

INTEK®

# Thermal and acoustic insulation

Image: Courtesy of BAE Systems

INTEK® is a range of light weight high performance thermal and acoustic insulation products. They provide solutions for many industries, including marine, aviation, automotive and rail.

## INTEK® PFI Polyimide Foam Insulation

INTEK® PFI polyimide foam insulation has unrivalled advantages over more traditional insulation materials, making them ideal for solving tough problems aboard marine vessels, aircraft and industrial applications. Polyimide foam technology was developed in the 1970's to meet the stringent fire, smoke and toxicity requirements of NASA and the US Navy. During the 1980's polyimide foam was certified for use aboard surface and submarine vessels. Today polyimide foam is used as the primary insulation aboard virtually all US Navy surface warships and submarines, and is also used or specified for more than 15 navies worldwide.



## Benefits and Advantages:

- **Flame resistant** - emits virtually no smoke or incapacitating toxic bi-products when exposed to an open flame
- **Lightweight** - extremely lightweight, which translates into fuel savings and extra payload capacity
- **Wide operating temperature range** - remains functional when exposed to extreme temperatures. The foams maintain their flexibility even at cryogenic temperatures
- **Acoustic and thermal performance** - offers excellent acoustic absorption and thermal insulation properties
- **Reduced life cycle costs** - can be removed for maintenance and then reused
- **Nontoxic and environmentally friendly** - no precautions against fibers or irritating substances is required, there is no formaldehyde offgassing. The foams contain no halogens, heavy metals or ozone depleting chemicals
- **Adhesive compatible** - compatible with a variety of adhesives and performance facings such as Mylar film and perforated glass cloth



## **INTEK® MTI-1046 Marine Fiber Board Insulation**

INTEK® MTI-1046 is a lightweight, semi-rigid board insulation made from felted glass fibers in a nominal density of 2.9 pf (46.5 kg/m<sup>3</sup>). INTEK® MTI-1046 Hullboard is characterized by a low organic content.

- Fully approved for in-service MOD (UK) ships
- DEF STAN 711 and DEF STAN 713 certified

### **Characteristics**

High thermal performance with a low 'k' factor of 0.23 Btu•in/(hr•ft<sup>2</sup>•°F) at 75°F mean temperature (0.033 W/m•°C at 24°C), INTEK® MTI-1046 Hullboard is highly effective in reducing heat transfer. Operating Temperature Limit: 232 °C (450 °F).

### **Properties**

INTEK® MTI-1046 Marine Fiber Board can be used in combination with waffleboard and perforated glass cloth for fabricating Acoustic Absorptive Board per Section 3.2.1 of MIL-A-23054A. Complies with current military specification requirements for a MIL- 742F, Type II; ASTM C 1139, Type I & II, Grade 6 and has been given U.S. Coast Guard Certificate of Approval No. 164.109/46/0. (ASTM C 1139 replaced MIL-I-22023D).

### **Fast Installation**

The resilient, semi-rigid insulating board is easy to cut and fit, and can be fabricated with minimal time and effort. The standard sizes available help save cutting and trimming time and reduce waste.



## **TYPE 45 Insulation – UMI-1075 Glass Wool Hull Board Insulation**

TYPE 45 Insulation - UMI-1075 is a lightweight, water repellent, glass wool hull board, for use as a thermal and acoustic insulation in marine applications. The product is produced by a flame attenuation process incorporating a flame retardant, thermoset binder system.

### **Benefits and Advantages:**

- Typical weight saving on destroyer is approx 10 tons
- Improved thermal and acoustic performance over competitors

### **Characteristics**

Manufactured with a patented controlled fiber diameter and density to insure consistent thermal and acoustic performance. Maximum performance temperature for un-faced products are 232 °C (450 °F).

### **Qualification**

TYPE 45 Insulation - UMI-1075 meet the performance requirements of:

- DEF STAN 711
- DEF STAN 713
- MIL-I-742F
- MIL-I-22023D
- DOD-I-24688

### **Performance Facings**

Available faced with glass fiber cloth, perforated cloth, white Mylar film and other specialty facings as needed to meet performance requirements.

### **Contact Us**

Trelleborg Applied Technologies delivers innovative and reliable solutions that maximize business performance to meet your needs. Our dedicated and highly skilled staff are always on hand to provide seamless process support from initial idea, through to delivery and beyond.

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