Acrylics class Methacrylics class

Polyacrylonitrile PMMA

$$\begin{array}{c} --\operatorname{CH}_2 - \operatorname{C} = \operatorname{CH} - \operatorname{CH}_2 \\ \mid \\ \operatorname{R} \end{array}$$

Diene class

Polybutadiene Polyisoprene Polychloroprene

Vinylidenes class

Polytetrafluoroethylene

Class	Selected polymer	Structure
Polyoxides (ethers)	Polydimethyl phenylene oxide (PPO)	CH ₃
	Polyoximethylene (POM)	$_{2}^{\text{CH}_{3}}$ — 0 – $_{2}$ –
Polyesters	Polybutylene terephthalate (PBT)	$-0 - (GH_2)_4 - 0 - C \xrightarrow{\text{II}} C \xrightarrow{\text{II}} C = C$
	Polyethylene terephthalate (PET)	$-0 - (GH_2)_2 - 0 - C $
Polycarbonates	Polyisopropylidene diphenylene carbonate (PC)	$-0 \longrightarrow \begin{array}{c} CH_3 \\ CH_3 \\ CH_3 \end{array}$
Polyamides	Polyhexamethylene adipamide (PA 66)	$ \begin{array}{c} 0 & O \\ II & \\ - NH - (CH_2)_6 - NH - C - (CH_2)_4 - C - \\ \end{array} $
Polysulfones	Polyether sulfone	$- \circ \xrightarrow{\text{CH}_3} \circ \xrightarrow{\text{CH}_3} \circ \circ \xrightarrow{\text{CH}_3} \circ \circ$
	Polyphenylene sulfide	$\begin{array}{cccccccccccccccccccccccccccccccccccc$
Polyimides	Polyamide imide	$-N \longrightarrow 0$ 0 0 0 0 0 0 0 0 0
Polyketones	Polyether etherketone (PEEK)	$- \left\langle \begin{array}{c} 0 \\ 0 \\ 0 \end{array} \right\rangle = \left\langle \begin{array}{c} 0 \\ 0 \\ 0 \end{array} \right\rangle = \left\langle \begin{array}{c} 0 \\ 0 \\ 0 \end{array} \right\rangle$

Polymer	T_m (°C)	T _g (°C)
PVC	_	80
a-PS	_	100
PMMA	_	105
PPO	_	210
HDPE	140	-110
LDPE	110	-110
i-PP	165	-10
POM	180	-85
PBT	240	15
PA 66	265	20 - 70
PA 6	225	20 - 70
PET	265	70
PTFE	330	-150
PC	_	150
polyphenylene sufide	285	85
PEEK	330	140
polyether sulfone	_	190
amide-imide	_	290
polyimide	_	400
ABS (SAN/PAN)	-70	110
COC	_	70 - 180

$$\chi = 1 - e^{-kt^n} \tag{1}$$

$$k = \frac{v^3 N \pi}{3} \tag{2}$$

$$M_n = \frac{\sum_{x} N_x M_x}{\sum_{x} N_x} = \frac{\sum_{x} w_x}{\sum_{x} w_x / M_x}$$
 (3)

$$M_{w} = \frac{\sum_{x} N_{x} M_{x}^{2}}{\sum_{x} N_{x} M_{x}} = \frac{\sum_{x} w_{x} M_{x}}{\sum_{x} w_{x}}$$
(4)

$$M_z = \frac{\sum_{x} N_x M_x^3}{\sum_{x} N_x M_x^2} = \frac{\sum_{x} w_x M_x^2}{\sum_{x} w_x M_x}$$
 (5)

$$M_{\nu} = \sqrt[a]{\frac{\sum_{x} N_{x} M_{x}^{1+a}}{\sum_{x} N_{x} M_{x}}}$$
 (6)

$$T_g = T_g^{\infty} - \frac{K}{M_n} \tag{7}$$