1. Noise Barriers | Vapor Barriers
   Pipelines, ductworks and valve covers.

2. Vibration Control
   Pipe cladding, HVAC and plant rooms.

3. Anti-Condensation | Temperature Reduction
   Applications exposed to high humidity and surface temperature fluctuations (pipes, walls, building interiors etc.).

4. Specialty Products | Accessories
   Pyrotek supplies a wide range of products to meet different requirements such as adhesives and sealants.

5. Project List
   A list of Pyrotek® products that have been applied to building projects around the world.

6. Safety Data Sheets
   Standard reference documents for chemical, safety and material information.
With ISO 9001 quality system certification, our global engineering team design highly specialised products to every specification and performance requirement. Our products are independently certified, time tested and supported by proven results.
Pyrotek® is a global engineering leader and innovator of performance-improving technical solutions, integrated systems design and consulting services for customers in the aluminium industry. We are also investing and growing rapidly in areas such as glass, noise control and advanced materials.

We have global resources and dependable local support in more than 35 countries with over 80 locations. Our products and solutions are in use around the world in automotive, aerospace, rail transportation and high-tech manufacturing.

Privately-owned since 1956, our deep-rooted values of integrity and collaborative problem-solving uphold our mission to improve customer performance.

**WHO WE ARE**

- A global engineering innovator and supplier of complete end-to-end, performance improving technical solutions
- Our Noise Control division began in Australia, bringing over 30 years experience
- We supply complete turn-key solutions for many industries with over 300 Pyrotek application engineers, worldwide

**WHY CHOOSE US**

- Strong R&D Laboratory Team - ceramic, acoustic & chemical engineers help maximise product performance
- Extensive data analysis and noise predictions
- Design capabilities using CAD and 3D modelling
- Global test laboratories for fire, acoustic and vibration

**OUR INDUSTRIES**

- Building
- Industrial
- Transportation
- Marine
- Oil & Gas
Pyrotek is committed to ethical corporate citizenship and to promote sustainability in its activities and environmental responsibility. We will treat the environment as a valued legacy for our grandchildren. While Pyrotek recognizes that its business activities have environmental and social implications, Pyrotek is committed to mitigate any environmental or social impact its business activities may have through the adoption of best practices and policies. Pyrotek will contribute to the development of a sustainable future through the following principles.

**PRINCIPLES**

1. Practice responsible corporate conduct through adoption of workplace policies and best practices that meet or exceed regulatory and statutory requirements and that develop and maintain an entrepreneurial and collegial environment.
2. Manage risks, including those related to environmental, social and governance aspects.
3. Identify opportunities to contribute to the development of society and future generations.
4. Provide a safe, healthy and enriching working environment for Pyrotek employees.
5. Be a fair and responsible member of the communities in which Pyrotek operates.
6. As employees and as a company, be ethical and responsible citizens.
7. Be a responsible steward of resources.
8. Adhere to Pyrotek’s Environmental Policy to limit its carbon footprint.
9. Pyrotek encourages the adoption of similar principles by its supply chain and business partners.

Pyrotek reserves the right to amend this policy at any time.
ENVIRONMENTAL PRODUCT STATEMENT

OUR COMMITMENT TO SAFETY, QUALITY AND ENVIRONMENT

Pyrotek is committed to safely produce quality products and services, on-time and at a competitive cost. This enables Pyrotek to build a sustainable business for the benefit of our customers, employees and stakeholders. Our focus is dedicated to developing systems with new, more considered operations and materials, as well as committing to improved technologies to further support long-term goals of safety, quality and environment.

Environmental Consideration
We acknowledge the need for consideration for our manufacturing activities to contribute to the mitigation of global warming via energy savings. We locally commit to reducing environmental impact by the prevention of pollution, minimization of waste and reduction of energy and water we use.

Ozone Depleting Potential
Pyrotek has undertaken an audit of its raw materials supplied and manufactured products barrier referencing to the US EPA List of Ozone Depleting Substances (Class 1 and Class 2). To the best of our knowledge, no ozone depleting substances are involved in either the manufacture or composition of these products.

Volatile Organic Compounds (VOC)
Products supplied by Pyrotek do not contain any significant Volatile Organic Compounds (VOCs) content when evaluated to the differing definitions as applied under the Australia National Pollutant Inventory, The Council of the European Union, Council Directive 1999/13/EC or the USA EPA Regulation 40 CFR 51.100(s). We also test to ASTM D5116 showing low VOC release.

Asbestos free manufacturing
Asbestos is not used during the manufacture of, and not added during any process of during the processing of our products. Please contact Pyrotek for available test reports to AS4964.

Global Warming Potential
Pyrotek’s acoustic product range is designed with a reduced carbon footprint in mind, using locally sourced and environmentally-certified materials where possible. We use no CFCs, HCFCs or known high-GWP gases in our manufacturing process.

Recycle and emission care
During the process of manufacture, every care is taken to recycle and reuse material and where possible our plant and equipment has emission cleaners fitted.

Pyrotek has active and ongoing research investment to develop products that reduce environmental impact.
POLICY
This Code of Business Conduct and Ethics (the “Code”) represents the commitment of Pyrotek Inc. (which, together with all subsidiaries, is referred to as the “Company”) to conduct its business with integrity, in accordance with all applicable laws, rules and regulations and with high ethical standards. All employees, officers and general managers of the Company are expected to adhere to the principals and procedures set forth in the Code. However, no code can govern all possible situations. Therefore, those individuals governed by the Code must apply the spirit, as well as the letter, of this Code and request guidance from those identified below in the event of any question of interpretation. In all instances, each individual should strive to uphold the integrity and credibility of the Company. This Code is also supplemented by the rules of business conduct and ethics contained in the Company’s other policies and procedures.

Note: This Code is subject to review and modification. The form of the Code made available on the Policies and Procedures Database of the Company supersedes any prior expression of the policy to the extent of any inconsistency.

The following sections highlight key scenarios where the Code will govern individual behavior.

PROCEDURE

CONFLICT OF INTEREST
A “conflict of interest” occurs when an individual’s private interests interfere, or appears to interfere, in any way with the interests of the Company. A conflict of interest can arise when an employee, officer or director takes actions or has a personal or non-Company related business interest that may make it difficult to perform his or her Company work objectively and effectively. Conflicts of interest also arise when an employee, officer or director, or a member of his or her family, receives improper personal benefits as a result of his or her position in the Company. Loans to or guarantees of obligations of such persons are of special concern as conflicts of interest. Service to the Company should never be subordinated to personal gain and advantage.

All conflicts of interest as described above are prohibited. Each employee, officer and director should be careful to avoid a conflict of interest by avoiding actions or relationships that may either make it difficult to perform Company work objectively and effectively or affect personal judgment regarding what is in the Company’s best interest.

Any individual who has any questions or concerns regarding this policy, or any specific situations, actions or omissions which may relate to or be prohibited by this policy, is encouraged to discuss such questions or concerns with any of the following individuals: the Company’s (1) President, (2) Chief Financial Officer or (3) Corporate Counsel.

CORPORATE OBLIGATION
Employees, officers and general managers owe a duty to the Company to advance its legitimate interests when the opportunity to do so arises. Each employee, officer and director is prohibited from:

1. Taking for themselves personal opportunities that are discovered through the use of Company property, information or position;
2. Using Company property, information or position for personal gain; or
3. Competing with the Company.
CONFIDENTIALITY
Employees, officers and general managers should maintain the confidentiality of confidential and proprietary information entrusted to them by the Company and its guests and customers, except when disclosure is authorized or legally mandated. Confidential information includes all nonpublic information that might be of use to competitors of the Company, or harmful to the Company or its guests or customers if disclosed.
Employees, officers and general managers are encouraged to consult the CFO, prior to making any disclosure, with any questions regarding whether a legal obligation to disclose confidential information exists. The obligation to maintain confidentiality extends indefinitely after a person’s association with the Company as an employee, officer and director has ended.

FAIR DEALINGS
Each employee, officer and director should endeavor to deal fairly with the Company’s customers, suppliers, competitors and employees. No employee, officer or director should take unfair advantage of anyone through manipulation, concealment, abuse of privileged information, misrepresentation of material facts or any other unfair dealing practice. Nothing contained in this paragraph shall in any way alter any existing legal rights and obligations of the Company or its employees, officers or general managers.

PROTECTION AND PROPER USE OF COMPANY ASSETS
Company employees, officers and general managers should protect the Company’s assets and ensure their efficient use. Each employee, officer and director should endeavor to prevent misuse, loss, damage, sabotage or theft of Company assets. All Company assets should be used for legitimate business purposes only.

COMPLIANCE WITH LAWS, RULES AND REGULATIONS; REPORTING ILLEGAL OR UNETHICAL BEHAVIOR
The Company is committed to complying with all laws, rules and regulations applicable to it, including, but not limited to, those impacting the obligation of the Company to present all financial information to the public in conformance with generally accepted accounting principles based upon information which accurately reflects all relevant facts.

COMPLIANCE AND REPORTING
Employees, officers and general managers should strive to identify and raise potential issues before they lead to problems, and should ask about application of this Code whenever in doubt. Any employee, officer or general manager who becomes aware of any existing or potential violation of this Code should promptly notify the individual responsible for enforcement identified in the Section entitled “Policies and Procedures for Interpretation and Enforcement of the Code”.

POLICIES AND PROCEDURES FOR INTERPRETATION AND ENFORCEMENT OF THE CODE
The President, General Counsel and Chief Financial Officer are responsible for applying this Code to specific situations relating to violations of the Code by general managers and executive officers and to specific situations relating to violations of the Code by other employees which have a material adverse effect on the Company’s overall operations or financial position.
Company management will handle violations of the Code by individuals other than general managers or executive officers in the same manner that other violations of Company policies are handled and it is expected that most violations occurring in the ordinary course of the Company’s business will not be sufficiently material to require report to the Shareholders of the Company or the President.

WAIVERS
From time to time, the Company may waive certain provisions of this Code. Any employee, officer or general manager who believes that a waiver may be appropriate should discuss the matter with the President.
Pyrotek’s mass-loaded vinyl (MLV) noise barriers offer superior acoustic transmission loss.
**Wavebar®**

**Wavebar®** is a high-performance, flexible mass-loaded vinyl noise barrier, offering superior acoustic transmission loss. Designed to meet market requirements, it has been effectively used to reduce noise in building, commercial, industrial and automotive markets, globally.

The engineering team at Pyrotek® developed Wavebar® to be dense, thin, highly-flexible, tear-resistant and strong. These properties give the product high transmission loss throughout the various weight ranges.

---

**Features**

- Tear resistant with high tensile strength with the ability to be suspended in lengths of up to 16.4 ft (5 metres)
- Resistant to weather and UV light
- Simple to cut and install through obstructions - providing flexibility around pipes, ducts, cables etc.
- Resistant to most chemicals, solvents and petrol

---

**Application**

Wavebar® can be installed around LNG and cryogenic pipelines, inside cavities, over lightweight wall/ceilings, adjoining partition walls or as a noise curtain.

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**Quadzero™**

<table>
<thead>
<tr>
<th>Weight</th>
<th>Rw</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 lb/ft²</td>
<td>25</td>
</tr>
<tr>
<td>1.6 lb/ft²</td>
<td>31</td>
</tr>
<tr>
<td>2 lb/ft²</td>
<td>34</td>
</tr>
</tbody>
</table>
**WAVEBAR®**

**flexible noise barrier**

Wavebar® is a high-performance, flexible mass-loaded vinyl noise barrier, offering superior acoustic transmission loss. Designed to meet market requirements, it has been effectively used to reduce noise in building, commercial, industrial and automotive markets, globally.

The engineering team at Pyrotek® developed Wavebar® to be dense, thin, highly-flexible, tear-resistant and strong. These properties give the product high transmission loss throughout the various weight ranges.

Stiff lightweight panel constructions, such as plasterboard, drywall, plywood and hollow core walls, typically have coincidence dip resonance which allows noise to transmit through a construction. The coincidence dip is dependent on the material's stiffness and thickness and occurs at the point where the sound transmitted through the structure matches the natural frequency of the panel. Wavebar® shifts the coincidence dip to frequencies limiting its impact, thereby maintaining the performance of the product.

The dense core mass layer reflects and absorbs the transmission of sound through walls, ceilings and floors, reducing the critical frequencies generated from mechanical equipment, engine noise and electronic audio technologies such as radio and television.

**VOC STATEMENT**

Wavebar® does not contain any Volatile Organic Compounds (VOC) when evaluated according to definitions as applied under the Australia National Pollutant Inventory, The Council of the European Union, Council Directive 1999/13/EC or the USA EPA regulation 40 CFR 51.100(s).

**SPECIFICATIONS**

<table>
<thead>
<tr>
<th>Colour</th>
<th>Black</th>
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</thead>
<tbody>
<tr>
<td>Available</td>
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</tr>
<tr>
<td>Width: 1380 mm</td>
<td>Length (linear m): 5 to 10 m</td>
</tr>
<tr>
<td>Weight (kg/m²): 2, 4, 6, 8, 10</td>
<td>Custom sizes available depending on MOQ</td>
</tr>
</tbody>
</table>

**applications**

- Inside cavities, over lightweight wall and ceilings.
- Ideal for home theatre rooms, office partitions, meeting rooms
- Between the plenum chamber of a floor slab, the roof and adjoining partition walls
- Isolate sound on doors for privacy
- Position as a curtain to separate and create an acoustic barrier for open floor plans.
- Automotive cabin application to reduce engine and road noise transmitting through to passengers
- Laminate to lightweight structures
- Acoustic treatment for oil & gas pipelines

**features**

- Simple to cut and install through obstructions - providing flexibility around pipes, ducts, cables etc.
- Resistant to most chemicals, solvents and petrol
- Free from lead, odour-producing oils and bitumen
- Resistant to weather and UV light
- Tear resistant with high tensile strength. Ability to be suspended in lengths of up to 5 metres
- Available in various weights, widths, roll lengths and sheet sizes
- Available with various laminates such as foil, metallised film, foams and polyesters
PRODUCT SPECIFICATIONS

<table>
<thead>
<tr>
<th>Barrier weight (kg/m²)</th>
<th>Thickness (mm)</th>
<th>Roll</th>
<th>Ceiling sound transmission test</th>
<th>Operating temp. range (°C)</th>
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<tr>
<td>2</td>
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<td>1380*</td>
<td>AMA-1-11-1967 (CSTC)</td>
<td>-40 to 100 (Continuous)</td>
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<td>4</td>
<td>2.0</td>
<td>5 or 10</td>
<td>28 - 56</td>
<td>-40 to 120 (Intermittent)</td>
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<tr>
<td>6</td>
<td>3.0</td>
<td>S</td>
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<td>S</td>
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<tr>
<td>10</td>
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<td>70</td>
<td></td>
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</table>

Tolerances: Length: ±0.5mm; Width: ±0.5mm; Thickness: ±0.5mm; Barrier Weight: ±0.5 kg/m² ≤ 0.2 kg/m², ±0.4 kg/m² ≤ 4.5 kg/m², ±1.0 kg/m² ≤ 10 kg/m²

*M*Supplied untrimmed - means some surface coverings such as foils, film or fabric may overhang the ordered usable width

MATERIAL PROPERTIES

<table>
<thead>
<tr>
<th>Test method</th>
<th>Property</th>
<th>Report no.</th>
<th>Results</th>
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</thead>
<tbody>
<tr>
<td>AS 5637.1</td>
<td>Fire hazard properties</td>
<td>PR2/5/6/7</td>
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<td>(AS 3837 / ISO 5660-1)</td>
<td>Flammability of interior materials</td>
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<td>FMVSS-302</td>
<td>Flammability of plastic materials</td>
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ACOUSTIC PERFORMANCE

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<tr>
<td>STC</td>
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</table>

ISO 15665 PIPE INSULATION TESTING

<table>
<thead>
<tr>
<th>Product</th>
<th>Test method</th>
<th>System Assembly</th>
<th>Report no.</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wavebar 6 kg/m²</td>
<td>ISO 15665 (Group 2 Pipe Size)</td>
<td>Available on request</td>
<td>A: 0041-1E-RA-002</td>
<td>ISO 15665: Class A2 &amp; B2 NORSOK-R-004: Class 6 &amp; Class 7</td>
</tr>
<tr>
<td>Wavebar 6 kg/m² &amp; Wavebar 10 kg/m²</td>
<td>ISO 15665 (Group 2 Pipe Size)</td>
<td>Available on request</td>
<td>A: 0041-4E-RA-002</td>
<td>ISO 15665: Class B2 &amp; C2 NORSOK-R-004: Class 7 &amp; Class 8</td>
</tr>
</tbody>
</table>

Note: Specifications are subject to change without notice. The data in this document is typical of average values based on tests by independent laboratories or by the manufacturer and are indicative only. Materials must be tested under intended service conditions to determine their suitability for purpose. The conclusions drawn from acoustic test results are as interpreted by qualified independent testing authorities. Nothing here releases the purchaser/user from responsibility to determine the suitability of the product for their project needs. Always seek the opinion of your acoustic, mechanical and fire engineer on data presented by the manufacturer. Due to the wide variety of individual projects, Pyrotek is not responsible for differing outcomes from using their products. Pyrotek disclaims any liability for damages or consequential loss as a result of reliance solely on the information presented. No warranty is made that the use of this information with the products, processes or equipment to which the Information Page refers will not infringe any third party’s patents or rights.

DISCLAIMER: This document is covered by Pyrotek standard Disclaimer, Warranty and © Copyright clauses. See pyroteknc.com/disclaimer.
Quadzero™ MVT reduces the impact of unwanted sound, offering a 2-in-1 barrier product to combat noise and vapor transmission.
Quadzero MVT is a foil-faced, mass-loaded vinyl developed to meet moisture vapor transmission (MVT) resistance in liquefied natural gas (LNG) and cryogenic pipelines. It also serves as an acoustic barrier to assist in reducing noise. Pipeline operating and ambient temperatures can create perfect conditions for moisture buildup inside insulated equipment. The low permeability properties of Quadzero MVT blocks moisture entry into the insulation system, maintaining its thermal performance, and preventing corrosion under insulation (CUI).

Quadzero MVT requires minimal effort to install and has been independently tested for noise and vapor transmission. As a strong vapor and noise barrier layer solution, Quadzero MVT can easily be adjusted to fit around pipe insulation systems. It is flexible, tear-resistant, and is available in various sizes and weights.

**Features**

- Low vapour permeability - maintaining thermal performance of the insulation
- 2-in-1 solution: vapor barrier and noise barrier
- Simple to cut and install, providing flexibility around LNG pipes or other similar applications
- Resistant to weather and UV light
- Tear resistant with high tensile strength
- Available in various weights, widths, roll lengths and sheet sizes
- The foil facing makes it easy to bond onto other substrates using matching Tape PAP adhesive or equivalent

**Specifications**

<table>
<thead>
<tr>
<th>Weight</th>
<th>Rw</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 lb/ft²</td>
<td>28</td>
</tr>
<tr>
<td>1.5 lb/ft²</td>
<td>31</td>
</tr>
<tr>
<td>2 lb/ft²</td>
<td>34</td>
</tr>
</tbody>
</table>

**Application**

- Liquefied natural gas (LNG) and cryogenic pipes
- Wrapped around other noisy pipes, valves and fan casings e.g. fluid or gas pulsation in chemical, petrochemical and waste water treatment plants
- Compressor jackets where acoustic and thermal treatment is required
TECHNICAL DATA SHEET
Quadzero MVT is a foil-faced, mass-loaded vinyl developed to meet moisture vapor transmission (MVT) resistance in liquefied natural gas (LNG) and cryogenic pipelines. It also serves as an acoustic barrier to assist in reducing noise. As an acoustic solution, Quadzero MVT reduces the impact of unwanted sound, offering a 2-in-1 barrier product to combat not only noise but also vapor transmission.

Quadzero MVT surface is constructed with a durable grade of 12 μm polyester / 25 μm foil / 12 μm polyester (PAP) with a reinforcement layer to provide extra strength and ripstop properties. The PAP surface covering stops plasticizer migration and leaching of other substances. Resistant to UV and weathering, the PAP facing also provides a good surface for easy adhesion. Quadzero MVT is ideally used over mineral wool, cellular glass, polyurethane, polyisocyanurate, phenolic, styrene and rigid fiberglass.

Quadzero MVT can be installed in both cold and warm weather conditions, ranging from -40 °F to 248 °F. Designed for hot and cold LNG pipe applications to reduce noise and control vapour transmission whilst maintaining thermal performance and preventing corrosion under insulation (CUI).

Quadzero MVT requires minimal effort to install and has been independently tested for noise and vapor transmission. Quadzero MVT can easily be adjusted to fit around pipe insulation systems. It is flexible, tear-resistant, and is available in various sizes and weights.

**HEALTH AND SAFETY, VOC & ODP STATEMENT**

Quadzero MVT is non-toxic and safe to handle by methods prescribed in Safety datasheet. No Volatile Organic Compounds (VOC) are intentionally added to Quadzero MVT during its manufacture when evaluated according to definitions as applied under the Australia National Pollutant Inventory, The Council of the European Union, Council Directive 1999/13/EC or the USA EPA regulation 40 CFR 51.100(s). No Ozone depleting substances are used during the manufacture of Quadzero MVT.

**SPECIFICATIONS**

<table>
<thead>
<tr>
<th>Colour</th>
<th>Silver (foil facing), and black</th>
</tr>
</thead>
<tbody>
<tr>
<td>Available</td>
<td>Standard roll size: 1.22 x 4.6 to 9.1 m (4 ft x 15 to 30 ft)</td>
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<tr>
<td></td>
<td>Barrier weight: 2.5 kg/m² (0.5 lb/ft²), 5 kg/m² (1 lb/ft²)</td>
</tr>
<tr>
<td></td>
<td>7.5 kg/m² (1.5 lb/ft²), 10 kg/m² (2 lb/ft²)</td>
</tr>
<tr>
<td></td>
<td>Custom sizes available depending on MOQ</td>
</tr>
</tbody>
</table>

**APPLICATIONS**

- Liquefied natural gas (LNG) and cryogenic pipes
- Ideally used over mineral wool, cellular glass, polyurethane, polyisocyanurate, phenolic, styrene and rigid fiberglass.
- Wrapped around other noisy pipes, valves and fan casings e.g. fluid or gas pulsation in chemical, petrochemical and waste water treatment plants
- Compressor jackets where acoustic and thermal treatment is required

**FEATURES**

- Low vapor permeability - maintaining thermal performance of the insulation
- No plasticizer or leaching through the PAP surface covering
- Can be installed in cold and warm temperatures ranging from -40 °F to 248 °F without deterioration
- Simple to cut and install, providing flexibility around LNG pipes or other similar applications
- Resistant to weather and UV light
- Tear resistant with high tensile strength
- Available in various weights, widths, roll lengths and sheet sizes
- The foil facing makes it easy to bond onto other substrates using matching PAP tape
### PRODUCT SPECIFICATIONS

<table>
<thead>
<tr>
<th>Barrier Weight</th>
<th>Thickness</th>
<th>Standard Roll Size</th>
<th>Standard Roll Weight</th>
<th>Operating temperature range</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.5 kg/m² (0.5 lb/ft²)</td>
<td>1.2 mm (0.05 in)</td>
<td>1.22 x 9.1 m (4 ft x 30 ft)</td>
<td>27 kg (60 lb)</td>
<td>Continuous: -40 to 100 °C (-40 to 212 °F)</td>
</tr>
<tr>
<td>5 kg/m² (1 lb/ft²)</td>
<td>2.5 mm (0.1 in)</td>
<td>1.22 x 9.1 m (4 ft x 30 ft)</td>
<td>54 kg (120 lb)</td>
<td>Intermittent: -40 to 120 °C (-40 to 248 °F)</td>
</tr>
<tr>
<td>7.5 kg/m² (1.5 lb/ft²)</td>
<td>3.7 mm (0.15 in)</td>
<td>1.22 x 6.1 m (4 ft x 20 ft)</td>
<td>54 kg (120 lb)</td>
<td></td>
</tr>
<tr>
<td>10 kg/m² (2 lb/ft²)</td>
<td>4.9 mm (0.19 in)</td>
<td>1.22 x 4.6 m (4 ft x 15 ft)</td>
<td>54 kg (120 lb)</td>
<td></td>
</tr>
</tbody>
</table>

Tolerances: Length: -0/+30 mm (2 in), Width: -0/+5 mm (0.2 in), Thickness: ±0.5 mm (0.02 in), Weight: ±10%

Supplied untrimmed - means some surface coverings such as foils, film or fabric may overhang the ordered useable width

### MATERIAL PROPERTIES

<table>
<thead>
<tr>
<th>Test method</th>
<th>Property</th>
<th>Report no.</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASTM E 96</td>
<td>Water vapor transmission &amp; permeance</td>
<td>103095355MD-001B</td>
<td>0.65 ng. Pa⁻¹. s⁻¹. m⁻² (0.011 Perms)</td>
</tr>
<tr>
<td>ASTM D638</td>
<td>Nominal tensile strength</td>
<td></td>
<td>2.06 MPa</td>
</tr>
<tr>
<td>ASTM D638</td>
<td>Nominal Elongation</td>
<td>26819JY</td>
<td>9.3%</td>
</tr>
<tr>
<td>ASTM D2240</td>
<td>Shore D hardness</td>
<td></td>
<td>14 Shore D</td>
</tr>
<tr>
<td>UL94 - HF/HBF</td>
<td>Flammability of plastic materials</td>
<td>27419BD2</td>
<td>Passes</td>
</tr>
</tbody>
</table>

### COMPARISON WITH OTHER SOLUTIONS

**LOWER IS BETTER**

<table>
<thead>
<tr>
<th>Product</th>
<th>Metric</th>
<th>Imperial</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quadzero MVT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standard Foil</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foil faced MLV</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plain MLV</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

TYPICAL PERMEANCE VALUE

ng.Pa⁻¹. s⁻¹. m⁻² (Perms)
ACOUSTIC PERFORMANCE

<table>
<thead>
<tr>
<th>Frequency (Hz)</th>
<th>2.5 kg/m² (0.5 lb/ft²)</th>
<th>5 kg/m² (1 lb/ft²)</th>
<th>7.5 kg/m² (1.5 lb/ft²)</th>
<th>10 kg/m² (2 lb/ft²)</th>
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</thead>
<tbody>
<tr>
<td>100</td>
<td>11</td>
<td>15</td>
<td>19</td>
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<tr>
<td>125</td>
<td>10</td>
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<td>160</td>
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<td>200</td>
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<td>5000</td>
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<tr>
<td>Rₚ</td>
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<td>26</td>
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<td>32</td>
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<tr>
<td>STC</td>
<td>21</td>
<td>26</td>
<td>30</td>
<td>32</td>
</tr>
</tbody>
</table>

Tested to ASTM E90 at Riverbank Acoustical Laboratories, USA

ISO 15665 PIPE INSULATION TESTING

<table>
<thead>
<tr>
<th>Barrier Weight</th>
<th>Test method</th>
<th>System Assembly</th>
<th>Report no.</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 kg/m² (1.2 lb/ft²)</td>
<td>ISO 15665 (Group 2 Pipe Size)</td>
<td>Available on request</td>
<td>A 3041-1E-RA-002</td>
<td>ISO 15665: Class A2 &amp; B2 NORSOK R-004: Class 6 &amp; Class 7</td>
</tr>
<tr>
<td>6 kg/m² (1.2 lb/ft²) &amp; 10 kg/m² (2 lb/ft²)</td>
<td>ISO 15665 (Group 2 Pipe Size)</td>
<td>Available on request</td>
<td>A 3041-4E-RA-002</td>
<td>ISO 15665: Class B2 &amp; C2 NORSOK R-004: Class 7 &amp; Class 8</td>
</tr>
</tbody>
</table>

Testing was conducted using Wavebar®
This installation guide provides recommendations to maximize the service life of Quadzero MVT for LNG and cryogenic pipe applications.

**KEY INSTALLATION REQUIREMENTS - COLD PIPES**

- Attention to detail and good workmanship in cutting, applying and fixing the product on to the pipe is essential.
- Ensure pipe and pipe insulation work surface is clean and dry before installing product.
- Coverage of the pipe insulation being treated must be continuous.
- Coverage will vary depending on the pipe or insulation diameter.
- There should be no gaps at joints or edges and adequate overlaps must be applied according to the specification as the smallest gap at any joint will result in performance loss.
- Tape PAP should be applied on all joins to hold MVT in place, in lieu of metal straps for horizontal sections.
- Do not overstretch Tape PAP when applying, as this will create buckles and voids in the contact area.
- For cold applications, Quadzero MVT should be installed with silver PAP facing outward. Metal banding is optional once Tape PAP is applied.
- For optimal performance, allow at least a 50 mm to 100 mm overlap when wrapping around the pipe or insulation being treated. A tight seal around all joints and edges is critical to attain maximum performance.

**KEY INSTALLATION REQUIREMENTS - HOT PIPES**

- Attention to detail and good workmanship in cutting, applying and fixing the product on to the pipe is essential.
- Ensure pipe and pipe insulation work surface is clean and dry before installing product.
- Coverage of the pipe insulation being treated must be continuous.
- Coverage will vary depending on the pipe or insulation diameter.
- There should be no gaps at joints or edges and adequate overlaps must be applied according to the specification as the smallest gap at any joint will result in performance loss.
- Metal banding should be applied to fasten the MVT against the insulation. DO NOT SEAL ANY JOINTS USING TAPE PAP.
- For hot applications, Quadzero MVT should be installed foil side down – black barrier facing outward.
- For optimal performance, allow at least a 50 mm to 100 mm overlap when wrapping around the pipe or insulation being treated. A tight seal around all joints and edges is critical to attain maximum performance.
GENERAL GUIDELINE RECOMMENDATION

HOW TO MEASURE AND CUT MATERIAL
For Straight Pipe Sections
Apply the following formula to calculate and cut the required wrapping circumference (C).
Measure the outside diameter (OD) of the pipe that requires lagging.
Overlap (OL) is determined by the consultant / technical specification on the project.

\[ C = 3.14 \times (OD + (2 \times T)) + OL \]
OD = Outside Diameter of the pipe or insulation being treated.
OL= Overlap for good acoustic seal
T = Thickness of barrier product being installed

Mark the calculated wrapping circumference (C) along the length of the roll and cut material with a utility knife or equivalent. Always cut from the foil faced side of the material.

**Installation video can be found on our website - www.pyroteknc.com/services/install-videos/**

MEASURE AND CUT
- Roll out the product to an appropriate length and measure the coverage required to fit around the pipeline insulation.
- Refer to “How to measure and cut material” formula above.
- Place and wrap the 1st section onto the pipe work.
- Tape the overlapping joint to seal and secure the product.
- Wipe or rub the tape with firm pressure across the tape with a cloth or equivalent to smooth out any air bubbles or buckles.
- All joints along each pipe section must have a 50 mm overlap on bends and radius. All straight sections should have a 100 mm overlap.
- For cold pipe applications, continue wrapping each segment and join with Tape PAP. This will provide a vapour seal and will help eliminate corrosion under installation (CUI).
- For hot pipe applications, all joins to be held in place with metal banding to ensure any residual moisture in the insulation system can escape. Do not use Tape PAP for hot pipe applications.
- Always ensure that the overlaps are positioned to shed water so that an upper piece always overlaps/fits over a lower piece.
- When wrapping vertical pipes in cold and hot applications, metal banding is required due to the weight of Quadzero MVT.

REPAIRS AND DIFFICULT JOINS
- Puncture hole and tears can be easily fixed by placing a piece of Quadzero MVT patch over the affected areas.
- The patch size must be 2 X larger than the puncture / tear area to ensure a good overlap and acoustic seal.
- The patch perimeter must be sealed using Tape PAP.
- When treating bends, simply cut strips of Quadzero MVT and place over joins and seal using Tape PAP.
COLD APPLICATION INSTALLATION IMAGES

1. Measure length and circumference of pipe
2. Wrap cut section over the insulation
3. Ensure overlap is positioned to side or bottom of pipe to reduce water migration
4. Seal overlap join with Tape PAP
5. Measure bend section allowing for overlap
6. Cut out bend sections
7. Cut out straight section of bend
8. Wrap cut bend sections over the insulation
9. Measure and cut 50 mm strip for bend joints
10. Apply 50 mm strip on bends joints to ensure an acoustic and water tight seal
11. Seal strip in place with Tape PAP
12. MVT installed and sealed on straight and bend sections
HOT APPLICATION INSTALLATION IMAGES

- Metal banding should be applied to fasten the MVT against the insulation.
- DO NOT SEAL ANY JOINTS WITH TAPE PAP. Metal banding will allow water, vapour and steam to escape.
- Sealing strip of 50mm to be apply on bends and radius to ensure a good acoustic and water tight seal.

WORKING HEALTH AND SAFETY

- Personal Protection Equipment (PPE) is recommended.
- Always follow, read and understand any information contained within the product technical datasheets and safety data sheets.
- If unsure, please consult with your local Pyrotek representative regarding the application of the product.

Note: This installation is suitable for professional and experienced users only.

NOTE: All information above only serves as a general guideline for the installation of Quadzero MVT around pipeline insulation in LNG and Offshore applications. This installation guide does not override any technical specifications written by consultants and engineers.

Please contact Pyrotek® for further information or detailed advice on your specific application.

Caveats: Specifications are subject to change without notice. The data in this document is typical of average values based on tests by independent laboratories or by the manufacturer and are indicative only. Materials must be tested under intended service conditions to determine their suitability for purpose. The conclusions drawn from acoustic test results are as interpreted by qualified independent testing authorities. Nothing here releases the purchaser/user from responsibility to determine the suitability of the product for their project needs. Always seek the opinion of your acoustic, mechanical and fire engineer on data presented by the manufacturer. Pyrotek is not responsible for differing outcomes from using these products. Pyrotek disclaims any liability for damages or consequential loss as a result of reliance solely on the information presented. No warranty is made that the use of this information or the products, processes or equipment to which this information refers will not infringe any third party’s proprietary rights.

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FLEXIBLE ACOUSTIC NOISE BARRIER

WAVEBAR AND QUADZERO RANGE

BUILDING - INDUSTRIAL - TRANSPORT - MARINE - OIL & GAS

SOUNDPROOFING SOLUTIONS FOR ALL INDUSTRIES
pyrotekn.com
MASS LOADED VINYL FOR ALL INDUSTRIES

The mass loaded vinyl (MLV) range has been uniquely developed by Pyrotek’s world class engineering team. Offering superior acoustic transmission loss - Wavebar® and Quadzero™ are flexible reinforced noise barrier solutions that meet global market requirements in all industries including building, industrial, transport, marine and oil & gas.

Wavebar® NC is a tear resistant noise barrier curtain with high tensile strength. The tarpaulin base fabric facing is used to withstand tough weather conditions in addition to being UV resistant. Able to withstand exposure to most chemicals and solvents, Wavebar NC is easy to hang or drape in long lengths – being the ideal choice for outdoor use, oil and gas industries and construction sites. It can also be combined with absorption materials, offering versatility in challenging noise environments. The tarpaulin base fabric facing is available in various colours.

Wavebar® dBX is the latest alternative in noise barrier technology manufactured from thermoplastic recycled polymers. A self-extinguishing and low smoke emission noise barrier, Wavebar® dBX provides high-performance acoustic insulation that can be vacuum formed and easily moulded. This product is 100% recyclable and recommended for transport, building and industrial applications due to its strong characteristics.

Our Wavebar® and Quadzero™ range perform an important role as high-performance barriers where noise transmission issues need to be addressed. Typically stiff lightweight panels such as plasterboard, drywall, plywood and hollow core walls have a coincidence dip. A coincidence dip is the frequency at which the stiff panel vibrates in unison with the frequency of sound pressure waves. The frequency of the coincidence dip is dependent on the material’s stiffness and internal damping properties causing a degradation in transmission loss. The Wavebar® and Quadzero™ range will eliminate the impact of the coincidence dip when installed in a structure, rendering it as a highly effective noise barrier.
Quadzero™ NL is a foil faced barrier that is formulated to achieve the highest fire rating as an acoustic surface covering. It is durable, flexible and tear resistant, with a strong base fabric. This product offers optimum noise transmission loss with fire testing results that complies with international marine and rail standards. Quadzero NL is suitable for marine and rail carriages in walls, ceilings and under floor insulation, as it contains no ozone depleting substances, lead, unrefined oils or bitumen.

Quadzero™ dBX is a MLV laminated with reinforced aluminium foil, manufactured from thermoplastic recycled polymers that exhibits superior transmission loss. Meeting international standards for rail, transport and marine, Quadzero dBX has high fire resistant properties, a low spread of flame surface and low smoke development. This product is suitable for marine, transport and rail applications. Quadzero™ dBX is 100% recyclable.

Quadzero™ MVT is a foil-faced, mass-loaded vinyl developed to meet moisture vapor transmission (MVT) resistance in liquefied natural gas (LNG) and cryogenic pipelines. It also serves as an acoustic barrier to assist in reducing noise. As an acoustic solution, Quadzero™ MVT reduces the impact of unwanted sound, offering a 2-in-1 barrier product to not only combat noise, but also vapor transmission.
Typical facing / body and backing of Wavebar® and Quadzero™ mass loaded vinyl

Quadzero™ NL and Quadzero™ dBX will effectively control sound transfer from external track, rail or engine noise into cabins and carriages. This durable product can be used without impacting carriage safety providing additional comfort to passengers.

Quadzero™ NL and Quadzero™ dBX can be installed in the wall linings, deckheads and bulkheads of marine vessels to reduce sound transmission emitting from the vessel engine room.

Quadzero™ is suitable for ceiling cavities due to its reflective and low spread of flame surface covering. Wavebar® fitted between plasterboard walls for greater transmission loss. Improves performance at critical frequencies generated from urban and environmental noise impact.

Wavebar® fitted between plasterboard walls for greater transmission loss. Improves performance at critical frequencies generated from urban and environmental noise impact.

Transport

Quadzero™ NL and Quadzero™ dBX will effectively control sound transfer from external track, rail or engine noise into cabins and carriages. This durable product can be used without impacting carriage safety providing additional comfort to passengers.

Marine

Quadzero™ NL and Quadzero™ dBX can be installed in the wall linings, deckheads and bulkheads of marine vessels to reduce sound transmission emitting from the vessel engine room.
Wavebar® is weather resistant, contains no ozone depleting substances and complies with International standards for Volatile Organic Compound (VOC) emissions.

**Industrial - Outdoor**

Wavebar® NC can be conveniently draped over fencing as an acoustic barrier to reduce noise transmission around construction sites, building sites and mobile equipment.

**Industrial - Indoor**

Wavebar® NC can be easily fabricated and sewn to make custom enclosures to reduce noise transfer from generator sets, plant rooms, printing machines and other heavy equipment.

**LNG Pipes**

Lagged around pipes, Wavebar® & Quadzero™ MVT are important for LNG (Liquid Natural Gas) pipe applications to prevent noise breakout.

*Wavebar* complies to the ISO 15665 (Group 2 Pipe size) test method.
**APPLICATIONS**

Suited across a variety of applications, the mass loaded vinyl range offers superior acoustic transmission loss benefiting the following areas:

<table>
<thead>
<tr>
<th>PRODUCT</th>
<th>TYPICAL AREAS OF USE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wavebar®</td>
<td>• Home theatre and office partitions&lt;br&gt; • Inside cavities, over lightweight walls and ceilings&lt;br&gt; • Between the plenum chamber of a slab, the roof and adjoining partition walls</td>
</tr>
<tr>
<td>Wavebar® NC</td>
<td>• Noise curtain for indoor/outdoor industrial and construction sites&lt;br&gt; • Enclosures for industrial equipment e.g. generators, engine rooms, punch presses</td>
</tr>
<tr>
<td>Wavebar® dBX</td>
<td>• Automotive cabin&lt;br&gt; • Heavy transport and machinery&lt;br&gt; • Acoustic doors</td>
</tr>
<tr>
<td>Quadzero™</td>
<td>• Building construction&lt;br&gt; • Industrial cladding&lt;br&gt; • Roof cavities</td>
</tr>
<tr>
<td>Quadzero™ NL</td>
<td>• Train and tram carriages&lt;br&gt; • Marine deckheads and bulkheads&lt;br&gt; • Marine engine room</td>
</tr>
<tr>
<td>Quadzero™ dBX</td>
<td>• Train and tram carriages&lt;br&gt; • Marine engine room deck&lt;br&gt; • Inside cavities or over lightweight walls, ceilings and floor constructions</td>
</tr>
<tr>
<td>Quadzero™ MVT</td>
<td>• Liquefied natural gas (LNG) and cryogenic pipes&lt;br&gt; • Valves and fan casings&lt;br&gt; • Compressor jackets</td>
</tr>
</tbody>
</table>
### FEATURES

- Flexible and easy to install
- Isolate cavities, over lightweight walls and ceilings constructions
- Reinforced fabric strength
- Can be designed as a partial or complete enclosure around noise sources
- Manufacturing options with stainless steel eyelets and hook-and-loop fasteners
- Portable acoustic curtain easily draped over fencing
- Low smoke emission - contains no ozone depleting substances
- Can be easily moulded into linings
- Thermoplastic properties
- Fire resistant foil properties
- Resistant to water, oil and natural weather conditions
- Reflective foil faced surface
- Highest flame retardant properties
- Self-extinguishes upon removal of flame
- Aluminium foil faced surface
- Flame retardant properties
- Reinforced aluminium facing
- Suitable for use where thermoplastic materials are required
- Low vapor permeability
- Tear resistant with high tensile strength
- Suitable for use with LNG pipes

### BENEFITS

- Reduces noise transfer through lightweight partition walls and ceilings
- Reduce cross-talk noise and ensure privacy
- Longevity
- Curtains are durable and address environmental noise impact
- Customised for unique purposes and difficult sites
- Reduce noise transmission around construction areas and mobile equipment on site
- Safe and self-extinguishes in heavy vehicle, road/ engine bay
- 100% recyclable
- Rail carriage will hold its integrity for longer in case of emergency
- Complies to international building standards
- Joins are easily taped for quick installation
- Free from lead, odour producing oils and bitumen
- Suitable for use in high risk areas including marine & offshore
- Meets international marine & rail standards
- Used where high fire standards are required
- Durable with low spread of flame
- 100% recyclable
- Aluminium faced materials can be easily joined using foil tape
- 2-in-1 solution: vapor barrier and noise barrier
- Blocks moisture entry - maintaining thermal properties
- Flexibility for easy install
Pyrotek endorse forest sustainability and the preservation of natural environment. We procure the highest quality materials from suppliers who hold FSC (Forest Stewardship Council) Certification and PEFC (Programme for the Endorsement of Forestry Certification) amongst other certification programmes.

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80+ locations in 30+ countries

- Six research and development centres
- Five engineering centres
- Global headquarters in Spokane, Washington, USA

With over 40 years of noise control experience, Pyrotek® is a well trusted name for performance improving technical solutions. We offer global resources with dependable local support.

pyroteknc.com

CONTACT DETAILS for further information or to see your local office please visit our website
Decidamp® SP80 effectively absorbs and dissipates vibrational energy from the flexural stress of the base structure to reduce panel coincidence and resonance effects.
Decidamp® SP80 is a lightweight, non-toxic structural damping material that is suitable for exterior and interior use and anywhere that noise can impact structural longevity, comfort and function.

Decidamp® SP80 is a superior extensional damping compound and is suitable to be applied directly to structures (steel, fibreglass and alloys) where sound damping is required. Available in grey (standard) or other colours can be ordered depending on MOQ.

**Fast drying formula**

**Features**
- Advanced, non-sag formulation
- Excellent adhesion to most surfaces
- Water-based - non toxic, solvent free, low VOC
- Excellent flame resistance, ignition retardant
- Designed for damping across broad temperature and frequency range
- Reduces resonant vibration and eliminates tinniness and ringing
- Easy application and clean up (Sprayable)
- Can be painted/gel coated over, once cured
- Cures to chip resistant finish

**Application**
- Oil and gas: pipe cladding
- Building: metal roofing, floors wall cladding
- Enclosures for machinery and industrial equipment
- HVAC, plant rooms, substations
- Stainless steel applications (sinks, bowls)
- Garbage chutes and other utilities where suitable

**Specifications**

<table>
<thead>
<tr>
<th>Packaging</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>20 kg pail</td>
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</tr>
<tr>
<td>5 gal pail</td>
<td></td>
</tr>
<tr>
<td>300 kg drum</td>
<td></td>
</tr>
<tr>
<td>55 gal drum</td>
<td></td>
</tr>
</tbody>
</table>
**SOUNDSTEEL MPM**

Soundsteel MPM is a fully damped steel composite comprising two outer layers of steel that is laminated together using a layer of a viscoelastic polymer. The function of the viscoelastic interlayer is to damp disturbing structure-borne sound.

Soundsteel MPM can be used in severe environments where other damping materials cannot withstand. When exposed to harsh environments, SS316 offers considerably high heat and corrosion resistance when compared to other grades of stainless steels.

**Features**

- Able to fabricate using conventional machine shop tools
- Cut, form and join just like plain aluminium
- Maximum damping with minimum thickness

**SOUNDALLOY MPM**

Soundalloy MPM is a damped aluminium composite comprising two layers of aluminium laminated together using a layer of a viscoelastic polymer.

Soundalloy MPM is free from resonance and coincidence phenomena which often detract from the performance of other acoustic insulation materials.

Soundalloy MPM can also be used in severe environments which other materials cannot withstand.

**Features**

- Various configurations of metal thicknesses
- Able to be die cut and formed into complex shapes
- Able to fabricate using conventional machine shop tools

**Application**

Soundsteel MPM and Soundalloy MPM can be used as metal claddings for pipes in the LNG industry, in engine rooms for high-speed craft/vessels, machinery equipment, compressors, or generator set enclosures.
TECHNICAL DATA SHEET
DECIDAMP® SP80

water-based vibration damping compound

Decidamp® SP80 is a fast drying, water-based viscoelastic vibration damping compound.

The advanced formula is optimised to suit building applications providing an acoustic improvement of structures that are exposed to vibrations and impact noise.

Developed with a special polymer technology, Decidamp® SP80 is a lightweight, non-toxic damping material that is suitable for exterior and interior use. It can be applied almost anywhere that vibration can impact structural longevity, comfort and function.

With exceptional fire properties and compliance to international fire codes, it performs across several industries and is now developed for building applications.

Decidamp® SP80 is easy to apply by simply spraying, rolling or trowelling onto surfaces. Once dry, the cured film is UV, water and chip resistant and effectively damps vibration.

Decidamp® SP80 is a superior extensional damping compound and is suitable to be applied directly to structures (steel, fibreglass and alloys) where vibration damping is required.

**features**

- Advanced, non-sag formulation
- Excellent adhesion to most surfaces
- Water-based, non-toxic, solvent-free, and low VOC
- Excellent flame resistance, ignition retardant
- Designed for damping across broad temperature and frequency range
- Reduces resonant vibration and eliminates tinniness and ringing
- Easy application and clean up (sprayable)
- Can be painted/gel coated over once cured
- Cures to a chip-resistant finish
- Fast drying formula

**applications**

- Metal roofing, floors and wall cladding
- Enclosures for machinery and industrial equipment
- HVAC, plant rooms and substations
- Stainless steel applications (sinks, bowls)
- Hospital equipment
- Whitegoods and dishwashers
- Back of house, garbage chutes, and utilities
- LNG pipe

**SPECIFICATIONS**

<table>
<thead>
<tr>
<th>Colour</th>
<th>Grey (standard colour) Other colours available depending on MOQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Available</td>
<td>Pail: 20 kg, 5 gal</td>
</tr>
<tr>
<td></td>
<td>Drum: 300 kg, 55 gal</td>
</tr>
</tbody>
</table>
### PRODUCT SPECIFICATIONS

<table>
<thead>
<tr>
<th>Colour</th>
<th>UOM</th>
<th>Weight</th>
<th>Service temp range (max short term)</th>
<th>pH</th>
<th>Chemical resistance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grey (Standard)</td>
<td>20 kg</td>
<td>1.8 kg/m²/mm DFT</td>
<td>-40 °C to 120 °C (-40 °F to 248 °F)</td>
<td>8</td>
<td>UV excellent</td>
</tr>
<tr>
<td></td>
<td>Pail</td>
<td></td>
<td></td>
<td></td>
<td>water very good</td>
</tr>
<tr>
<td></td>
<td>5 gal</td>
<td></td>
<td></td>
<td></td>
<td>petrol good</td>
</tr>
<tr>
<td></td>
<td>Drum</td>
<td></td>
<td></td>
<td></td>
<td>diesel good</td>
</tr>
<tr>
<td></td>
<td>300 kg</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

To achieve a desired dry film thickness (DFT), provision for material shrinkage of up to 15% on average should be included when applying wet coating.

When coating thickness requirement is not specified, general recommended coating thickness (dry film) is 
- >= 1.0 x T for steel,
- >= 0.5 x T for aluminium,
- >= 0.3 x T for FRP

where T = substrate thickness.

Other thicknesses may be installed to achieve desired damping performance.

Storage: Store between 10 °C to 45 °C (50 °F to 113 °F). Do not freeze.

Shelf Life: 24 months from receiving goods (stored under recommended conditions).

### MATERIAL PROPERTIES

<table>
<thead>
<tr>
<th>Test Method</th>
<th>Property</th>
<th>Report No.</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>BS 476 Part 6</td>
<td>Fire propagation</td>
<td>376684</td>
<td></td>
</tr>
<tr>
<td>BS 476 Part 7</td>
<td>Surface spread of flame</td>
<td>376685</td>
<td>Complies with Class 0</td>
</tr>
<tr>
<td>BS 476 Class 0 summary</td>
<td>Surface spread of flame Fire propagation</td>
<td>376686</td>
<td></td>
</tr>
<tr>
<td>UL94</td>
<td>Flammability of plastic materials</td>
<td>29516AC1</td>
<td>HF-1, V-0</td>
</tr>
<tr>
<td>FMVSS-302</td>
<td>Flammability of interior materials</td>
<td>29516AC2</td>
<td>Complies to the requirements of US (DOT) Department of transportation for occupant compartments of motor vehicles</td>
</tr>
</tbody>
</table>
| ISO 10140-2     | Airborne noise insulation of 0.42 mm corrugated metal roofing with and without treatment of 1 mm (DFT) Decidamp SP80 | T1822-1 & T1822-2 | Untreated $R_{in}$ (C; C)STC = 18 (-1; -2)/18  
Treated $R_{in}$ (C; C)STC = 23 (-0; -2)/24 |
| ISO 10140-5     | Rainfall noise insulation of 0.42 mm corrugated metal roofing with and without treatment of 1 mm (DFT) Decidamp SP80 |  | Untreated $L_{n}$ = 74.5  
Treated $L_{n}$ = 64.3 |
| ISO 4624        | Pull-off test for adhesion        | 33018BD    | $\geq 0.68$ N/mm²                                                     |
ACOUSTIC PERFORMANCE

Decidamp SP80

How to read a reduced frequency nomogram:
1. Start by selecting the frequency (Hz) on the right-hand vertical axis.
2. Follow this value horizontally to the left to where the diagonal temperature isotherm intersects.
3. Draw a vertical line through the frequency and isotherm intersection, find the point where this line intersects the modulus and loss factor curves.
4. Draw horizontal lines from these points to the left-hand vertical axis to read the values.

ACOUSTIC DATA: SYSTEM LOSS FACTOR

<table>
<thead>
<tr>
<th>Temperature (°C)</th>
<th>Application ratio of Decidamp® SP80 DFT on 1 mm steel (Product thickness: Substrate thickness)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1:1</td>
</tr>
<tr>
<td>15</td>
<td>0.07</td>
</tr>
<tr>
<td>20</td>
<td>0.04</td>
</tr>
</tbody>
</table>

Tested to ISO 6721-3:1994 | Report Number: 27818AR
Soundsteel MPM is a fully damped steel composite comprising of two outer layers of steel laminated together using a layer of a viscoelastic polymer to form the laminate. Using the “constrained layer” principle, the function of the viscoelastic interlayer is to damp disturbing structure-borne sound.

Soundsteel MPM is free from resonance and coincidence phenomena which often detract from the performance of other acoustic insulation materials.

Soundsteel MPM can be used to fabricate acoustic doors, laundry and garbage chutes, ducts, enclosures, extraction hoods, and automotive components such as valve covers & oil sumps. Because of the steel base material, Soundsteel MPM can be used in severe environments where other damping materials cannot withstand.

The standard product is supplied with an electro-galvanised finish, and available in various metals and surface finishes. Using electro-galvanised, cold-rolled, low carbon steel allows the laminate to be used as a structural material in equipment construction.

Soundsteel MPM is also available with a choice 304 and 316 stainless steel grades, with a surface finish of either polished, brushed or polyethylene (PE) coating for additional scratch resistance. When exposed to harsh environments, SS316 offers considerably high heat and corrosion resistance when compared to other grades of stainless steels.

Note: Powder coated panels should not be bent. Bending should be completed on plain panels and painted on site. We recommend conducting trials on small sample pieces first.

**VOC, ODP, HEALTH AND SAFETY**

Soundsteel MPM is non-toxic and safe to handle by methods prescribed in the Safety Data Sheet.

**SPECIFICATIONS**

<table>
<thead>
<tr>
<th>Colour</th>
<th>Plain, plain galvanised finish, or powder coated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Available</td>
<td>Standard sheet size: 1.22 x 2.44 m (4 x 8 ft) Standard thicknesses: 1.2, 1.6 and 2 mm (0.05, 0.06 and 0.08 in) Various configurations of metal thicknesses available from 1 to 6 mm (0.04 to 0.2 in) Custom sizes, colours and/or thicknesses available depending on MOQ</td>
</tr>
</tbody>
</table>

**applications**

- Engine rooms for high speed craft/vessels
- Machinery and equipment, compressor and generator set enclosures
- Acoustic hoods and chutes
- Conveyor systems
- Crushers / Granulators
- Coin counters
- Air conditioner casings
- Automotive sumps and panels
- Acoustic wall panels and doors
- LNG cladding

**features**

- Lightweight while providing maximum damping performance even at minimum thickness
- Complies to IMO FTP 2010 - low spread of flame
- Can be used as part of the “main structure”
- Able to cut, die form into complex shapes and join just like plain aluminium
- Insulates against airborne sound, impact and vibration
- Able to be painted & powder coated - best results from the manufacturer for powder coating
- Effective “in-structure damping”
- No need for external damping materials
- Reduces or eliminates the need for the use of external isolators
- Broad temperature range: -40 to 110 °C (-40 to 230 °F)
- Able to fabricate using conventional machine shop tools
- Available with a choice of polished, electro-galvanised, brushed or polyethylene (PE) coated surface finishes
PRODUCT SPECIFICATION

<table>
<thead>
<tr>
<th>Product</th>
<th>Thickness</th>
<th>Standard sheet size</th>
<th>Approximate Surface Density</th>
<th>Transmission Loss</th>
<th>Recommended Maximum Service Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soundsteel MPM 1200</td>
<td>1.2 mm (0.05 in)</td>
<td>1.22 x 2.44 m (4 x 8 ft)</td>
<td>8.7 kg/m² (1.8 lb/ft²)</td>
<td>Rw 29 / STC 29*</td>
<td>110 °C (230 °F)</td>
</tr>
<tr>
<td>Soundsteel MPM 1600</td>
<td>1.6 mm (0.06 in)</td>
<td>1.22 x 2.44 m (4 x 8 ft)</td>
<td>11.8 kg/m² (2.4 lb/ft²)</td>
<td>Rw 30 / STC 30**</td>
<td></td>
</tr>
<tr>
<td>Soundsteel MPM 2000</td>
<td>2 mm (0.08 in)</td>
<td>1.22 x 2.44 m (4 x 8 ft)</td>
<td>14.9 kg/m² (3.1 lb/ft²)</td>
<td>Rw 33 / STC 33*</td>
<td></td>
</tr>
</tbody>
</table>

Material properties are subject to change without notice. Other grades/thicknesses are available, please enquire for more information.

MATERIAL PROPERTIES

<table>
<thead>
<tr>
<th>Test method</th>
<th>Property</th>
<th>Report no.</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMO FTP Annex 1 Part 5</td>
<td>Surface flammability</td>
<td>394458</td>
<td>Complies for bulkhead, walls, floors and ceiling linings</td>
</tr>
<tr>
<td>IMO FTP Annex 2</td>
<td>Smoke and toxicity</td>
<td>394458</td>
<td></td>
</tr>
</tbody>
</table>

*Published transmission loss results have been calculated using transmission loss prediction software with a general tolerance of ±3 dB. Full prediction data can be shared upon request.
**Test report ATF-142

ACOUSTIC PERFORMANCE

<table>
<thead>
<tr>
<th>Frequency (Hz)</th>
<th>Soundsteel MPM 1.6 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>17.7</td>
</tr>
<tr>
<td>125</td>
<td>17.4</td>
</tr>
<tr>
<td>160</td>
<td>19.1</td>
</tr>
<tr>
<td>200</td>
<td>18.6</td>
</tr>
<tr>
<td>250</td>
<td>21.2</td>
</tr>
<tr>
<td>315</td>
<td>22.4</td>
</tr>
<tr>
<td>400</td>
<td>24.1</td>
</tr>
<tr>
<td>500</td>
<td>24.9</td>
</tr>
<tr>
<td>630</td>
<td>28.0</td>
</tr>
<tr>
<td>800</td>
<td>29.9</td>
</tr>
<tr>
<td>1000</td>
<td>31.7</td>
</tr>
<tr>
<td>1250</td>
<td>33.3</td>
</tr>
<tr>
<td>1600</td>
<td>34.4</td>
</tr>
<tr>
<td>2000</td>
<td>35.1</td>
</tr>
<tr>
<td>2500</td>
<td>36.3</td>
</tr>
<tr>
<td>3150</td>
<td>38.0</td>
</tr>
<tr>
<td>4000</td>
<td>39.0</td>
</tr>
<tr>
<td>5000</td>
<td>38.9</td>
</tr>
<tr>
<td>STC</td>
<td>30</td>
</tr>
<tr>
<td>Rw</td>
<td>30</td>
</tr>
</tbody>
</table>

Transmission loss (Tested to AS1191) | NAL Report No. ATF-142
Soundalloy MPM is a damped aluminium composite comprising two layers of aluminium laminated together using a layer of a viscoelastic polymer to form the laminate. The function of the viscoelastic interlayer is to damp structure-borne sound.

Soundalloy MPM is free from resonance and coincidence phenomena which often detract from the performance of other acoustic insulation materials. And because of the aluminium base material, Soundalloy MPM can be used in severe environments which other materials cannot withstand.

The product can be used to fabricate acoustic doors, laundry & garbage chutes, ducts, enclosures, extraction hoods, and automotive components such as valve covers & oil sumps. Using aluminium sheet also allows the laminate to be used as a structural material in equipment construction.

Other metals such as stainless steel and EG steel can be substituted for aluminium.

**Note:** Powder-coated panels should not be bent. Bending should be completed on plain panels and painted on site. We recommend conducting trials on small samples pieces first.

**VOC, ODP, HEALTH AND SAFETY**

Soundalloy MPM is non-toxic and safe to handle by methods prescribed in the Safety Data Sheet.

### SPECIFICATIONS

<table>
<thead>
<tr>
<th>Colour</th>
<th>Silver</th>
</tr>
</thead>
</table>
| Available | Standard sheet size: 1.2 x 2.4 m (3.9 x 7.9 ft)  
Standard thicknesses: 1.6 and 2.1 mm  
(0.06 to 0.08 in)  
Various configurations of metal thicknesses available from 1 to 6 mm (0.04 to 0.2 in)  
Custom sizes, colours and/or thicknesses available depending on MOQ |

### applications

- Engine rooms for high-speed craft and vessels
- Machinery, equipment, compressor and generator set enclosures
- Acoustic hoods and chutes
- Conveyor systems
- Crushers / Granulators
- Coin counters
- Air conditioner casings
- Automotive sumps and panels
- Acoustic wall panels and doors
- LNG cladding

### features

- Maximum damping performance even at minimum thickness
- Complies to IMO FTP 2010 - low spread of flame
- Can be used as part of the “main structure”
- Able to cut, die form into complex shapes and join
- Insulates against airborne sound, impact and vibration
- Can be painted & powder coated - best results from the manufacturer for powder coating
- Effective “in-structure damping”
- No need for external damping materials
- Reduces or eliminates the need for the use of external isolators
- Lightweight damped structures
- Broad temperature range: -40 to 110 °C (-40 to 230 °F)
- Able to fabricate using conventional machine shop tools
# PRODUCT SPECIFICATION

<table>
<thead>
<tr>
<th>Product</th>
<th>Thickness</th>
<th>Standard sheet size</th>
<th>Approximate surface density</th>
<th>Transmission loss</th>
<th>Recommended maximum service temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soundalloy MPM 1600</td>
<td>1.6 mm (0.06 in)</td>
<td>1.2 x 2.4 m (3.9 x 7.9 ft)</td>
<td>4.2 kg/m² (0.9 lb/ft²)</td>
<td>Rw 23 / STC 23*</td>
<td>110 °C (230 °F)</td>
</tr>
<tr>
<td>Soundalloy MPM 2100</td>
<td>2.1 mm (0.08 in)</td>
<td></td>
<td>5.5 kg/m² (1.1 lb/ft²)</td>
<td>Rw 25 / STC 25*</td>
<td></td>
</tr>
</tbody>
</table>

Tolerances: Dimensions & Weight: ±10%.
Other grades/thicknesses are available, please contact your local Pyrotek representative for more information.

*Published transmission loss results have been calculated using transmission loss prediction software with a general tolerance of ±3 dB. Full prediction data can be shared upon request.

# MATERIAL PROPERTIES

<table>
<thead>
<tr>
<th>Test method</th>
<th>Property</th>
<th>Report no.</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMO FTP 2010</td>
<td>Surface flammability</td>
<td>Resolution MSC.307(88) Annex 1 Part 5 323596</td>
<td>&gt;50.5 kW/m²</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>&gt;30.3 MJ/m²</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>&lt;0.01 kW</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>&lt;0.01 MJ</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Meets all low flame spread requirements for bulkhead, wall, ceiling and floor coverings</td>
</tr>
<tr>
<td>MED B</td>
<td>EC Type Certificate (Module B) for Marine Equipment Directive</td>
<td>164.112/1121/WCL MED0362TE</td>
<td>Complies for Bulkhead, walls and ceiling linings. USCG Type approval granted.</td>
</tr>
<tr>
<td>MED D</td>
<td>EC Type Certificate (Module D) for Marine Equipment Directive</td>
<td>MED000001SN</td>
<td>Complies to DNV GL Offshore Standards, SOLAS &amp; recognised as suitable for use by Transport Canada.</td>
</tr>
</tbody>
</table>

Caveat: Specifications are subject to change without notice. The data in this document is typical of average values based on tests by independent laboratories or by the manufacturer and are indicative only. Materials must be tested under intended service conditions to determine their suitability for purpose. The conclusions drawn from acoustic test results are as interpreted by qualified independent testing authorities. Nothing here releases the purchaser/user from responsibility to determine the suitability of the product for their project needs. Always seek the opinion of your acoustic, mechanical and fire engineer on data presented by the manufacturer. Due to the wide variety of individual projects, Pyrotek is not responsible for differing outcomes from using their products. Pyrotek disclaims any liability for damages or consequential loss as a result of reliance solely on the information presented. No warranty is made that the use of this information or the products, processes or equipment to which the Information Page refers will not infringe any third party’s patents or rights.

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INSTALLATION GUIDE
DECIDAMP® SP RANGE

Decidamp® SP range is a high-performance, fast drying, water-based, viscoelastic vibration damping compound specially formulated for easy application and maximum performance.

WORK HEALTH AND SAFETY

Gloves, protective goggles, respiratory protective equipment, protective clothing and any other appropriate safety equipment based on local health & safety requirements and safe work practice must be worn by the applicator.

KEY INSTALLATION REQUIREMENTS

Surface Preparation

This product is specially formulated to provide high adhesion to difficult substrates such as uncoated aluminium, however adequate surface preparation is essential.

• Remove any dust, dirt, oil, grease, rust, mould-release agent, etc. from the surface using a suitable solvent.
• Abrading the surface by wire brushing, sandblasting or abrasive paper is recommended for highly polished surfaces.
• On steel substrates, surface priming is recommended to prevent flash rusting.

METHODS OF APPLICATION

Decidamp® SP range can be applied using the following methods:

• Trowel: Simply apply and smooth as required.
• Brush: For brush applications, we recommend adding 0.3% of water by weight per kg of product. This will assist in easier and smoother application. Use a wide 100 mm (3.9 in) thick nylon bristle brush. Keep brush well loaded with Decidamp and use short strokes, applying a thick coat of approximately 2 mm (0.08 in). Avoid “painting” back and forth as this will cause the coat to become too thin.
• Roller: Used where high film build is not required, or for levelling and finishing an installation. Can be used to apply a final coat over surface defects. For roller applications, we recommend adding 1% of water by weight per kg of product. This will aid in an easier and smoother application. Using a short nap cloth roller, roll with short strokes, and try to avoid rolling back and forth, as this might cause the coat to become too thin. Use a light brush to “tip-off” the stipple if desired.
• Air-assisted and Airless spray systems: Please see page 3 for the recommended spray system for the application of Decidamp® SP range.

These advanced formulas were developed for acoustic improvement of structures that are exposed to vibration and impact. The Decidamp SP range consists of highly-effective damping compounds that reduce vibration and minimise radiated structure-borne noise.

applications

• Marine: hulls, decks, deckheads and bulkheads
• Machinery and industrial equipment enclosures
• HVAC, plant rooms, substations
• Exit ways, smoking areas, stairwells
• Rail: locomotives, carriages, high-speed trains
• Automotive, trucks and bus underbodies
• Heavy earthmoving equipment
• Stainless steel applications (sinks, bowls)
• Hospital equipment
• Whitegoods and dishwashers
• Metal floors, deck roofing, wall cladding
• Garbage chutes
Ensure proper preparation, mixing and application for best results. Decidamp® SP range should always be applied to surfaces that are clean, dry and free of contaminants.

**MIXING & APPLICATION**

- Mix thoroughly before application using a ribbon or paddle mixer as shown. The product should be mixed until it is a smooth, creamy consistency.
- If required, the viscosity of the product can be altered by the addition of 0.3% of water by weight per kg of product.
- Apply above ambient temperatures of 10 °C (50 °F).

**APPLICATION RATE & COVERAGE**

- Apply as a 2 mm (0.08 in) wet film thickness (WFT).
- Use of a tack coat is recommended: 0.5 mm (0.02 in) first coat.
- Decidamp SP150: Installation on maritime vessel to be done at maximum nominal thickness of 10 mm (0.4 in) DFT. Approved for use as paint systems on a metallic substrate with thickness of at least 3 mm (0.12 in).
- It is important to apply evenly to ensure proper curing and reduce waste.
- Use of thermometer, hygrometer or humidity meter is recommended for monitoring application conditions. High-temperature or low humidity conditions may lead to crack formation.
- Surface defects can be avoided by reducing applied wet film thickness to accommodate poor application conditions.
- Cracked coating can be remedied by application of an additional coat applied to the affected area.
- Excessively cold or high humidity conditions may lead to sagging. Assisted drying may be required.
- Ensure application is adequately dry before additional coating is added.
- Lower WFT application will have a faster drying time and will allow for a quicker re-coat time.
- The final thickness of the application will vary based on your requirement.

When the thickness requirement is unknown or not specified, the following is provided as a general guide:

- Dry coating thickness steel: >1.0 x substrate thickness.
- Dry coating thickness aluminium: >0.5 x substrate thickness.
- Dry coating thickness FRP: >0.3 x substrate thickness.

To achieve a desired dry film thickness, provision for material shrinkage of up to 15% on average should be included when applying wet coating.

Resistant to water spray or immersion up to 12 hours, however, if this is anticipated, Decidamp® SP range should always be sealed with a suitable commercial waterproof sealant/coating, applied well after complete curing of the material.

**DRYING AND CURING**

- For best results, allow the compound to dry naturally. Forced drying may result in cracking of the coat.
- In cold conditions, the substrate can be warmed to aid drying.
- Forced ventilation can be used to help coating dry. Air movement should be both in/out during drying process.
- It is recommended before install that a small section of the area is applied with the product to test and determine the adequacy of drying conditions.

<table>
<thead>
<tr>
<th>The cure time of 2 mm Decidamp® SP80, SP150, SP450</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Temperature</strong></td>
</tr>
<tr>
<td>20 - 25 °C (70 - 75 °F)</td>
</tr>
<tr>
<td>26 - 30 °C (80 - 85 °F)</td>
</tr>
<tr>
<td>31 - 36 °C (90 - 95 °F)</td>
</tr>
</tbody>
</table>

Please note: drying and curing times are only general guides. Testing should be performed by the end user, as end-use conditions (thickness of application, substrate type, temperature and humidity) will affect drying times.

**WET GAUGE FILM THICKNESS CHECK**

To ensure the correct film build is achieved, a wet film gauge can be used (as shown on the right).
RECOMMENDED SPRAYING SETUPS

Below displays typical configurations - other configurations and settings can also be suitable.

<table>
<thead>
<tr>
<th>Gun type</th>
<th>Airless Spray System</th>
<th>Air-Assisted Spray System</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Graco Xtreme 70:1 pneumatic pump</td>
<td>Wagner ProSpray 3.39</td>
</tr>
<tr>
<td></td>
<td>Wagner Vector Pro or Grip airless gun</td>
<td>GNG/T3005 texture gun, bottom entry</td>
</tr>
<tr>
<td></td>
<td>GNG/T3005 texture gun, bottom entry</td>
<td>GNG/T3005 texture gun, bottom entry</td>
</tr>
</tbody>
</table>

Operating line pressure

- **Typically 207 bar (3000 psi).**
- **Higher pressure required for longer hose lengths.**

**SP150, SP450 & SP500:**
- Up to 30 m (98.4 ft)
- Up to 15 m (49.2 ft)

**SP80 only:**
- 15m (50 ft)
- Up to 30 m (98.4 ft)
- 5 to 20 m (16.4 to 65.6 ft)

Diameter of hose

- **9.5mm (3/8") ID**
- **12.5 mm ID (1/2"ID)**
- **19 mm ID (3/4"ID)**
- **19 mm ID (3/4"ID)**

Whip

- **0.5 m (1.6 ft) whip 6 mm (0.24 in) hose**
- **1 m x 9.5 mm (3.3 ft x 38 in)**
- -

Diameter of nozzle

- **Reversible tips:**
  - 0.5 to 0.6 mm (0.02 to 0.02 in)
  - (Reversible tips 519 to 523)
  - Up to 6 mm (0.24 in)
  - (0.08 to 0.24 in)

Pump type

- **Ratio 70:1 piston pump**
- **2.68 kW rated brushless DC motor**
- **Ratio: 4:1 or greater Flow: 3 L/min 2-ball piston pump**
- **20 litre (5 US gal) bottom entry pressure pot**

Air pressure requirement

- **Approx. 3 bar (32 to 45 psi)**
- **Site-air not required**
- **Up to 7 bar (100 psi)**
- **Pressure in gun: up to 6 bar (85 psi)**

**PRODUCT INFORMATION**

<table>
<thead>
<tr>
<th>Product</th>
<th>Decidamp® SP80</th>
<th>Decidamp® SP150</th>
<th>Decidamp® SP450</th>
<th>Decidamp® SP500</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volume solids</td>
<td>70 - 75%</td>
<td>70 - 75%</td>
<td>70 - 75%</td>
<td>70 - 75%</td>
</tr>
<tr>
<td>Weight kg/m²/mm</td>
<td>1.8 kg/m²/mm DFT</td>
<td>1.6 kg/m²/mm DFT</td>
<td>1.5 kg/m²/mm DFT (1.6 g/ml wet)</td>
<td>1.3 kg/m²/mm DFT</td>
</tr>
<tr>
<td>Consumption for 1 mm DFT</td>
<td>2.1 kg/m²</td>
<td>1.85 kg/m²</td>
<td>1.9 kg/m²</td>
<td>1.5 kg/m²</td>
</tr>
</tbody>
</table>

**Substrates:** Can be used on steel, aluminium, GRP/FRP laminate, GRP/FRP.

**Water-resistant:** Decidamp® SP range varieties are water-resistant, however, where regular exposure is expected, Decidamp® SP range should always be sealed with a suitable commercial waterproofing sealant/coating, applied well after complete curing of the material.

**Shelf life and Storage:**

- 24 months from receiving goods (when stored under recommended conditions).
- Product to be stored and transported between 10 to 45 ºC (50 to 113 ºF).
- Do not allow to freeze.
- Partially used pails of the product can be reused if sealed firmly after first use.
- The opened product should be resealed and used within 2 months.
- Frequent opening of the seal must be avoided.

**Clean up and Safety:**

- Equipment easily cleaned with water.
- Personal Protection Equipment (PPE) including eye protection, gloves and safety clothing are highly recommended.

Please contact Pyrotek® for further information or detailed advice on your specific application.

---

**Caveat:** Specifications are subject to change without notice. The data in this document is typical of average values based on tests by independent laboratories or by the manufacturer and are indicative only. Materials must be tested under intended service conditions to determine their suitability for your purpose. The conclusions drawn from acoustic test results are as interpreted by qualified independent testing authorities. Nothing here releases the purchaser/user or by the manufacturer and are indicative only. Materials must be tested under intended service conditions to determine their suitability for purpose. The conclusions drawn from acoustic test results are as interpreted by qualified independent testing authorities.

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SOUNDSTEEL / SOUND ALLOY

This Installation Guide provides recommendations for working on Soundmetal panels ie joining, bending, welding and fastening.

WORKING HEALTH AND SAFETY

- Make sure that the premises are well ventilated when welding panels.
- Personal Protection Equipment (PPE), including eye protection, gloves and safety clothing is recommended. Refer to MSDS, use in a well ventilated area.

Note: This product is suitable for professional and experienced users only.

CONDITIONS BEFORE WORKING ON PANELS

All panels must be at room temperature (15°C - 35°C) before they can be worked on. If you have no heated storage space, the panel must be brought into heated premises at least 24 hours prior to any working operations. If the temperature of the panel is below room temperature, bending and like operations may cause the thermoplastic layer to separate from the facing.

PROCESSING PANELS

CUTTING:
Panels are easily cut with guillotine shears. Cutting edges should be well sharpened. Set the clearance between cutting edges as for a sheet metal thickness equal to 60% of the thickness of the panel. Standard MPM panels come with outer layers of equal thicknesses. Panels with outer layers of unequal thickness, should be cut with the thinner side facing up. MPM panels can also be laser cut. Water jet cutting is not recommended.

SAWING AND SLOTTING:
If the panel is to be sawn or slotted with a cutting wheel or similar tool, it should first be spot or tack welded on both sides of the cutting line. Use minimum heat.

BEADING AND FLANGING:
These operations can be performed in the same way as with single sheets of metal. As the operation takes place under compressive force, there is no risk of separation at the edges of the panel.

PUNCHING:
Any drilling or piercing should be done after bending, as the holes will otherwise be displaced.

BENDING:
Panels can be bent and edged without trouble provided that a few essential points are kept in mind. The bending radius should be at least 1.5 - 2.0 times the thickness of the panel. For best results with heavier-gauge panels, the radius of the die should be slightly larger than that of the tool.

When bent, it behaves like two sheets of metal lying loosely one on the other, and the facings are displaced by the difference in bending radius between the inner and outer facing.

Pyrotek’s ‘Soundmetal’ range of products include two standard damping sandwich panels - Soundalloy™ MPM (Refer to TDS ‘111IP’) and Soundsteel® MPM (Refer ‘121IP’).

Please refer to our website pyroteknec.com for latest information
PROCESSING PANELS (cont.)

BENDING (cont.)
The amount of displacement can be calculated according to the formula:

\[
\delta = \alpha \times \frac{\pi}{180} \times (RII - RI) \text{ mm}
\]

where \( \delta \) = displacement
\( \alpha \) = bending angle in degrees
\( t_1 \) = thickness of facing nearest tool
\( t_2 \) = thickness of facing nearest die
\( RI \) = bending radius of inner facing \((t_1)\)
\( RII \) = bending radius of outer facing \((t_2)\)
\( p \) = thickness of plastic inlay

As a result of the displacement, you cannot make several successive bends without taking certain precautions. Always bend nearest a free edge to allow for displacement. If you bend on the side nearest a bent edge, the layers of the panel will split apart.

*Note: Powder-coated panels should not be bent. Bending should be completed on plain panels and painted on site. We recommend conducting trials on small samples pieces first.*

JOINING & FASTENING

MPM panels are readily joined by both resistance and arc welding.

Weldability of MPM Panels
Care must be taken to adjust current settings and to use the correct clamp design to form an electrical bridge between the two sheets of the sandwich system. In all welding operations you should try to limit both the duration and extent of heating of the thermoplastic inlay.

Resistance Welding
MPM panels lends itself well to resistance welding. The strength of the joints is equivalent to that normally obtained in solid steel sheet welding.

Before resistance welding begins, the insulating plastic inlay must be punctured. This is most easily done by making a centre punch mark under the first spot. For heavier gauge panels you can use a clip or clamp. Once electrical contact is established between the metal facings, no further punch marks are needed. (See fig RW1)

The electrode pressure should be increased by 50-80 % compared to solid metal; this is to ensure that the spot will penetrate the plastic inlay and deform the facings to establish electrical contact. The power should be increased by 20% compared to solid sheeting of the same thickness. With small spot welders developing less than 35kVA, the welding time should be prolonged.

When long edges are spot welded to prevent the panel from splitting apart, the intervals between spots should not be longer than 5cm (2inches) and shorter than that for asymmetrical panels.

Seam Welding
An overlapping form of spot welding is also a suitable method. Bolts, brackets and similar fittings can also be welded to the panel by application of double electrodes on the same side of the panel. In such cases, it isn't necessary to puncture the inlay.

*Make sure that premises are well ventilated when you weld MPM panels.*
VARIOUS TYPES OF JOINT

Fillet Welding to a heavier gauge material or between panels  
First secure the edges of the MPM panel with spot welds. Continuous fillet welds should be avoided. Joints 15mm long, spaced 20mm apart are right. Intermittent fillet welding in a staggered pattern gives best results.

Butt Welding  
Edges of the MPM panels should first be secured by spot welds and then built up as shown in the three figures.

Plug Welding  
Panel edges should first be secured by spot welds. Welding data should be selected according to the thickness of the panel. Basic electrodes are recommended. (See fig. PW1)

Corner Welding  
Locate the panels so that one covers the thermoplastic inlay of the other one. (See fig. CW1)

Make sure that premises are well ventilated when you weld MPM panels.

Please contact Pyrotek® for further information or detailed advice on your specific application.
BROCHURE
Protect vessels, transportation, vehicles and other structures. Non-sag formulation

**WATER-BASED VIBRATION DAMPING COMPOUND**

Decidamp® SP (Soundpaint) is a water-based, extensional damping compound designed to reduce impact-generated noise and address resonant vibration at its source. The viscoelastic properties effectively damp and dissipate vibrational energy to alleviate flexural stress of base structures, which can greatly assist in the prevention of metal structural fatigue. Our advanced formula was developed for acoustic improvement in marine vessels, rail carriages, vehicle chassis and other structures that are exposed to vibration and impact.

The Decidamp® range was developed to reduce structural-borne noise, metal fatigue and flexural or dynamic stress of structures.

**VIBRATION DAMPING TO REDUCE NOISE & LESSEN STRUCTURAL FATIGUE**

Structures with minimal internal damping properties can resonate on impact or when exposed to other momentary forces. If not effectively damped, structure borne vibration is converted to airborne noise. Increased damping in a structure will reduce vibration, noise transfer and structural fatigue. Effective damping can achieve greater than 20 dB reduction in noise.

**FEATURES**

- Certified to International Maritime Organization (IMO) fire safety standards
- Certified to European Standards EN45545-2 for railway applications
- USCG (United States Coast Guard) approved
- ClassNK (Nippon Kaiji Kyokai) approved
- Lightweight and easy to apply
- Faster drying with no slumping
- Contains no ozone-depleting substances
- Water-based, anti-corrosion and chip resistant properties
- Low consumption rate, high damping performance
- High build rate, with the ability to apply 2 mm thick in one single coat
- Seamless damping solution

Available in pails and drums according to project size and customer requirements.
DECIDAMP SP80

Suitable for architectural, building and industrial use

Tested to British Standards - BS 476 Part 6 & 7 - Complies with Class 0.
- Easily applied to any contoured, horizontal or vertical surface
- Apply up to 2 mm in one spray application
- No odour and low Volatile Organic Compound (VOC)

DECIDAMP SP150

Designed for marine and offshore applications

- Wheelmark approved for Marine Industry
- International Marine Organisation (IMO) (fire) approved coating of up to 10 mm thickness therefore highly suitable for thick substrates
- No slumping upon correct application, faster drying
- Can be painted or gel coated over

DECIDAMP SP450 | SP500

Recommended for transport and rail applications

Complies to international fire standards including EN45545-2 - Results R1, R7, R8, R10 HL3.
- Achieves highest fire rating results in latest rail standards
- Premium lightweight formulation. High performance damping with excellent system loss factor
- Offers chip and corrosion resistance, no cracking properties and high build rate

“Pyrotek SP150 Soundpaint® shows significant improvements to the transmission loss, vibration acceptance, and damping compared to the untreated steel and aluminium bulkheads. Comparisons to a previously tested spray-on damping treatment show that Soundpaint® performs significantly better in transmission loss, vibration acceptance, and damping.”

Noise Control Engineering Inc. TM 12-071
Address resonant vibration in structures, facades, casings, chutes and anywhere high performance damping is required.

TYPICAL AREAS OF USE

BUILDING/INDUSTRIAL -
- Commercial, and multi-storey residential
- Government infrastructure projects, schools, educational and hospitals
- Industrial factories and equipment
- Mills and processing equipment
- Metal roofing - interior rain noise
- Metal structures - frames, facades, stairs
- HVAC - ducts, fan housing ventilation units
- Generator sets - metal panels
- Industrial - cabinets, covers, chutes
- Machinery - sheet metal, guards

MARINE -
- Pleasure craft, luxury
- Super yachts, mega yachts
- Military and amphibious warfare
- Work boats, tugs and trailers
- Commercial, coast guard, rescue vessels
- Offshore oil and gas platforms
- Hulls - reduces wave slap noise and resonance
- Decks, under screed interior floor
- Wall partitions, interior lining
- Bulkhead and deckhead
- Bow thruster, transom, propeller tunnels
- Engine rooms, enclosures
- Superstructure

TRANSPORT & RAIL -
- Carriages - trams, high speed, locomotive, monorail, urban trains
- Military, personnel carriers, combat, utility and transport vehicles
- Mining vehicles and equipment
- Specialist vehicles - armoured vehicles
- Passenger rail carriages - interior linings, floor, wall and ceiling
- Diesel and electric motor carriages
- Bus and truck - floor pans, engine bay, under bonnet, firewall, wheel arches
- Underbody, and interior body applications

Highest certification in fire standards
OUTSTANDING CONSUMPTION AND COVERAGE

<table>
<thead>
<tr>
<th>Consumption (L) per square metre of damping coating applied at 1 mm dry film thickness (DFT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decidamp</td>
</tr>
<tr>
<td>Competitor M-dB</td>
</tr>
</tbody>
</table>

CONSUMPTION (L/m²/mm DFT)

<table>
<thead>
<tr>
<th>Comparison of coverage (m²) for 1 kg wet damping coating applied at 1 mm dry film thickness (DFT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decidamp</td>
</tr>
<tr>
<td>Competitor M-dB</td>
</tr>
</tbody>
</table>

COVERAGE (m²/kg/mm DFT)

15% lighter
high solids

EASY INSTALLATION

Specifically formulated to provide high adhesion to many substrates including metal (electro galvanised steel, uncoated aluminium and stainless steel), and fibre reinforced plastics (FRP). The final cured layer of Decidamp varieties is water resistant and chip resistant. Decidamp is optimised to work best at typical temperatures of use.

INDEPENDENT CERTIFICATION AND TESTING HAS BEEN CONDUCTED BY:

Exova Warrington, UK  Intertek, USA
Van Cappellen Consultancy, Netherlands  SGS, France
Intersona, Netherlands  Noise Control Engineering, USA
LA.P.I., Italy  TÜV SÜD, Singapore

*Based on supplier technical datasheet & literature 2017*
Pyrotek endorse forest sustainability and the preservation of natural environment. We procure the highest quality materials from suppliers who hold FSC (Forest Stewardship Council) Certification and PEFC (Programme for the Endorsement of Forestry Certification) amongst other certification programmes.

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80+ locations in 30 countries
- Six research and development centres
- Five engineering centres
- Global headquarters in Spokane, Washington, USA

With over 40 years of noise control experience, Pyrotek® is a well trusted name for performance improving technical solutions. We offer global resources with dependable local support.
Decicoat™ T35 can be used as an independent solution, or to complement other insulation materials. This adds protection from condensation and corrosion while maintaining the overall thermal performance.
Decicoat T35 is a water-based spray-on thermal insulation coating specially formulated with anti-condensation and corrosion protection properties. It also complies to international fire codes for building, rail and marine applications.

**Applications**
- Applications exposed to high humidity and temperature fluctuations such as: LNG or cryogenic pipes, building interiors or walls
- Underside of metal deck roofing and metal wall cladding
- Applied in conjunction with traditional fibrous or foam insulation to improve overall thermal insulation systems

**Why Decicoat T35?**
Condensation is associated with relative humidity, air pressure and occurs when temperature differentials between two areas pass over the ‘dew point’ threshold. Decicoat T35 regulates surface temperatures of the component by inhibiting thermal transfer to effectively control the onset of condensation when applied with the appropriate coating thickness.

**Features**
- Thermal insulation, excellent anti-condensation and corrosion protection
- Lightweight, non-sag formulation with excellent adhesion to various metal substrates
- Complies to international standards for low spread of flame, smoke and toxicity
- Water-based compound – no volatile solvents or thinners required for cleaning (low odour environment)
- No primer required - easy, fast and seamless application
- Sprayable - air gun or airless spray system
- Long-lasting, cures to a hard chip,
- UV and moisture-resistant finish
- Can be used in conjunction with other insulation materials

**Application**
- Applications exposed to high humidity and temperature fluctuations such as: LNG or cryogenic pipes, building interiors or walls
- Underside of metal deck roofing and metal wall cladding
- Applied in conjunction with traditional fibrous or foam insulation to improve overall thermal insulation systems
TECHNICAL DATA SHEET
DEICOAT™ T35

water-based, sprayable thermal coating

Decicoat T35 is a water-based spray-on thermal insulation coating specially formulated with anti-condensation and corrosion protection properties. It has been developed to meet market requirements in the rail, off-shore, marine, chemical, petroleum, automotive and construction industries.

Unlike traditional insulation materials like glass wool or mineral fibre, Decicoat T35 provides a seamless and sprayable application with 100% coverage. This means Decicoat T35 successfully prevents thermal bridging.

With excellent adhesion to most metals, Decicoat T35 bonds flush with substrates even around uneven surfaces. Depending on the application requirement, it can be used as an independent solution, or to complement other insulation materials, when added protection from condensation and corrosion are required for overall thermal performance.

Condensation is associated with relative humidity, air pressure and occurs when temperature differentials between two areas pass over the ‘dew point’ threshold. With the right coating thickness, Decicoat T35 regulates surface temperatures of the component by inhibiting thermal transfer to effectively control the onset of condensation.

Near odourless, it complies with international fire codes for rail and marine applications, exhibiting a low spread of flame, low heat release, low toxicity and low smoke release during combustion.

SPECIFICATIONS

<table>
<thead>
<tr>
<th>Colour</th>
<th>White</th>
</tr>
</thead>
<tbody>
<tr>
<td>Available</td>
<td>Pail: 19 L, 5 gal</td>
</tr>
<tr>
<td></td>
<td>Drum: 200 L</td>
</tr>
</tbody>
</table>

applications

- Marine vessels: interiors of superstructures and hulls in workboats, luxury yachts and super-liners
- Rail applications: carriage ceiling and walls
- Industrial: on the underside of metal deck roofing, metal wall cladding or shipping containers
- Applications exposed to high humidity and temperature fluctuations
- Oil & gas/offshore: interior structures of habitable areas and LNG pipelines
- Automotive: heavy vehicles, buses, trailers, tractors
- Applied in conjunction with traditional fibrous or foam insulation to improve overall thermal insulation systems
- Domestic: pipes, walls, interiors

features

- Thermal insulation, excellent anti-condensation and corrosion protection
- Eliminate thermal bridging
- Complies to international standards - low spread of flame, smoke and toxicity
- Manufactured under ISO 9001 Quality Systems
- Use in conjunction with other insulation materials
- Decrease interior sound levels by damping panel resonance
- Lightweight, non-sag formulation with excellent adhesion to various metal substrates
- Long-lasting, cures to a hard chip, UV and moisture-resistant finish
- Water-based compound – no volatile solvents or thinners required for cleaning - low odour environment
- No primer required - easy, fast and seamless application
- Sprayable - air gun or airless spray system
## PRODUCT SPECIFICATIONS

<table>
<thead>
<tr>
<th>Colour</th>
<th>UOM</th>
<th>Weight</th>
<th>Consumption for 1 mm (0.04 in) DFT. Includes allowance for up to 10% material shrinkage</th>
<th>Service temp range (max short term)</th>
<th>Application guidance</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>19 L (5 gal) pail</td>
<td>0.39 kg/m²/mm DFT (0.08 lb/ft²/mm DFT)</td>
<td>1.1 L/m² (0.027 gal/ft²)</td>
<td>-40 °C to 120 °C (-40 °F to -248 °F)</td>
<td>Minimum recommended application: 0.5 mm DFT General purpose installation: 2 mm DFT Other thicknesses as per specification or requirement</td>
</tr>
<tr>
<td></td>
<td>200 L drum</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

To achieve a desired dry film thickness, provision for material shrinkage of up to 10% on average should be included when applying a wet coating.

Storage: Store between 10 °C to 45 °C (50 °F to 113 °F).

Shelf Life: 24 months from receiving goods (stored under recommended conditions).

## MATERIAL PROPERTIES

<table>
<thead>
<tr>
<th>Test method</th>
<th>Property</th>
<th>Report</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMO FTP Part 5</td>
<td>Surface flammability</td>
<td>376675</td>
<td>Complies for Bulkhead, walls and ceiling linings up to 2.5 mm thickness on metallic substrate.</td>
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<tr>
<td>IMO FTP Annex 2</td>
<td>Smoke and toxicity</td>
<td>376675</td>
<td>USCG Type approval granted.</td>
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<tr>
<td>MED B</td>
<td>EC Type Certificate (Module B) for Marine Equipment Directive</td>
<td>164.112/112/EWC MED0384TE</td>
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<tr>
<td>MED D</td>
<td>EC Type Certificate (Module D) for Marine Equipment Directive</td>
<td>MEDD00000UK MEDD00000R4 MEDD00001HN</td>
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<tr>
<td>DNV Type approval</td>
<td>Type approval certification</td>
<td>F-21139</td>
<td>Complies to DNV GL Offshore Standards, SOLAS &amp; recognised as suitable for use by Transport Canada.</td>
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<td>EN 45545-2 (ISO 5658-2)</td>
<td>Spread of flame</td>
<td>376677</td>
<td>R1, R7, R8, HL3</td>
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<td>EN 45545-2 (ISO 5660-1 : 50kWm-2)</td>
<td>Heat release rate by cone calorimeter</td>
<td>376679</td>
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<tr>
<td>EN 45545-2 (ISO 5659-2 : 50kWm-2)</td>
<td>Smoke generation (optical density)</td>
<td>376678</td>
<td></td>
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<tr>
<td>RISSB AS 7529</td>
<td>Material fire performance</td>
<td>376677, 376678, 376679</td>
<td>Complies with requirements for combustible component material in Locomotive and Passenger rolling stock.</td>
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<tr>
<td>ASTM E 162</td>
<td>Surface flammability</td>
<td>101731845MID-001c</td>
<td>Complies for US (FRA) Federal railroad administration requirements and requirements of NFPA 130 - Complies for US (DOT) Department of transportation requirements for acoustic insulation of transit bus and vans (Docket 90A).</td>
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<tr>
<td>ASTM E 662</td>
<td>Optical Density of Smoke Generated</td>
<td>101731845MID-002c</td>
<td></td>
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<tr>
<td>ASTM E 800 (SMP-800C)</td>
<td>Gases Present or Generated During Fires</td>
<td>101731845MID-003c</td>
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<tr>
<td>FMVSS 302</td>
<td>Flammability of interior materials</td>
<td>20713JY</td>
<td>Complies to the requirements of US (DOT) Department of transportation for occupant compartments of motor vehicles.</td>
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</table>
CHEMICAL RESISTANCE

<table>
<thead>
<tr>
<th>UV</th>
<th>Water</th>
<th>Petrol</th>
<th>Diesel</th>
<th>10% HCl solution</th>
<th>10% NaOH solution</th>
<th>Permeability (ASTM1653) (Report no. 19013BD1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000+ hours</td>
<td>Excellent</td>
<td>Good</td>
<td>Good</td>
<td>Good</td>
<td>Good</td>
<td>&lt; 3 metric perms</td>
</tr>
</tbody>
</table>

THERMAL PERFORMANCE

| Thermal conductivity (ISO 8302) (Report no. 332/13) | 0.07 Wm⁻¹K⁻¹ |

Surface temperature comparison with radiated heat

2 mm Decoat™ T35 on 4 mm aluminium

Uncoated 4 mm aluminium

Report no.20613BD1

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**DECICOAT™ T35**

This installation guide provides recommendations to maximise the service life in various applications. Decicoat™ T35 is a water-based thermal insulation compound that is simple to apply using a range of spray systems.

**WORK HEALTH AND SAFETY**

Gloves, protective goggles, respiratory protective equipment, protective clothing and any other appropriate safety equipment based on local health & safety requirements and safe work practice must be worn by the applicator.

**KEY INSTALLATION REQUIREMENTS**

**Surface Preparation**

This product is specially formulated to provide high adhesion to difficult substrates such as uncoated aluminium, however adequate surface preparation is essential.

- Remove any dust, dirt, oil, grease, rust, mould-release agent, etc. from the surface using a suitable solvent.
- Abrading the surface by wire brushing, sandblasting or abrasive paper is recommended for highly polished surfaces.
- On steel substrates, surface priming is recommended to prevent flash rusting.

**METHODS OF APPLICATION**

Decicoat T35 can be applied using the following methods:

- **Trowel:** Simply apply and smooth as required.
- **Brush:** For brush applications, we recommend adding 0.3% of water by weight per kg of product. This will assist in easier and smoother application. Use a wide 100 mm (3.9 in) thick nylon bristle brush. Keep brush well loaded with Decicoat T35 and use short strokes, applying a thick coat of approximately 2 mm (0.08 in). Avoid “painting” back and forth as this will cause the coat to become too thin.
- **Air-assisted and airless spray systems:** Please see page 3 for the recommended spray system for the application of Decicoat T35 range.

Decicoat T35 is a water-based spray-on thermal coating specially formulated to provide an anti-condensation solution. The product is designed to be installed in industries such as rail, offshore, marine, and automotive.

**applications**

- Rail: Locomotive and passenger rolling stock (interiors, floors, cabin)
- Industrial: Underside of metal deck roofing and metal wall cladding
- Offshore platforms: Interior structures of habitable areas
- Automotive: Heavy vehicles, buses, trailers, and tractors
- In conjunction with traditional fibrous insulation
Ensure proper preparation, mixing and application for best results. Decicoat T35 range should always be applied to surfaces that are clean, dry and free of contaminants.

**MIXING & APPLICATION**

- Mix thoroughly before application using a ribbon or paddle mixer as shown. The product should be mixed until it is a smooth, creamy consistency.
- The pail can be placed upside down for 24 hours before use or opening to make mixing easier.
- Apply above ambient temperatures of 10 °C (50 °F).
- If required, the viscosity of the product can be altered by a maximum of 2% addition of water. Application testing performed under end-use conditions is required for water additions greater than 2%.

**APPLICATION RATE & COVERAGE**

- The minimum dry film thickness (DFT) should be 0.5 mm (0.02 in).
- A DFT of 2 mm (0.08 in) is recommended when applied to a system.
- Each coating should be 0.5 mm (0.02 in) to 1 mm (0.04 in) thick.
- Installation on maritime vessels to be done at recommended nominal thickness of 2.5 mm (0.1 in) DFT. Approved for use as paint systems on a metallic substrate with thickness of at least 2.25 mm (0.09 in).
- Additional thickness can be applied to achieve the desired result. The final thickness of the application will vary based on your requirement.
- When applied, thicker applications (as a single coat) are possible but will require longer drying time.
- To achieve the desired dry film thickness, provision for material shrinkage of up to 10% on average should be included when applying the wet coating.
- Use of a tack coat is recommended for the first 0.5 mm (0.02 in) coating.
- It is important to apply evenly to ensure proper curing and to reduce waste.
- Use of thermometer, hygrometer or humidity meter is recommended for monitoring application conditions. High-temperature or low humidity conditions may lead to crack formation.
- Surface defects can be avoided by reducing applied wet film thickness (WFT) to accommodate poor application conditions.
- A cracked coating can be remedied by application of an additional coat applied to the affected area.
- Excessively cold or high humidity conditions may lead to sagging. Assisted drying may be required.
- Ensure application is adequately dry before any additional coating is added.
- Lower WFT application will have a faster drying time and will allow for a quicker recoat time.

**DRYING AND CURING**

- For best results, allow the compound to dry naturally. Forced drying may result in cracking of the coat.
- In cold conditions, the substrate can be warmed to aid drying.
- Forced ventilation can be used to help coating dry. Air movement should be both in/out during drying process.
- It is recommended before install that a small section of the area is applied with the product to test and determine the adequacy of drying conditions.

<table>
<thead>
<tr>
<th>Drying time</th>
<th>Initial drying 1 mm</th>
<th>1 hour</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial drying 2 mm</td>
<td>4 to 6 hours</td>
<td></td>
</tr>
<tr>
<td>Completely dry</td>
<td>24 to 72 hours</td>
<td></td>
</tr>
</tbody>
</table>

Please note: drying and curing times are only general guides. Testing should be performed by the end user, as end-use conditions (thickness of application, substrate type, temperature and humidity) will affect drying times.

**WET GAUGE FILM THICKNESS CHECK**

To ensure the correct film build is achieved, a wet film gauge can be used (as shown on the right).
### RECOMMENDED SPRAYING SETUPS

Below displays typical configurations - other configurations and settings can also be suitable.

<table>
<thead>
<tr>
<th>Gun type</th>
<th>Operating line pressure “hose pressure rating to match requirement of pump”</th>
<th>Length of hose from pump to gun</th>
<th>Diameter of hose</th>
<th>Whip</th>
<th>Diameter of nozzle</th>
<th>Pump type</th>
<th>Air pressure requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>XTR-7 airless spray guns</td>
<td>Typically 138 to 207 bar (2000 to 3000 psi) Higher pressure required for longer hose lengths</td>
<td>30 m (98.4 ft)</td>
<td>9.5 mm ID (3/8 in)</td>
<td>0.5 m (1.6 ft) whip 6 mm (0.24 in) hose</td>
<td>0.5 to 0.7 mm (0.019 to 0.029 in) (Reversible tip 419 to 429)</td>
<td>Ratio 7:1 piston pump</td>
<td>2 to 5 bar (30 to 70 psi)</td>
</tr>
<tr>
<td>Wagner ProSpray 3.39</td>
<td>Up to 230 bar (3335 psi)</td>
<td>15 m (50 ft)</td>
<td>12.5 mm (½ in)</td>
<td></td>
<td></td>
<td>2.68 kW rated brushless DC motor</td>
<td>Site-air not required</td>
</tr>
<tr>
<td>Pneumatic pump</td>
<td>Max. 30 bar (440 psi)</td>
<td>Up to 30 m (98.4 ft)</td>
<td>19 mm ID (3/4 in)</td>
<td></td>
<td></td>
<td>Ratio: 41 or greater Flow: 3 L/min (0.8 gal/min) 2-ball piston pump</td>
<td>Up to 7 bar (100 psi)</td>
</tr>
<tr>
<td>GNG/T3005 texture gun, bottom entry</td>
<td>Max. 4 bar (60 psi)</td>
<td>5 to 20 m (16.4 to 65.6 ft)</td>
<td>19 mm ID (3/4 in)</td>
<td></td>
<td></td>
<td>20 litre (5.3 gal) bottom entry pressure pot</td>
<td>Pressure in gun up to 6 bar (85 psi) Pressure in pot: max 4 bar (60 psi)</td>
</tr>
</tbody>
</table>

### PRODUCT INFORMATION

<table>
<thead>
<tr>
<th>Product</th>
<th>Decicoat T35</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight</td>
<td>0.39 kg/m²/mm DFT</td>
</tr>
<tr>
<td>Consumption for 1 mm (0.04 in) DFT</td>
<td>1.1 L/m²</td>
</tr>
<tr>
<td>Includes allowance for up to 10% material shrinkage</td>
<td></td>
</tr>
</tbody>
</table>

**Substrates:** Can be used on steel and aluminium.

**Shelf life and Storage:**
- 24 months from receiving goods (when stored under recommended conditions).
- Product to be stored and transported between 10 and 45 °C (50 to 113 °F).
  - **Do not allow to freeze.**
- Partially used pails of the product can be reused if sealed firmly after first use.
- The opened product should be resealed and used within 2 months. Frequent opening of the seal must be avoided.

**Clean up and Safety:**
- Equipment easily cleaned with water
- Personal Protection Equipment (PPE) including eye protection, gloves and safety clothing are highly recommended.

Please contact Pyrotek® for further information or detailed advice on your specific application.
DECICOAT T35

thermal insulation, anti-condensation and corrosion protection

Pyrotek.

SOUNDPROOFING SOLUTIONS FOR ALL INDUSTRIES
pyroteknc.com
SEAMLESS INSTALLATION - CONTROLS THERMAL BRIDGING

Thermal bridges are pathways for heat transfer, typically caused when insulation is not continuous. Being sprayable, Decicoat T35 bonds flush around uneven surfaces, tight areas and provides 100% coverage even around mechanical assemblies. This reduces the occurrence and impact of thermal bridging where even high performance foam insulation systems with radiant barrier faces fail.

LIGHTWEIGHT AND SPRAYABLE

It’s a lightweight acrylic system, with excellent adhesion and non-sag formulation. It can be easily and quickly sprayed like paint with a range of spray systems.

THERMAL PROPERTIES

Decicoat T35 provides the benefits of both good thermal resistance (R value) and acts as a good radiant barrier (low emissivity). It controls both, rapid heat dissipation and heat absorption and exhibits increased performance with additional coatings thereby offering weight and space efficiency.

APPLICATIONS

- Marine vessels - interiors of structures and hulls in workboats, luxury yachts and super-liners etc
- Off-shore platforms - interior structures of habitable areas
- Industrial: the underside of metal deck roofing and metal wall cladding
- Automotive: heavy vehicles, buses, trailers, tractors.
- Rail cars: applied in conjunction with traditional fibrous or foam insulation to improve overall thermal insulation systems
- Domestic: pipes, walls, interiors
- Applications exposed to high humidity and temperature fluctuations

FIRE CERTIFICATION

Decicoat T35 achieves a wheelmark and complies with stringent international fire standards for building, industrial, rail and marine applications. It is low VOC and near odourless.
PREVENTS CONDENSATION

When thermal conduction takes place through a substrate, condensation occurs on the surface, when its temperature reaches the ‘dew-point’ threshold, i.e. the point of onset of condensation. Decicoat T35 has proven low thermal conductivity and permeability properties. When used on substrates exposed to high humidity or temperature variations, it inhibits thermal transfer and effectively regulates the temperature of the substrate surface to remain above the dew-point threshold, thereby preventing the onset of condensation.

PREVENTING CORROSION

Corrosion is a chemical and physical change that occurs in a material due to its interaction with its environment. Decicoat T35 provides a protective coating to metallic substrates, aiding in the prevention of condensation. Condensation can typically act as an electrolyte as part of galvanic corrosion. It will also cause dissolution of chloride and sulfide ion contaminants that exacerbate the corrosion process.

Decicoat T35 is formulated for ease of installation by spray application, directly onto ferrous and nonferrous surfaces.

INHIBITS CORROSION UNDER INSULATION (CUI)

Chemical contaminants typically found in materials such as glass wool or mineral fibre react with moisture trapped in the air gaps, under poorly installed insulation, to form an acidic reaction which corrodes the metallic substrate.

Corrosion under Insulation (CUI), is difficult to detect and treat in situ, and leads to degradation and reduced performance of the system over a period of time.

In eliminating the occurrence of thermal bridging, Decicoat T35 inhibits CUI and enhances the durability of such insulation systems. It maintains the overall thermal performance of the system besides offering a weight, space, cost and time efficient solution.
Pyrotek endorse forest sustainability and the preservation of natural environments. We procure the highest quality materials from suppliers who hold FSC (Forest Stewardship Council) Certification and PEFC (Programme for the Endorsement of Forestry Certification) amongst other certification programmes.

Caveats: Specifications are subject to change without notice. The data in this document are typical of average values based on tests by independent laboratories or by the manufacturer and are indicative only. Materials must be tested under intended service conditions to determine their suitability for purpose. The conclusions drawn from acoustic test results are as interpreted by qualified independent testing authorities. Nothing here releases the purchaser/user from responsibility to determine the suitability of the product for their project needs. Always seek the opinion of your acoustic or mechanical engineer on data presented by the manufacturer. Due to the wide variety of individual projects, Pyrotek NC is not responsible for differing outcomes from using their products. Pyrotek disclaims any liability for damages or consequential losses as a result of reliance solely on the information presented. No warranty is made that the use of this information or of the products, processes or equipment to which this Information Page refers will not infringe any third party’s patents or rights. DISCLAIMER: This document is covered by Pyrotek standard Disclaimer, Warranty and © Copyright clauses. See www.pyroteknc.com/disclaimer.
Our full service means you can leave the material selection, measuring, design, predicted performance calculations and installation to the specialists - us.
SPECIALTY PRODUCTS
SUMMARY

ACOUSTIC AND THERMAL SOLUTIONS
ACOUSTIC AND THERMAL SOLUTIONS

oil and gas
- Metal fabrication & cladding
- Cryogenic insulation
- Flexible valve covers
- Condensation protection
- Acoustic and vapour barriers
- Covers and high temperature material
- Expansion joints

power generation
- Turnkey solutions for acoustic enclosures
- Custom fabricated removable thermal jacketing
- Acoustic louvre design and fabrication
- Vibration damping products
- On-site noise level testing
- Expansion joints

transport
- Custom-designed cab insulation to meet the current noise regulations
- Thermal exhaust and turbo covers for personal protection
- Heat shielding products
- Noise and vibration monitoring and control
- High temperature seals and exhaust tapes
Pyrotek was established in 1956. Our high temperature and acoustic products are developed through innovation and understanding of market needs. Our advanced material expertise and product engineering knowledge provides product solutions for the most demanding applications. Our goal is to provide high quality products and services to all areas of industry and to be at the forefront of technology in product application and design. We are able to offer products to reduce noise and fire risk in the oil and gas, marine, offshore, power generation, mining, thermal, fire and welding protection, petrochemical, transport and aerospace domains.

- Turbocharger covers
- Valve covers
- Insulation blankets
- Exhaust lagging
- Acoustic insulation
- Accommodation fire panels
- Fire protection to meet B, A, H and J class

- Flexible hoses
- Dust and flange covers
- Anti-static materials
- Fabricated insulation covers
- Acoustic treatments
- Seals and flanges
Pyrotek’s more than 50 years’ experience supports our premium thermal and noise insulation products and services. These products reduce noise and heat to comfortable safe levels in a range of applications.

Our world-class team of engineers and scientists bring a wealth of knowledge and experience to successfully control and reduce heat and noise in demanding environments. They refine existing products and create new materials as required to meet the unique needs of our customers.

Working with a diverse range of impregnated fabrics for high temperature applications allows us to select textiles that are engineered for strength, dependability and long service life in the toughest of environments. Pyrotek offers services such as:

- CNC cutting technology including laser, waterjet and multi-axis tables
- digitally created patterns using the latest software for repeatability
- fully equipped laboratory to simulate international fire and mechanical testing
- onsite installation service including project management, underground, cryogenic and hot work installation
Pyrotek helps control noise. Our world-class team of engineers and scientists bring a wealth of knowledge and experience to design and develop products that successfully control noise in demanding environments.

**Vibration Damping**

Vibration noise can be minimised by applying vibration damping materials that dissipate vibration energy in the structure and convert it to heat. Our products include constrained layer damping, extensional damping and vibration isolation.

**Noise Barriers**

Noise barriers are a flexible, mass-loaded vinyl, offering superior acoustic transmission loss. Our range includes noise-reducing floor mats, mass barriers, low spread of flame, low smoke & fire retardant noise barriers.

**Sound Absorbers**

Sound absorbers are applied to reduce noise energy. We provide a range of materials such as fibreglass, foam and polyester with a variety of surface coverings to suit each application.

**Barrier Absorber Composites**

Pyrotek has created a unique acoustic solution – combining acoustic foam and a noise barrier, developed with the aim of simplifying the acoustic treatment of enclosures, engine bays and plant rooms.

**Acoustic Insulation**
All exhaust gas duct work requires expansion joints or vibration eliminators to absorb any movement in the duct work.

We manufacture a range of fabric and metallic expansion joints. The correct materials are selected depending on temperature and the type of corrosive gases present. We supply fabric expansion joints made from high temperature fabrics and are also able to incorporate high density noise barrier materials to provide a sound barrier in joints on or near fans.

We offer a complete service including design, manufacture and supply of the fabric and metallic expansion and associated steelwork.

- Fabric expansion joints custom designed and fabricated
- Custom-made metallic bellows for high temperature, pressure and chemical resistance.
- High noise reduction acoustic expansion joints
- Variety of specialty fabrics to withstand highly corrosive, acidic and alkaline conditions
- Complete expansion joint assemblies ready for installation
- On-site supervision of installation
Pyrotek speciality products custom makes and designs covers that utilise our range of fabrics, felts and blankets to suit a variety of conditions from cryogenic to high temperature metal smelting. There is an increasing demand for removable insulation covers for all types of high temperature equipment. Our covers provide excellent personal protection from heat and are easy to remove and replace when performing maintenance.

Our full service means you can leave the material selection, measuring, design, predicted performance calculations and installation to the specialists - us.

- Industrial machinery and turbine covers
- Custom-made valve and flange covers for the off-shore industry
- Exhaust and manifold covers for the mining and marine industry
- Aerospace-approved products
- Prefabricated jackets for pipes, holding vessels and tanks
- High temperature acoustic curtains and covers
- Fire-rated curtains
Plain fibreglass
Pyrotek manufactures and coats fibreglass fabric offering an extensive range of fibreglass fabrics in an extensive range of weights, finishes, colours and textures. Weights are available from 50g/m² up to 3000g/m². All our loom state fabrics are available with a weave set finish to reduce fraying.

Wire-reinforced fibreglass
A unique method of introducing stainless steel continuous fibres gives us the ability to design high temperature fabrics where additional strength and integrity is required. Our wire-reinforced fabrics are also available with graphite, vermiculite or silicon coatings.

Vermiculite-coated fibreglass
Our vermiculite-coated fabrics exhibit excellent temperature and abrasion resistance. The vermiculite treatment improves the fabrics temperature resistance to withstand temperatures up to 800°C. A vermiculite coating can also be applied onto silica glass or ceramic fabric. Typically these fabrics are supplied in weights of 600 and 1000g/m².

Graphite-impregnated fibreglass
Our graphite-treated fabrics are impregnated using a dip coating method to provide a uniform coverage. We offer several graphite treatments for an assortment of applications. Graphite treatment improves the base fabric’s heat resistances and also offers excellent abrasion resistance.

Silicon-coated fibreglass
Silicon-coated fabrics are available in various weights from 180 to 1200g/m². Our optimised formula offers excellent heat resistances allowing the fabric to remain flexible and durable during prolonged use at high temperatures. Our silicon fabrics are available with a single-sided or double-sided coating and in a range of standard colours. Silicon also has excellent UV durability and is resistant to water, oils, grease, fuels and many chemicals.
**Foil and mylar-faced fibreglass**

Our fibreglass fabrics can be supplied with a layer of pure aluminium foil, stainless steel foil or mylar-faced films. These facings offer a highly reflective surface and also act as a vapour and liquid barrier. The films are bonded using the latest technology and are resistant to higher temperatures than traditional laminations.

**Neoprene-coated fibreglass**

Neoprene offers excellent fire resistance and also provides high resistance to chemical and liquid attack. Neoprene-coated fabrics provide excellent protection against hot metal grindings and weld splatter. A full range of weights and sizes is available.

**Silica glass**

Silica glass fabrics have been developed for use in applications requiring higher temperature performance than traditional fibreglass. Fibreglass fabrics are typically rated to 550ºC; silica glass fabrics can withstand temperatures of up to 1000ºC. Silica fabrics also have excellent chemical resistance and electrical insulation properties.

**Teflon®-coated fibreglass**

Teflon® (PTFE) is a high temperature non-reactive polymer coating. Our Teflon coated fabrics are resistant to most reactive and corrosive chemicals and also have high abrasion resistance. These fabrics are often used as a weather or chemical resistant barrier. A comprehensive range of weights and sizes is available.

**Ceramic-coated woven fabric**

Offering the highest temperature resistance in woven fabrics, our ceramic fabrics have excellent chemical, abrasion and thermal resistance. These fabrics are able to withstand temperatures up to 1600ºC without melting. They can easily be cut, sewn and fabricated into various shapes, and are available with stainless steel or Inconel® wire reinforcing.
Pyrotek supplies a wide range of thermal insulation products to meet different requirements.

- Polyester from 20 to 80kg/m³ for thermal and acoustic applications from -10°C to 110°C
- Traditional glasswool, 16 to 130kg/m³ for temperature from -10°C to 530°C
- Quilted fibreglass blanket for thermal and acoustic applications for applications needing better mechanical strength
- Cryogenic fibreglass for temperatures from -150°C to 530°C
- Needlemat, 130kg/m³ fibreglass felt with high mechanical strength and rated to 650°C
- Rockwool from 45 to 130kg/m³ Rockwool is suitable for temperatures up to 830°C
- ULTIMATE, a marine certified thermal and acoustic fire insulation achieving A0 to A60 requirements
- Ceramic fibre for service temperatures 1200°C to 1600°C
- BioSoluble fibre (or low bio-persistence fibres for temperatures between 1000°C to 1200°C)
Accessories

Pyrotek offers a range of consumable items to complement our products

- Weld pins and clips in a range of styles and sizes, both Arc and CD pins are available in plain or bimetallic versions
- Industrial insulation pins and clips are available with either a perforated based plate or pressure sensitive adhesive
- Fire proof mastic compounds rated to 1000°C for sealing penetrations in high temperature applications
- High temperature fibreglass or ceramic tapes and ropes for door seals and lagging
- High temperature silicone coated fibreglass tubing
- Braided ropes and tadpole seals available in a comprehensive range of sizes
- Insulcoat - anti condensation coating
- Stainless steel knitted mesh
- Lacing hooks, eyelets and sewing treads
Pyrotek endorse forest sustainability and the preservation of natural environment. We procure the highest quality materials from suppliers who hold FSC (Forest Stewardship Council) Certification and PEFC (Programme for the Endorsement of Forestry Certification) amongst other certification programmes.

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THAILAND
TURKEY
UNITED ARAB EMIRATES
UNITED KINGDOM
UNITED STATES OF AMERICA
VIETNAM

CONTACT DETAILS
for further information and contact details, please visit our website at pyroteknc.com
FABRICATED COVERS

Pyrotek® designs and manufacture custom covers that utilise our range of fabrics, felts and blankets to suit a variety of conditions from cryogenic to high temperature applications. There is an increasing demand for removable insulation covers for all types of high-temperature equipment. Our covers provide excellent personal protection from heat and are easy to remove and replace when performing maintenance.

TAPE PAP

Tape PAP is a high-performance insulation reinforced aluminium foil tape, designed for use as a joining and covering tape for Pyrotek’s aluminium foil faced products such as Quadzero MVT.

The low permeability properties of Tape PAP blocks moisture entry into the insulation system, maintaining its thermal performance, and preventing corrosion under insulation (CUI).

The reinforcing mesh in Tape PAP provides good mechanical stability during application and once in place prevents further movement.

FIX15

Fix15 is a high quality single component joint sealant with high adhesive strength. It is based on MS Polymer®, which is chemically neutral and fully elastic with excellent primerless bonding.

For use in low movement joints, adhesion and waterproofing in the construction, automotive, marine and aerospace industries where a strong bond and/or UV resistant flexible seal is required.

For our complete product range, visit pyroteknc.com/industries/oil-and-gas/
**TAPE PAP**

reinforced aluminium foil tape

Tape PAP (polyester / aluminium / polyester) is a high-performance insulation reinforced aluminium foil tape. It is designed for use as a joining and covering tape for Pyrotek aluminium foil faced products such as Quadzero MVT. Pipeline operating and ambient temperatures can create perfect conditions for moisture buildup inside insulated equipment. The low permeability properties of Tape PAP blocks moisture entry into the insulation system, maintaining its thermal performance, and preventing corrosion under insulation (CUI).

The reinforcing mesh in Tape PAP provides good mechanical stability during application and once in place prevents further movement. The nature of the tape is such that it provides a rare combination of high strength, flexibility and conformability.

The pressure sensitive adhesive backing on Tape PAP, which is a modified acrylic/rubber-based formulation, gives a high initial tack and holding power.

The backing is protected by a silicone coated, removable release paper which provides easy release properties and aids ease of application.

**SURFACE PREPARATION**

- Surfaces must be smooth, clean and free from grease, loose or flaking paint, dirt, and contaminants.
- Surfaces can be cleaned with a degreasing solvent cleaner before applying the product
- Pressure should be used when applying to any surface
- Adhesion tests are recommended for powder coated surfaces
- Ageing trials should be performed on plasticised PVC
- Ideal for sealing joints and strengthening mechanical fasteners or fixings. Not to be used as mechanical joining devices
- It is essential, that the user evaluate product suitability for a particular application.

**STORAGE AND SHELF LIFE**

Tape PAP needs to be stored away from direct sunlight in a clean, and dry environment with a stable temperature of between +10 to +40 °C (+50 to 104 °F) . It will have a shelf life of 12 months from the date of purchase if stored correctly.

**SPECIFICATIONS**

<table>
<thead>
<tr>
<th>Colour</th>
<th>Silver</th>
</tr>
</thead>
<tbody>
<tr>
<td>Available</td>
<td>Standard width: 72 mm (2.8 in)</td>
</tr>
<tr>
<td></td>
<td>Standard roll length: 50 m (164 ft)</td>
</tr>
<tr>
<td></td>
<td>Custom sizes available depending on MOQ</td>
</tr>
</tbody>
</table>

**features**

- High-performance synthetic pressure sensitive adhesive backing
- Polyethylene fibre mesh/film composite reinforced aluminium foil
- High initial tack and grab
- Broad operating temperature range
- High-performance in heat, humidity and environmental conditions
- Resistant to dust, oils and solvents
- Reflects and insulates against heat
- Easily cut, shaped and fabricated
- Puncture and tear resistant
- Tougher than similar products
- Long service life
- Dimensionally stable

**applications**

- Liquefied natural gas (LNG) and cryogenic pipes
- Wrapped around other noisy pipes, valves and fan casings e.g. fluid or gas pulsation in chemical, petrochemical and waste water treatment plants
- Compressor jackets where acoustic and thermal treatment is required
## PRODUCT SPECIFICATIONS

<table>
<thead>
<tr>
<th>Standard product nomenclature</th>
<th>Colour</th>
<th>Standard roll length</th>
<th>Standard width</th>
<th>Application temperature range</th>
<th>Operating temperature range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tape PAP</td>
<td>Metallic silver facing</td>
<td>50 m (164 ft)</td>
<td>72 mm (2.8 in)</td>
<td>+10 to +40 °C (+50 to +104 °F)</td>
<td>-5 to +93 °C (+23 to +200 °F)</td>
</tr>
</tbody>
</table>

Dimensional tolerance: ±3%. Custom sizes available on request depending on MOQ.

## MATERIAL PROPERTIES

<table>
<thead>
<tr>
<th>Product name</th>
<th>Adhesive tape</th>
<th>Tensile strength</th>
<th>Adhesion strength</th>
<th>Elongation at break</th>
<th>Permeance (metric)</th>
<th>Permeance (perms)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tape PAP</td>
<td>Modified acrylic/rubber</td>
<td>100 N/25 mm (22.5 lbf/in)</td>
<td>20 N/25 mm (4.5 lbf/in)</td>
<td>15%</td>
<td>6.1 ngPa⁻¹ s⁻¹ m⁻²</td>
<td>0.1 Perms</td>
</tr>
</tbody>
</table>
**FIX15**

modified silyl polymer sealant

Fix15 is a high quality single component joint sealant with high adhesive strength. It is based on MS Polymer®, which is chemically neutral and fully elastic with excellent primerless bonding.

For use in low movement joints, adhesion and waterproofing in the construction, automotive, marine and aerospace industries where a strong bond and/or UV-resistant flexible seal is required.

<table>
<thead>
<tr>
<th>SPECIFICATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colour</td>
</tr>
<tr>
<td>Packaging</td>
</tr>
<tr>
<td>Shelf life and storage</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Clean up</td>
</tr>
</tbody>
</table>

**HEALTH AND SAFETY RECOMMENDATION**

Apply the usual industrial hygiene. Wear gloves, safety glasses.

**CERTIFICATION**

SOLAS Certified
MED 0327QA, U.S. Coast Guard Approved No. 164.106/1121/WCL.

Note: The contents contained in this documentation are the result of our experiments and our experience and have been submitted in good faith. Because of the diversity of the materials and substrates and the vast number of possible applications which are beyond our control we cannot accept any responsibility for the results obtained. In every case it is recommended to carry out preliminary experiments and compatibility tests.

**APPLICATIONS**

- Sealing and bonding of areas with high traffic, floor joints and low movement wall joints
- Suitable for bonding and sealing but not limited to steel, aluminium, stainless, PVC, fiberglass, concrete, composite, glass, timber, mirrors, polystyrene, rubber, PU foam, etc.
- Connection joints in sheet metal fabrication
- Sealing and bonding of coachwork, caravans, boats, commercial ferries and ships, buses, aircraft, domestic and commercial construction

**FEATURES**

- High bond strength on a wide variety of substrates
- High performance mechanical properties
- Flexible elastic rubber; movement accommodation up to 20%
- Assessed under criteria of NOHSC Australia and considered as non-toxic, Certificate No. 2146
- US Coast Guard Approved: Approval No. 164.106/1121/WCL
- Solas Certified: MED 0327QA
- No bubble formation within the sealant
- Primerless adhesion (except where capillary water pressure can occur)
- Easy to tool and finish
- Excellent extrudability and UV resistance
- Ecological advantages - free from isocyanates, solvents, halogens and acids
- Minimal health and safety considerations
- Can be wet on wet painted with all water-based paints and many other systems (Contact your local Pyrotek representative)
- No staining of porous materials such as natural stone, granite, marble, etc.
MATERIAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base</td>
<td>MS Polymer*</td>
</tr>
<tr>
<td>Consistency</td>
<td>Stable Paste</td>
</tr>
<tr>
<td>Curing system</td>
<td>Moisture Cure</td>
</tr>
<tr>
<td>Skin Formation(*)</td>
<td>Approx. 15 minutes (23 °C/50% R.H)</td>
</tr>
<tr>
<td>Tack Free Time (*)</td>
<td>Approx. 4 hours (23 °C/50% R.H)</td>
</tr>
<tr>
<td>Cure Rate (*)</td>
<td>3 mm/24 hr (23 °C/50% R.H)</td>
</tr>
<tr>
<td>Hardness</td>
<td>48 Shore A</td>
</tr>
<tr>
<td>Change In Volume</td>
<td>&lt;2%</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>1.55 g/cm³</td>
</tr>
<tr>
<td>Maximum Deformation</td>
<td>± 20%</td>
</tr>
<tr>
<td>Temperature Resistance (cured)</td>
<td>-40 °C to 100 °C</td>
</tr>
<tr>
<td>Elastic Modulus 100%</td>
<td>1.1 N/mm² (ISO 37, DIN 53504)</td>
</tr>
<tr>
<td>Tensile Strength</td>
<td>2.2 N/mm² (ISO 37, DIN 53504)</td>
</tr>
<tr>
<td>Elongation At Break</td>
<td>&gt;300% (ISO 37, DIN 53504)</td>
</tr>
<tr>
<td>Shear Strength</td>
<td>&gt;1.6 N/mm² (ISO 37, DIN 53504)</td>
</tr>
</tbody>
</table>

*Values may vary depending on environmental conditions.

APPLICATION EQUIPMENT

Method: Manual or pneumatic caulking gun
Application rate: For Sorberpoly, Sorberfoam and Echohush products installed at weights below 1 kg/m², recommended application rate is 100 g/m². Testing by the end-user is recommended to ensure suitability for substrate and application.
Application temperature: 5 °C to 35 °C
Clean up: Methylated Spirits or industrial alcohol cleaner immediately after application and before curing
Tooling: Mild diluted soapy solution (e.g. pH neutral dishwashing liquid diluted in fresh clean water), before skin formation
Repair: FIX15

SURFACES

Typical Surface: Abraded with red abrasive pad or suitable sand paper. Wipe surface clean with industrial alcohol to ensure it is clean, dry, free of dust and free of grease.
Glass: Wipe surface clean with industrial alcohol to ensure it is clean, dry, free of dust and free of grease.

As the specific properties of substrates will differ from manufacturer to manufacturer we strongly recommend compatibility tests.

Priming
a) For porous substrates we recommend Primer PR10 be applied.
b) PE or PP Plastics we recommend Primer PR20 be applied for good adhesion.

Remarks: Fix15 may be painted over with water based paints. However due to the large number of paints such as and not limited to 1 and 2 pack PU paints, acrylics, 2 pack varnishes that are available, we strongly recommend compatibility tests before application. The drying time of some alkali paint systems may increase and some enamel and oil-based paints will not cure properly.
Projects | North West Shelf (NWS)
---|---
Builder | Woodside
Owner | Woodside/BHP
Year | 1989 onwards
Location | Western Australia

Projects | Darwin LNG
---|---
Builder | Bechtel
Owner | ConocoPhillips
Year | 2003 to 2006
Location | Northern Territory, Australia

Projects | Pluto Gas Trains 1, 2 and 4
---|---
Builder | John Holland
Owner | Woodside
Year | 2009 to 2013
Location | Western Australia

Projects | Pluto Gas Trains 3 and 5
---|---
Builder | AMEC Foster Wheeler
Owner | Woodside
Year | 2011
Location | Western Australia
Projects | Gina Krog/Mariner  
---|---  
Builder | DSME, Daewoo Shipbuilding and Marine Engineering  
Owner | Statoil  
Year | 2014 to 2018  
Location | North Sea  

Projects | CSG Compressor Stations  
---|---  
Builder | Santos GLNG  
Owner | Santos  
Year | 2013 to 2016  
Location | Queensland, Australia  

Projects | Gorgon  
---|---  
Builder | Chevron Australia  
Owner | Joint venture - Chevron (Majority)  
Year | 2013 to 2017  
Location | Western Australia  

Projects | Wheatstone  
---|---  
Builder | Chevron  
Owner | Joint venture - Chevron (Majority)  
Year | 2014 to 2017  
Location | Western Australia
<table>
<thead>
<tr>
<th>Projects</th>
<th>Curtis Island LNG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Builder</td>
<td>Bechtel</td>
</tr>
<tr>
<td>Owner</td>
<td>APLNG</td>
</tr>
<tr>
<td>Year</td>
<td>2015 to 2017</td>
</tr>
<tr>
<td>Location</td>
<td>Queensland, Australia</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Projects</th>
<th>Ichthys LNG Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>Builder</td>
<td>JKC Australia</td>
</tr>
<tr>
<td>Owner</td>
<td>Inpex</td>
</tr>
<tr>
<td>Year</td>
<td>2014 to 2018</td>
</tr>
<tr>
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<td>Bechtel</td>
</tr>
<tr>
<td>Owner</td>
<td>QGC</td>
</tr>
<tr>
<td>Year</td>
<td>2015 to 2017</td>
</tr>
<tr>
<td>Location</td>
<td>Queensland, Australia</td>
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</table>
PYROTEK
WORLDWIDE LOCATIONS

AUSTRALIA
CANADA
CHINA
CZECH REPUBLIC
HONG KONG
INDIA
INDONESIA
JAPAN
KOREA
MALAYSIA
SINGAPORE
NEW ZEALAND
TAIWAN
THAILAND
TURKEY
UNITED ARAB EMIRATES
UNITED KINGDOM
UNITED STATES OF AMERICA
VIETNAM

CONTACT DETAILS
for further information please visit our website at pyroteknc.com

Pyrotek endorse forest sustainability and the preservation of natural environment. We procure the highest quality materials from suppliers who hold FSC (Forest Stewardship Council) Certification and PEFC (Programme for the Endorsement of Forestry Certification) amongst other certification programmes.

Caveats: Specifications are subject to change without notice. The data in this document are typical of average values based on tests by independent laboratories or by the manufacturer and are indicative only. Materials must be tested under intended service conditions to determine their suitability for purpose. The conclusions drawn from acoustic test results are as interpreted by qualified independent testing authorities. Nothing here releases the purchaser/user from responsibility to determine the suitability of the product for their project needs. Always seek the opinion of your acoustics or mechanical engineer on data presented by the manufacturer. Due to the wide variety of individual projects, Pyrotek is not responsible for differing outcomes from using their products. Pyrotek disclaims any liability for damages or consequential loss as a result of reliance solely on the information presented. No warranty is made that the use of this information or of the products, processes, or equipment to which this Information refers will not infringe any third party’s patents or rights. DISCLAIMER: This document is covered by Pyrotek’s standard Disclaimer, Warranty and © Copyright clauses. See pyroteknc.com/disclaimer.