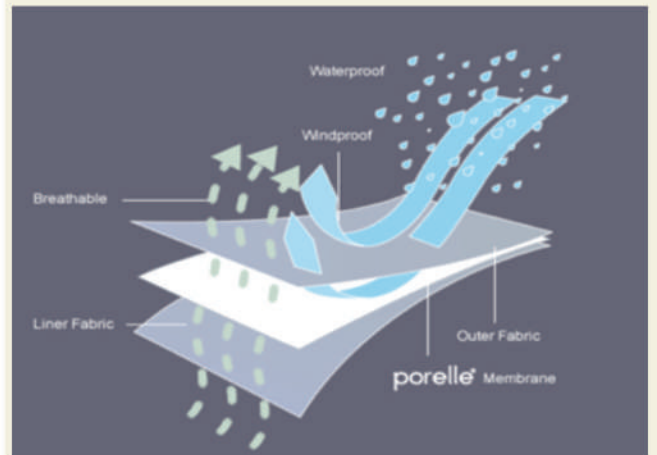
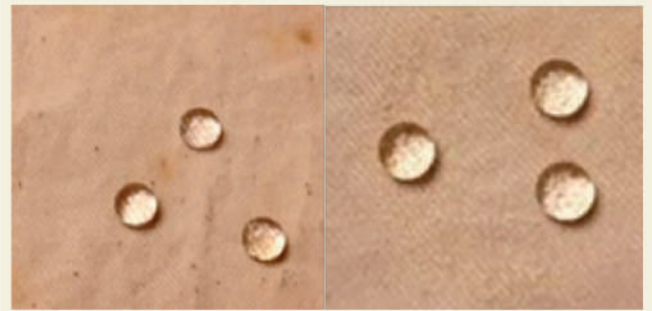


# WATER PROOF LINING

## Introduction

Membrane linings in shoes are used for certain level of comfort and durability. Currently, focus of shoe industry is to make shoes not only comfortable, but water proof and breathable as well. Initially Leather lines were used due to easy airflow and vapor evaporation but their higher cost and additional weight on shoes restricted its utilization on an industrial scale. Due to Lower hydrophobicity and moisture absorbing capability of synthetic materials, a super hydrophobic breathable membrane lining is developed to produce fully water proof shoes.



## Features

- A super hydrophobic coating/membrane in the shoe soles can assist in making shoes completely water proof for daily activities
- The fabricated membrane in shoe soles are light weight and bearing ultimate compressive strength with low cost and durability

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## Product Market

- Shoe Industry
- Textile Industry
- Coating technology for various other purposes

# POLYMER SOLUTIONS FOR THE FOOTWEAR INDUSTRY

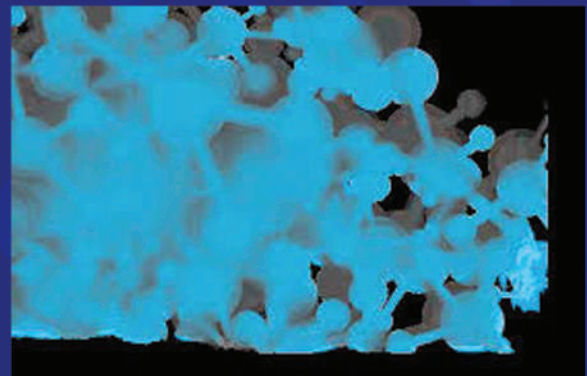
**Specialty Polymer Compounds of  
International Standard, Quality and  
Competitive Price**

## Introduction

The developed polymer solution offers a quick customisation service for the development of new materials according to customer requirements. The footwear compounds are environment friendly, safe to use and full comply with laws and regulations. The polymer solution is recyclable and can be reprocessed in a mixture with new plastics material.

## Features

- Easy and convenient transforming process
- Excellent price/quality ratio in comparison with other soling materials such as Vulcanised Rubber and other plastics
- High aesthetic versatility
- Wide product range covering many applications and price/performance levels
- Increase Elasticity
- Good colour ability
- Excellent low temperature flexibility
- Improve abrasion resistance
- Little temperature sensitivity of hardness



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## Product Market

- Footwear Industry

# HEATING CLOSING KIT

## Introduction

Heating clothing kit is a breakthrough in the clothing industry that provides a heating system which can easily be embedded in any upper body clothing to keep it warm at desired temperatures during winters or otherwise. The kit consists of flexible heated elements, temperature control unit, thermocouple, fuses and batteries. This kit can be installed in any clothing type and heating capacity can be extended to any number of operating hours depending on the user requirements.



## Features

- Heat control through three modes of operations extending the standard battery life from 1 – 3 hrs
- Rechargeable battery operating at 12 volts @3000 mAh
- Connection is extendable to 12-volt DC source/ external battery for extended operating hours
- Automatic shutdown on acquiring safe temperature

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## Product Market

- Motorcycle Industry
- Automobile Industry
- Clothing/Fashion Industry



# HEATING GLOVES

## Introduction

Heating gloves are specifically designed to keep the hands warm at desired temperatures during winters or otherwise. They are specially designed for different outdoor activities including but not limited to sports, leisure, construction, etc. The gloves consist of flexible heated elements stitched in the glove, thermocouple, fuse and batteries. The battery is rechargeable and comes in two versions of 3.7 / 7.4 and 12 volts.

## Features

- Controlled heating with battery life from 1 to 3 hours (extendable)
- Rechargeable battery operating at 3.7 / 7.4 / 12 volts @3000 mAh
- Connection is extendable to 12 volt dc source/ external battery for extended operating hours
- Automatic shutdown on acquiring safe temperature
- Both gloves have independent battery



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## Product Market

- Motorcycle Industry
- Security Agencies



# M-CYCLE COOLER

## Introduction

Indirect evaporative cooling-based cycle is a new feasible solution to increase human comfort in warm and humid weathers at relatively lower costs through an exclusive yet simple air cooler, which produces cool air without increasing the humidity. This cooler is capable of producing cool air just like an air conditioner at half the price and also consuming less electricity.



## Features

- Maisotsenko Cycle, an indirect evaporative cooling-based cycle which produces cool air without increasing humidity
- Compactly built with a cross flow heat exchanger, a blow-through type whirl fan, aesthetically sound acrylic body, anemometer, humidifier & heat blower
- Eco-friendly, uses water instead of carbon, hydrogen, chlorine, and fluorine (CFCs) causing harmful carbon dioxide emissions
- Costs half of the price of a 1 Ton Air Conditioner for the same refrigeration capacity, with the electricity expense of just a room cooler

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## Product Market

- Domestic and Industrial Consumers
- Air-conditioning and Cooler Industry

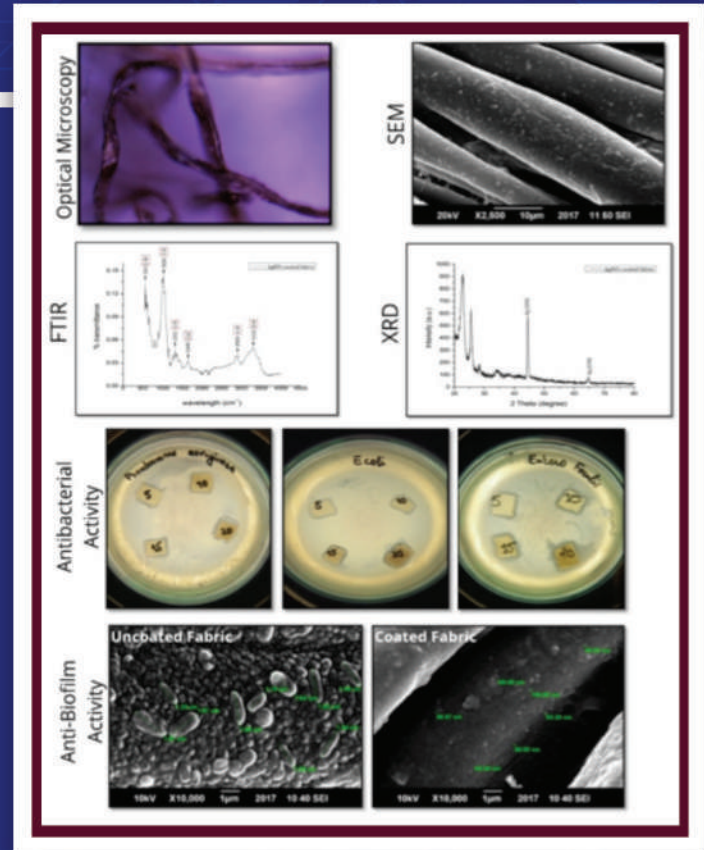
# NANO-FABRICS

## Introduction

Layer by layer coating of silver nanoparticles and PDAC (Pancreatic Ductal Adenocarcinoma) polymer on textile fabric to produce antimicrobial finished fabric.

## Features

- Silver nanoparticle coated fabric is safe for contact with skin and cause no risk to the patient
- Antibacterial fabric is capable of killing bacteria and other pathogens within 20 minutes of contact
- Silver ions which are active on fiber surface are released upon impregnation of AgNPs
- Silver nanoparticles can be incorporated during fabrication or can also be coated later



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## Product Market

- Hospitals & Clinical Setups
- Diagnostic Centres
- Bandages
- Upholstery
- Textile Industry

# HIGH PERFORMANCE ANTICORROSION POLYMER COATINGS & LINERS

## Introduction

An anticorrosion coating and liners with an exceptional resistance to organic & inorganic acid solutions and many other aliphatic solvents. The product offers outstanding chemical resistance with quick turnaround against corrosion and is compliant with various international standards requirements.

## Intended Use

- Tanks and steel structures, concrete trenches, pits, dyke and secondary containment
- Chemical resistant floor coating, FGD seawater absorbers and clean gas ducts
- Suitable for basecoats as part of other coatings systems

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**COST OF CORROSION**  
NACE REPORT: \$276 BILLION PER YEAR



- ♦ **Production Manufacturing 13%**
- ♦ **Government 15%**
- ♦ **Transportation 22%**
- ♦ **Utilities 35%**
- ♦ **Infrastructure 16%**

## Product Market

- Oil & Gas Companies
- Mining Industry
- Power Industry
- Chemical Industry



## POLYMERIC COMPOSITE MOLD RELEASE & PROTECTIVE COATING

### Introduction

Developed coatings improve release on no draft cores, cavities, deep ribs, bosses and EDM on compression or injection tooling. Outgassing corrosion and staining are generally eliminated with special formulated coatings. This coating technology enhances resin flow in an injection or compression mold and creates an excellent release condition for either plastic resins or rubber compounds with a peroxide cure. From components, the coatings will improve release of all low melt plastic resins or rubber compounds and create a barrier for corrosion protection.

Its application to steel, aluminum or alloy materials coatings is capable and is also applicable to golf ball thermoplastics, medical grade polypropylene, PVC of all grades, silicon rubber both grades, other low melt thermoplastic resins and rubber compounds.

### Features

- Improves resin flow by 4-8%
- Creates excellent release condition on no-draft or difficult-to-eject parts and eliminates the need for mold release sprays
- Ensures a uniform application in deep ribs, bosses and complex details
- Extends mold life through its high corrosion resistant characteristics

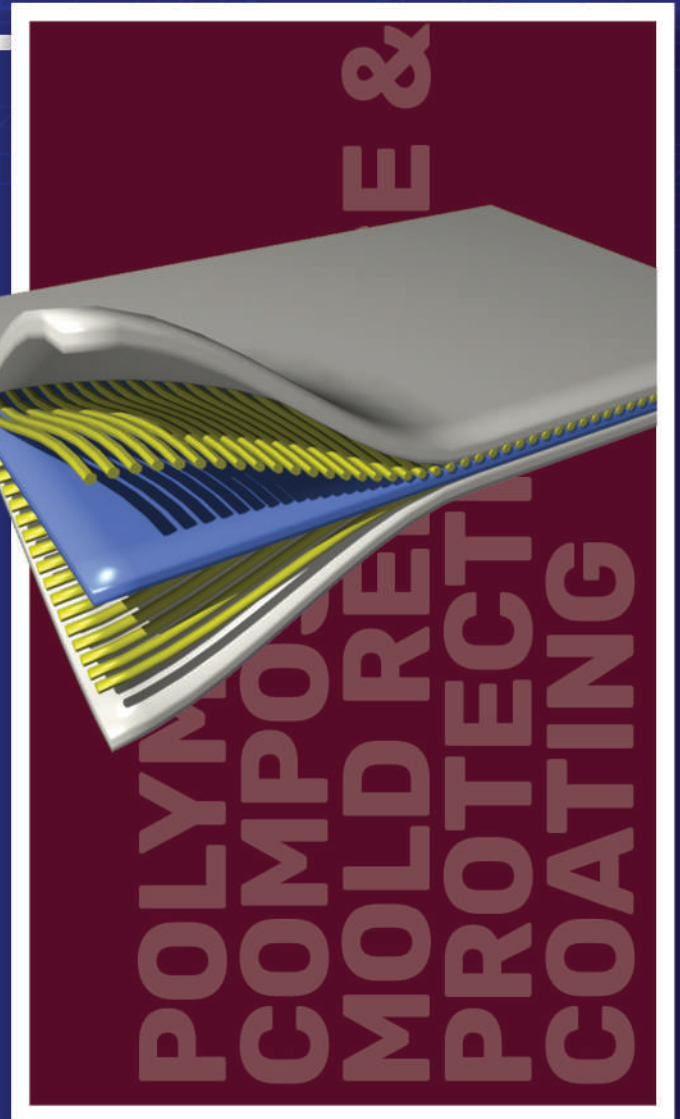
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### Product Market

- Mechanical Industry
- Chemical Industry
- Automobile Industry

# SAHAL

## (A Portable Storage Unit)

### Introduction

Life for the shelter less daily wage labourers is anything but a fairytale. Hard toil with little reward on some days and endless search for work during others highlights their struggle to earn for their families. The fraternity includes people from all over the country including painters, masons, construction workers, welders and lots of other people with different professions from different areas of the country. Most come to the urban cities thinking that it will provide them with more working opportunities and better earning as compared to their small hometowns where there is little work opportunity. For the daily wage labourers, the struggle is not only to find a job but also to carry the heavy tools required to get the job done. To help such labourers, a storage unit has been designed that can cater their storage requirement of different tools.

### Features

- Providing the labourers with a portable storage unit for their tools and other personal belongings
- Improved ergonomics to prevent musculoskeletal pain
- Protection of equipment during harsh weather conditions

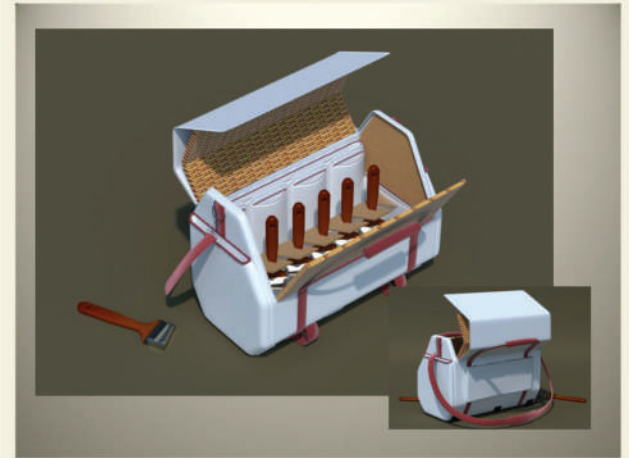
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### Product Market

- Labour Industry
- Health Workers