

POLYPROPYLENE Product Information

As the name polypropylene implies, the monomer used for polymerisation does not consist of ethylene but propylene. In relation to polypropylene, the different molecular structure of polypropylene produces an even greater hardness and rigidity. The durability to impact, primarily at low temperatures is not as good as that of polyethylene. But the high resistance to chemicals, even solvents, is often decisive for the use of polypropylene as opposed to other materials. It must be noted that PP is sensitive to copper, manganese, cobalt and their alloys. These metals reduce the durability of all PP types, especially at high temperatures. For this reason, contact with them should be avoided.

Grades of Polypropylene

Polypropylene DWU

(Permanent heat stability - ultra)

Together with a low specific weight, this material is characterised by extreme rigidity and hardness, high surface lustre and high resistance to chemicals and high temperature. Due to its especially high stability to heat, continuous operating temperatures of up to 100°C are possible (boiling water). Although this material is not specifically stabilised in respect of UV-rays, a limited amount of protection is inherent so that where conditions are not extreme, outdoor use is possible. DWU has a grey colour. Special grades DWU-UV (with UV protection) and DWU SK (coated with stretch) are also available.

Applications

Due to its combination of properties, DWU is particularly suited to use in the chemical industry.

Chemical Plant construction

Installations and installation components such as wash towers, cooling plant, heat exchangers, reaction tanks, mixers, washing plants, reclaiming tanks, neutralisation tanks, water purifying plants, tank linings, ventilators, ventilator ducts, suction plants, plating baths, internal linings for polyester composite construction.

Laboratory Construction

Ventilator ducts, laboratory drains, ventilators, laboratory bench covering.

Polypropylene DWST

(Permanent heat stability)

This material is not so highly stabilised against heat as DWU, but in spite of this, it may be used for a reduced period of life in continuous operation at temperatures of up to 100°C. Contact with foodstuffs is permitted. Special grade DWST-UV (with UV protection) is available. The natural coloured type (milky-white to pale honey colour) has a low transparency, yet a liquid-level is still quite discernible from outside - a factor of considerable importance for a great range of processes in the chemical industry. Rigidity and hardness is considerable, and resistance to chemicals such as acids, alkalis and solvents very good. It is simple and safe to process. It may be mentioned that, with 0.905, it has the lowest specific weight of any thermoplastic of homogenous structure. The transparent type of material, along with several other coloured types, conforms to health requirements for plastic material.

Applications

Machine Building

Bearings and bushes, guards, idler rollers, punch plates for the leather and plastic industries.

Chemical Plant construction and Electro-plating industry

Valve bodies, taps, pump components, flanges, bearings and bushes, bolts, plating baths, bases for round and rectangular tanks, tank covers, bracing ribs.

Fabrication

Polypropylene can be easily fabricated using the following techniques:

- Machined - with wood or metal working tools
- Fusion & Butt Welded
- Vacuum Formed
- Ultrasonic Sealed
- Thermoformed.