ARMACELL SOLUTIONS FOR DEFENCE SECTOR

ENERGY CONSERVATION COMBINED WITH ENHANCED AESTHETICS FOR DEFENCE ESTABLISHMENTS

- HIGH PERFORMANCE INSULATION SYSTEM FOR:
  - MINIMISING ENERGY LOSSES
  - CONDENSATION CONTROL
  - ENHANCED FIRE PROTECTION

- COMPREHENSIVE INSULATION SOLUTIONS PROVIDER FOR ALL APPLICATION AREAS

- ENHANCED PRODUCT PORTFOLIO FOR CUSTOMISED REQUIREMENTS IN DEFENCE SECTOR

- ON-SITE AND OFF-SITE INSTALLATION TRAINING SUPPORT
INSULATION FOR DEFENCE SECTOR

- Thermal insulation across office buildings, command centres, community centres, hospitals and residential quarters
- Application areas in buildings need effective thermal protection across the installations for better operational efficiency
- Armacell offers wide range of products to cater various insulation needs across any application area

THERMAL INSULATION IN DEFENCE APPLICATION

- Piping – HVAC lines including chilled water pipelines, hot water pipelines and drainage lines
- Ducting – Supply and Return air ducts which contribute to Indoor Air Quality (IAQ)
- Pipe Supports – Effective supports range for avoiding thermal bridging
- Accessories – Comprehensive range available in adhesive & tapes for value addition to installations

ENERGY EFFICIENT THERMAL INSULATION

- Class 0 fire performance
- Excellent condensation control
- Reliable temperature control
- Reduces energy losses
- Excellent in-built vapour barrier properties
- FM approved, UL-94 compliant
- Completely Closed Cell Structure

INSTALLATION BENEFITS

- High-performance, professional and systematic solutions
- Experience from a large number of reference projects
- Energy savings and cost reduction
- Compliance with specific fire protection regulations
INDOOR AIR QUALITY WITH MICROBAN®

Insulation on Air Conditioning and Ventilation systems in public areas often have a high risk of microbial growth.

- Class 0 Armaflex® Plus is manufactured with anti-microbial technology that provides long term protection against bacteria
- Microban® protection penetrates the cell wall of the micro-organism, disabling its ability to function, grow and reproduce
- The active ingredient will not wash off or wear away and will last for a life time of the insulation

LONG TERM PROTECTION AGAINST CONDENSATION & ENERGY LOSSES

- Closed cell Armaflex® products come with in-built water vapour barrier which is effective for long-term condensation control
- Very high water vapour diffusion resistance (μ) ranging from 7,000 to 20,000 +
- Excellent properties against moisture ingress and microbe growth
- Prevents under-insulation corrosion

FIRE SAFETY

- FM Approved Products
- Class 0 Armaflex® protects surface spread of flame & fire propagation and limits the amount of heat released from the surface as per BS 476 Part 7 & Part 6
- Armaflex® being Nitrile Butadiene Rubber (NBR), will neither drip nor melt, hence providing enhanced safety parameters
- UL 94 compliant
HVAC DUCTING AND PIPING

- Comprehensive insulation solutions for external protection and fire protection
- Significant energy and cost saving can be achieved using suitable technical insulation material
- Armaflex\textsuperscript{\textregistered} products provide long term protection against condensation and increase energy efficiency

HVAC ACOUSTICS

- HVAC acoustic needs are varied and important for silent and comfortable work and residential areas
- ArmaSound\textsuperscript{\textregistered} range of acoustic product offerings from Armacell are tried and tested for reducing noise levels and noise carriage through the HVAC systems
- ArmaSound\textsuperscript{\textregistered} Super Silence Ductliner has open cell structure, is dust and fibre free and has in-built anti-microbial Microban\textsuperscript{\textregistered} protection

ARCHITECTURAL ACOUSTICS

- Architectural acoustics form an important part in modern architecture for any building
- Noise carriage through plumbing, walls and between floors can result in great inconvenience and loss of privacy
- Tubolit\textsuperscript{\textregistered} product range from Armacell is useful in reducing heat losses and noise on plumbing installations
- Sound Absorber: ArmaSound\textsuperscript{\textregistered} Super Silence Ductliner provides excellent sound absorption coupled with in-built Microban\textsuperscript{\textregistered} anti-microbial, anti-fungal & anti-mould protection
- Sound Barrier: Armacell also offers wall insulation in the range of ArmaSound\textsuperscript{\textregistered} Barrier E sheets for effective noise carriage reduction

UNDER-DECK INSULATION SOLUTIONS

- Buildings across the globe consume 60-70\% of total energy generated & are major contributor to greenhouse gases
- Under-deck insulation with effective insulation material like Armaflex\textsuperscript{\textregistered} can result in substantial savings of energy
- Closed cell Armaflex\textsuperscript{\textregistered} products offer efficient thermal insulation thereby resulting in excellent energy savings in commercial as well as residential buildings
APPROVAL FOR ARMACELL PRODUCTS AND REFERENCE PROJECTS

DEFENCE APPROVALS

SOUTH-WESTERN COMMAND

OTHER GOVT. APPROVALS:  • MECON  • RESEARCH CENTRE IMARAT  • INDIAN GREEN BUILDING CONGRESS  • NATIONAL THERMAL POWER CORPORATION LTD.

REFERENCE PROJECTS

WESTERN COMMAND

- South-Western Command HQ, Gandhinagar
- Punjab National Bank, Delhi (CPWD)
- Greater Noida Authority Office, UP
- Ranbaxy Laboratories Ltd., Devas
- Apollo Hospitals, Chennai
- Pfizer Ltd., Mumbai
- TCS, Chennai
- DRDL Lab, Chandipur
- Brahmos Aerospace Nagpur (DRDO)
- Air Force Station, Tejpur
- Airforce Hindon Air Base
- Indian Aviation Academy, Delhi (AAI)
- National Physical Laboratory, Delhi
- Cancer Hospital Lucknow (UPRNN)
- IISER, Kolkata
- IIT, Trichy
- IIT, Gandhinagar
- Delhi International Airport T3
- NTPC Mega Power Plant
- AIIMS, Raipur
- Asian Heart Foundation, Mumbai
- PGIMER Hospital, Chandigarh
- Le Meridien, Coimbatore
- Hospira, Vizag
- Air Force Station, Tejpur
- Indian Aviation Academy, Delhi (AAI)
- National Physical Laboratory, Delhi
- Cancer Hospital Lucknow (UPRNN)
PRODUCTS - FEATURES & BENEFITS

Class 0 Armaflex®
THE FLEXIBLE THERMAL INSULATION, ENGINEERED TO PREVENT CONDENSATION AND ENERGY LOSSES

- Class 0 Fire Performance
- Reliable condensation control
- Reduce energy losses and gives long term energy savings
- Low thermal conductivity, $\lambda_{rc} \leq 0.035$ W/(m·K)
- High water vapour diffusion resistance, $\mu \geq 7,000$
- Complete closed cell structure

Class 0 Armaflex® Plus
ANTI-MICROBIAL DUCT INSULATION FOR ENHANCED INDOOR AIR QUALITY

- Lifelong active protection against microbes such as bacteria & fungi, mold and mildew
- Promotes better indoor air quality
- Available with Al cladding and Glass Cloth Covering
- In-built Microban® product protection which is Environmental Protection Agency (EPA) certified
- Extremely low thermal conductivity, $\lambda_{rc} \leq 0.033$ W/(m·K)
- Very high water vapour diffusion resistance, $\mu \geq 10,000$

Class 0 Armaflex® With Arma-Chek® Silver & Silver 350
FLEXIBLE THERMAL INSULATION WITH PROFESSIONAL COVERING SYSTEM FOR EXCELLENT THERMAL PERFORMANCE

- Class 0 Fire Performance
- Silver finish for excellent aesthetic appearance
- Tear & puncture resistant covering
- Excellent mechanical, UV & weather resistance
- Complete system solution with prefabricated elbows, tees & end caps
- Reduce energy losses
ArmaSound® SuperSilence Ductliner
HIGH PERFORMANCE ACOUSTIC INSULATION FOR A QUIETER ENVIRONMENT
- Reduces duct & plant room noise substantially
- Built-in Microban® protection for product lifetime
- Quick & easy installation - no bitumen, tissue paper or perforated sheet required
- Non-fibrous, No fiber migration
- Extremely high noise absorption per unit thickness
- High density to dampen duct rattling & vibration
- High Air Erosion Resistance - up to 10,000 fpm

ArmaSound® Barrier E
HIGH PERFORMANCE NOISE BARRIER PRODUCT
- Excellent at reducing the transmission of airborne sound
- Enhances the insertion loss performance of pipe insulation
- Flexible, easy to install
- Mean sound reduction index Rₐ: 28 dB
- Free of lead, unrefined aromatic oils and bitumen

Armafix® Class 0
A STEP AHEAD IN CONDENSATION CONTROL
- Reliable condensation control
- Easy to install
- Tough inner core with optimal thermal performance
- Enhanced system security
- Eliminates thermal bridging

Armaflex® Accessories
THE RIGHT TOOLS TO DO THE RIGHT JOB
- Armaflex® Ductseal Adhesive for ducting application
- Armaflex® Pipeseal Adhesive for piping application
- Armaflex® 520 Adhesive specially formulated for Armaflex®
- Self-Adhesive Alu, GC & Armaflex® Tapes
- Professional set of tools formulated & optimized for Armaflex® i.e. cleaner, knives & others
RELIABILITY & SAFETY

- Armacell is a global innovator in foam technologies
- A leading provider of engineering foams, with more than 50 years of experience
- In addition to Armaflex®, we offer thermoplastic insulation materials, covering systems, fire protection and noise control solutions
- Manufacturing facility in India since 2006

CERTIFICATIONS
GREEN BUILDING
- Range of Armaflex® products has achieved GREENGUARD GOLD Certification
- Armaflex® insulation products also contribute to green building rating tools including LEED, IGBC

FIRE SAFETY PERFORMANCE
- FM Approved
- Class 0 rating as per BS 476 Part 6
- Class 1 rating as per BS 476 Part 7
- UL 94

RELIABLE SUPPORT FOR YOUR PROJECT
- Technical support for technical calculations via Armwin (http://armwin.armacell.com) and onsite project supervision
- Armaflex installation training courses (on-site and at Armacell Training Centre)
- Application Engineers across India
- 350+ site visits by Application Engineers across India in 2016
- Application Manuals and Videos
- Test certificates, approvals, safety data sheets
- Support when inviting tenders (specification clauses)

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