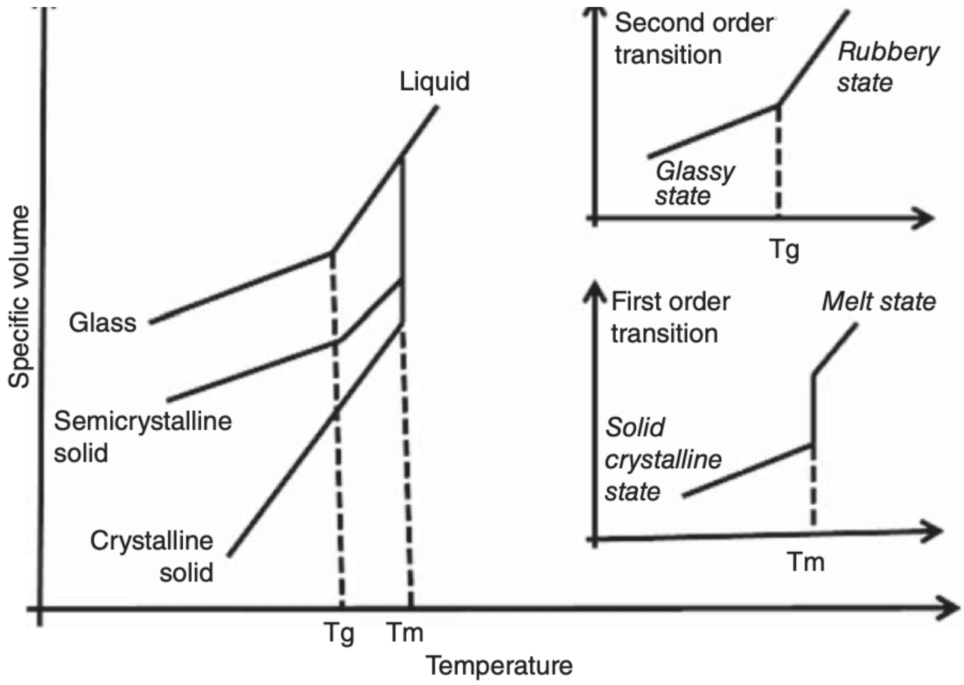

Figure A1.4. Melting point and glass transition temperature of polymer.

TABLE A1.1. Glass Transition Temperatures of Some Polymers

Polymer	T_g (°C)
Polytetrafluoroethylene	−97
Polypropylene (isotactic)	+100
Polystyrene	+100
Poly(methylmethacrylate) (atactic)	+105
Nylon 6,6	+57
Polyethylene (LDPE)	−120
Polyethylene (HDPE)	−90
Polypropylene (atactic)	−18
Polycarbonate	+150
Poly(vinyl acetate) (PVAc)	+28
Polyester(PET)	+69
Poly(vinyl alcohol) (PVA)	+85
Poly(vinyl chloride) (PVC)	+87

chains can move easily, then the glassy state can be converted to the rubbery state at lower temperature, that is, the glass transition temperature is lower. If somehow the mobility of the chains is restricted, then the glassy state is more stable, and it is difficult to break the restriction causing the immobility of the polymer chains at the lower temperature, because more energy is required to make the chains free. Thus, in this case, the glass transition temperature is raised.

10.1002/978