

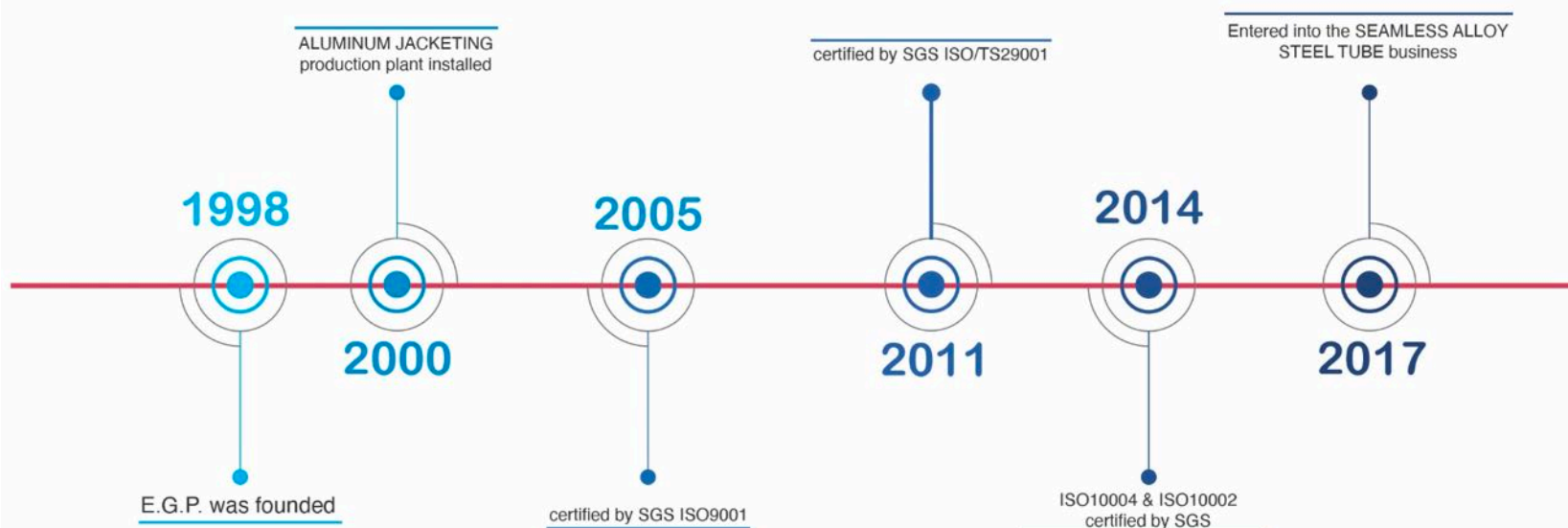


Ebdaagaran Padide
(E.G.P.) Co.PJS.

*Knowledge - based
Industrial Company*

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E.G.P. in the Course of Time





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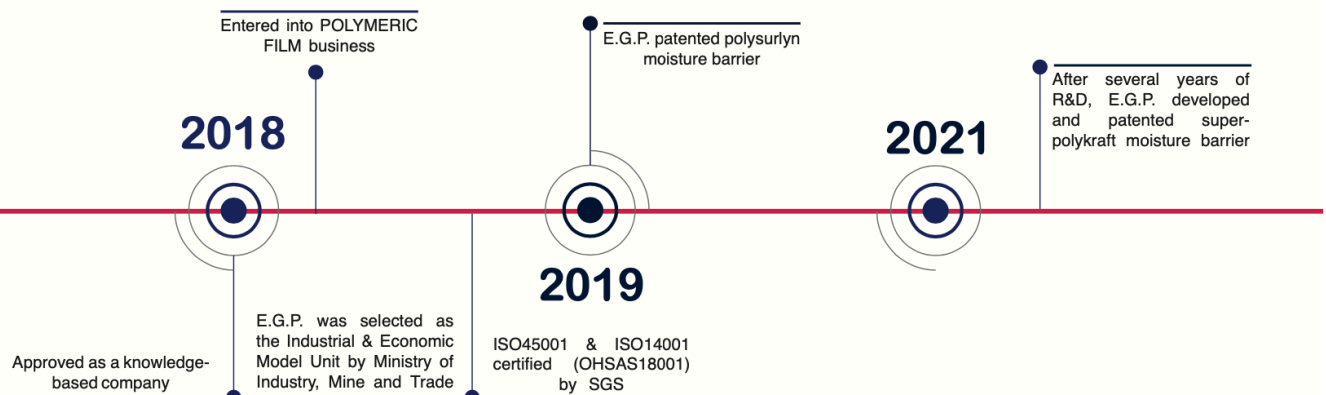
Introduction

Established in 1998, **Ebdaagaran Padide (E.G.P.)** Company has been supplying Insulation Aluminum Jacketing and all Insulation Ancillaries for oil, gas, refining and petrochemical industries in Iran. Our products are in accordance with the standards of NIOC (IPS), National Petrochemical Company (NPC), and Iran Power Development Company (IPDC).

E.G.P. has undoubtedly proven itself as the benchmark of quality and innovation in this field, introducing continuous casting method for insulation Aluminum Jacketing production in Iran. We are also the first and only manufacturer of Aluminum Jacketing with Polysurlyn Moisture Barrier in Iran. As a leading manufacturer in the field of insulation protection, the name of **E.G.P.** is among vendor lists approved by the Ministry of Petroleum, National Iranian Oil Refining and Distribution Company, and National Iranian Petrochemical Company. With over 20 years of experience, we are honored to have been involved in more than 100 refinery, petrochemical and power plant projects including: manufacturing and procurement of more than 700000 SQM of Aluminum Jacketing and insulation ancillaries for Persian Gulf Star Refinery project; manufacturing and procurement of Aluminum Jacketing and insulation ancillaries for Bid Boland Gas Refining and different phases of South Pars Gas Field Development projects.

Relying on knowledge and experience of our professional experts, we are proud to be among the knowledge-based manufacturing companies evaluated and approved by Vice-Presidency for Science and Technology. Our Super-polykraft Moisture Barrier is developed through innovation and understanding of market needs; it has been patented under name of **Ebdaagaran Padide** after approval of Iran Research Institute of Petroleum Industry.

E.G.P. is also investing and growing rapidly in areas such as seamless tube and multi-layer polymeric film to meet a broad range of demands in various domestic industries.



Our Vision

To offer sustainable and customer-focused solutions in insulation works, seamless tubes and polymer films; create value additions; be driven by innovation, technology & efficiency for this field; ensure that the requirements of the following standards are implemented and maintained throughout the organization:

ISO 9001

ISO / TS 29001

ISO 10002

ISO 10004

ISO 14001

ISO 45001

Our Core Values

The core values of **E.G.P.** are the cornerstone of who we are and what we stand for.

They are:

Quality - We take pride in providing high value products and services that we stand behind, which ensures customer satisfaction, profitability and the future of our employees and our growth.

Value our employees - We foster an environment in which every employee is treated with respect and dignity and the quality of his or her life is improved.

Satisfied customers - We strive to provide exceptional customer service through quality products, addressing customer complaints and innovative solutions resulting in value to the customer and company.

Health, safety and environment - We adhere to the highest standards to ensure the safety and health of our employees, our customers, and the people of the communities in which we operate. We protect the environment and strengthen our businesses by making environmental issues an integral part of all business activities. We continuously strive to reduce injuries, illnesses, incidents, waste, emissions, use of depletable forms of raw materials and energy.



Message from CEO

Empathy, harmony and unity; following consistency of the foundation of the workplace family, collective well-being, definite contribution to national comprehensive development and international achievements: This is the ultimate goal of Ebdaagaran Padide..

Khodayar Sheibani
Chief Executive Officer



Certificates, Memberships and Awards

- Industrial & Economic Model Unit selected by Ministry of Industry, Mine and Trade in 2018
- Knowledge-based Manufacturing Company evaluated & approved by Vice-Presidency for Science and Technology (Knowledge-based Assessment Workgroup)
- ISO/TS29001 (Petroleum, petrochemical and natural gas industries — Sector-specific quality management systems — Requirements for product and service supply organizations) certification by SGS
- ISO9001 (Quality management system) certification by SGS
- ISO45001 (Occupational health and safety management systems) certification by SGS
- ISO14001 (Environmental management systems) certification by SGS
- ISO10002 (Quality management — Customer satisfaction — Guidelines for complaints handling in organizations) certification by SGS
- ISO10004 (Quality management — Customer satisfaction — Guidelines for monitoring and measuring) certification by SGS
- Holder of International Certificate of Identity and Product Identification Card from Iran and Canada Chamber of Commerce, “ Services Identification International Center” GSI & Good
- Winner of 38th International award for Commercial Prestige in 2008 – Madrid, Spain
- Winner of Global Quality Management badge in 2008 – Madrid, Spain
- Member of Society of Iranian Petroleum Industries Equipment Manufacturers
- Member of Iran Industrial Equipment Manufacturers Association
- Member of Iranian Corrosion Association (ICA)
- Member of Iranian Productivity Association
- Member of R&D Society of Iranian Industries & Mines
- Member of Iran Association for Standard Holders
- Member of International Tube Association
- Member of Trade Leaders’ Club (TLC)





Insulation Aluminum Jacketing

It seems clear that insulation serves an important role in the operation of all large-scale industrial facilities including chemical, petrochemical and oil refineries and power plants. But why is it important? **Process control, energy conservation, freeze protection, emissions control and personnel protection from burn hazards** are among the most important services insulation provides to an industrial facility.

E.G.P. Aluminum Jacketings are typically manufactured using 1000 and 3000 series Alloy conforming to ASTM B209 and EN485 standards.

E.G.P. offers different types of Aluminum Jacketing laminated with **Polykraft, Super-polykraft** and **Polysurlyn Moisture Barriers** available in the following finishes:

- Smooth Aluminum Jacketing in sheets and rolls of 1m width, thickness ranging from 0.25mm through 1.2mm & length according to customer's requirements. (Complies to NIOC MESC 857440)



Without insulation, thermal energy would escape uncontrollably to the atmosphere, wasting billions of dollars and causing serious damage to the environment.

Very few insulation materials can be left exposed in outdoor applications so metal jacketing is widely used to protect the insulation system from damage due to UV exposure, physical abuse, environmental water and pollutants. Many types of metal have been used as jacketing including Aluminum, Stainless Steel, Aluzinc, Aluminized Steel and even Galvanized Steel. Of these, the most commonly used is Aluminum due to its cost, light weight, flexibility and high resistance against corrosion.

- Stucco embossed Aluminum Jacketing in sheets and rolls of 1m width, thickness ranging from 0.25mm through 1.2mm & length according to customer's requirements. (Complies to NIOC MESC 857440)

- Corrugated Aluminum Jacketing rolls (5mm corrugation) of thickness ranging from 0.25mm through 0.5mm, width 1m and length according to customer's requirements up to 30m. (Complies to NIOC MESC 857440)

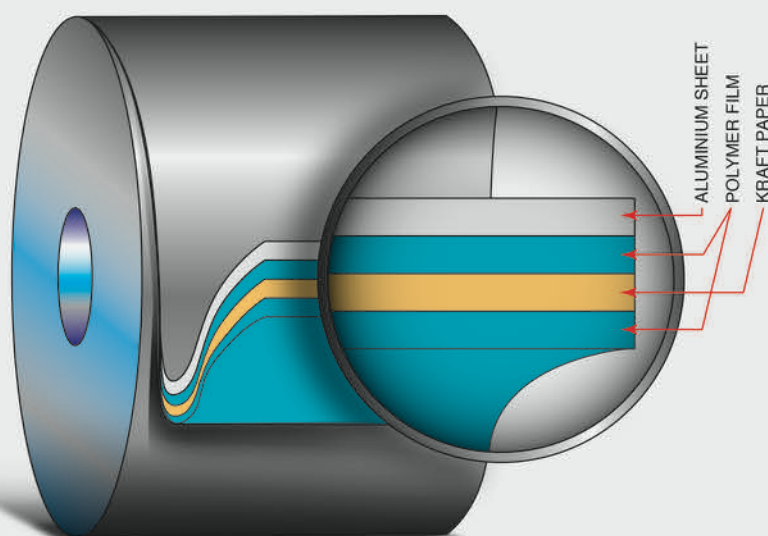
- Deep corrugated Aluminum Jacketing sheets (33mm corrugation) of thickness ranging from 0.5mm through 1.2mm, width 0.9m and length according to customer's requirements. (Complies to NIOC MESC 857440)



Insulation Aluminum Jacketing with Polykraft Moisture Barrier (PMB)

Polykraft consists of one layer of polyethylene film with a protective layer of kraft paper. In **E.G.P.** the moisture barrier is attached to the jacketing by continuous lamination to the full width of the Aluminum sheet. The moisture barrier is used to prevent moisture and corrosives, in the insulation, from coming into direct contact with the metal jacketing surface and causing galvanic or chemical corrosion.

and the environment. The economic costs associated with microbiologically influenced corrosion in buried pipelines in oil, gas, petrochemical industries, power plants, and other chemical plants are enormous. Damage costs to just oil and gas industries are estimated at over 100 million US dollars per year.



Insulation Aluminum Jacketing with Super-polykraft Moisture Barrier

Microorganisms—they have been around for billions of years and can live in incredibly difficult environments and under extremely severe conditions. They utilize exceptionally diverse food sources and some of the byproducts produced by their metabolisms can be damaging to metals. The corrosion of a material when the presence of microorganisms plays a role in is known as microbiologically influenced corrosion (MIC).

The most well-known MIC cases involve sulfate-reducing bacteria (SRB), which have been connected with corrosive processes in pipelines and other industrial installations, occasioning powerful impacts on the economy

Kraft paper used in Polykraft Moisture Barrier has sulfur compounds and, if the polyethylene film coverage is defective along with moisture presence, it provides desirable conditions for SRB to grow leading to MIC. Our Super-polykraft Moisture Barrier (SPMB) has been introduced as a solution to this type of corrosion. By applying polymer film on both sides of the kraft paper we minimize the risk of growing SRB. This also provides increased galvanic corrosion protection.

Our Super-polykraft Moisture Barrier has been patented under name of Ebdaagaran Padide after approval of Iran Research Institute of Petroleum Industry.

Insulation Aluminum Jacketing with Polysurlyn Moisture Barrier (PSMB)

When water is present and touching the interior surface of metal jacketing, corrosion can and does occur. This can happen in all applications (hot or cold), with all metal jacketing types, and with all insulation types.

E.G.P. Polysurlyn Moisture Barrier (PSMB) is a co-extruded film of (DuPont™ Surlyn®) and other polymers. PSMB is replacing the industry standard polykraft. It offers superior resistance to moisture protection over polykraft. Since paper is not used in this moisture barrier, it also prevents huge financial damages caused by MIC.

Chemical contaminants typically found in materials such as glass wool or mineral fiber react with moisture through insulation cracks and gaps, under poorly installed insulation, to form an acidic reaction which corrodes the metallic substrate. This type of corrosion is called Corrosion under Insulation (CUI), which is difficult to detect and treat on site, and leads to degradation and reduced performance of the system over a period of time.

In eliminating the occurrence of moisture transfer, PSMB Aluminum Jacketing inhibits corrosion under jacketing and enhances the durability of such insulation systems. To keep water from causing jacket and pipe corrosion, the moisture barrier must be water resistant, pinhole free, tough, scratch resistant, and durable. Only PSMB offers all of these necessary properties. However, you should keep in mind that properly installed insulation is essential for the system's optimal performance.

**You can minimize corrosion
of metal jacketing by using
PSMB**

Polysurlyn and Polykraft Comparison

POLYSURLYN: Co-extruded 3-layer film with 76 µm thickness

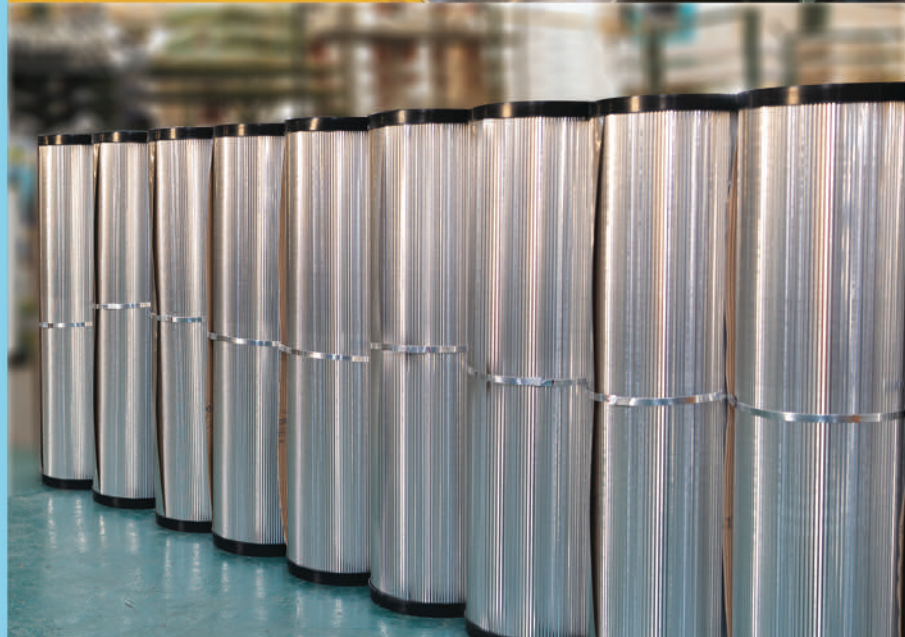
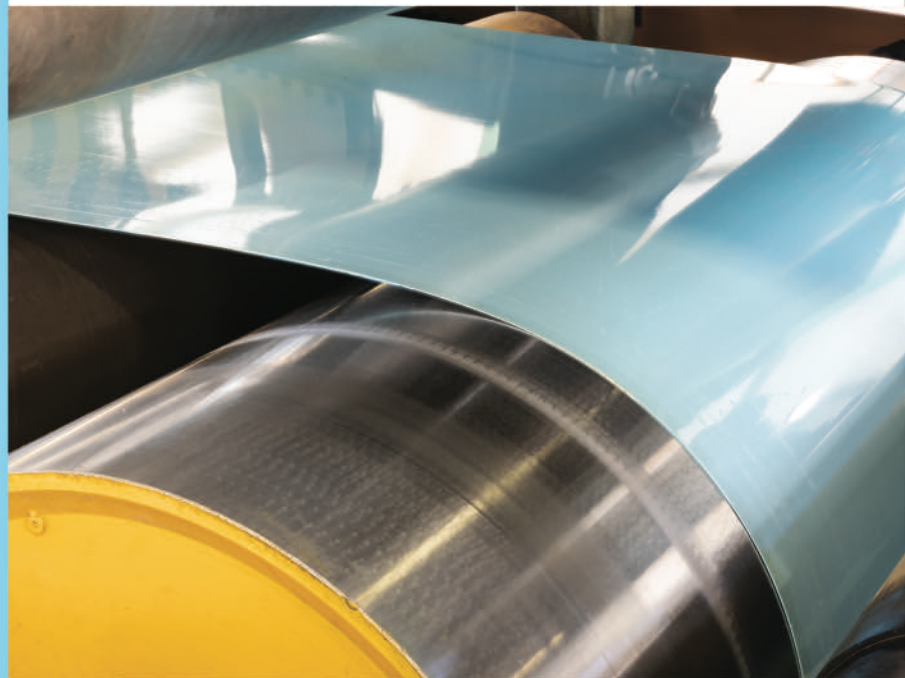
POLYKRAFT: Plastic film is a single layer

POLYSURLYN: No pin holes, better moisture retarder properties

POLYKRAFT: Pin holes allow moisture to contact the metal

POLYSURLYN: No water absorption, no possibility of moisture contact with metal

POLYKRAFT: Exposed surface of polykraft is paper which readily absorbs water



E.G.P. Polysurlyn advantages

- Minimal water absorption compared to kraft paper
- Will not deteriorate, discolor or shred when exposed to water
- Provides abrasion resistance during installation
- Long term durability and resistance to a wide range of environmental contaminants
- Metal jacketing with PSMB has an ASTM E84 flame/smoke performance of $\leq 25/50$
- Aluminum jacketing with PSMB complies with ASTM C1729, Class A

**PSMB is a minimal investment
or “insurance” to protect
valuable metal jacketing and
industrial facility**

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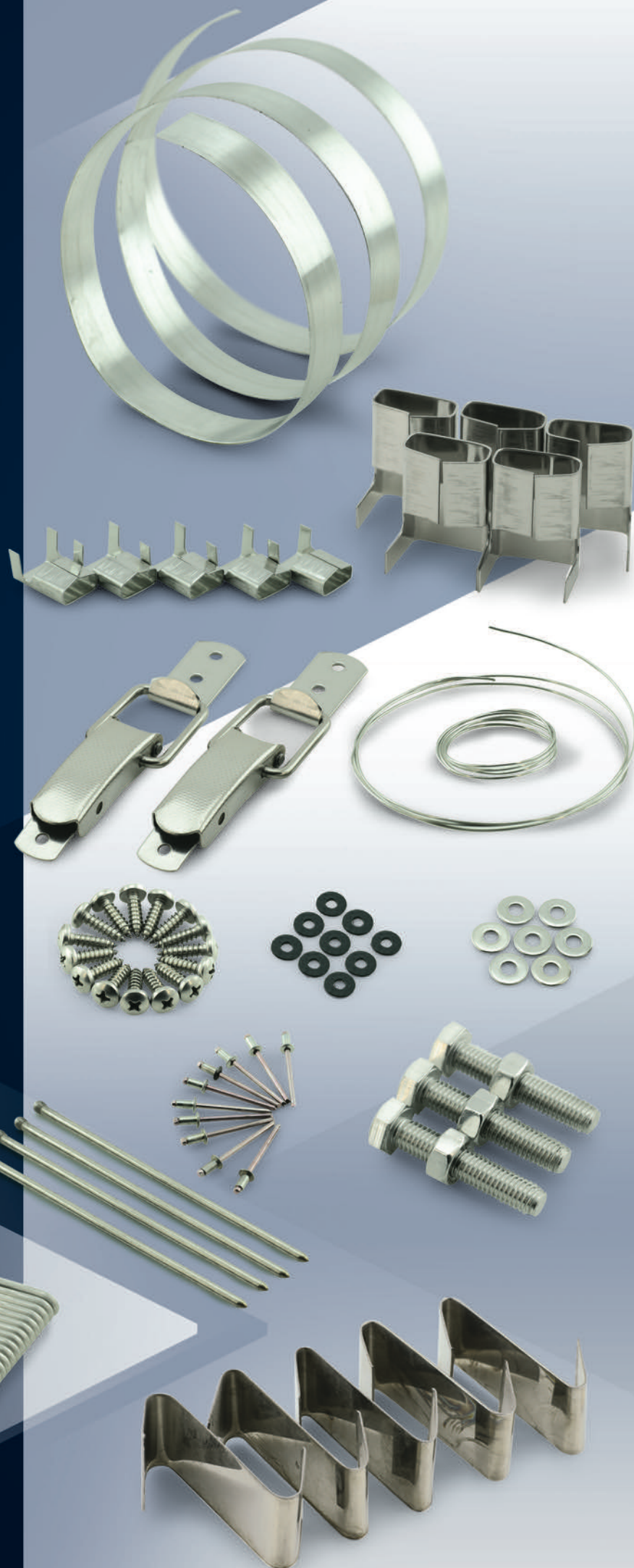
Our Polysurlyn Moisture Barrier has been patented under the name of Ebdaagaran Padide. (Patent No. 99639)

Insulation Ancillaries

- Aluminum, Galvanized and Stainless Steel strap in rolls of 25 kg, width 25, 19, 16 and 13mm and thickness upon request
- Aluminum, Galvanized and Stainless Steel wing seal with length of 25, 19, 16 and 13mm and thicknesses upon request
- Galvanized and soft Stainless Steel wire of different diameters in rolls of 25 kg
- Stainless Steel self-tapping screw, Stainless Steel and neoprene washer and Stainless Steel and Aluminum rivet in various sizes
- Different types of mastics and fireproof sealant tapes
- Stainless Steel toggle fasteners in two sizes
- Stainless Steel flat expansion springs, with length of 5 or 10cm and width of 29mm
- Stainless Steel & Carbon Steel different kinds of support rings & spider clamps for pipes from 2" and above

Packaging

All products are first wrapped in resistant and waterproof plastic cover and then, depending on the type of product, are packed in wooden boxes or stacked on wooden pallets. All products have Product Label and Product Identification Card. Different and custom packaging is possible upon request.





Polymeric Film

In today's fast-paced transforming world, packaging companies play crucial role. Most producers believe that as long as their product is high quality there is no need to worry about packaging; however, the look and quality of packaging affect sales. Packaging should also keep products safe from outside damage.

Essential Factors to Consider When Choosing Packaging Material

- Resistance to temperature and moisture
- Weight-bearing, impact resistance and resistance to tearing or cracking
- UV protection for sensitive products

We offer different 3-layer films:

- Polysurlyn shrink and skin film
- Light/heavy duty bags
- Polyethylene 3-layer FFS films

Polysurlyn Film

Polysurlyn is derived from Surlyn -a transparent and solid resin- which makes the packaging completely sealed against moisture. Its high melting point allows use of higher temperature in packaging process.

According to our studies and practices, Polysurlyn film produced by **E.G.P.** has qualities as follows:

- It is waterproof.
- Does not discolor, tear or deteriorate in contact with moisture.
- Is scratchproof.
- It is durable and resistant against wide range of environmental elements.

Suitable Application of Polysurlyn Film

- Packaging industrial goods and delicate electronic parts
- Shrinking components and products sensitive to moisture
- Food packaging
- Rice, dry beans and nuts packaging
- Produce packaging



Skin Packaging Film

Skin packaging shows products clearly for maximum shelf appeal, helping increase sales. It also eliminates missing components and reduces the risk of items being separated from the rest of the order. Skin packaging offer significant weight and volume reduction compared to traditional packaging without sacrificing performance. Packaging odd shaped goods with traditional packaging methods requires much more material and space but with Skin packaging you can package the oddest shaped goods easily because the skin film shrinks tight on product. It also allows a low ratio of packaging to product, which can provide substantial savings in product transport, reduce their source material leading to less waste and more sustainability.

Advantages of Using Polysurlyn Film in Skin/Packaging

- **Faster Processing:** Surlyn absorbs infrared heat at about twice the rate of polyethylene. Its ability to soften more quickly in the heating phase speeds up the whole packaging process.
- **Cost efficient.**
- **Surlyn's high melting point** makes use of higher temperature possible.
- **Better Puncture and Abrasion Resistance:** Films made of Surlyn® are not easily punctured by pointed objects and sharp edges, especially during the critical forming stages of the packaging cycle.
- **Better chemical resistance**
- **Cold-Weather resistance**
- **Prevents metal corrosion**

Shrink Film

Shrink film, aka shrink wrap, is a transparent material made up of polymer plastic film and is used in shrink machine. The film is applied over or around the intended item according to its size and shape; then the product is sent through a shrink tunnel for heating. When heat is applied to shrink film, it creates a very tight seal over whatever it is covering. Not only is it easy to use, but it offers a wide range of benefits as well: Versatility (with shrink films you can package just about anything, regardless of size), high durability, difficult to tear or puncture, can be designed with colors...





Gridded Polykraft Wrap

Shrink wrapping is one of the easiest and most affordable ways of packaging today and polyethylene is the most common material used for shrink films.

E.G.P.'s shrink wraps are one to three layer films made up of polyethylene or other polymer plastics. We can modify its thickness upon request.

Benefits of Using E.G.P.'s Shrink Films

- High transparency and high durability
- High level of free shrink (shrink-ability)
- Even thickness

Common Applications of Shrink Films

- Supermarket (Water, soda bottle packs, cans...)
- Food industry (fruit, vegetable, meat...)
- Medical and pharmaceutical packaging
- Construction industry (tiles, bricks...)
- Automobile industry (different car components)
- Boxes

Polyethylene FFS (Form-Fill-Seal) Three-layer Films

A special kind of heavy duty bags are fabricated using FFS (Form, Fill & Seal) films. Three layered blown FFS films are highly consumed in heavy sack packaging and petrochemical industries. Applying polyethylene bags compared to other materials (propylene, paper...) uses less energy, reduces waste and greenhouse gas.

Main Applications of FFS 3-layer Films

- Powder or pellet (petrochemical products) packaging
- Chemical fertilizers packaging Gridded Polykraft Wrap

Gridded polykraft wrap is a new product in the packaging world. The wrap consisting of 3 layers of kraft paper, polymer grid mesh and film is a good substitute for traditional packaging materials such as cartonplast. This wrap is flexible, resistant to moisture and tearing and also cost-effective. We offer gridded polykraft wrap in different colors according to the customer's order.



Seamless Carbon Steel Tubes

Deploying advanced production machineries and precise control systems, **E.G.P.** can produce and deliver products in high volume and quality. Founding the expansion of seamless tube line in accordance with ASTM, ASME, BS, DIN, JIS, API and EN standards, we are ready to provide our customers with the following services:

Cold drawing

Due to the rust removing and coating process we employ before cold drawing, our tubes have smooth and sleek surface finish.

Cutting

E.G.P. can cut tubes and pipes to meet your end-use tubing requirements.

Tube straightening

20-roll straightening machine is used for the production of precision tubes with excellent straightness.

Heat treatment

Our furnace has the capacity of heat treating 10 tons of products with length up to 12 meters, in each round as per the latest standards of different industries. **E.G.P.** heat treatment process includes heating an alloy to a proper temperature; preserve it at this temperature long enough, then cooling it at proper rate. The furnace temperature can get up to 1000° C; the temperature along with the capacity allows us to heat treat a wide range of products in different weights and shapes to meet the requirements of different industries. Heat treatment will improve the properties of Steel pipe and its performance at dominate position by changing the internal structure to achieve the desired properties.

Quality Control Tests

Quality is the hallmark of **E.G.P.** Company. Therefore, precise control over all process and performance parameters is provided by our experienced team using advanced equipments. By performing constant quality tests, our products have high quality surface finish and dimensional accuracy which are two key factors

for tubing; the result of these tests will be provided to the customer at delivery time, in forms of SQA documentation: test report, quality certificate, etc.

The tests we carry out include:

Non-destructive Testing:

- Hydrostatic
- Eddy Current
- Ultrasonic





Destructive Testing:

- Dimensional Checks
- Hardness Test (Rockwell A, B, and C)
- Microstructure (Grain Size, Microscopic Microstructure Image, ...)
- Tensile Test (Yield Strength, Ultimate Strength and ratio of the change in length to the original length)
- Flare, Flatten and Expansion tests
- Surface Roughness and Straightness tests

Applications of Tubes

- Heat exchangers
- Steam boilers
- Automotive industry
- Medical devices
- Industrial bushes
- Hydraulic pressure transmitters
- Aerospace industry

We offer our clients tubing in oil rubbed, phosphate coated and painted finishing. The products can have identification card or may be marked with information according to customer's request. We may wrap them in polykraft or plastic cover and then, depending on the type of product, we pack them in wooden boxes or stack on wooden pallets.

Condition on delivery

Annealing according to the type of heat treatment status:

BK

Cold drawn / hard: No heat treatment after the last cold-forming process. The tubes therefore have only low deformability.

BKW

Cold drawn / soft: After the last heat treatment there is a subsequent slight finishing pass (cold drawing); the tube can be cold-formed (e.g. bent, expanded) within certain limits.

BKS

Cold drawn and annealed to remove stresses: After the final cold drawing tubes are annealed in a protective atmosphere to remove the tension.



Quality Control and Inspection

E.G.P. is an ISO9001 and ISO/TS29001 certified company. ISO/TS29001 includes all of the standards of ISO9001 with dozens of added critical quality requirements tailored to petroleum, petrochemical and natural gas industries. Further, we are holding certification for ISO10002 and ISO10004 which focus on customer satisfaction.

Quality is the hallmark of **E.G.P.** Company. We only supply high quality material, in compliance with ASTM, BS, EN, JIS and DIN standards from reliable sources. Our products are rigorously inspected to ensure that they meet our customer's specifications. We work with accredited laboratories in order to assess the mechanical, physical and chemical properties of materials. Moreover, we are equipped with professional and advanced laboratory equipment to provide you with suitable high quality product that fulfills high inspection criteria, as per your requirements.

Our clients may have third-party inspection for both the raw material (which can take place at the suppliers' premises) and the finished products; our product quality has approval from almost all leading inspection agencies such as **Techinco, Aria-SGS, Ika Engineering & Technical Inspection Co.** and **IEI Company** who are regularly inspecting our finished products for their esteemed clients.





Health and Environment

E.G.P. holds a range of accreditations to secure a safe, comfortable, working environment and also to provide assurance of continuous improvement in environmental performance. These include ISO14001, ISO45001 and HSE policies.

E.G.P. is committed to ethical corporate citizenship and to promote sustainability in its activities and environmental responsibility. We will treat the environment as a valued legacy for future generation. While **E.G.P.** recognizes that its business activities have environmental and social implications, **E.G.P.** is committed to mitigate any environmental or social impact its business activities may have through the adoption of best practices and policies. We will contribute to the development of a sustainable future through the following objectives:

- Developing best practices and promoting positive culture in which all employees and suppliers consider HSE as a key component in the system.

- Identification and control of workplace hazards to help avoid accidents, injuries and diseases and to minimize the risk to health and safety of all involved individuals.

- Identification of environmental aspects including those associated with abnormal conditions and emergency situations to minimize damage.

- Proper resource allocation (including energy, supplies, human labor, raw materials...) as a part of business plan and budget process with the purpose of cost reduction.

- Fair allocation of the responsibilities, improving competencies, trainings and awareness, communication enhancement at all levels within the organization and external contacts with suppliers and customers.

- Commitment to wildlife conservation and reducing environmental impact by prevention of pollution, minimization of waste, lowering the level of harmful emissions (heat, radiation, vibration) and reduction of the use of natural resources such as water and depletable forms of raw materials and energy.