Metallised films (or metalized films) Extrusions Coating / Multi Ply Laminations

M/S, Patidar Corporation was started in 2009 for the manufacture and marketing of Metallised films (or metallized films) based packaging. The company is equipped with Latest Extrusion laminations of Metallised films (or metallized films) with paper, board and various plastic films. Beside they do have in-house Auxiliaries facility. M/S, Patidar Corporation has the capacity for processing 100 Tons of foil in assorted thickness a month.

About Metallised films

Metallised films (or metallized films) are polymer films coated with a thin layer of metal, usually aluminium. They offer the glossy metallic appearance of an aluminium foil at a reduced weight and cost. Metallised films are widely used for decorative purposes and food packaging, and also for speciality applications including insulation and electronics.

Manufacture

Metallisation is performed using a physical vapour deposition process. Aluminium is the most common metal used for deposition, but other metals such as nickel or chromium are also used. The metal is heated and evaporated under vacuum. This condenses on the cold polymer film, which is unwound near the metal vapour source. This coating is much thinner than a metal foil could be made, in the range of 0.5 micrometres [1]. This coating will not fade or discolor over time. While oriented polypropylene and PET are the most common films used for metallisation, nylon, polyethylene and cast polypropylene are also used.

Properties

Metallised films have a reflective silver surface similar to aluminium foil. The coating also reduces the permeability of the film to light, water and oxygen. The properties of the film remain, such as higher toughness, the ability to be heat sealed, and a lower density at a lower cost than an aluminium foil. This gives metallised films some advantages over aluminium foil and aluminium foil laminates. It was thought that metallised films would become a replacement for aluminium foil laminates, but current films still cannot match the barrier properties of foil. Some very high barrier metallised films are available using EVOH, but are not yet cost effective against foil laminates.

<table>
<thead>
<tr>
<th>Table 1. Comparison of Metallised PET and aluminium foil</th>
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<tbody>
<tr>
<td>Moisture (g/m².day)</td>
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<td>----------------------</td>
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<tr>
<td>PET film, 12.7μm</td>
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<tr>
<td>Metallised PET</td>
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<td>Aluminium foil 6μm</td>
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Uses / Applications

Decoration
Metallised films used for balloons
Metallised films were first used for decorative purposes as Christmas tinsel, and continue to be used for items such as wrappers and ribbons. The metallic helium filled novelty balloons given as gifts are made of metallised BoPET and often called Mylar balloons commercially.

Packaging
Both metallised PET and PP have replaced foil laminates for products such as snack foods, coffee and candy, which do not require the superior barrier of aluminium foil. Metallised nylon and polyethylene are used in the meat export market. The controlled permeation extends shelf life. Metallised films are used as a susceptor for cooking in microwave ovens. An example is a microwave popcorn bag. Many food items are also packaged using metallised films for appearance only, as these produce a package with greater sparkle when compared to competing products that use printed paper or polymer films.

Insulation
Metallised PET films are used in NASA’s spacesuits to make them radiation resistant and keep astronauts warm, and in proximity (aluminized) suits are used by AR-FF fire fighters for protection from the high amount of heat released from fuel fires. Silvered emergency blankets are also used to conserve a shock victim’s body heat. These reflective materials might also be used as part of industrial and commercial insulation (for example, insulated shipping containers.) Insulating blankets made with Metallised PET were also used as insulation in aircraft until safety concerns resulted in their deprecation.[5] In particular, it was found to be a major cause of the in-flight fire of Swissair Flight 111 on September 2, 1998.

Electronics
Metallised films are used as a dielectric in the manufacture of a type of capacitor used in electronic circuits

At M/S. Patidar Corporation, we provide a comprehensive array of Industrial Coated Metallised films (or metallized films) and Metallised films (or metallized films) Laminated Material by Extrusions Process, which is extensively demanded by many industries and printing company owing to their superior quality. We have wide range of Alluminium Foil Coated / Laminated Material by Extrusions Process as below…

1) PE Coated Metallised films (or metallized films)
Metallized (Aluminized) BOPP/PET Film with One Side P.E Coating
These films are to be laminated with XLPE/NPE foam sheet by heating roller. For this process laminating machine is required essentially.

Detailed Product Description
- Material: Metallized PET /BOPP/Al foil film coated PE film
- Color: Silver . customize
- high quality with competitive price
- good hot melting
- Width: 100 mm to 1200 mm
- PE Coating: Up to 50 microns

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Description:
Our PE coating packaging film is an untreated metallized PET film coated transparent PE film that combines high strength and durability, good dimensional stability and excellent barrier properties. Our PE coating packaging film maintains these characteristics and is also hot melting treated on one side to enhance adhesive to other materials.

Performance:
Our PE coating packaging film / foil have excellent slip and good dimensional stability over a wide temperature range. They can be hot melting to other materials to enhance barrier properties. These films can be used in a variety of coating and converting processes and packaging applications.

Benefits:
- Hot melting provides good surface adhesion for other materials.
- Can be pasted or laminated using methods suitable for hot melting treated polyester
- Excellent handling characteristics
- Available in special grade suitable for lamination

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<thead>
<tr>
<th>Composed of</th>
<th>Characteristics</th>
<th>Application</th>
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</thead>
<tbody>
<tr>
<td>Metalized BOPP film with LDPE coating</td>
<td>Easy to burn</td>
<td>Camping mat</td>
</tr>
<tr>
<td>Metalized PET film with LDPE coating</td>
<td>Strong at high temperature</td>
<td>Camping mat</td>
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<tr>
<td>Metalized PET film with LDPE coating</td>
<td>Good embossing performance</td>
<td>N.P.E foam pipe cover</td>
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<tr>
<td>Real Aluminum foil with LDPE coating</td>
<td>Flame resistance</td>
<td>X.L.P.E foam pipe cover</td>
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<tr>
<td>Real Aluminum foil with LDPE coating</td>
<td>Excellent embossing performance</td>
<td>Ventilation duct protector</td>
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<tr>
<td>Real Aluminum foil with LDPE coating</td>
<td>Long lasting printing</td>
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<tr>
<td>2) Metalized Film laminated with woven fabrics</td>
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It is light in weight but excellent tear-resistance & good puncture resistance. It is easy to handle during construction. It is used widely to make car cap to reflective sunshine & in roof, floor, wall, pack food for heat retaining. This combination provides excellent water vapour resistance and higher tensile strength.

Characteristics:
- Perfect uniformity, test on line in process. High barrier
- The material provides excellent insulation: reflects up to 97% of radiant energy in addition to reflective sheeting resisting other types of heat transfer from conduction, convection, and radiation. The side of metalized PET forms an effective barrier against moisture, air currents and vapors.
- Clean, thin and light weight

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• Outstanding safety and environmentally friendly.
• Easy to install, high efficiency.
• Cost effective and versatile.

Usage:
It is economical solution for a wide range of industrial, manufacturing, packaging and consumer application. Such as for industrial sheds, commercial buildings, home insulation, under wood or laminated flooring, roof insulation, carpet underlay and construction, packaging material to the sensitive products.

Types:
1. Metalized PET/PE woven fabric/Metalized PET.

3) Metalized film / Aluminium Foil Laminated Non Woven Fabrics / Reflective coated non-woven fabric insulation Barriers

Structure: Non Woven Fabric + PE + Metalized PET (Aluminum Foil). Or Both Side Metalized (Al foil) Also Available

Width of the roll: 100mm - 1250mm
Core: 3 inch.
Length: According to the customers' demand.
Colour: silver, white, black, deep blue, light blue, orange.

Feature:
It is light in weight, excellent tear-resistance & good puncture resistance & excellent water vapour resistance and higher tensile strength. It is easy to handle during construction, anti-aging, peel strength, and printable

Insulation Usage:
It is used widely to make car cap to Reflective Sunshine & in Roof, floor, wall, pack food for heat retaining, medical & sanitary, industry & agriculture, construction & daily-used products such as the agricultural plant covers, roof waterproof material, disposable items for medical and industrial applications, liners for furniture, packing material, shopping bags, suit and garment cover, industrial protective coveralls, garment accessory materials, bed articles, medical and sanitary articles as well as family and hotel consume articles, especially for heat insulation, thermal insulation and construction and other fields.

Other Packaging Usage:
Metalized film for metallic yarn, glitter powder, sequin, spangle printing and lamination, coated colours metallised polyester film is for the metallic yarn, glitter powder, sequin, flexible packaging, waterproof material, decorative material, foodstuff packaging, barrier material, low heat shrinkage, well tensile strength, aluminium coating is well-proportioned has very high lusted degree, light reflectivity reach 98%, suitable for yarn, cling packaging, cosmetic packaging and tobacco and liquor packaging.

4) Flexible Extrusions Laminates packaging
M/S, Patidar Corporation offers superior extrusion lamination products for different packaging and lamination requirements. Packaging extrusion lamination is a converting process by the combination of two substrates using a molten polymer. In this process, the extrudate enters the nip, which is formed by two rolls. Two substrates also enter the nip by traveling over each roll. The extrudate is therefore the central part of a sandwich material. The factors - flow, substrate non-uniformity, and specific adhesion control the bonding of the three materials in the resulting sandwich composite.

**Salient Features :**
- Some outstanding features of the extrusion process are:
- Can be used for substrates like paper, foil and even a plastic film.
- The process can perform either extrusion coating or extrusion laminating.
- Provides highly effective and durable lamination.

**Product Applications :**
Our extrusion lamination products are superior in quality and have found wide applications in different lamination and packaging requirements. Some common uses are:
- Foodstuff and paper packaging with thin and satiated paper, kraft paper.
- Food packaging with coated/laminated PE-HD films, BOPP films, BOPET films and metallised films.
- Food and liquid packaging with aluminium foil and laminate.
- MRE-trays decorative.

5) **Metalized Poly With Paper ( MET Film + PE + Paper )**

Optimizing the latest technology, we manufacture a range of paper / PE / metpet laminates that are used in various industries for packaging purposes. These laminates provide a high durability to the products and also add elegance owing to their attractive color combinations. We offer these an various thickness and sizes as well as the required needs of the clients.

We manufacture and export a wide variety of metalized poly with paper which can be used for flexible laminates and wrapping of various products in soap and detergent industry. Our range is laminated with the highest quality and consistency that provides barrier protection.
against ultra violet lighting and moisture. Further, these can also be customized as per the clients' needs and are available at industry leading prices.

**Description:**
- Width: 100 mm to 1200 mm
- PE Coating: Up to 50 microns
- Thickness: 43GSM to 128GSM
- Usage: Medicine packing, Food packing, Gift wrapping, Cosmetic decoration etc.

**Features:**
1. High gloss, strong metallic look, perfect metallization
2. Smooth Surface and excellent aluminum adhesion.
3. With excellent adhesion ability with ink
4. Offset printing, gravure printing and flexible printing, etc.
5. Excellent properties when use for labels.

6) **Other Specialty Coated/ laminated products**

M/S, Patidar Corporation has consistently introduced innovative packaging solutions to satisfy the most demanding and quality conscious customers. This Mega Conversion capacity is for the converter community. Being converter's converter we are flexible enough to laminate our customers, own paper/other substrate on contract manufacturing. We have 3 years experience in job working and a repute to respect the value of the customer's material.

For finding new product solutions our product development & marketing team is working closely with our customers. Continuous quality control is used to monitor and measure the properties of the products. For direct contact with foodstuff, dry foods & greasy foods, we have US FDA approval for all of the major requirements & recommendation for materials that come into contact with food.

We specialize in the entire production process from extrusion/ printing/ slitting & sheeting and we can quickly develop, produce and supply new customized packaging requirement.

Quality and consistency are the cornerstones of our product lines. We work continuously with our raw material vendors to keep up-to-date with resin technology and advancements. Our close vendor relationships enable us to bring these new advancements to market for you.

**Few of the specialties Extrusions coated/ laminated products are as following...**
- Laminates for Insulation
- Polycoated Base paper for Various Application
- Multilayer Laminates for Automotive Industry
- Aluminum & Met-Polyester Laminates for Tea Industry

**Laminates for Insulation**

We offer versatile range of Laminates for Insulation material products for thermal Insulation & Building construction Industry.

Our products under this category show excellent barrier properties, gas tightness, fire retardancy, dimensional stability, thermo-reflection, breathability, sound insulation and the low emission properties characteristics of aluminum. Insertion of glass fiber scrim makes the facing material complete to give dimensional stability & added strength.
These facing materials are suitable for mineral wool, rockwool, polyurethane and other light insulation materials. The primary purpose of thermal insulation materials, such as mineral wool, polyurethane is to save energy. Their insulation properties and energy efficiency can be considerably enhanced with facing materials. Special combination of material improves the breathability and mechanical strength of the material, in addition to reducing the fire load.

In Construction sector, we provide high quality, cost efficient and innovative solutions of insulation materials for walls, floors and ceiling. Our material is suitable for warehouse, factory, supermarket, gym and office etc. Double side aluminum foil facing material is more effective in light reflection, mostly suitable for roof and wall insulation of house, warehouse, cold storage and factories.

The composition of facing material mostly constitutes aluminum foil, fiber glass Scrim, kraft paper and polyethylene. We can also use Metalized polyester to make the facing laminate cost effective.

**Polycoated Base paper for Various Application**

We offer Polycoated Bleached, Unbleached Kraft paper & other various grades of paper (Maplitho, MG Poster etc.) for various coating applications such as Silicone Coating, VCI Anticorrosion Coating & any other water/ solvent based custom coating.

The Base paper used for polycoating could be of Gsm ranging from 30gsm up to 450 gsm. LDPE coating on paper could be from 10 gsm up to 80 gsm with gloss or Matte finish surface. We offer widest polycoated substrate width for various coatings (Up to 1250mm).

We are flexible enough to convert customer’s own paper on Contract Manufacturing Basis. In more than 3 years of coating, laminating, and printing experience, *Patidar* has accumulated enough technical and processing capabilities to support the converter community in the form of above base laminates for supplier. Make use of our high end machines & customer oriented services for your manufacturing.

**Multilayer Laminates for Automotive Industry**

In automotive industry *Patidar* offers Extrusion coated material for headliners, hoodliners, carpet and other acoustical part which enhance mechanical properties such as dimensional stiffness and cost competitive alternatives to traditional lamination method.

A hoodliner is low profile acoustic absorber for mechanical noise and vibration, generated by engine components. It is designed for application of high heat areas, such as an engine compartment. Safepack combination of non-woven extrusion laminate withstands the high engine compartment temperatures & provides dimensional stiffness to hoodliners.

A headliner is an interior trim part, covering the metal roof structure. It is used to hold the sun visors, handless and interior light modules during vehicle assembly. Patidar offers a verity of sandwich structures which provides the necessary stiffness to the thermoformed headliner and minimizes nail up clips.

**Aluminum & Met-Polyester Laminates for Tea Industry**

*Patidar* offers a combination of multiple substrates for tea packaging to provide the ultimate barrier for your high value products. The advantages offered in this product line are, the capability to combine several substrates in-line to develop cost effective lamination with customized physical, optical and sealing properties that meet specific product and package format requirement.

We laminate different grades of paper (Unbleached as well as Bleached) with aluminum foil or metalized polyester film (Met PET) for bulk or pouch form packaging of tea & other confectionary products. The aluminum foil or metalized polyester is also laminated with consumer board for lidding material for precut lids.

These multifunctional laminates provide moisture & oxygen barrier apart from aroma resistance & strength. The four ply laminates using bleached kraft/ white MG poster as base paper also offers smooth runnability along with excellent sealability & easy pouch tear. We can do printing up to 8 color to offer one stop solution for direct use. Our strict adherence to specifications, combined with statistical process control, ensure that you receive the highest quality material.
The product list in other specialty coated/Laminated products goes on increasing since our journey in supply of high value packaging material to our customers is endless.

To name few more products, the list continues as,

- Polycoated Non-Woven substrate
- Eco tarpaulins/liners.
- Scrim reinforcement case liners.
- Laminate for cable sheathing
- Other specialty Wrappers
- Customized Wrappers

Your custom products…

We know the importance of being a consistent supplier. The value we provide to you is our dedicated people, manufacturing excellence and customization. Our comprehensive analytical laboratory, designed for both physical and chemical composition testing, gives us the edge with in-house testing and analysis. Patidar bases its Corporate Philosophy on providing high levels of Quality, Service and Technical Innovation.

We M/S. Patidar Corporation are a market-focused, process-centered organization that develops and delivers innovative solutions to our customers, and provides a dynamic and challenging environment for our employees

We M/S. Patidar Corporation welcome clients from at home and abroad and we sincerely await your emails and calls to establish business negotiations with our company. M/S. Patidar Corporation strives for attentive and sincere management and quality products and superior service for all our partners

With best regards,

Waiting Your Prompt Reply....... with require products Specification for our kind reff..

Thanking You

Regard'S From

Mr.Gaurang Patel - Mob +91-9409363831
M/S, PATIDAR CORPORATION
Plot No:221, Road No.2.GIDC Kathawada, Ahmedabad – 382430. Gujrat, India
+91-9725695076 - 91 79 29092872

Mail - patidarcorporation@gmail.com
Website Url - www.patidarcorporation.com