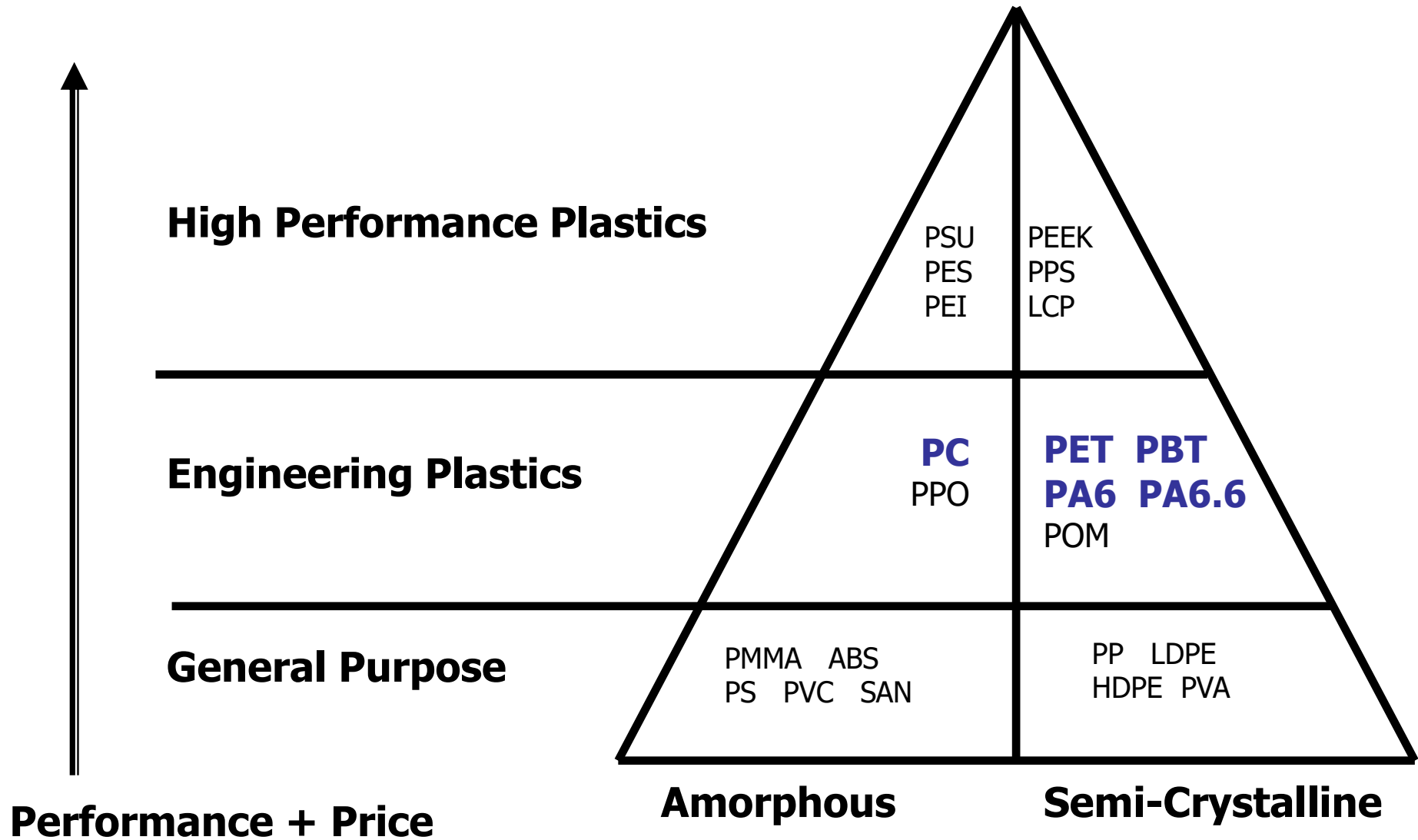




کیا پیلیمر طاہا

Plastics



PP Compounds - Properties

Key Properties

Melting Temperature	: 165 °C
Glass Transition Temperature	: - 20 °C
Density	: 0,90 g/cm ³
Max Service Temperature (for glass reinforced)	: 110 °C
Limiting Oxygen Index	: 18 %

Advantages

- ♦ **Wide property range**
- ♦ **Chemical resistance**
- ♦ **Electrical resistance**
- ♦ **High impact and elasticity**
- ♦ **Low T impact performance (copolymer)**
- ♦ **Cost/Performance ratio**
- ♦ **Low density**
- ♦ **Low moisture pick-up**
- ♦ **No need for pre-drying**

Disadvantages

- ♦ **Thermal resistance**
- ♦ **UV resistance**
- ♦ **Low T impact performance (homopolymer)**

PP Compounds - Applications

Automotive

- ♦ Battery case and base
- ♦ Cowl grille
- ♦ Bumper
- ♦ Mirror housing
- ♦ Dash panel
- ♦ Various interior trims

E & E

- ♦ Plug housing
- ♦ Socket housing
- ♦ Cable duct
- ♦ Electrical motor housing

Home Appliances

- ♦ Radiator fan housing
- ♦ Radiator panel
- ♦ Detergent case
- ♦ Laundry case
- ♦ Kettle etc. housing
- ♦ Pump housing
- ♦ Iron housing
- ♦ Various handles

Other

- ♦ Garden furniture
- ♦ Office chair arm rest
- ♦ Window handles
- ♦ Stadium seats
- ♦ Pool grilles
- ♦ Textile bobbins

PA Compounds - Properties

Key Properties

Melting Temperature	: 225 °C for PA 6 and 265 °C for PA 6.6
Glass Transition Temperature	: 50 °C for PA 6 and 60 °C for PA 6.6
Density	: 1,14 g/cm ³
Max Service Temperature (for glass reinforced)	: 130 °C for PA 6 and 140 °C for PA 6.6
Limiting Oxygen Index	: 23 %

Advantages

- ♦ **Chemical resistance**
- ♦ **Low surface friction**
- ♦ **Easy processing**
- ♦ **Electrical resistance**
- ♦ **Easy to color**
- ♦ **Stiffness**
- ♦ **Abrasion resistance**
- ♦ **Flame retardancy**
- ♦ **Toughness**

Disadvantages

- ♦ **Hygroscopic (moisture effects properties +/-)**
- ♦ **Low T impact performance**
- ♦ **Resistance to strong acids**

PA Compounds - Applications

Automotive

- ♦ Connector
- ♦ Fan and fan cover
- ♦ Radiator tank and units
- ♦ Motor cover
- ♦ Manifold
- ♦ Door handle
- ♦ Pedal
- ♦ Wheel cover
- ♦ Mirror

E & E

- ♦ Fuse box
- ♦ Connector
- ♦ Switch and relay
- ♦ Motor bobbin bracket
- ♦ Cable tie

Other

- ♦ Radiator fan housing
- ♦ Office furniture
- ♦ Sport and leisure
- ♦ Gear
- ♦ Zipper
- ♦ Wheel
- ♦ Garden tool
- ♦ Household tool
- ♦ Thermal break for windows
- ♦ Railway insulator

PBT Compounds - Properties

Key Properties

Melting Temperature	: 225 °C
Glass Transition Temperature	: 50 °C
Density	: 1,32 g/cm ³
Max Service Temperature (for glass reinforced)	: 130
Limiting Oxygen Index	: 21 %

Advantages

- ♦ **Chemical resistance**
- ♦ **Low surface friction**
- ♦ **Dimensional stability**
- ♦ **Electrical resistance**
- ♦ **Stiffness**
- ♦ **Low moisture pickup**
- ♦ **Very good flow**
- ♦ **Long term thermal resistance**
- ♦ **Flame retardancy**
- ♦ **Gloss**

Disadvantages

- ♦ **Ductility**
- ♦ **Resistance to hot water (>70°C)**
- ♦ **Resistance to strong acids**
- ♦ **Narrow processing range**
- ♦ **Coloring**

PBT Compounds - Applications

Automotive

- ♦ Head lamp housing
- ♦ Mirror
- ♦ Window wiper arm
- ♦ Door handle
- ♦ Carburetor components
- ♦ Distributer caps
- ♦ Cable connector

Other

- ♦ Radiator fan housing
- ♦ Iron base
- ♦ Oven handle and knob
- ♦ Oven front plate
- ♦ Deep fryer housing
- ♦ Various housings

E & E

- ♦ Circuit breaker
- ♦ Various connectors
- ♦ Relay
- ♦ Light sockets
- ♦ Heat lamp housing
- ♦ Lead displays
- ♦ Jag plug and sockets

PET Compounds - Properties

Key Properties

Melting Temperature	: 260 °C
Glass Transition Temperature	: 70 °C
Density	: 1,35 g/cm ³
Max Service Temperature (for glass reinforced)	: 140
Limiting Oxygen Index	: 21 %

Advantages

- ♦ **Chemical resistance**
- ♦ **Low surface friction**
- ♦ **Dimensional stability**
- ♦ **Electrical resistance**
- ♦ **Stiffness**
- ♦ **Low moisture pickup**
- ♦ **Very good flow**
- ♦ **Long term thermal resistance**
- ♦ **Flame retardancy**
- ♦ **Gloss**

Disadvantages

- ♦ **Ductility**
- ♦ **Resistance to hot water (>70°C)**
- ♦ **Resistance to strong acids**
- ♦ **Narrow processing range**
- ♦ **Coloring**
- ♦ **Low crystallization**

PET Compounds - Applications

Automotive

- ♦ Head lamp retainer
- ♦ Window wiper arm
- ♦ Wiper arm gear housing
- ♦ Window surround
- ♦ Heating system cover
- ♦ Engine cover
- ♦ Grill opening retainer

Other

- ♦ Iron base
- ♦ Oven handle and knob
- ♦ Oven front plate
- ♦ Chair arm
- ♦ Various housings

E & E

- ♦ Circuit breaker
- ♦ Various connectors
- ♦ Relay
- ♦ Light sockets
- ♦ Coil formers, bobbins
- ♦ Motor insulation parts

POM Compounds - Properties

Key Properties

Melting Temperature	: 170 °C
Glass Transition Temperature	: ---
Density	: 1,41 g/cm ³
Max Service Temperature (for glass reinforced)	: 110
Limiting Oxygen Index	: 15 %

Advantages

- ♦ Chemical resistance
- ♦ Low T toughness
- ♦ Stiffness
- ♦ Gloss
- ♦ Low surface friction
- ♦ Dimensional stability
- ♦ Abrasion resistance

Disadvantages

- ♦ Thermal stability
- ♦ Flame retardancy
- ♦ Adhesion
- ♦ Noise

POM Compounds - Applications

Automotive

- ♦ Fuel pump housing
- ♦ Seat belt mechanism
- ♦ Lock mechanisms
- ♦ Loud speakers
- ♦ Sun roofs
- ♦ Tank caps

E & E

- ♦ Telephone buttons
- ♦ Coil formers
- ♦ Switches

Other

- ♦ Gears
- ♦ Pulleys
- ♦ Bearings
- ♦ Gearwheels
- ♦ Snow board and ski bindings
- ♦ Some toy parts
- ♦ Zippers
- ♦ Water pump housings
- ♦ Conveyor belt systems

PPO Compounds - Properties

Key Properties

Melting Temperature	: --- °C
Glass Transition Temperature	: 100 - 150 °C
Density	: 1,06 g/cm ³
Max Service Temperature (for glass reinforced)	: 110
Limiting Oxygen Index	: 29 %

Advantages

- ♦ **Impact resistance**
- ♦ **Wide mechanical property range**
- ♦ **Electrical resistance**
- ♦ **Gloss**
- ♦ **Flame retardancy**
- ♦ **Low moisture pickup**
- ♦ **Dimensional stability**

Disadvantages

- ♦ **Chemical resistance**

PPO Compounds - Applications

Automotive

- ♦ HVAC
- ♦ Instrument panel
- ♦ Cowl vent grille

Other

- ♦ Parts for vacuum cleaners
- ♦ Pump housings
- ♦ Washing machine dryer parts

E & E and Business Machines

- ♦ Connectors
- ♦ Control panels
- ♦ Back plates for TV, computer
- ♦ Components for TV, computer, radio, printer
- ♦ Chasis for TV, computer, printer etc.

ABS Compounds - Properties

Key Properties

Melting Temperature	: --- °C
Glass Transition Temperature	: 100 - 120°C
Density	: 1,05 g/cm ³
Max Service Temperature (for glass reinforced)	: 100
Limiting Oxygen Index	: 19 %

Advantages

- ♦ **Wide mechanical property range**
- ♦ **Wide mechanical property range**
- ♦ **Easy processing**
- ♦ **Impact resistance**
- ♦ **Dimensional stability**
- ♦ **Gloss**

Disadvantages

- ♦ **Service temperature**
- ♦ **UV resistance**
- ♦ **Crack under load**

ABS Compounds - Applications

Automotive

- ♦ Mirror
- ♦ Light housing
- ♦ Instrument panel
- ♦ Dashboard components
- ♦ Seat belt components
- ♦ Spoilers
- ♦ Wheel covers

E & E and Business Machines

- ♦ Plugs, switches, sockets
- ♦ Front plates
- ♦ Telephones
- ♦ Computer, printer housings
- ♦ Components for computers, printers etc.

Other

- ♦ Parts for vacuum cleaners
- ♦ Toys
- ♦ Luggage
- ♦ Sports and leisure
- ♦ Refrigerator parts

PC Compounds - Properties

Key Properties

Melting Temperature	: --- °C
Glass Transition Temperature	: 145°C
Density	: 1,20 g/cm ³
Max Service Temperature (for glass reinforced)	: 130
Limiting Oxygen Index	: 26 %

Advantages

- ♦ **Wide mechanical property range**
- ♦ **Wide mechanical property range**
- ♦ **Flame retardancy**
- ♦ **Good surface finish**
- ♦ **Impact resistance**
- ♦ **Dimensional stability**
- ♦ **Glass clear transparency**

Disadvantages

- ♦ **Crack under load**
- ♦ **Chemical resistance**

PC Compounds - Applications

E & E and Business Machines

- ♦ Street lamps
- ♦ Traffic lights
- ♦ Spot lights
- ♦ Lamp holders
- ♦ Automotive lighting
- ♦ Plugs, switches, sockets
- ♦ Relays
- ♦ Connectors
- ♦ Components for computers, printers etc.

Home Appliances

- ♦ Transparent covers and parts
- ♦ Refrigerator shelf
- ♦ Oven control panels

Other

- ♦ Safety goggles
- ♦ Lenses
- ♦ Optical discs
- ♦ Medical equipments
- ♦ Windows
- ♦ Power tools

Comparison of Properties

