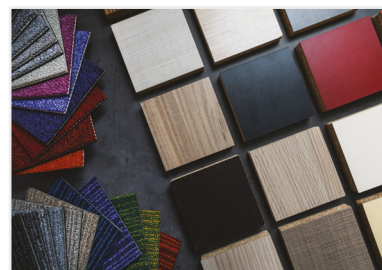
Sound blocking

Cotton laminated PET foam



Noise blocking

Wood fiber-foam composite



Acoustic blocking

HPL- wood fiber composite

PRODUCTS & SOLUTIONS:

Interior and exterior structural projects

- ✓ Custom cutting and fabrication of design-specific structural panels, parts, and components from HPL Phenolic, PU, PET, and PVC foam core sheets and boards for rail car, train, and bus interior and exterior construction projects.
- ✓ Fabrication and mass production of PET and PP laminated PVC, PET, and PU super-structural panels and large parts of any dimensions.
- ✓ Project-specific custom cutting, fabrication, and mass manufacturing of PLA and biopolymer laminated PU, Cellulose, PVC, and PET foam core-based super-structural structural panels for rail car and train interior projects.
- ✓ Custom fabrication and production of glass fiber and Carbon fiber laminated PU, PVC, and PET foam core-based super-structural sandwich composite panels and large structures for interior and exterior projects.
- ✓ Custom manufacturing HPL Phenolic laminated PU, PVC, PET foam core-based structural sandwich composite panels and large structures.
- ✓ Fabrication and mass production of Aluminum laminated PVC, PET, and PU structural composite panels and large parts of any dimensions.
- ✓ Thermoforming and mass production of super-strength structural body parts and components.
- ✓ Super-structural materials testing, standardization, and certification according to local standards.



Material Specification:

- ✓ Recyclable and sustainable.
- ✓ Lightweight, excellent strength-to-weight ratio
- ✓ Minimum carbon footprint, sustainable materials processing.
- ✓ Remarkable tensile and compression strength.
- ✓ Exceptional mechanical and physical strength.
- ✓ No water and moisture absorption.
- ✓ Excellent thermal and heat stability.
- ✓ Extreme weather resistant.
- ✓ Corrosion resistance.
- ✓ Standard fire retardancy.
- ✓ Excellent service life.
- ✓ EPD, LCA, and DNV-GL certified.
- ✓ Meet US, Canada, and EU regulatory requirements and standards.
- ✓ Easy installation and minimum maintenance.
- ✓ Excellent cold and hot weather resistance.
- ✓ Manufactured in USA.



Structural material

High-density PVC foam board



Structural core

Epoxy-coated Balsa wood



Structural material

HPL Laminated Panel



Structural material

Phenolic panel



Structural material

Decorative Panel



Structural panel

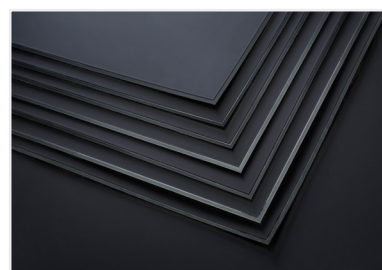
PP laminated PVC foam core



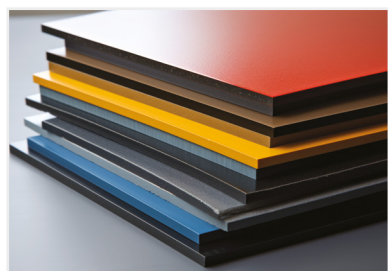
Structural material
PVC foam core



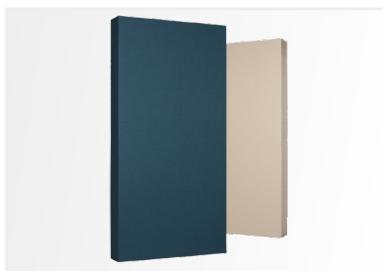
Structural panel
HPL laminated wood panel



Structural panel
High Pressure Phenolic Panel



Structural panel
PET laminated PVC foam core



Structural material
PLA laminated PVC foam core



Structural material
HPL laminated PVC foam core




Aluminum laminated
PET foam core




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