

# Perfect Packing Associates

















- Asbestos Free & Asbestos Products
- Engineering Plastic Products
- Insulation & Mill Gin Products
- Rubber & Rubber Products
- Packaging Products
- Engineering Plastic Components / Spares



# **Perfect Packing Associates**

















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#### • Introduction:

Established in the year of 1992, we Perfect Packing Associates has attained a top reputation in the market for supplying, wholesaling, and trading a wide array of Asbestos Free Products, Engineering Plastics, Insulation, Rubber & Packaging Products. Our range of products include Asbestos Free, Asbestos, Gasket Sheets, Ceramic Fibre, Glass Fibre, Acrylic, Polycarbonate, Delrin, UHMWPE, Nylon, PVC, Polyurethane, Polypropylene, HDPE, PTFE, PET, PEEK, ABS, Bakelite Sheet, Felt Packing, Glass Epoxy, Glass Wool, Brake Liners, Graphite Sheet, Carbon Rod, Syndaniyo, Red Fibre, Rigid Mica Sheet, Rubber Sheet, Cork Sheet, Air Bubble, EPE Foam, Stretch Film, Crosslink Foam, PPGL, Toughened Glass, Spiral Wound Gasket, Ready Cut Gaskets. As our products are with finest grade raw material, we have amassed a vast clientele which includes clients in Pharmaceutical Industry, Process automation Industry, Food Processing Plant, Bulk Material Handling Systems, Bottling Plants / Conveyors, Automobile Marine / Earthmoving Industry, Jigs/Fixture/Tooling, Manufacturers, Steel/Cement/Processing Plant, Chemical/Sugar/Boiler/Power Plants, Thermal Insulation spares (Bakelite, etc.), Machine Tool Components (Bushes, End Stoppers, etc.), General Engineering Applications.

We owe our business stability and success, "Mr. Bhavesh Shah". His sincerity and in-depth knowledge in this sphere encourages us to work hard in attaining high level of quality assurance and patron satisfaction.

#### Asbestos Free & Asbestos Products:

Asbestos-free materials are sealing products with different compositions. They are generally made of aramid fibre, reinforced with mineral fibres, inorganic materials and rubber. Athena offers various solutions that differ in mechanical and chemical stability, resistance to high temperatures and mouldability, depending on the client's particular requirements.

The ideal seals for gas and fluid, Athena produces a complete range of materials to respond to very different applications depending on the parameters required: flexibility, resistance to high temperatures and high pressure, chemical and mechanical resistance.



Applications: Depending on the chosen material, they are used in the automotive field, compressors, engine spare parts and engineering industry in general, such as gaskets for engines, transmissions, hydraulics and seals for fuel, fuel mixes, antifreeze and corrosion inhibitors, solvents and alkaline solutions. These materials can also be used for plumbing and heating systems.

**CHAMPION STYLE** 20 STEAM

**RED OR GRAPHITED IDENTITY COLOUR** Recommended Max Temperature: 380°C Recommended Max Pressure Kg./cm2: 35 Kg/sq.cm.

**CHAMPION STYLE** 39 HIGH PRESSURE **IDENTITY COLOUR** ORANGE/GREY OR GRAPHITED

Recommended Max Temperature: 440°C

Recommended Max Pressure Kg./cm2: 80 Kg/sq.cm.

**CHAMPION STYLE** 54 SUPER YELLOW/GREY OR **IDENTITY COLOUR GRAPHITED** 

Recommended Max Temperature: 550 °C Recommended Maximum Pressure 150 Kg/sq.cm.



#### **CHAMPION STYLE 20 METALLIC IDENTITY COLOUR GRAPHITED BLACK**

Recommended Max Temperature: 415°C

Recommended Max Pressure Kg./cm2: 40 Kg/sq.cm.

**CHAMPION STYLE** 51 HIGH PRESSURE **BROWN/GREY OR GRAPHITED IDENTITY COLOUR** FINISH METALLIC & NON-METALLIC

Recommended Max Temperature: 440°C Recommended Max Pressure: 80 Kg/sg.cm.

**CHAMPION STYLE 54 SUPER METALLIC IDENTITY COLOUR GRAPHITED BLACK** 

Recommended Max Temperature: 600 °C Recommended Maximum Pressure 160 Kg/sq.cm.





**CHAMPION STYLE** 

60 ACID

**IDENTITY COLOUR** 

CREAM / LIGHT GRAPHITED

Recommended Max Temperature : 210 °C

Recommended Maximum Pressure 150 Kg/sq.cm.



CHAMPION STYLE AF120STEAM

Colour :Green

Max. Operating Pressure: 50 bars
Max. Short term service temp.: 400°C
Max. Continuous service temp.: 250°C
Max. Operation temp. for steam: 200°C



CHAMPION STYLE AF159 OIL

Colour : Grey

Max. Operating Pressure: 150 bars Max. Short term service temp.: 400°C Max. Continuous service temp.: 250°C Max. Operation temp. for steam: 250°C



**CHAMPION STYLE** 

**IDENTITY COLOUR** 

59 OIL DARK GREY

Recommended Max Temperature : 550 °C

Recommended Maximum Pressure 150 Kg/sg.cm.



CHAMPION STYLE AF139 High Pressure

Colour : Orange

Max. Operating Pressure : 80 bars Max. Short term service temp. : 400oC Max. Continuous service temp. : 250oC Max. Operation temp. for steam : 200oC



CHAMPION STYLE

AF154

Colour : Yellow

Max. Operating Pressure: 150 bars Max. Short term service temp.: 450oC Max. Continuous service temp.: 250oC Max. Operation temp. for steam: 290oC



# PTFE THREAD SEAL TAPE

PTFE Thread Seal Tape is an unsintered tape made by extrusion of PTFE paste. It is a modern replacement material for all conventional pipe dopes. It can effectively alleviate many of your piping headaches, while substantially reducing piping cost and maintenance.



- Chemically inert and withstands solvents
- Provides tight assembly and easy disassembly
- Flame resistant
- No curing time required
- Economical to use

# **SPIRAL WOUND METALLIC GASKETS**

#### **COMMON FILLERS USED**

FILLERS MATERIALS	MAX. WORKING TEMPERATURE
Graphite Mica	350 F (Temperature)
Graphite 99.8% purity	1200 C
Non asbestos	550 C
PTFE	250 C
Ceramic	11000 C



INNER AND OUTER RING
Carbon Steel, Stainless Steel 304, 316



# Pure PTFE Packing:

Application: It is a cost-effective replacement of PTFE impregnated asbestos packings. PTFE 100% square packing is a self-lubricating, chemically inert, non-toxic, and a non-hazardous material. It is very flexible packing and provides more efficient sealing with very low friction characteristics. This packing can be used against corrosive chemicals, solvents, oils and petroleum by products and oxygen service widely used for water handling equipments, liquid oxygen pumps, valves etc.

# **HEAT INSULATION (CERAMIC)**

Ceramic Yarn, Rope, Lagging Rope & Cloth

#### Typical Applications

- High temperature insulation seals and gaskets
- Protective blankets, curtains, covers, pads and wrapping
- Expansion joint fabric, safety clothing

Working Temperature: 1,800 °F. for Continuous Use, 2300 °F Maximum

Lightweight, low thermal conductivity, high temperature stability, excellent handling strength, low heat storage, thermal shock resistant, fire and flame proof, chemical resistant, compatible with most corrosive chemicals, commonly used acid and alkali (exceptions are hydrofluoric, phosphoric acids and concentrated alkalis).



# **Engineering Plastic Products:**

Engineering plastics can be used permanently at temperatures between 100°C and 150°C. In general, this product group is also referred to as technical thermoplastics. Engineering plastics demonstrate good mechanical characteristics, high dimensional stability, good chemical resistance and resistance to wear.

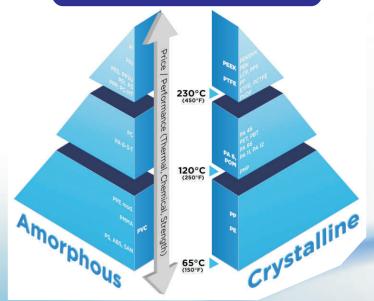
Engineering plastics offer many advantages over metal as a production material are reduction in weight, good wear properties, superior corrosion and chemical resistance, ease of processing, electrical and thermal insulation, cost saving

Applications: Some common applications for engineering plastics are Abrasion resistant liners, Acid trays, Agitators, Anti-corrosive liners, Architectural features, Baking tray liner, Bearings, Bench tops, Boat chopping board, Boat windscreen, Bolts & nuts, Bottle line wear plate, Buffer pads, Bushes, Chain guide, Chevron packings, Conveyor mechanisms, Cooling towers, Cutting boards, Display, Electrical insulators, Exhaust ducts, Feedscrolls, Food production, Fume ducting, Gaskets, Gears, Guards, Guide strips, Guide wheels, Heat-



seal surfaces, High precision parts, Hoppers, Insulators, Kicker arms, Lantern rings, Level indicators, Lighting, Liners, chemical resistant, Liners, low friction, Machine guards, Marine applications, Metal detector chutes, Non-stick surfaces, Nuts & bolts, Piston rings, Piston seals & cups, Plating tanks & hoods, Pressure plates, Pump components, Rollers, Safety glass & guards, Scraper blades, Seals, Security windows, Self-lubricating parts, Sight glass, Skylights, Sleeves, Slide bearings, Slideways Snap fit assemblies, Splash protectors, Spools, Star wheels, Switch boards, Tanks, Terminal boards, Thermal insulators, Thrust washers, Timing screws, Transparent components, Trophies, Valve bodies, Valve components, Vandal-resistant glazing, Water, operating under, Washers, Wear guides & strips, Wear pads, Wear plates, Wire rope sheaves, Worms etc.

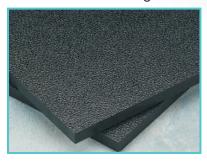
# **Classification of Plastics**



# **Engineering Plastic materials**

# Acrylic

- Excellent optical clarity
- Excellent weatherability and resistance to sunlight
- Rigid, with good impact strength
- Excellent dimensional stability and low mould shrinkage
- Stretch forming increases bi-axial toughness



## ABS

- Opaque
- Low density
- High degree of toughness
- High strength and hardness
- High chemical resistance

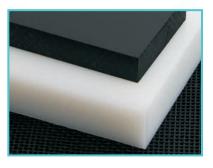


- Moderately high thermal stability
- Gamma and X-ray resistance
- Very good machining properties
- Low moisture absorption
- Highly scratch-proof

# **HDPE**

- Food Contact Acceptable
- Processability, Good
- Copolymer
- ESCR, High (Stress Crack Resist.)
- **Antioxidant**

- Density, Low
- Density, High
- Impact Resistance, Good
- Toughness, Good



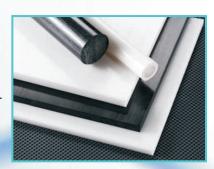


#### **PET**

- Semi-crystalline
- Relatively high density
- High degree of toughness, spring stiffness
- Brittle behaviour at low temperatures below zero degrees
- High strength, hardness and rigidity
- Very good sliding friction properties, abrasion-resistant
- High chemical resistance, preferably resistant to diluted acids
- Good thermal stability
- Very low moisture absorption
- Minimal thermal expansion Very good dimensional stability
- Hydrolysis-sensitive to hot water and steam
- Very good electrical insulation properties

# **ACETAL (POM)**

- High crystallinity
- Relatively high density
- Good degree of toughness, also in the low temperature range
- High strength, hardness and spring stiffness
- Very good sliding friction properties, abrasion-resistant, antiadhesive
- High chemical resistance, especially to alkalis, solvents and fuels
- Good thermal stability
- Low moisture absorption
- Good dimensional stability Very low dielectric constant





# PP

- Semi-crystalline
- Low density < 1 g/cm<sup>3</sup>
- High degree of toughness
- Better strength, hardness and rigidity than PE
- Very high chemical resistance
- Very low moisture absorption
- No stress crack formation
- Improved thermal stability compared to PE
- Anti-adhesive properties
- High thermal expansion
- Low application range in minus temperature range, sensitive to impact

# Polyamides (Nylons)

- Good combination of mechanical properties like Fatigue creep strength, stiffness, toughness and resilience
- Good abrasion resistance
- Self lubricating characteristics
- Suitable for prolonged, service temperature from 40°C to 120°C
- Good electrical insulator, but the electrical properties are influenced by moisture content
- Resistance to fuels, oils, fats, most solvents and chemicals
- Low permeability to gas and vapours Non-toxic
- Easy processable by conventional processing techniques like injection, extrusion, blow and rotational moulding.



#### **PVDF**

- High density
- Strong and tough
- Minimal toughness at low temperatures
- High chemical resistance
- Hydrolysis-resistant
- Very low moisture absorption
- High thermal expansion
- High dissipation factor, polar, not suitable for high-frequency applications
- High resistance to UV radiation
- PVDF is significantly more resistant to energetic radiation than all other fluorothermoplastics
- Inherently flame resistant, self-extinguishing
- Releases highly toxic gas in case of fire

# **PTFE**

- Outstanding chemical resistance
- Extremely low friction
- Soft and formable
- Good weathering resistance
- Performs well at elevated temperatures





#### PEEK



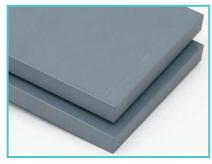
- Semi-crystalline
- High degree of toughness
- Low density
- High strength, hardness and rigidity
- Low tendency to creep Good sliding friction properties, good abrasion
- Very good chemical resistance to a wide range of technical media
- Hydrolysis resistance, tendency to stress crack formation
- High thermal stability
- Very low moisture absorption
- Unusually high radiation resistance to gamma and X-rays
- Minimal thermal expansion
- Good dimensional stability
- Inherently flame resistant, self-extinguishing
- Minimal ion contamination
- Very low outgassing rates in high vacuum
- Minimal, low-toxicity gas development in case of fire

High degree of transparency Good thermal stability

High strength and hardness

# **Polycarbonate**

- **Amorphous**
- Low density
- Very high toughness
- Very high impact strength, even at low temperatures
- Maintains its rigidity over a wide range of temperatures
- Very high dimensional accuracy
- Low moisture absorption
- Low dissipation factor
- Moderate chemical resistance, sensitive to solvents and alkalis
- Tendency to stress crack formation
- Sensitive to notching
- Unsuitable for high mechanical loads
- Hydrolysis-sensitive (to continuous exposure to hot water and primarily super-heated steam)
- Good electrical insulation properties Very good resistance to weathering

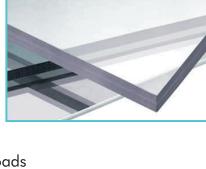


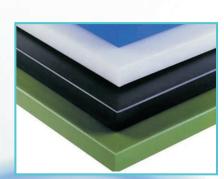
### **PVC**

- Biocompatible
- Clarity and transparency
- Resistance to chemical stress cracking
- Low thermal conductivity
- Requires little to no maintenance

## **UHMWPE**

- UHMWPE is odourless, tasteless, and nontoxic
- Has extremely low moisture absorption
- Very low coefficient of friction
- Self-lubricating and is highly resistant to abrasion
- Very resistant to water, moisture, most chemicals
- Resistant to UV radiation, and micro-organisms
- UHMWPE only becomes brittle at temperatures below 150 °C.





# **Insulation Products:**

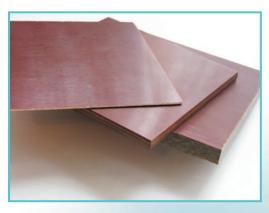


Insulation may be categorized by its composition (natural or synthetic materials), form (batts, blankets, loose-fill, spray foam, and panels), structural contribution (insulating concrete forms, structured panels, and straw bales), functional mode (conductive, radiative, convective), resistance to heat transfer, environmental impacts, and more. Sometimes a thermally reflective surface called a radiant barrier is added to a material to reduce the transfer of heat through radiation as well as conduction. The choice of which material or combination of materials is used depends on a wide variety of factors. Some insulation materials have health risks, some so significant the materials are no longer allowed to be used but remain in use in some older, such as asbestos fibers and urea

Applications: Process Industries, Power Plants – High-temperature Pipeline, High-temperature pipe elbow, Valve insulation box, Flange insulation box, Heated pipeline, Heat exchanger, Pressure Vessel, Tank wall, Tank roof, Boiler wall, Boiler penthouse, Flue Duct, Exhaust gas filter wall, Industrial chimney, Electrical insulating,

# Fabric Bakelite:

- High straength and stiffness at relatively low cost
- Excellent dimensional stability
- Creep resistnce
- Good electrical insulating properties



# Paper Bakelite:

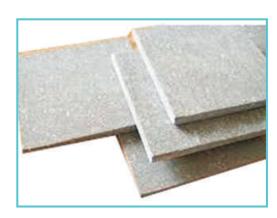
- High strength and stiffness at relatively low cost
- Excellent dimensional stability
- Creep resistance
- Good electrical insulating properties



# **Glass Epoxy:**

- Flame retardant
- Strong and stiff
- Dimensionally stable
- Outstanding electrical properties
- Creep resistance





# Syndanio Sheet

- High Mechanical strength
- Precise to machine and work
- Various grades available up to 550 °C
- Thermal Insulating
- Non-Combustible & Non-ignitable
- High electrical strength and arc resistance
- Dust free surface
- Asbestos free and safe in terms of working hygiene

# PTFE Coated Fibreglass Fabrics and Adhesive Tapes:

- High release from sticky materials 'Non stick' smooth surface
- Operating temperature range -50i&C to +260i&C
- Excellent chemical resistance
- High electrical insulative and dielectric properties
- Dimensional stabilities under heat and pressure
- Low electrical losses
- Mildew and fungus resistance
- Ultra-Violet, infra-Red, Micro-wave, radio frequency resistance



# **Rubber Products**

Rubber is a material which can stretch and shrink. It is a polymer. It can be produced from natural sources (eg. natural rubber) or can be synthesised on a industrial scale. Many things are made from rubber, like gloves, tires, plugs, and masks. A few things can be made only from rubber. Rubber is a fascinating material that has given the world much in improvements. Some examples of rubber products: grounded seals, coatings for rollers, vessels and tanks.

Applications: Rubber products have found applications in many different industries throughout the world. Aerospace- Re-useable silicone vacuum bags, pressure bladders, caul sheets, extrusions, compaction bags, molded



parts, silicone sheet fluoroelastomer, tool sealant, infusion products, Metal Forming- Hydroforming, wear pads, tray pads, drop hammer pads, bladder repair, Gasket Supplies- Silicone sheet, fluoroelastomer sheet, molded pads, sponge sheet, fabric reinforced sheet, Automotive- Gasket material, extrusions, fluoroelastomer sponge sheet, Composite Manufacturing- Re-useable vacuum bagging material, seals, caul sheets, tool sealant, vacuum infusion products, Circuit Board Manufacturing- Re-useable vacuum bagging materials used in the manufacture of fiberglass/epoxy printed circuit boards, Environmental- Re-useable vacuum bagging materials used to infuse panels for odor control in waste water treatment. Expansion joints in scrubber applications, Cabinet Manufacturing- Silicone membranes used in forming both melamine and veneered cabinet doors. Silicone rubber used for thermoforming other furniture and fixture, Energy Applications- Re-useable silicone vacuum blankets used in vacuum infusion of wind turbine structural components. High performance elastomers used in oil and gas exploration

# PU

- Wide Range of Hardness
- High Load Bearing Capacity
- Flexibility
- Abrasion & Impact Resistance
- Tear Resistance
- Resistance to Water, Oil & Grease
- Electrical Properties
- Wide Resiliency Range
- Strong Bonding Properties
- Performance in Harsh Environments
- Mold, Mildew & Fungus Resistance
- Color Ranges
- Economical Manufacturing Process
- Short Production Lead Times



#### **EPDM** Rubber

Low Temperature Usage:  $-20^{\circ}$  to  $-60^{\circ}$  F | -29C to -51C High Temperature Usage: Up to  $350^{\circ}$  F | Up to 177 C

Tensile Range: 500-2500 P.S.I. Elongation: 600% Maximum Range: 30-90 Shore A Resilience/ Rebound: Good Abrasion Resistance: Good Tear Resistance: Fair Compression Set: Good

#### Natural Rubber

Low Temperature Usage: -20° to -60° F | -29° to -51°C High Temperature Usage: Up to 175° F | Up to 80°C

Tensile Range (P.S.I): 500-3500 Elongation (Max %): 700

Durometer Range (Shore A): 20-100 Abrasion Resistance: Excellent Tear Resistance: Excellent Solvent Resistance: Poor

Oil Resistance: Poor

#### Neoprene Rubber

Low Temperature Usage:  $10^{\circ}$  to -50 F° | -12° to -46 C° High Temperature Usage: Up to 250 F° | Up to 121 C°

Abrasion Resistance: Excellent

Tear Resistance: Good Solvent Resistance: Fair Oil Resistance: Fair

Aging Weather / Sunlight: Good

# **PVC Curtains**

- These pvc strip doors reduces heat or cold air loss.
- Restricts movements of air pollutants such as (dust / dirt / smoke / fumes / draughts).
- Admits light.
   Isolates noisy machinery.
- Increase employee confort by keeping temperature & humidity under control.
- Minimum maintenance, an occasional wash with plain water or liquid detergent & strips can be rteplaced independently if required.
- Prevents birds/ flies etc. to enter in the working area.

#### Silicone Rubber

Low Temperature Usage: -60° to -150° F | -50°C to -100°C High Temperature Usage: Up to 480° F | Up to 250°C

Tensile Range: 200-1500 P.S.I. Elongation: 700% Maximum Abrasion Resistance: Fair to Poor

Tear Resistance: Poor Solvent Resistance: Poor Oil Resistance: Fair to Poor

Caution: Generally, silicones are attacked by most

concentrated solvents, oils, acids and dilute sodium hydroxide.

#### Nitrile Rubber

Low Temperature Usage: -30  $^{\circ}\! F$  to -40  $^{\circ}\! F$  | -34  $^{\circ}\! C$  to -40  $^{\circ}\! C$ 

High Temperature Usage: Up to 250°F | 121°C

Aging Weather/ Sunlight: Poor Adhesion to Metals: Good to Excellent

Abrasion Resistance: Excellent Tear Resistance: Good

Solvent Resistance: Good to Excellent Oil Resistance: Good to Excellent

#### Viton Rubber

Low Temperature Usage:  $10^{\circ}$ f to  $-10^{\circ}$ f |  $-12^{\circ}$ C to  $-23^{\circ}$ C High Temperature Usage:  $400^{\circ}$ F to  $600^{\circ}$ F |  $204^{\circ}$ C to  $315^{\circ}$ C

Aging Weather/ Sunlight: Excellent

Adhesion to Metals: Good Abrasion Resistance: Good Tear Resistance: Good Solvent Resistance: Excellent Oil Resistance: Excellent





# **Packaging Products:**

Packaging is the technology of enclosing or protecting products for distribution, storage, sale, and use. Packaging also refers to the process of designing, evaluating, and producing packages. Packaging can be described as a coordinated system of preparing goods for transport, warehousing, logistics, sale, and end use. Packaging contains, protects, preserves, transports, informs, and sells. In many countries it is fully integrated into government, business, institutional, industrial, and personal use.

#### • Our Activities:

We have a toolroom – cum – production set-up of universal machines to perform most of the basic operations in-house. We also execute jobs involving fabrication/cut-outs/bending/pasting of Acrylic-Polycarbonate as per drawing.



# **Product Application Industries**





# **Perfect Packing Associates**



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