

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

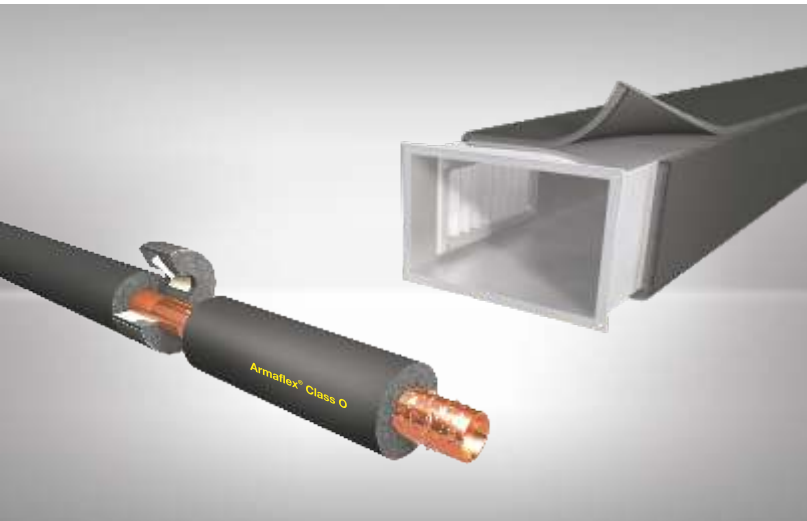
INSULATION ATTRIBUTES

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

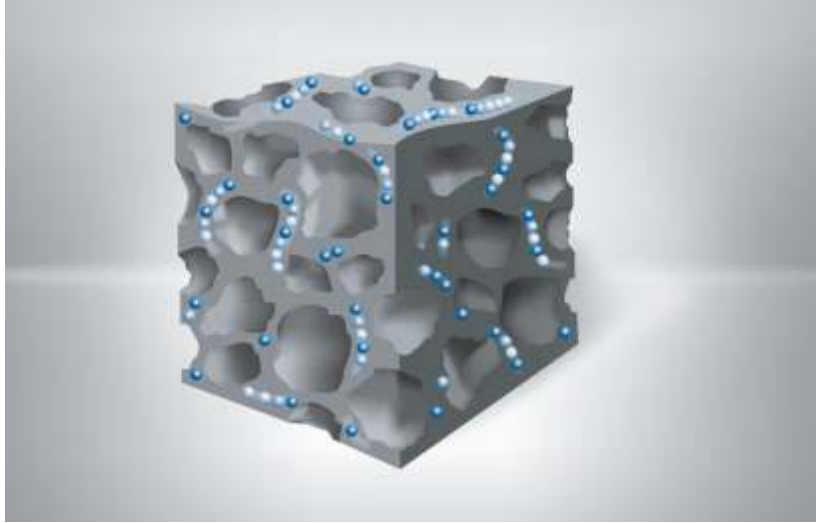
- High-performance, professional and systematic solutions
- Experience from a large number of reference projects
- Energy savings and cost reduction
- Compliance with specific fire protection regulations



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® 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® range of acoustic product offerings from Armacell are tried and tested for reducing noise levels and noise carriage through the HVAC systems
- ArmaSound® Super Silence Ductliner has open cell structure, is dust and fibre free and has in-built anti-microbial Microban® 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® product range from Armacell is useful in reducing heat losses and noise on plumbing installations
- Sound Absorber: ArmaSound® Super Silence Ductliner provides excellent sound absorption coupled with in-built Microban® anti-microbial, anti-fungal & anti-mould protection
- Sound Barrier: Armacell also offers wall insulation in the range of ArmaSound® 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® can result in substantial savings of energy
- Closed cell Armaflex® 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

Tel: 0147-2238895
 Headquarter
 Chief Engineer
 South Western Circle
 PIN - 608548
 a/c 50 APQ


3057TCMPT: 57 (ES P&C)
 16 Aug 2020

CE Jaipur Zone
 CE Bafalnagar Zone
 CE (AF) Gandhinagar Zone

PRODUCT APPROVAL

- Reference this headquarters letter No 3057TCMPT(W)E2 (P&C) of 14 Jun 2019
- Approved India Pvt Ltd had approached this HQ for approval of following products for use in MES Works -
 - Thermal Insulation (Mirtle Rubber) (Brand - Armaflex)
 - Acoustic Insulation (Mirtle Rubber) (Brand - Armaasound)
 - Adhesive (Brand - Armaflex)
 - Insulation Covering System (Brand - Arma-schack)
- Approval is accorded for use of the above mentioned products supplied from the factory / registered addresses listed below, in MES Works under group I & II for ACR of CE South Western Command for a period of Two Year-Lt. upto 25 Aug 2019.
- Further continuation of the products will be decided thereafter, based on the mandatory feedback / performance report submitted by Zonal Chief Engineers. In case anyone using the product notices any defect / shortcoming, the same will be reported immediately without waiting for the expiry of the period of two years.
- The approval does not absolve the executive / supervisory staff from their responsibility for using correct quality product. It is only after they are satisfied about the quality and the performance, the product will be used. Mandatory check about the quality will be carried out as laid down and the records of the same maintained.
- The firm is required to given feedback on sales / supply / installation of approved products to MES Commanders / Formations / Units on as monthly basis as per format given below:-

S. No.	Name of Product	Supply to MES Contractor / Formation / Unit	Location / Station	Date of Supply	Quantity Supplied	Amount	Supply Order No.	Remarks
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)


 16

7. The firm is required to submit a minimum three performance reports from the MES signed by GE / AGE (i) and countersigned by the nodal Chief Engineer Authority at the time of renewal as per format enclosed being which firm will not be considered for renewal.

8. Details / specifications of the product, samples if needed can be obtained from the manufacturer at the address given below:-

Head Office & Factory Address of Manufacturer

Armco India Pvt Ltd Gate No 744 & 745 Village – Lonikand Pune Nagar Road Pune – 412216 Tele No – +91 20 69730000 Mob No – 9810167207 E-mail – shadab.ahmed@armcooil.com Website – www.armcooil.com	Armco India Pvt Ltd # 309, DLP Towers - B Jawahar, New Delhi - 110025 Landline No - 01111 4140 3578 / 79
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9. The contents of this letter will be disseminated down to AGE (i) level.



Stamp (as above)



(Sandeep Khandelwal)
Sr. Eng.
AGEC (W&A)
for Chief Engineer

BY SPEED POST

Copy to :-

Armco India Pvt Ltd Gate No 744 & 745 Village – Lonikand Pune Nagar Road Pune - 412216	1. Please note the yearly report is dispatched as as to reach this office on the first Monday of April every year. All supply / report will be accepted for the preceding six months in case of non-receipt of report.
	2. Further renewal of the firm / product will be decided based on above inputs and feedback received from all / some / all of the MES units / formations concerned

Internat

E-8 Sec

Doc No: ITA-2500008

Headquarter Chief Engineer
Wastewater Command
PMU - 908 M3
C/O 20 APR

3315B / TNP / 1st E2 (P&C)

13 Feb 2016

HQ CE CC Chennai
HQ CE PZ Palakkad
HQ CE CC Jambai
HQ CE CC Dindigul
HQ CE MPJ WMC Palani District

PRODUCT APPROVAL

1. M/s Anna Cell India Pvt Ltd has submitted the HQ for approval of their product Waste Rubber Thermal & Acoustic Insulation for use in Chennai Works.

2. Approval in form of Policy letter No. ADO/009/D-114/P&C/W (PPC) dt 20 Jun 2015, herewith forwarded for use at Bangalore, Mysore, Salem, Erode, Tirumayur, Anna Park, 4 Suburban Works for period of Two years i.e. upto 14 April 2017 as per Clause I of the CMPT Contract as constituted at this HQ.

3. Further continuation of the products will be decided hereafter, based on the mandatory performance / performance report submitted by Zone Chief Engineers. In case anyone using the product notices any defect / discrepancy, the same will be reported immediately without waiting for the expiry of the period of Two years.

4. The approval does not absolve the extension / supervisory staff from their responsibility for using correct quality product. It is only after they satisfied about the quality will be carried out as laid down and the records of the same maintained.

5. Further specifications / details of this product like drawings, samples etc. can be obtained from the manufacturer at the address given below:

6. The firm is requested to give feedback on nature / quality of approved items to HES Commander Headquarters / Units on the monthly basis as per format given below:

S.No	Name of Product	Supply to which Contractor / Installation Unit	Location	Date of Supply	Quantity supplied	Amount (₹)	Supply Order No.	Remarks
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)

7. The firm is requested to submit a statement of 10 No performance reports from the HES as per the para 6 above at the end of semester, failing which case will not be considered for renewal.

Address:-

M/S Anna Cell India Pvt Ltd
Gate No 744 & 745
Sector – Nagar Road
Village – Lohandla
Marathwada – 412 214
Contact: info@annacellindia.com

Contact Persons : Mr. Shashis Anand, Sd/- 9630187202

Internal

CC: O Secy

E-4 Secy

E-6 Secy

(V.K. Khosla)
UD Officer
S.O. I (P&C)
For Chief Engineer

SOUTH-WESTERN COMMAND

WESTERN COMMAND

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

REFERENCE PROJECTS

- | | | | |
|---|--------------------------------------|------------------------------------|-----------------------|
| • South-Western Command HQ, Gandhinagar | • Punjab National Bank, Delhi (CPWD) | • Ranbaxy Laboratories Ltd., Devas | • TCS, Chennai |
| • DRDL Lab, Chandipur | • Greater Noida Authority Office, UP | • Apollo Hospitals, Chennai | • Pfizer Ltd., Mumbai |
| • Brahmos Aerospace Nagpur (DRDO) | • IISER, Kolkata | • Infosys, Pune | • ITC, Kolkata |
| • Air Force Station, Tejpur | • IIM, Trichy | • Grand Hyatt, Mumbai | • Reliance Industries |
| • Airforce Hindon Air Base | • IIT, Gandhinagar | • Asian Heart Foundation, Mumbai | • Reliance, Dahej |
| • Indian Aviation Academy, Delhi (AAI) | • Delhi International Aiport T3 | • Le Meridien, Coimbatore | • Hospira, Vizag |
| • National Physical Laboratory, Delhi | • NTPC Mega Power Plant | • PGIMER Hospital, Chandigarh | |
| • Cancer Hopital Lucknow (UPRNNL) | • AIIMS, Raipur | • Bokaro Steel Plant, Bokaro | |

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, $\lambda_{0^\circ\text{C}} \leq 0.035 \text{ W/(m}\cdot\text{K)}$
- 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, $\lambda_{0^\circ\text{C}} \leq 0.033 \text{ W/(m}\cdot\text{K)}$
- 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 R_w : 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® Pipesel 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)



Armacell India Pvt. Ltd.

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CIN: U24293PN2005FTC131939



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