

Technical Terms

Coefficient of Friction	Resistance between two surfaces to the force that causes sliding
Coefficient of Linear Thermal Expansion	Amount a material expands or contracts as a result of a change in temperature
Compressive Strength	Maximum compressive load on a material before material change
Creep	Amount that a material squeezes thinner as a result of being under a load for a long period of time
Deflection Temperature	Temperature at which material bends a given amount when under a specified load
Dielectric Strength	Number of volts per millimetre thickness of material required to cause some electricity to flow through the material
Dielectric Constant	Ability of material to store an electrical charge
Dimensional Stability	Change of height, length and shape in a material due to changes in temperature, water absorption and pressure
Dynamic Mechanical Analysis (DMA)	Mechanical properties of material as a function of temperature
Elongation	Amount of stretch before material damage
Fatigue Strength	Resistance to a cyclical load
Flexural Strength	Maximum strength of a material when bent
Hardness	Ability of a material to resist indentation. Usually measured with a small standard size point or ball
Heat Conductivity	Ability of material to transmit heat
Infrared Spectroscopy	Unique "fingerprint" of a chemical
Izod Impact	Resistance of a material to being broken by a swinging pendulum. Usually a notch is machined into the sample so that a clean break can take place at the notch
Melt Point	Temperature at which crystalline phase melts from solid to liquid
Modulus of Elasticity	Ratio of the force applied to the deformation that results
Shear Strength	Strength of a material when punched or cut (See compressive Strength)
Specific Gravity	The ratio of the mass of a volume of the material to the same volume of water
Surface Resistivity	Ability of material to prevent the flow of electricity across its surface
Tensile Strength	Maximum pulling force (tensile force) on a material when pulled apart. It is a ration of the pulling force divided by the cross section of the material
Tensile Impact	Energy required to break a material by pulling it apart in a quick stretch
Tg	The glass transition point is the temperature at which a material changes from solid to rubbery / viscous

Simple methods for identification of virgin plastics

PA POM PET PE PP PC PMMA PVC PEEK PPS PVDF PTFE PSU PEI PAI PI

Behaviour in water

Floats (density < 1 g/cm ³)				■	■												
Sinks (density > 1 g/cm ³)	■	■	■			■	■	■	■	■	■	■	■	■	■	■	■

In water saturated with kitchen salt

Floats (density < 1,22 g/cm ³)	■			■	■	■	■										
Sinks (density > 1,22 g/cm ³)		■	■					■	■	■	■	■	■	■	■	■	■

Burning behaviour

Burns very easily, keeps on burning when removed from the flame		■		■	■		■										
Burns in flame and slowly extinguishes when removed	■		■										■				
Difficult to ignite, extinguishes when removed from flame						■		■	■	■	■			■	■		
Does not burn, just glows												■					■

Colour of flame

Bright yellow			■			■					■		■	■			
Blue with yellow tip				■	■												
Bluish with yellow edge, fibre forming	■																
Clear smokeless blue, almost invisible		■															
Yellow, edge of flame is slightly green								■									
No flame, just glows												■					■

Formation of soot

Burns sooty			■			■		■									
No or almost no formation of soot	■	■		■	■		■										

Odor of vapor / smoke

Very irritating formaldehyde		■															
Irritating (HF)											■	■					
Sweetish irritating			■														
Paraffin-like odor (candle wax)				■													
Slightly perfumed candle-like odor					■												
Sweetish fruity							■										
Burnt horn	■																
Typical sulphur-like (rotten eggs)										■							