Aluminium Foil Extrusions Coating / Multi Ply Laminations

M/S, Patidar Corporation was started in 2009 for the manufacture and marketing of Aluminium foil based packagings. The company is equipped with Latest Extrusion laminations of Aluminium foil with paper, board and various plastic films. Beside they do have in-house Auxiliaries facility. M/S, Patidar Corporation has the capacity for processing 250 Tons of foil in assorted thickness a month.

About Aluminium Foil

Aluminium Foil Laminating consists basically of combining a web or sheet of aluminum foil with one or more other materials, such as paper and plastic films, using Plastic Extrusion bonding. The resulting product is a sandwich of three or more layers, e.g., foil/Plastic Extrusion material/and another material. For the most part, aluminum foil is laminated on web-fed, rotary equipment, which also frequently includes a coating unit for coloring or otherwise pre-coating the aluminum foil.

The laminating process requires that the rolls of foil and other material be unwound and that a controlled application of Plastic Extrusion material like PE be applied to one or the other, or occasionally to both of these webs. This combination of foil, Plastic Extrusion material, and other material is then brought together when it passes through the nip of the combining rolls; (Usually one steel and one rubber roll). These apply just enough pressure to marry the materials into a single web.

Frequently, one or more Laminations are also applied to the foil side, to the film or paper side, or to both sides of the laminations. This may be done in-line where practical, or subsequent to combining. Such coatings are typically decorative, protective, or are priming or anchor & coatings for printing inks or other converting materials. Thus, the converter is able to color or otherwise coat the web at the same time he laminates it, achieving the obvious economies of performing two or more operations at once or in one pass through the machine or line.

Most modern aluminum foil laminating machines are built on this unit, or station, principle. A five unit arrangement is common, with unit variations depending upon the particular process. The basic five are two unwind units; Plastic Extrusion applicator / Extrusion die / Plastic extruder; a combiner or pressure rolls; and a rewind. Additional units often included are another coater and a dryer. Some laminators also include combining rolls after the drying unit for laminations made by applying the adhesive to a web and drying it before combining the materials.

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From the standpoint of the types of main methods of laminating aluminum foil.

**Extrusion bonding** - combining is done simultaneously with application of hot adhesive; in this case, the hot plastic, such as polyethylene, which is deposited from an extrusion die located at the combining roll nip, formed by a rubber and a steel roll. The steel roll is chilled to affect the bond by setting or solidifying the plastic quickly.

### Aluminum Foil Applications

Many of the principal aluminum foil uses and markets, and a number of specialty applications, have been mentioned in connection with discussions of various properties or converting operations in other sections of this book. But the versatility of aluminum foil and the literally hundreds of ways in which it is used in commerce throughout the world, demand more comprehensive listing of end uses.

An excellent condensation of major aluminum foil applications is afforded by the converted and nonconverted foil end-use many classifications. These are used for the aluminum foil end-use report compiled annually by the U.S. Department of Commerce. Presented on the pages that follow, is an overview of the many kinds of specific types of aluminum foil packages and other products.

The basic categories in which all statistically identifiable aluminum foil applications are reported by the Aluminum Association to indicate industry shipments are as follows:

#### Packaging End Uses

- Semi Rigid Foil Containers - Bakery Goods, Frozen Foods and other
- Caps, cap-liners and packaging closures for Beverages, milk, foods and other
- Composite cans and canisters - Powdered drinks, auto supplies, Food snacks, Citrus and other juices, Refrigerated dough, other frozen food products
- Flexible Packaging end uses - labels, cartons, over wraps, wrappers, capsules, bags, pouches, seal hoods and overlays for semi rigid foil contains.
- Military specification packaging

#### Nonpackaging End Uses

- Household foil
- Institutional foil
- Gift wrap
- Florist foil
- Decorative uses, n.e.c. (including fancy paper, match covers, displays, novelties, ornaments, etc.)
- Nonpackaging end uses, n.e.c. (including chaff)
- Scrap, waste, and unaccounted for

#### Selected non converted foil products

- Unmounted, unconverted foil stock sold to end users for candy and gum wraps
- Insulation foil and building products

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At M/S. Patidar Corporation, we provide a comprehensive array of Industrial Coated Aluminum Foil and Aluminium Foil 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 Aluminium Foil Coated / Laminated Material by Extrusions Process as below.

1) PE Coated Aluminum Foil

Usage: For Heat insulation material, Protective Packaging Material

Description:
- Width: 100 mm to 1200 mm
- PE Coating: Up to 50 microns
Application:
- P.E. Coated paper and paper board with Multi colour rotogravure printing
- Heat insulation material
- Protective Packaging Material
- Plastic flexible laminates
- Soap and detergent industries
- Pharmaceuticals
- Food
- Paper cup industries
- Ice Cream
- Multi wall paper bags industries

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<thead>
<tr>
<th>Composed of</th>
<th>Characteristics</th>
<th>Application</th>
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<tbody>
<tr>
<td>Metalized BOPP film with LDPE coating</td>
<td>Metalized BOPP film : &gt;15 mic LDPE coating : &gt;15 mic</td>
<td>Easy to burn</td>
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<td>Good elongation</td>
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<td>Poor embossing performance</td>
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<td>Camping mat</td>
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<td>Thermal insulation for construction</td>
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<tr>
<td>Metalized PET film with LDPE coating</td>
<td>Metalized PET film : 12 mic LDPE coating : 15 mic</td>
<td>Strong at high temperature</td>
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<td>Good embossing performance</td>
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<td>N.P.E foam pipe cover</td>
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<tr>
<td>Real Aluminum foil with LDPE coating</td>
<td>Aluminium foil : &gt;7.5 mic LDPE coating : &gt;15 mic</td>
<td>Flame resistance</td>
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<td></td>
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<td>Excellent embossing performance</td>
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<td>Long lasting printing</td>
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<td>X.L.P.E foam pipe cover</td>
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<td>Ventilation duct protector</td>
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<tr>
<td>Real Aluminum foil with LDPE coating</td>
<td>PET base film : 12 mic Aluminium foil : 7.5 mic LDPE coating : 20 mic</td>
<td>Flame resistance</td>
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<tr>
<td></td>
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</tbody>
</table>

2) Gutkha / Pan Masala Packaging Material

Our all wrappers and coils are designed using plastic, fibers, papers, aluminum and other materials. Furthermore, we offer our tobacco wrappers in varied logos and sizes to suit the diverse requirements of the clients. Our laminated wrappers and foils are widely appreciated for the properties like customized specification, leak proof, moist resistant and light weight.

Our company is involved in manufacturing a broad range of Packaging covers and foils such as Gutka and Tobacco Wrapper. Tobacco wrappers of our company are designed to pack chewable items in different quantities. Our all wrappers and coils are designed using plastic, fibers, papers, aluminum and other materials. Furthermore, we offer our tobacco wrappers in varied logos and sizes to suit the diverse requirements of the clients. Our laminated wrappers and foils are widely appreciated for the properties like customized specification, leak proof, moist resistant and light weight.

Specific features:
- Light weight
- Leak proof design
- Moist resistant
- High capacity

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3) **3 Ply Aluminum Laminates**

A 3-ply laminate is a 3-layer laminate, where the middle layer can be AL, or VMPET. 3-ply laminates have better protection properties against oxygen and light than 2-ply laminates. In most cases, Coffee Bags have 3-ply structure.

![3 Ply Aluminum Laminates](image)

4) **4 Ply Aluminium Laminates**

Equipped with advanced techniques we manufacture and export a wide range of 3Ply/4PLY Laminates for ORS Pouch which is eco friendly and resistant to chemicals. We have hired experienced and adroit professionals who are well versed in their respective domain. Our products are good in rates as well as both domestic and international markets.

We are counted among the renowned manufacturers and exporters of a wide range of 3Ply/4PLY Laminates for ORS Pouch. Our products are Eco friendly and are extremely resistant to chemicals. Our manufacturing unit is well equipped with advanced techniques that assist us to develop the flawless range of products for our esteemed clients. We have hired experienced and adroit professionals who are well versed in their respective domain. Additionally, clients can avail the entire product range in feasible rates.

**Features:** Chemical resistant / Eco friendly

5) **PAPER / PE / ALU FOILS ( Paper Lamination with Aluminium Foil )**
We offer a vast range of Paper / PE / Alu Foils / PE that are known for their superior quality and excellent seal-ability features. Widely used for packaging applications, these provide high resistance to moisture and leakage thus helps to improve the shelf life of the wrapped products. Our range is manufactured to meet the international quality norms and is also available in customized specifications to the clients.

Mainly Using for Packet Tea, Tobbaco, Zarda, Betal Nuts, Mosquito Mats, Medicines, Pharmaceutical & Surgical items.

Product Description
- PAPER: 40-400GSM
- PE: 10-20GSM
- Aluminium foil 0.009-0.040mm
- Slit roll width as PER CUSTOMER'S OPTION.

6) Metalized film / Aluminium Foil Laminated Non Woven Fabrics / Reflective coated non-woven fabric insulation Barriers ( Non-Woven Lamination with Aluminium Foil )

- 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 metalised 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.

7) Woven Sack (Fabric) Lamination with Aluminium Foil (Both Side Al Also Available) (Woven Lamination with Aluminium Foil)

**RADIANT BARRIERS (AL+LD+WHITE WOVEN)**

Many radiant barriers are made of metalized surfaces, which reflect about 50 to 60% of heat radiations. Our Patidar radiant barrier is a pure aluminium foil with a minimum radiation reflection of 95% (and up to 99%).

In addition our extensive Research and Development activity allowed us to innovate, producing a high density polyethylene woven structure. This synthetic structure is much more resistant to moisture than paper based foil and is highly resistant to tears.

As the main goal of our radiant barriers is to protect Indian buildings from external heat, only the external face is reflective to the radiation.

It is highly advised to use our radiant barriers along with a ventilation system in order to evacuate the heat accumulated between the barrier and the tiles:

- Over ridges, the use of **compact roll** is the most elegant and efficient way to exhaust the hot air.
- On eaves, either a **filler comb or ventilation tiles** will be perfect to ensure the entry of fresh air.

**TECHNICAL INFORMATION**
Our Woven AL Radiant barrier is a 3 layer radiant barrier, using 1 layer of pure aluminium foil bonded to 1 layer of extra strong woven fabric.

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Also Radiant barrier is available in a 5-layer, using 2 layers of pure aluminium foil bonded to 1 layer of extra strong woven fabric.

Types:
1. Aluminium Foil /PE woven fabric/ Aluminium Foil.
3. Aluminium Foil /PE/PE woven fabric/PE

Main characteristics:
- Grammage: 100 – 150 Gsm (±15 g/sqm)
- Tensile: MD = 350 to 400 N/50 mm, CD = 100 to 200 N/50 mm
- Elongation: 15±5 %
- Force at break: 100±20 N
- Water vapour transmission rate <1 g/m²/day
- Emittance of surface Aluminium foil: 97±2 %
- Width: Up to 1220mm

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.

8) 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 foodstuffs, 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
- Polycasted Base paper for Various Application
- Multilayer Laminates for Automotive Industry
- Aluminium & Met-Polyester Laminates for Tea Industry

Laminates for Insulation

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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. Safe pack 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, handle 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 tarps/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

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