



U S ANGEL

Plastic Trading L.L.C



COMPANY PROFILE

Ph: 065254867, 0504462815, 0566717033,

Email: Info@usangelplastic.com

Email: varun@usangelplastic.com

Web: www.usangelplastic.com

Ajman - UAE

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About us

U S ANGEL Plastic Trading L.L.C is located at the Ajman, UAE , draws its expertise from a rich experience of many years in recommending, optimizing and supplying plastic materials in all forms, from raw materials to semi-finished blanks, to highly precise micro-machined parts for plastic industry.

We look into detailed requirements of our customers and are available 24 x 7 for guidance and help. We service a diverse spectrum of industries, who frequently use plastics for engineering applications in corrosion protection, thermal / electrical / electronic insulation, bearing & sealing applications, material handling and general engineering use. who require supplies of a higher quality, homogeneity and purity.

Who we are?

U S ANGEL Plastic Trading L.L.C has Different Business categories which helps us administer ourselves better, to enable us to offer sustained quick service to our clients:

Our Sales pattern distinctly shows that U S ANGEL Plastic Trading L.L.C heavily leans towards offering solutions for demanding application wherein Fluoroplastics and High Performance Plastics are mainly used:



OUR PRODUCTS

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PTFE (Teflon) Rod and Sheet



PTFE is a highly crystalline thermoplastic with excellent sliding properties, anti-adhesive surface, excellent insulation properties, an almost universal chemical resistance and an exceptionally broad temperature resistance. However, this is offset by low mechanical strength and high specific weight compared to other plastics.

PTFE has excellent sliding properties and because of its very close static and dynamic abrasion values, it prevents the "stick-slip effect" however due to its low mechanical strength, PTFE has high sliding abrasion and a tendency to creep (cold flow)

PTFE is compounded with fillers such as glass fiber, bronze, carbon, graphite etc.

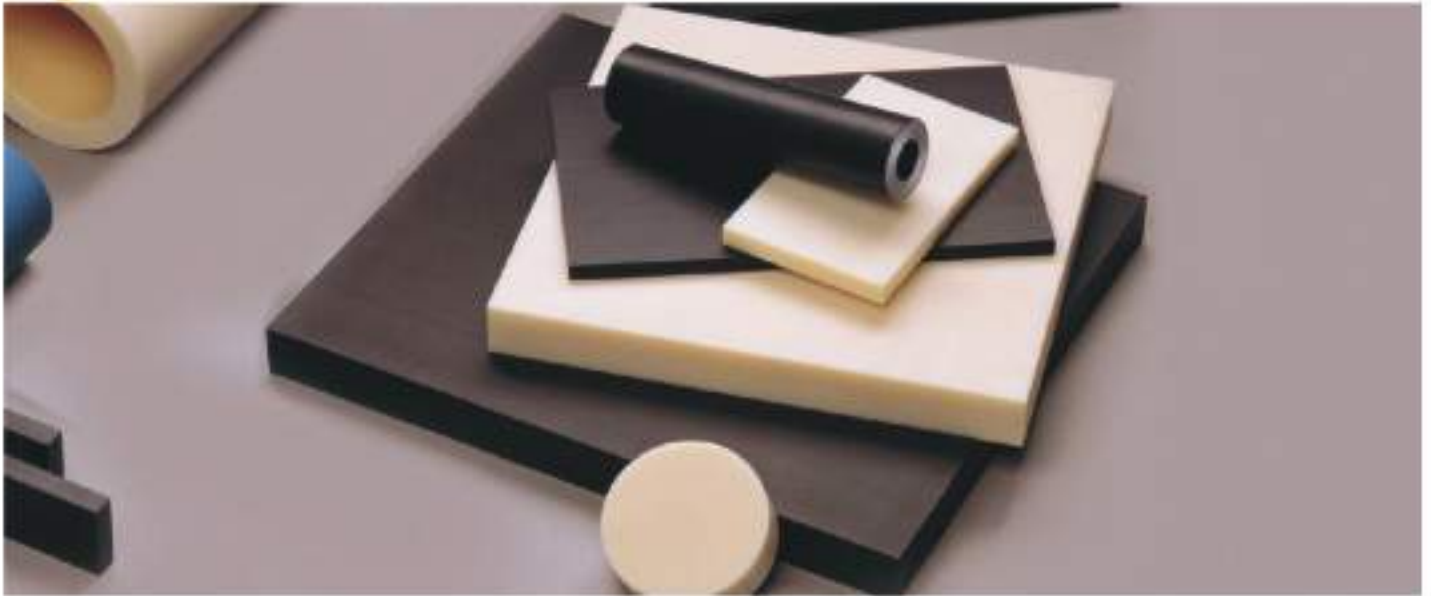
Applications:

friction bearings, bearing bushes, shaft seals, piston rings, valve seats, gaskets, o'rings, thread seal tapes, seals for hydraulic jacks and cylinders etc.

The main properties of PTFE are

1. Excellent sliding properties
2. Good chemical resistance, also to solvents
3. High corrosion resistance
4. Broad temperature deployment spectrum (-40°C to $+240^{\circ}\text{C}$)
5. Resistance to weathering
6. Good electrical and thermal insulator
7. Fire resistant

Nylon PA6 Rod and Sheet



Polyamides, also commonly known as nylon, can be processed by extrusion and denoted by the suffix 'E'. It is also available in MOS2 filled grade which has a higher degree of crystallinity.

Extruded polyamides are divided into 3 basic types, PA6, PA66 and PA12, these are produced in small thicknesses and diameters and offer superior dampening properties to casting grades.

Polyamide PA6 is a standard multi purpose grade which offers a good combination of Mechanical stability, Impact resistance and Dampening, but much lower resistance to casting grade.

Applications:

Parts that are subject to shock and impact, Hammerheads, Gears, Wheels, etc.

The main benefits of using PA are

1. High Mechanical strength, Hardness, and Toughness
2. High mechanical dampening properties
3. Good fatigue resistance
4. High wear resistance
5. Good sliding and emergency running properties
6. Good machining properties
7. Lower in weight, good vibration and noise absorption

HDPE Rod & Sheet, Welding Rod



HDPE (High-Density Polyethylene) is a thermoplastic polymer widely used in various applications, including welding rod and sheet forms. HDPE rods and sheets are used for joining HDPE components and for creating custom-shaped parts or structures.

HDPE Rods:

Purpose:

HDPE welding rods are used to fuse together HDPE sheets or other HDPE components during welding, creating a strong, homogenous joint.

Material:

These rods are typically made from the same HDPE material as the parts being joined, ensuring compatibility and a strong bond.

Applications:

They are used in a variety of applications, including water and wastewater management systems, chemical storage tanks, and various industrial components.

HDPE Sheets:

Purpose:

HDPE sheets are used to create various structures, parts, or liners, often serving as a base material for fabrication and welding.

Material:

They are available in different thicknesses and sizes, offering flexibility for various projects.

Applications:

They are used in a variety of industries, including construction, manufacturing, and environmental protection.

PP Rod & Sheet, Welding Rod



Polypropylene is a semi crystalline thermoplastic with high rigidity and good chemical resistance. A distinction is made between homopolymers (PP-H) and copolymer (PP-C), copolymers are tough but have less mechanical and chemical stability.

PP-H is subject to strong sliding abrasion and is thus not suitable for use in sliding applications.

PP-C has high impact strength, it's superior strength makes it lower susceptible to tension cracks. It is widely used for chemical, mechanical and electronic industry, (e.g., Tanks, Lab equipment, Etching equipment), and so on.

PP-GF is reinforced with glass fiber and has higher strength than common PP sheets.

Applications:

Pump parts, pipes, fittings, valve bodies, acid and alkali resistant containers, chemical storage tank and processing equipment, clicking boards in shoe industries and carry bag industries, etc.

The main properties of PP are

1. Low density compared to other materials
2. Minimum water absorption
3. Excellent chemical resistance
4. High corrosion resistance
5. Exemplary bending and fatigue property
6. Non-toxic
7. Physiologically safe

POM Delrin Rod & Sheet



POM also known as polyacetal is a highly crystalline thermoplastic with high level of stability and rigidity as well as good sliding properties and wear resistance, together with its other outstanding properties.

POM-C is well suited for sliding application with medium to high loads. This also applies to applications where high level of humidity or wetness are to be expected.

A distinction is made between copolymers (POM-C) and homopolymers (POM-H), homopolymers have a higher density, hardness and dimensional stability due to their higher degree and crystallinity, however copolymers have a higher impact resistance and greater abrasion resistance. Therefore, this material is the ideal substitute for copper, coated zinc, steel and other metallic materials.

Application: Gears, Bearing, impeller blades, spring elements, valves and valve bodies, pump components, precision parts, insulators, rollers and parts for sliding windows.

The main properties of POM are

1. High stability, rigidity and hardness
2. Load impact resistance even at low temperature
3. Low moisture absorption and no pores
4. Good grip resistance
5. High dimensional stability
6. Good electrical and dielectric properties
7. Suitable for food industries
8. High thermal and chemical resistance

PVC Rod & Sheet, Welding Rod



PVC-U (HardPVC) is an amorphous thermoplastic with no added plasticizer. It has high hardness and rigidity. According to DIN 16 927 the material is classified as normal shock resistant, however its toughness values border on being rated as highly shock resistant, which gives it a high degree of safety in regards to the design of components. PVC-U is a flame retardant material with an exceptional chemical resistance and also lower stress cracking. It shows high mechanical strength, tensile strength and works with a continuous operating temperature of -15°C to $+60^{\circ}\text{C}$. It can be easily glued and welded.

Color: Grey (RAL 7011)

Applications:

Pump parts, fittings, valve bodies, component parts in chemical plant construction, feed tables, machine and equipment coverings, gaskets, bearing cages, pipes liners, lamp boxes etc..

The main properties of PP are

1. Low density compared to other materials
2. Minimum water absorption
3. Excellent chemical resistance
4. High corrosion resistance
5. Exemplary bending and fatigue property
6. Non-toxic
7. Physiologically safe

Bakelite Hylam Rod and Sheet



Laminate manufactured from extra fine and super extra fine cotton mesh impregnated with phenolic resin binder, under pressure and heat. This kind of thermoset composite material has proved to be perfect for parts requiring outstanding mechanical strength and electrical properties for machinery, electrometer and electrical appliance. Mechanical grades of fabric reinforced phenolic rods and sheets are available in different grades like :

F1 Grade

F2 Grade

F3 Grade

F4 Grade

Applications:

Insulating parts for electric generators, electric motor and power distribution cabinet, transformer insulating oil, abrasion resistant washer, bearing housing, gear and trennion for electrical motor and electric generator.

The main properties of PET are

1. High stability, rigidity and hardness
2. Low moisture absorption
3. Very good creep resistance
4. Very little sliding friction and sliding abrasion
5. Resistance to weak acids and alkaline solutions
6. Physiologically safe
7. Resistance to hydrolysis (up to +70°C)

UHMW-PE Rod and Sheet



Polyethylene is a semi-crystalline thermoplastic with high toughness and chemical resistance. Polyethylene differs in regards to their molecular weight, which determines the respective physical properties of each grade.

HDPE (PE-300)- also known as high density polyethylene, has a molecular mass of approximately 200,000 g/mol.

Application:- Pump body, valve and medical equipment, Water conservancy facilities and water tank, parts for food manufacturing equipment.

HMWPE (PE-500) – also known as high molecular weight polyethylene, has a molecular mass of approximately 500,000 g/mol.

Application:- Cutting table surfaces, Agitator blades, Refrigeration room wall linings, Knife blocks.

The main properties of PE are

1. Lower density compared to other plastics (0.94gms/cm³)
2. High impact resistance even at low temperature
3. Minimum water absorption (<0.01%)
4. Good chemical resistance
5. High vibration absorption
6. Anti-adhesive and non-toxic

Peek Rod and Sheet



Polyether ether ketone also known as PEEK, is a semi crystalline thermoplastic with excellent mechanical and chemical resistance properties that are retained at high temperatures. The processing conditions used to mold peek can influence that crystallinity and hence the mechanical properties, peek can be used at very high temperature (about +260°C) and it shows an extraordinary mechanical strength, toughness, hardness, flexural strength and torsional strength.

PEEK exhibits excellent chemical resistance, very good dielectric properties upto +260°C and a very good resistance to all kinds of radiation.

Application:

Used to produce parts for demanding applications such as, bearing shells, piston rings, pump vanes, compressor plates, gears, seals, fittings, Valve seat rings, medical implants, plug connectors for the chromatography etc.

Properties of PEEK

1. Very high mechanical strength
2. Very high rigidity (also at low temperatures)
3. Very high thermal stability
4. Excellent creep resistance
5. Good dimensional stability
6. Relatively low notch impact strength.
7. Low resistance to acetone

PTFE Fiber Glass Coated Sheet & Tape



PTFE itself is a highly versatile product with well known remarkable properties and fiberglass is well known as an excellent material in terms of its high temperature resistance and dimension stability. Combination of these two materials gives one product practically unsurpassed utility and value with following properties.

Selected woven glass fabrics are coated with PTFE resin. It is available with a surface profile that ranges from super smooth with a high PTFE content to one that is textured. It can be produced with a controlled porosity or with special electrical characteristics. It is utilized in sheet form, in slitted rolls, fabricated pieces and as the base material for process conveyor belts.

The main benefits of PTFE :

1. High release from sticky materials. Non stick smooth surface
2. Operating temperature range 50 deg C to 260 deg C
3. High electrical insulative and dielectric properties
4. Dimensional stabilities under heat and pressure
5. Low electrical losses
6. Mildew and fungus resistance
7. Ultra – violet, infra-red, microwave, radio frequency resistant

PU Rod and Sheet



PU Rod and Sheet are cost effective and dependable Elastomers that combine the performance advantages of engineering plastics, metals and ceramics along with the resiliency and flexibility of rubber. These are internationally popular for their high load bearing capacity, high impact strength, high abrasion resistance, high resilience and excellent resistance to oil and grease. The applications of polyurethanes include where the actions of sliding, bearing, stripping, forming, damping, cushioning, resting or rolling are involved.

- *A very high mechanical strength*
- *Good wear resistance*
- *High impact resistance*
- *Low heat generation*
- *Energy efficient*
- *Higher elasticity*
- *Resistance to high dynamic load*
- *Hydrolytic stability*
- *Higher open area availability with lower energy consumption*
- *Flexible with an excellent elastic memory*
- *Resistant to oil, corrosion, ozone, low temperature & radiation,*
- *Cancels noise during production,*
- *Smooth finish & precision*
- *Best for highly loaded dynamic positions.*

Rubber Sheet

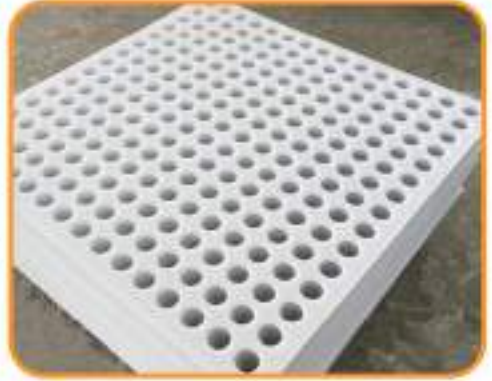


This material provides excellent flexibility across a broad temperature range (-60°C up to +200°C), as it is a synthetic elastomer manufactured from a perfect combination of silicon, carbon, hydrogen, and oxygen. This rubber offers high release properties and performs exceptionally well when exposed to ozone, weathering, and ultraviolet light. It has a good compression set, is highly resistant to moisture and is an excellent electrical insulator.

It is often manufactured into Silicone Rubber Gaskets for use in high temperature environments or is used to create Silicone Rubber Washers and Quad seals for electrical enclosures. The elastomer can also be used as a liner in prosthetics and is a popular option in the food, drink, and pharmaceutical industries due to its inertness and conformance with FDA food contact regulations.

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GALLERY



CERTIFICATE

Certificate No: GIQAC0525126



This Certificate is granted to the organization



U S ANGEL PLASTIC TRADING L.L.C.

Ajman, United Arab Emirates

Has been assessed and found to be in accordance with the standard requirements,

ISO 9001: 2015

Quality Management System

For the full scope of certification

All Kind of Engineering Plastic Products, Nylon PA6, HDPE, PP, PVC, POM (Delrin), PTFE (Teflon), Bakelite Hylam, LDPE, PTFE Fabric Coated Glass Cloth & Tape, PEEK, UHMW-PE Sheet & Round Bar, Rubber & Polyurethane (PU) Products, All Kinds of Rubber Sheet, Silicon, Corrugated, Coin, Electrical, and Rubber Sheet.

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|-------------------------|----------------|
| Registration Date | : May 07, 2025 |
| Issue Date | : May 07, 2025 |
| 1st Surveillance Due on | : May 07, 2026 |
| 2nd Surveillance Due on | : May 07, 2027 |
| Certificate Expiry | : May 07, 2028 |


Chief Executive Officer





**PP, HDPE, NYLON PA6, POM(DELTRIN),
PEEK, UHMWPE, PTFE (TEFLON),
PVC, PVDF, ACRYLIC, PU AND
RUBBER PRODUCTS,**

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