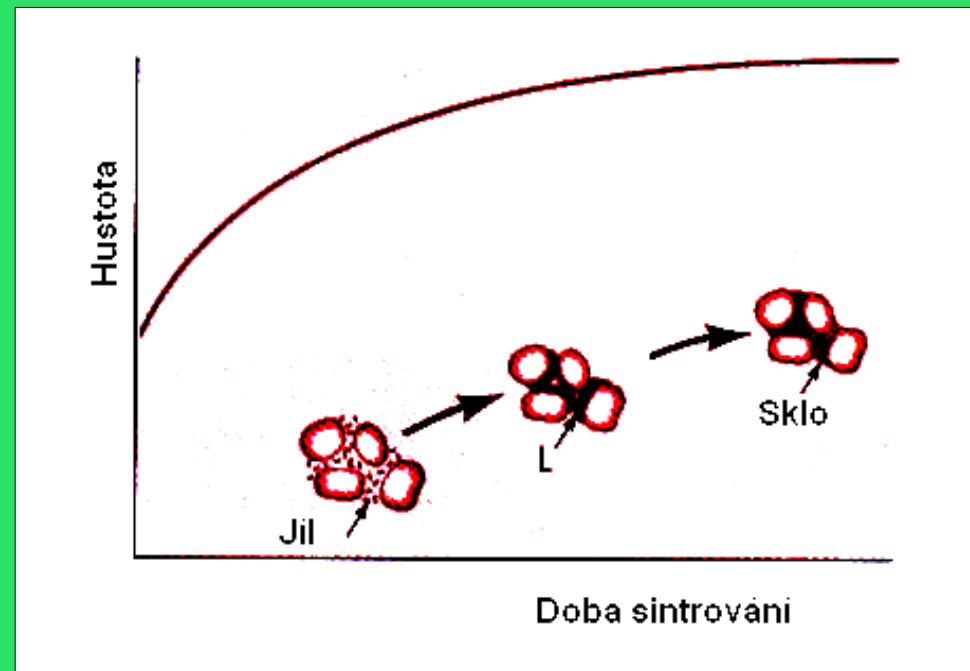
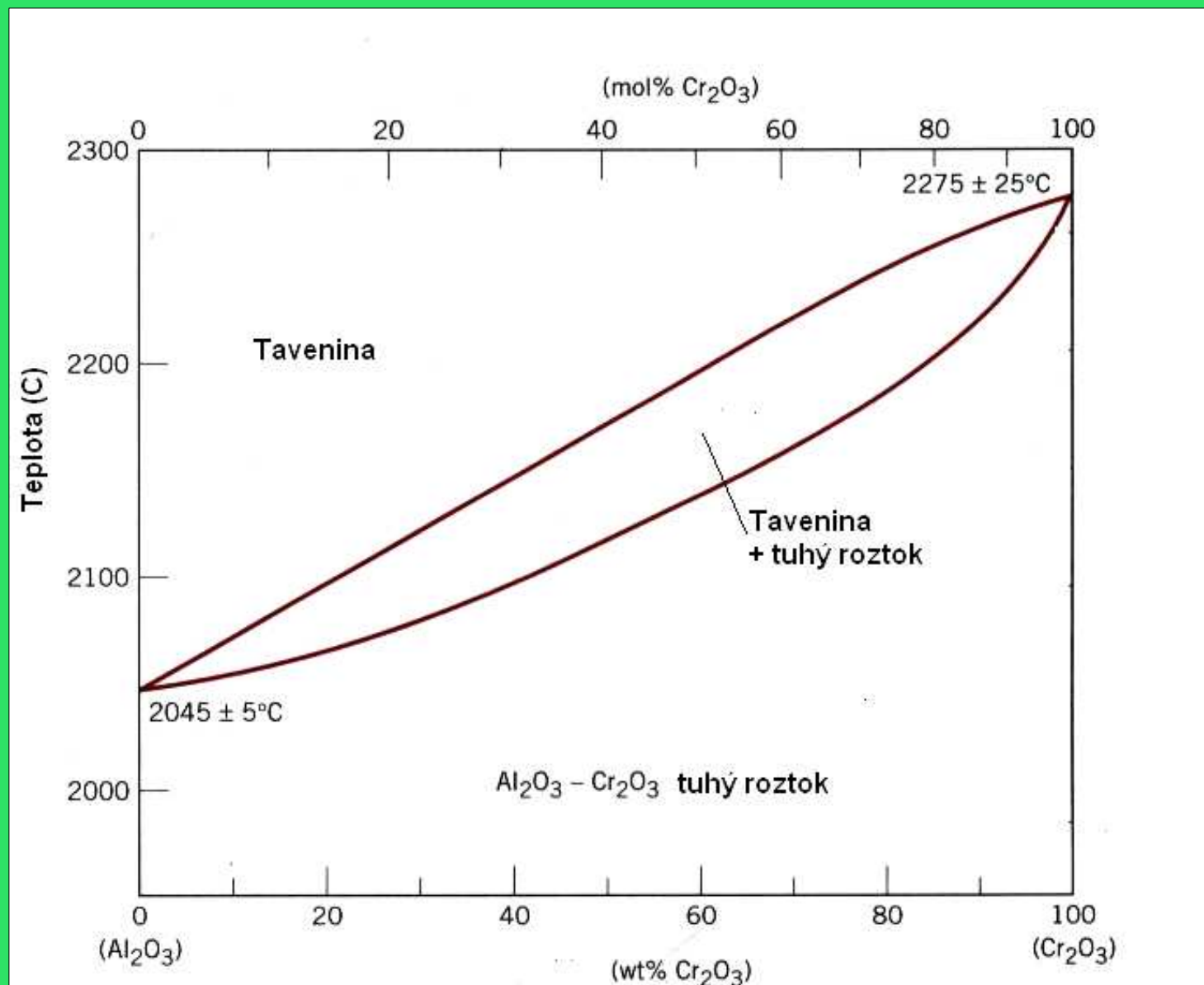


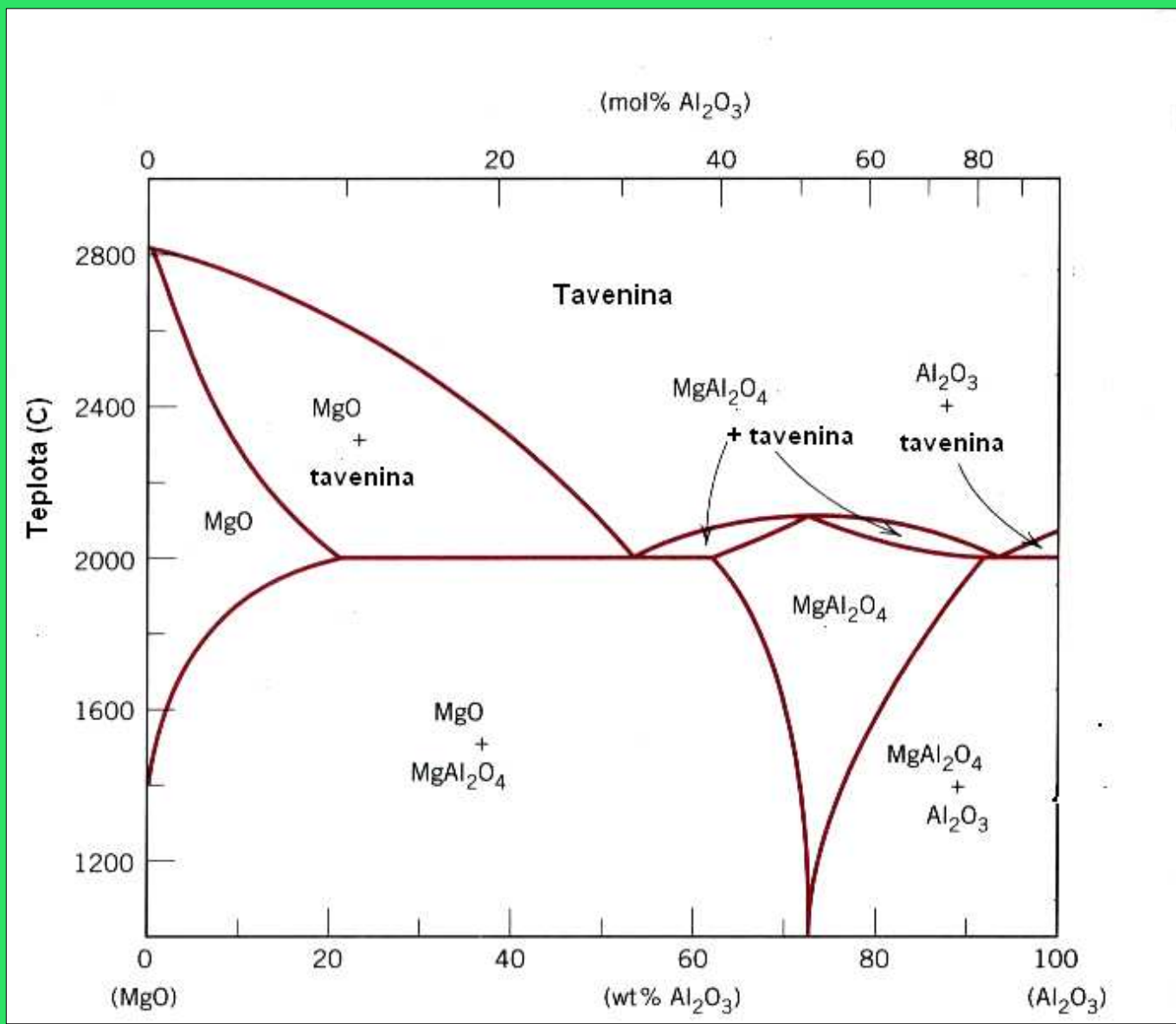
11. Keramika, kompozity, polymery.

11.1. Keramika

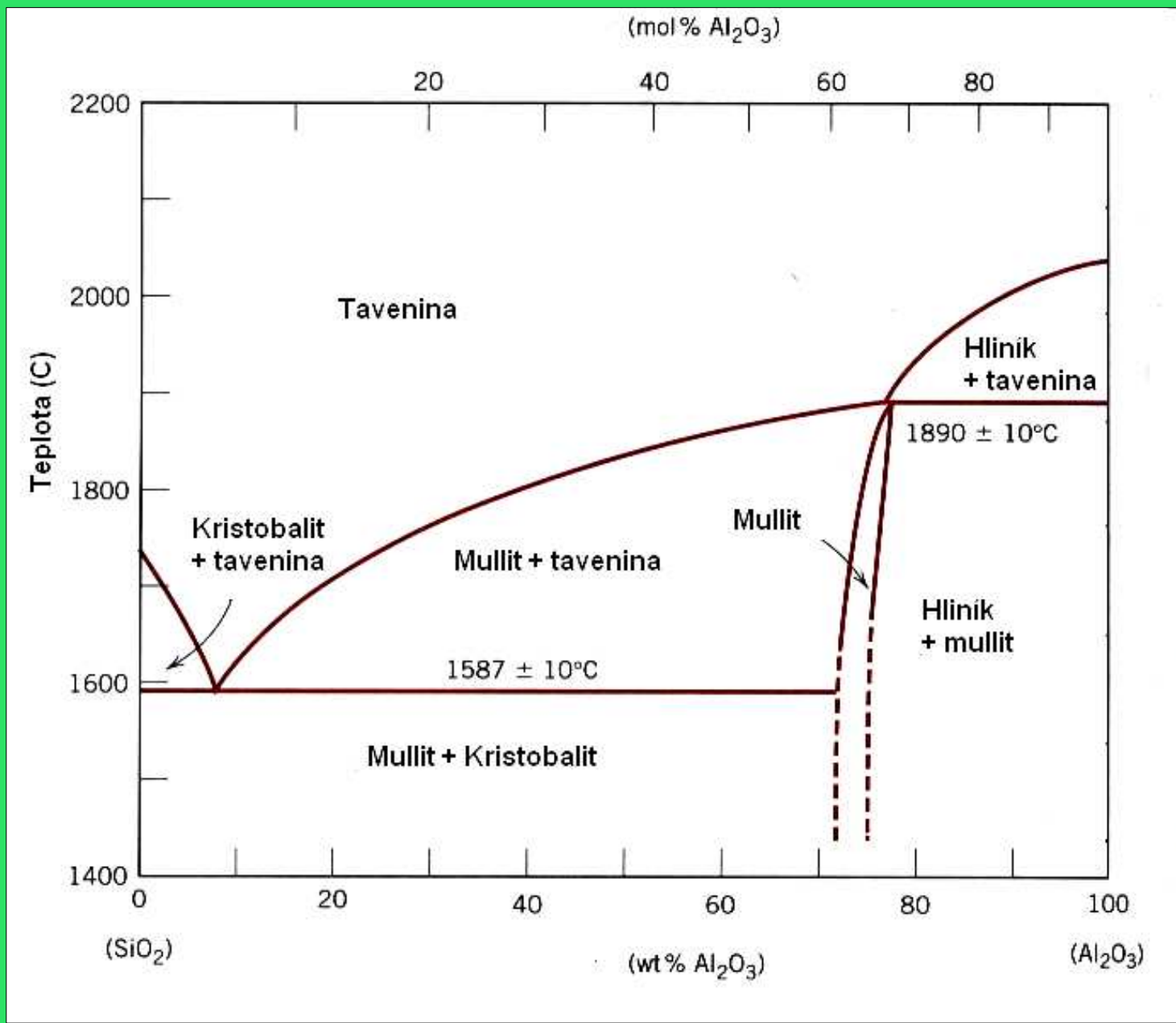




Rovnovážný diagram keramika $\text{Al}_2\text{O}_3 + \text{Cr}_2\text{O}_3$

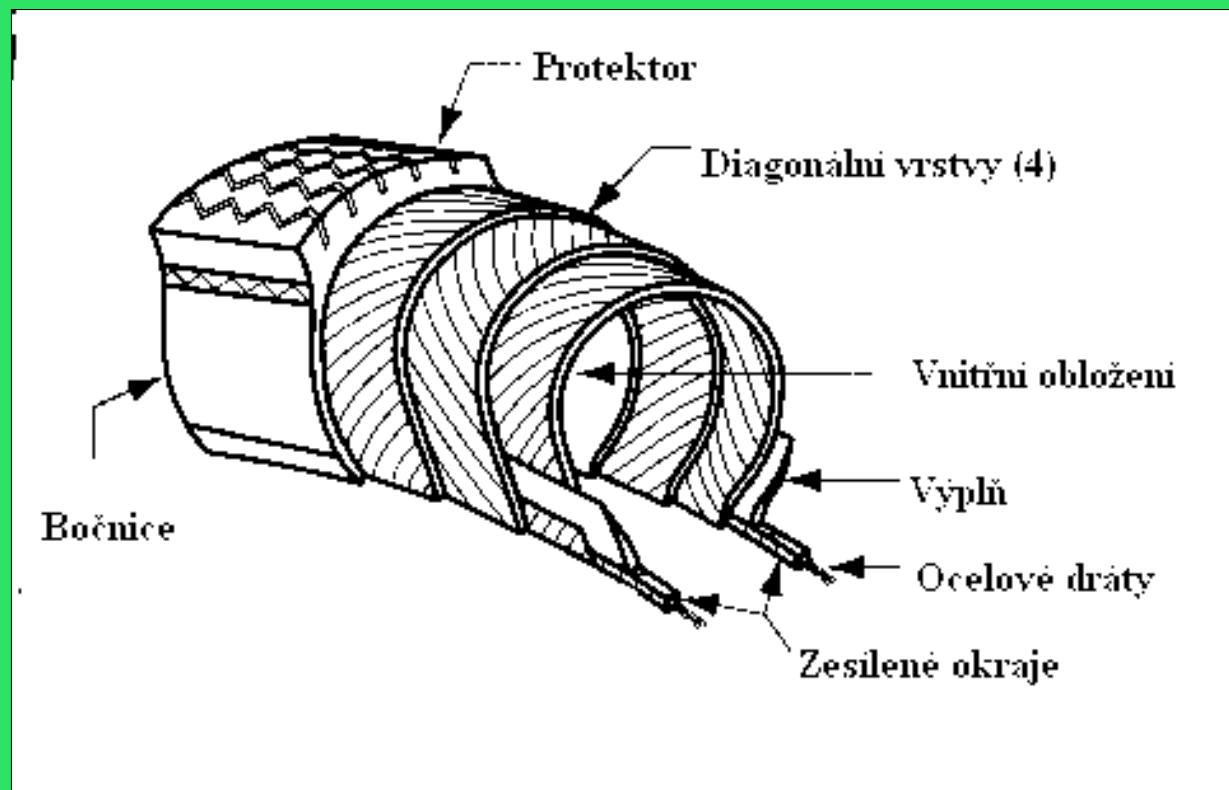


Rovnovážný diagram keramika MgO + Al₂O₃

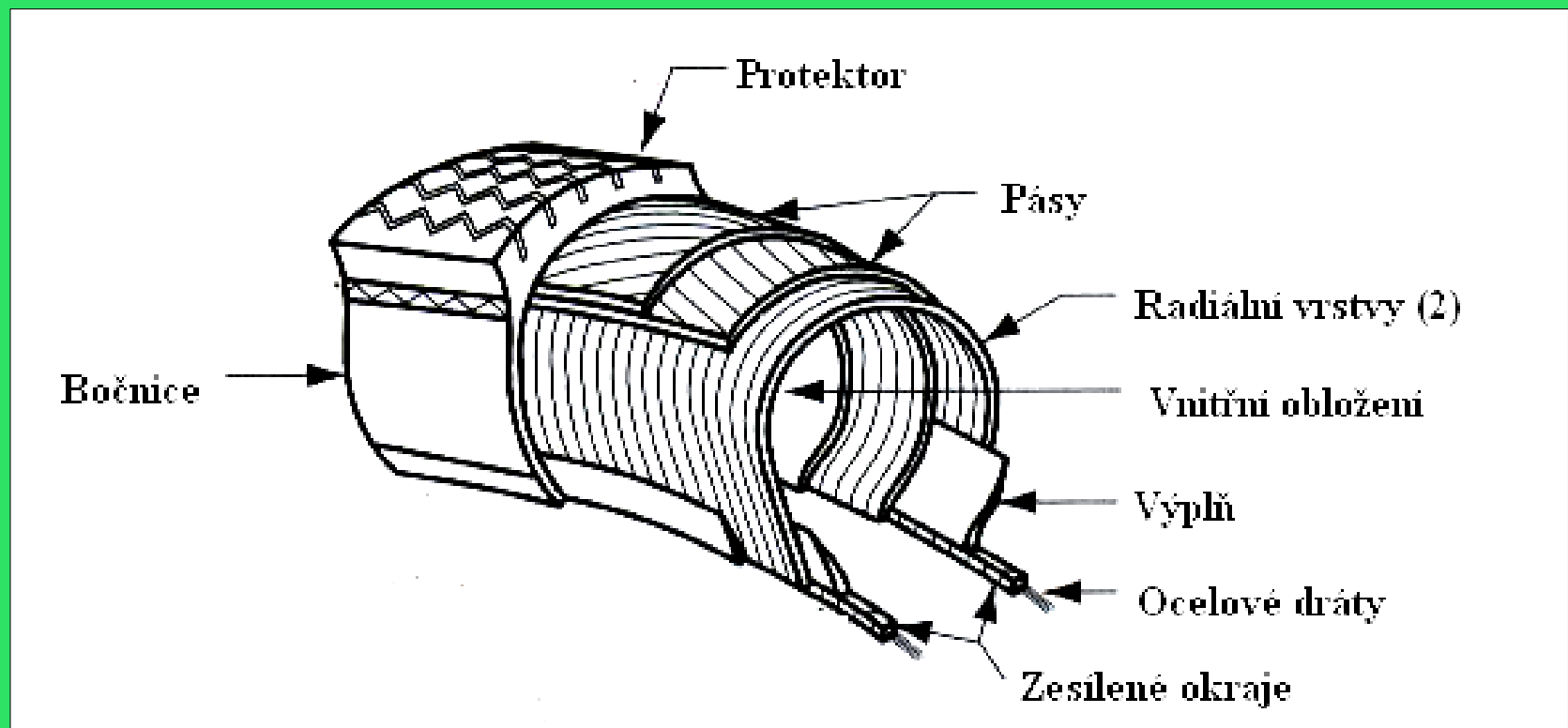


Rovnovážný diagram keramika $\text{SiO}_2 + \text{Al}_2\text{O}_3$

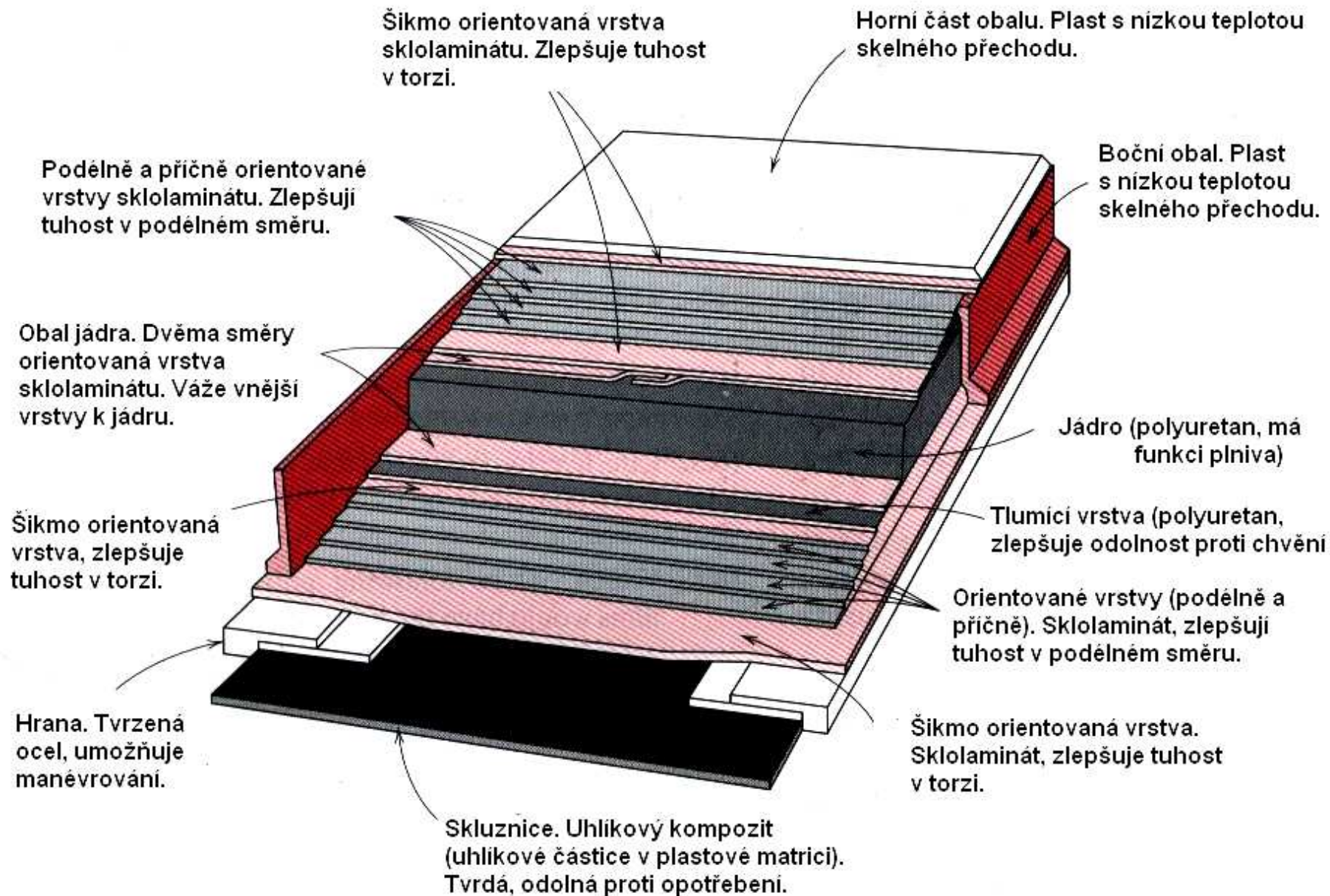
11.2. Kompozity



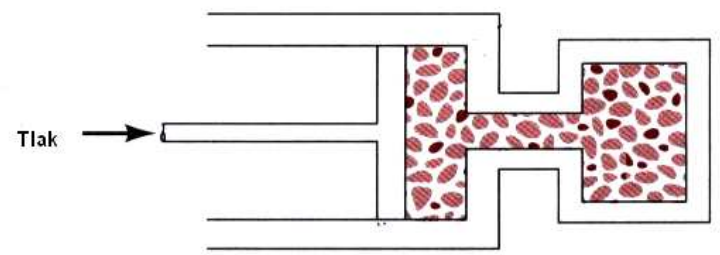
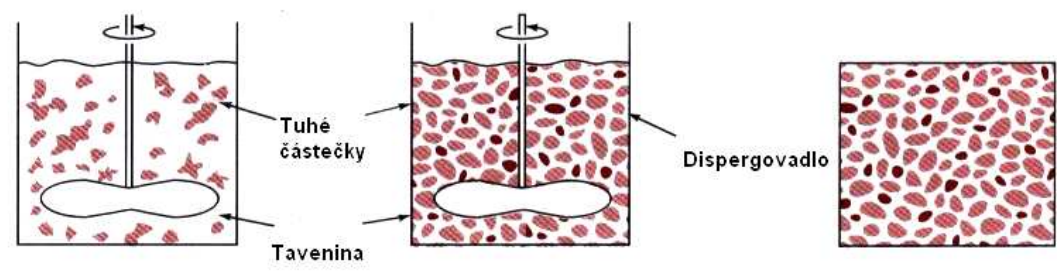
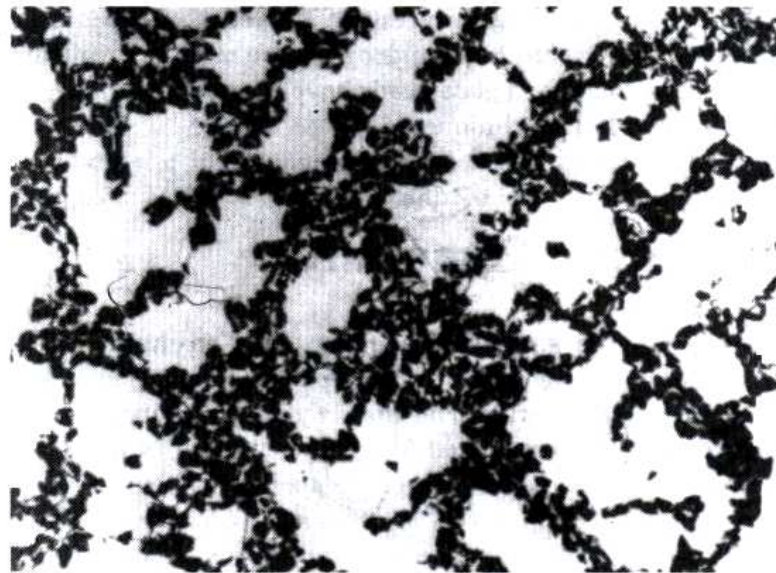
Diagonální pneumatika



Radiální pneumatika



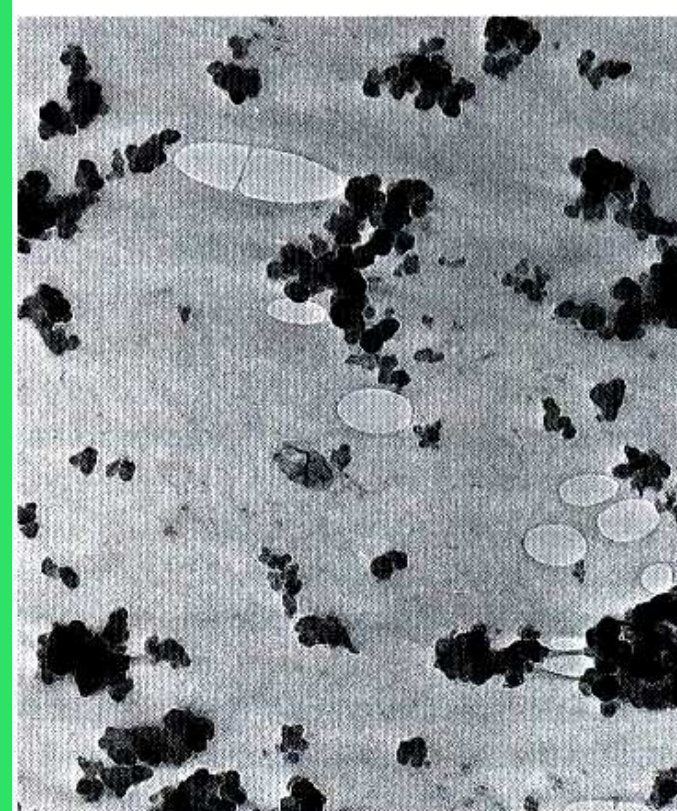
Moderní laminátové lyže



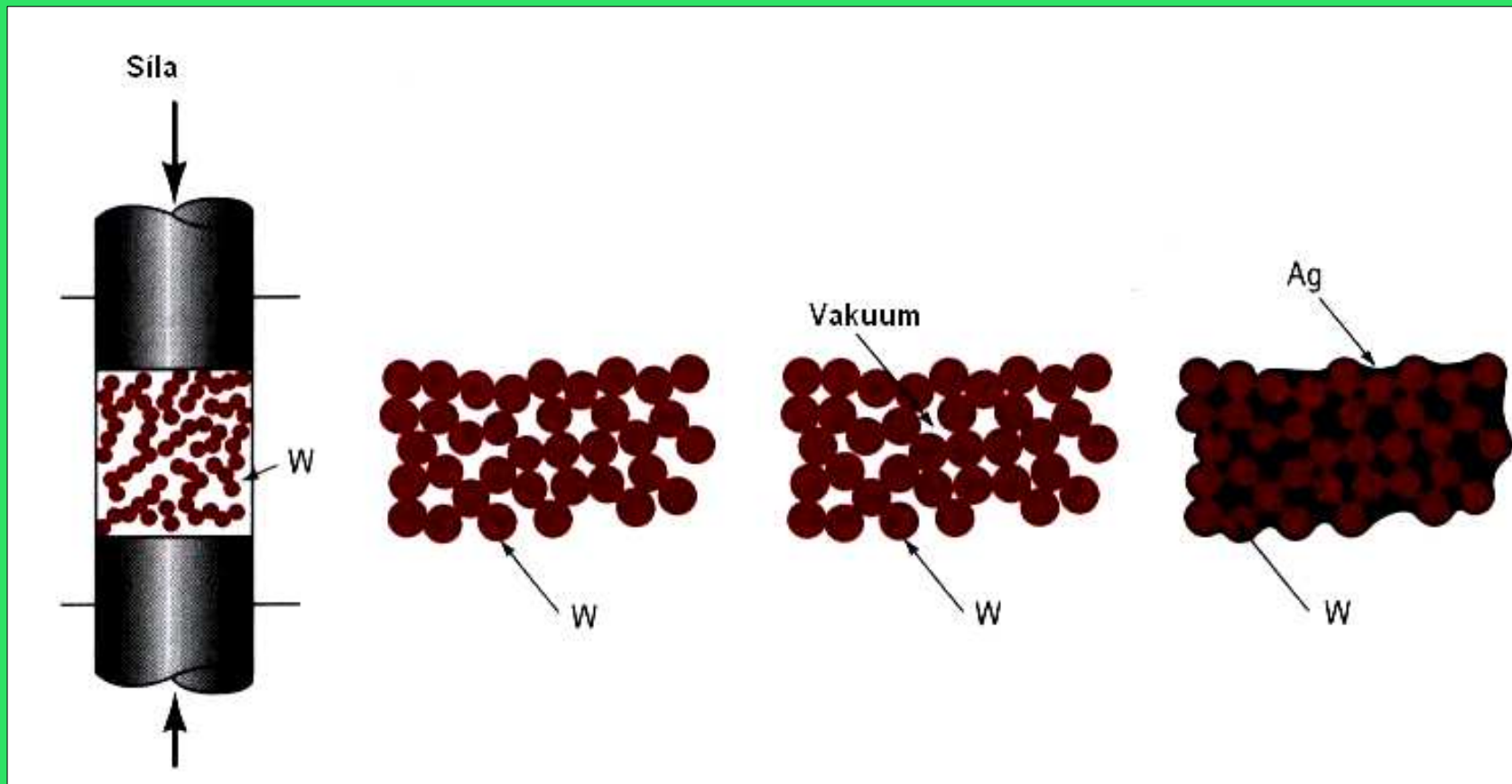
Kompozit, vyztužený částicemi



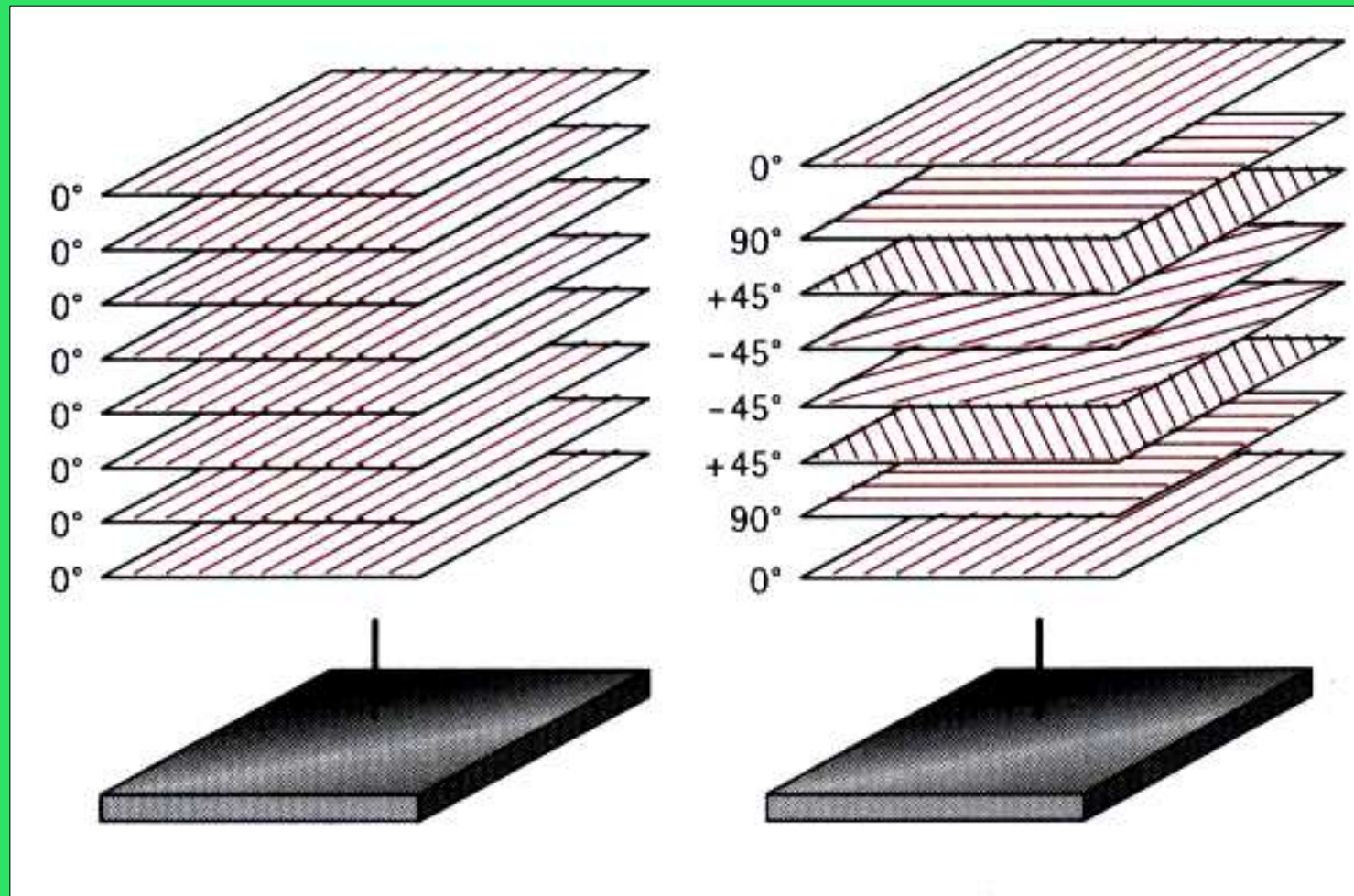
Beton



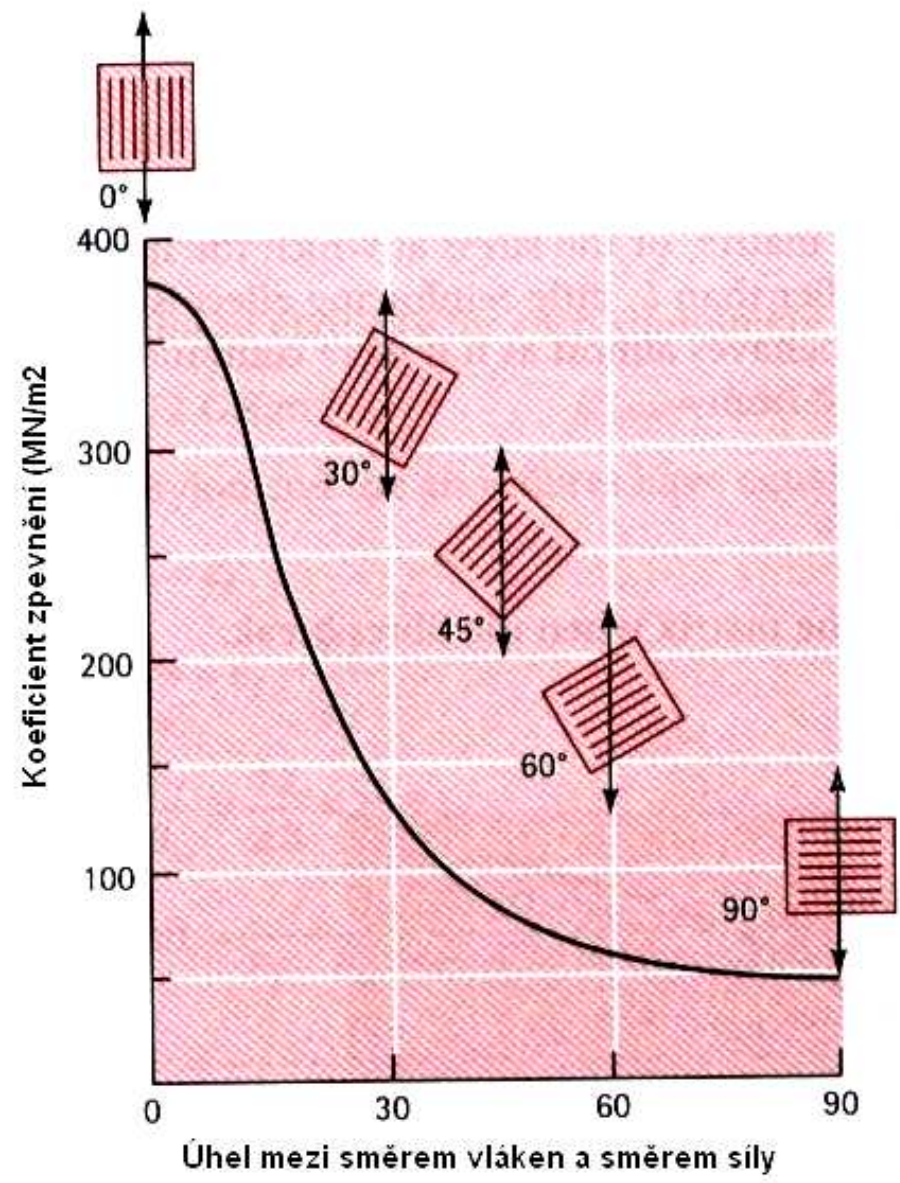
Pneumatika



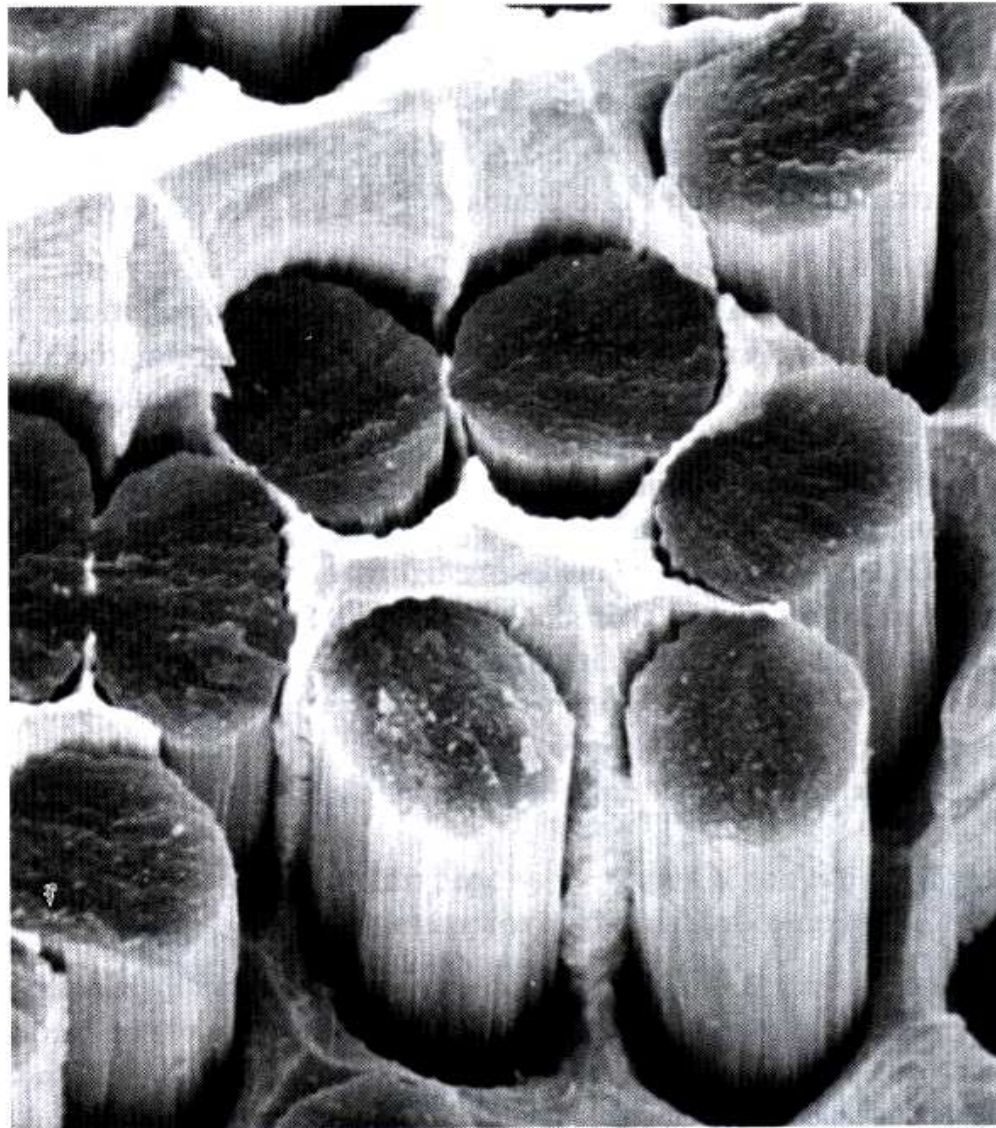
Elektricky vodivý vláknový kompozit



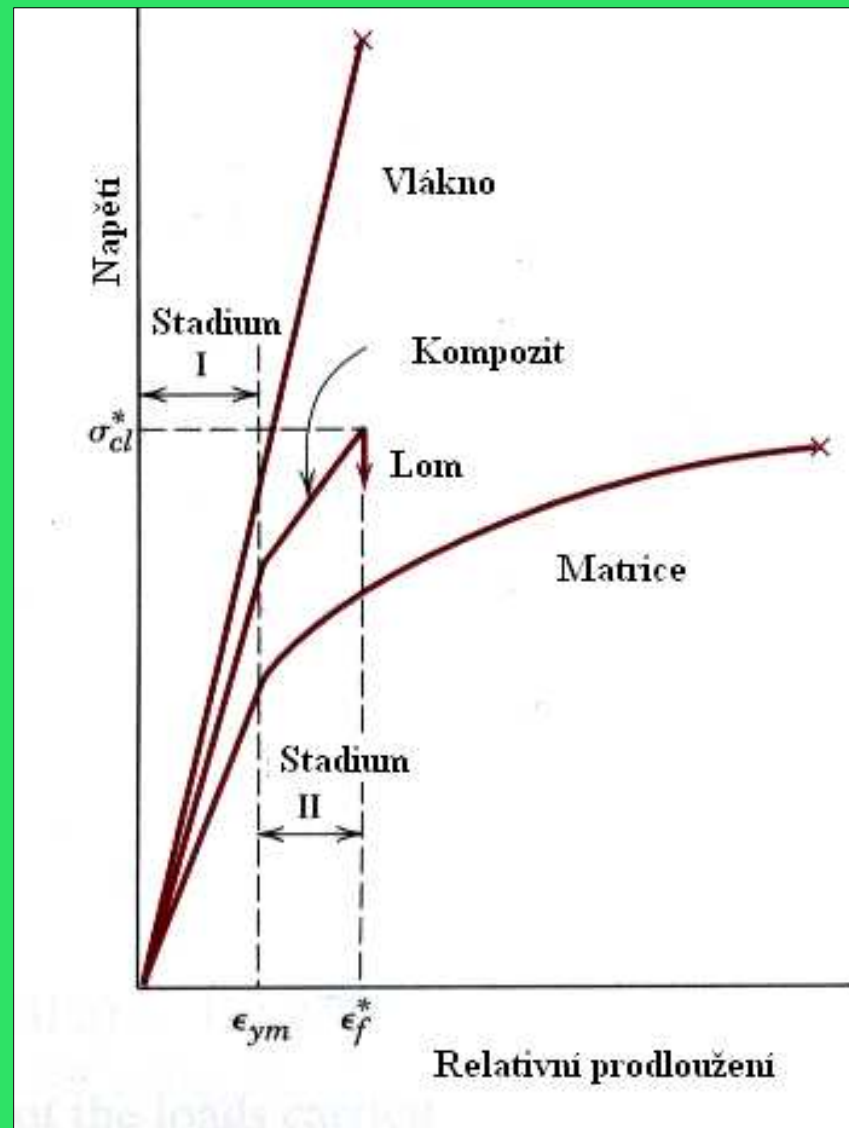
Kompozit, zpevněný vlákny



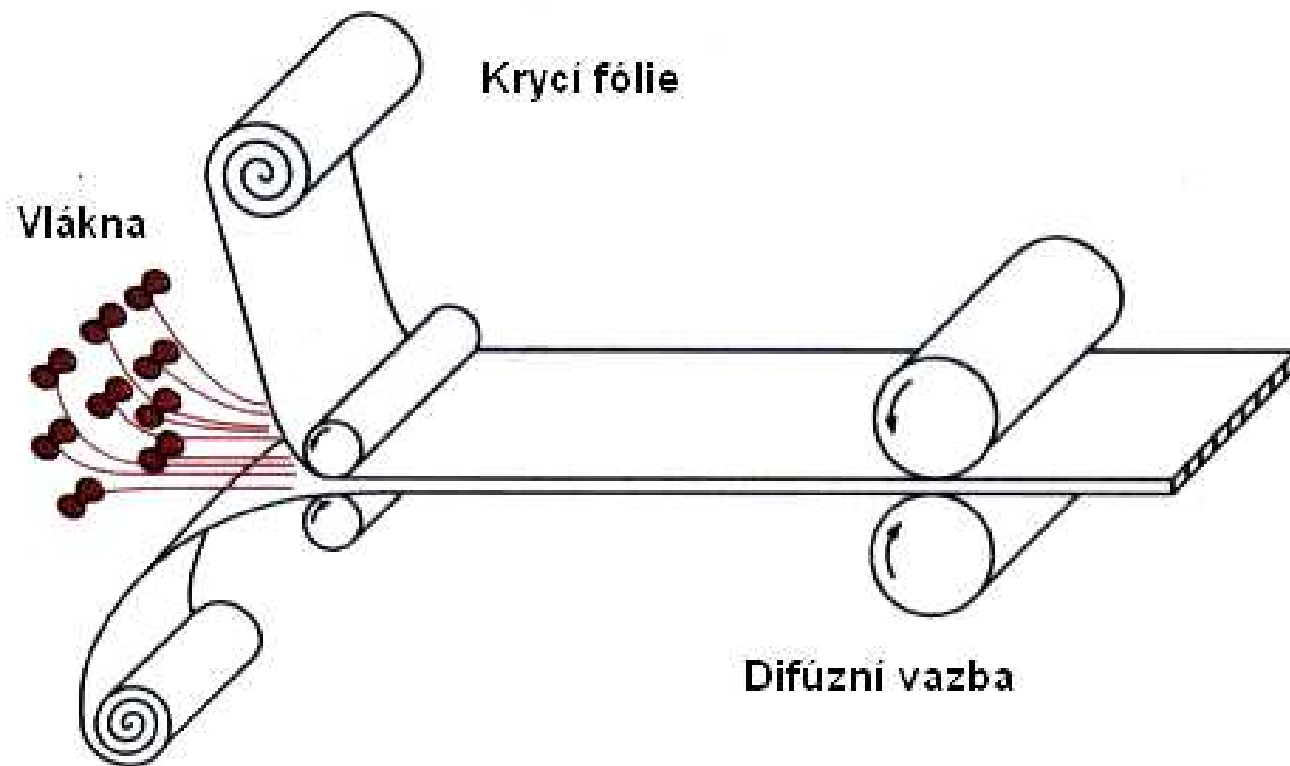
Vliv orientace vláken na zpevnění kompozitu



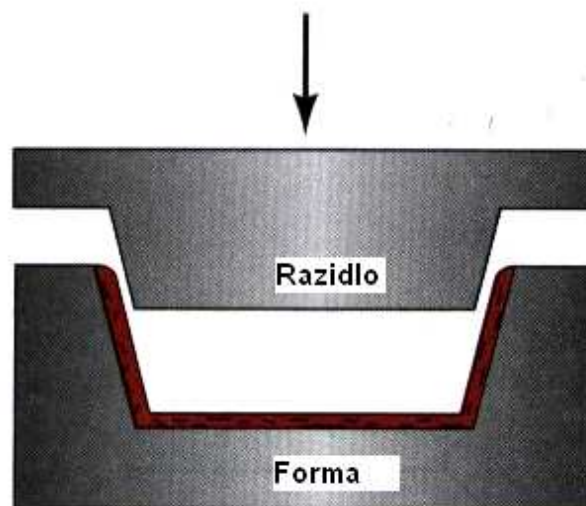
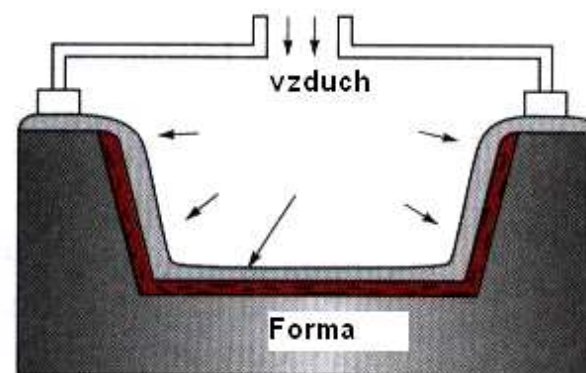
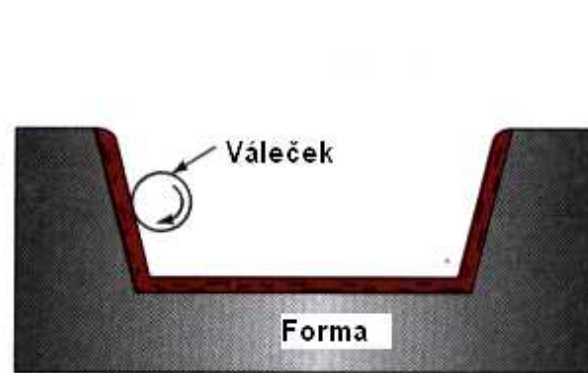
Mikrofotografie slitiny AgCu, zpevněné uhlíkovými vlákny



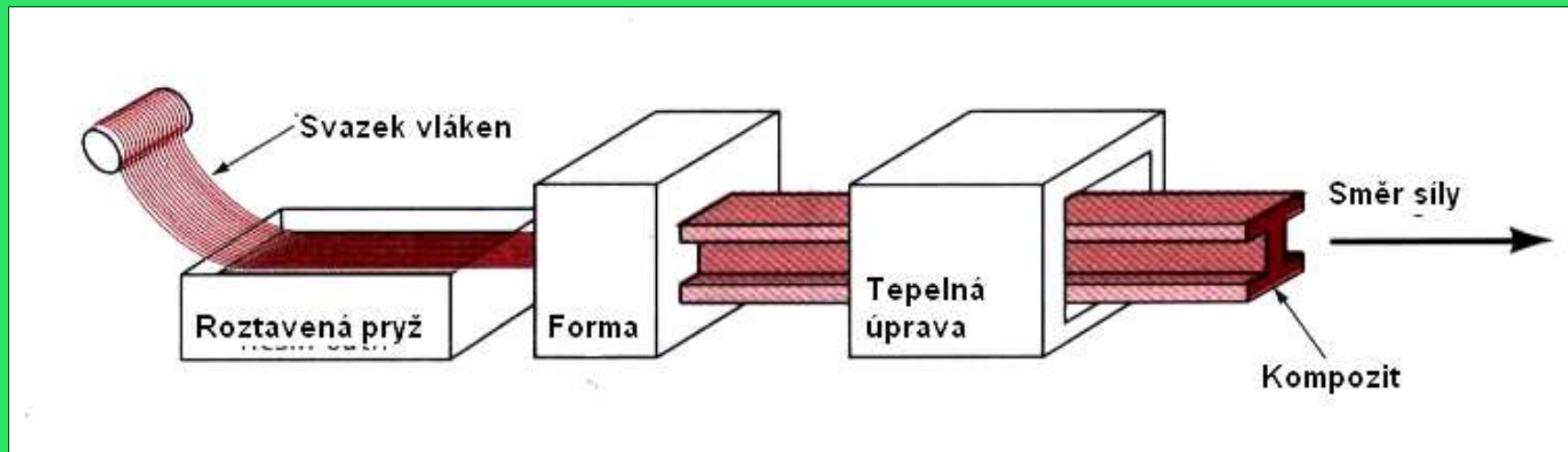
Mechanické vlastnosti kompozitu křehké vlákno + tažná matrice



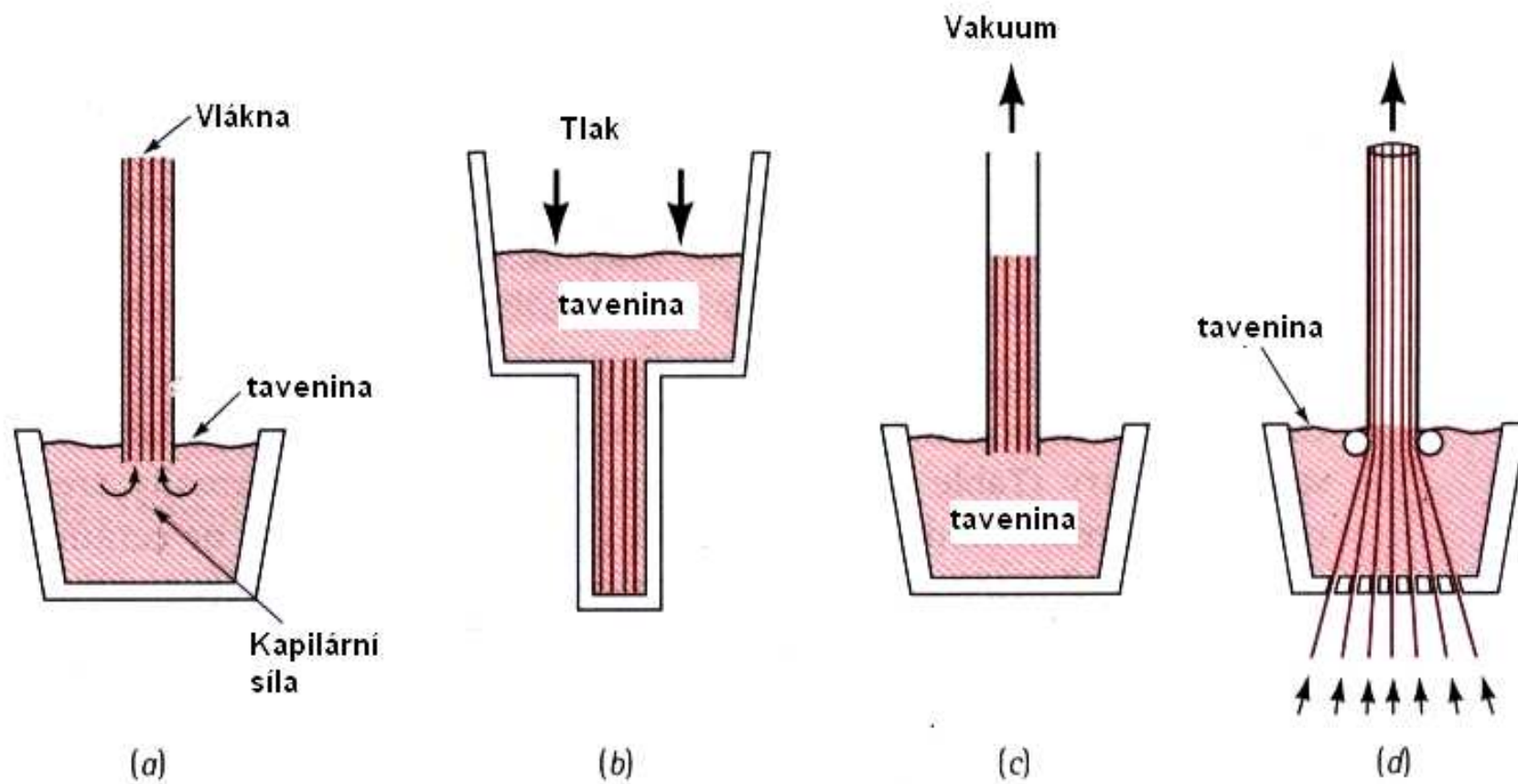
Výroba vlákny zpevněných kompozitů.



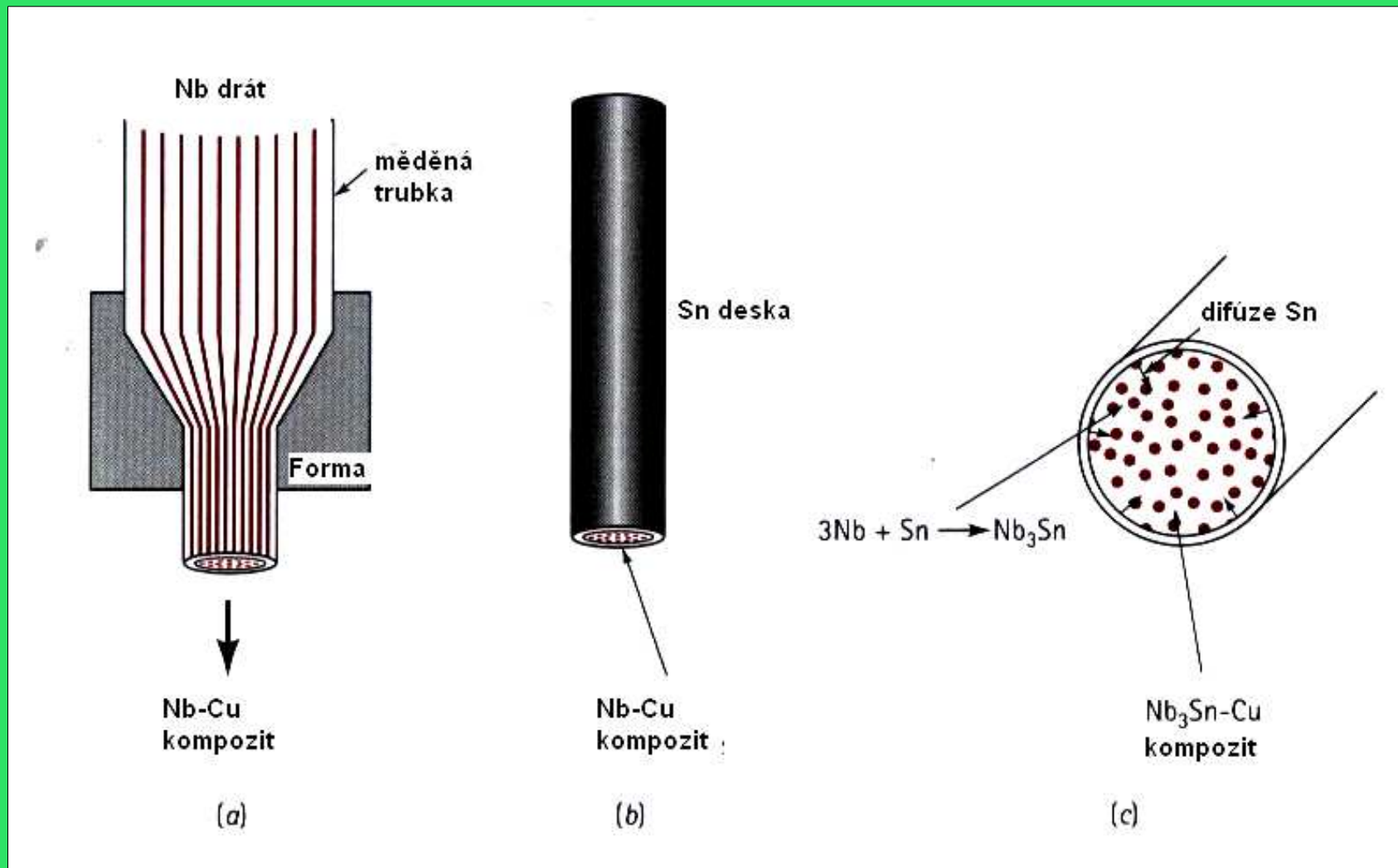
Různé způsoby výroby kompozitů



Výroba kompozitů tažením

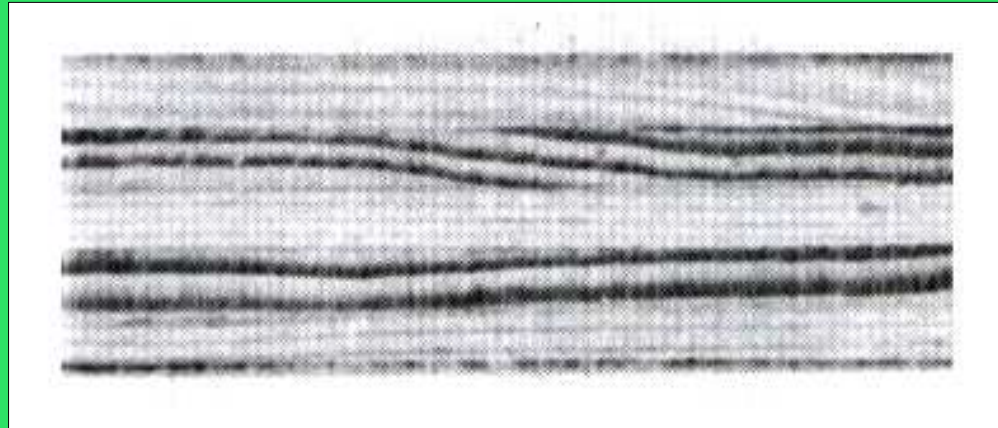


Výroba kompozitů a) kapilárním litím, b) tlakovým litím, c) vakuovým tažením, d) kontinuálním litím.

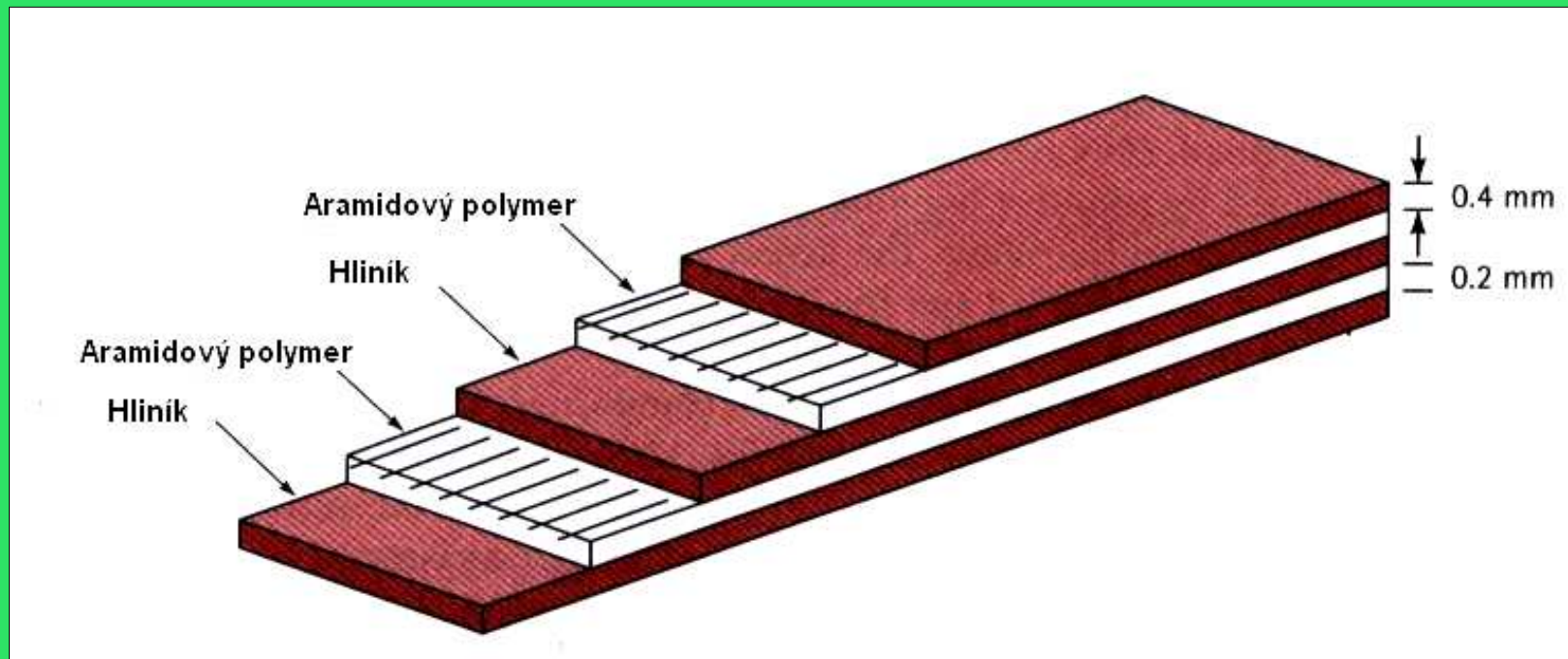


Výroba kompozitů – nízkoteplotních supravodičů

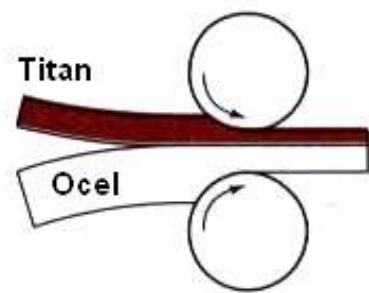
Laminární kompozity



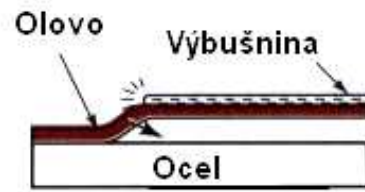
Překližka



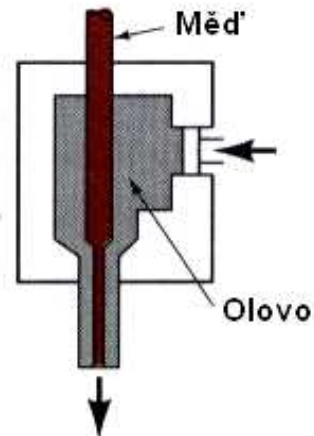
Aramid – hliníkový kompozit



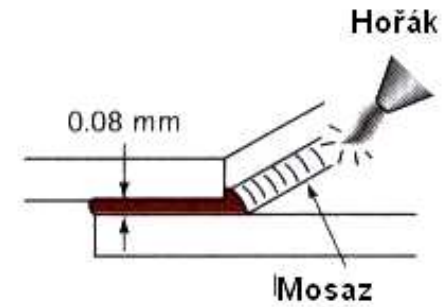
(a)



(b)

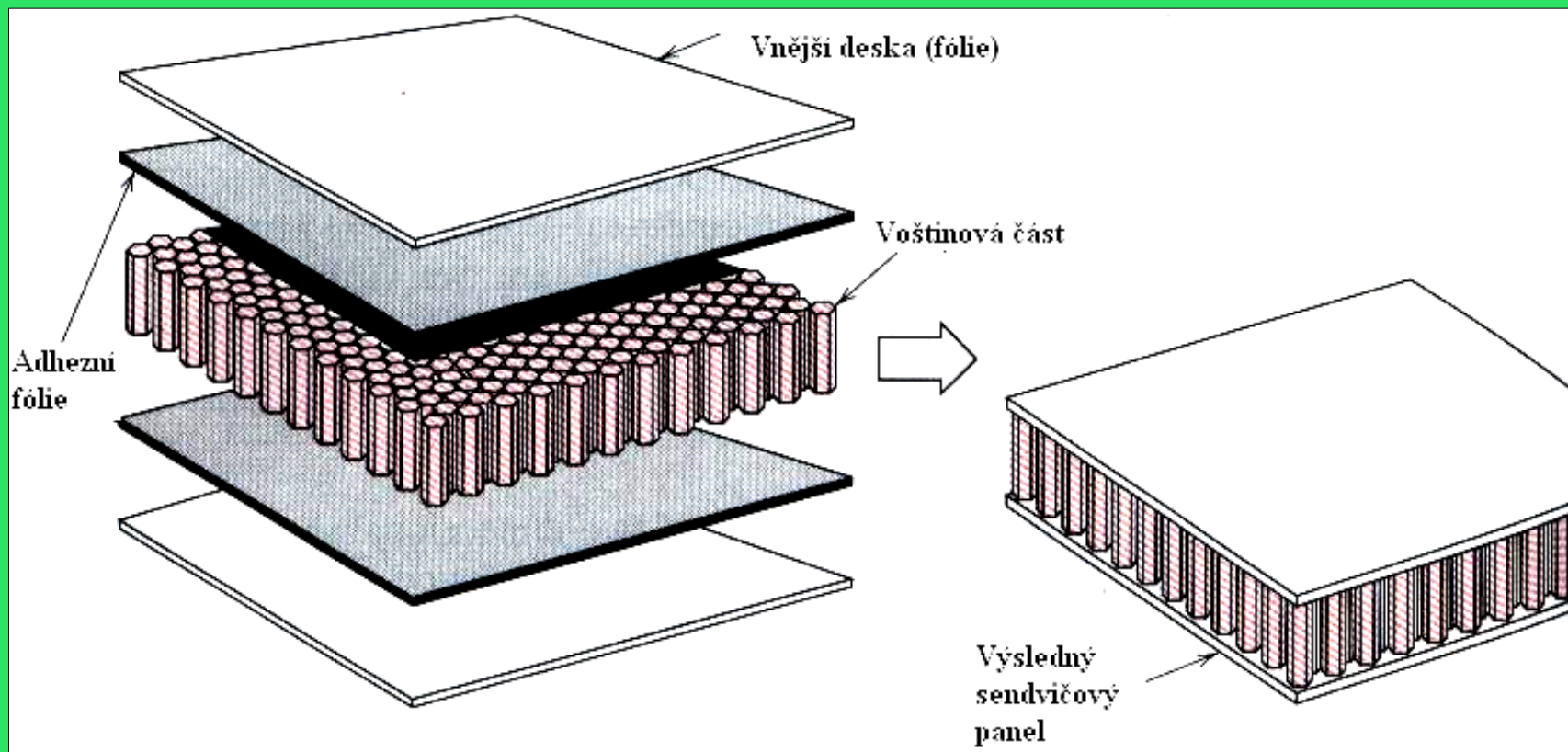


(c)



(d)

Různé způsoby výroby laminárních kompozitů



Sendvičový kompozit

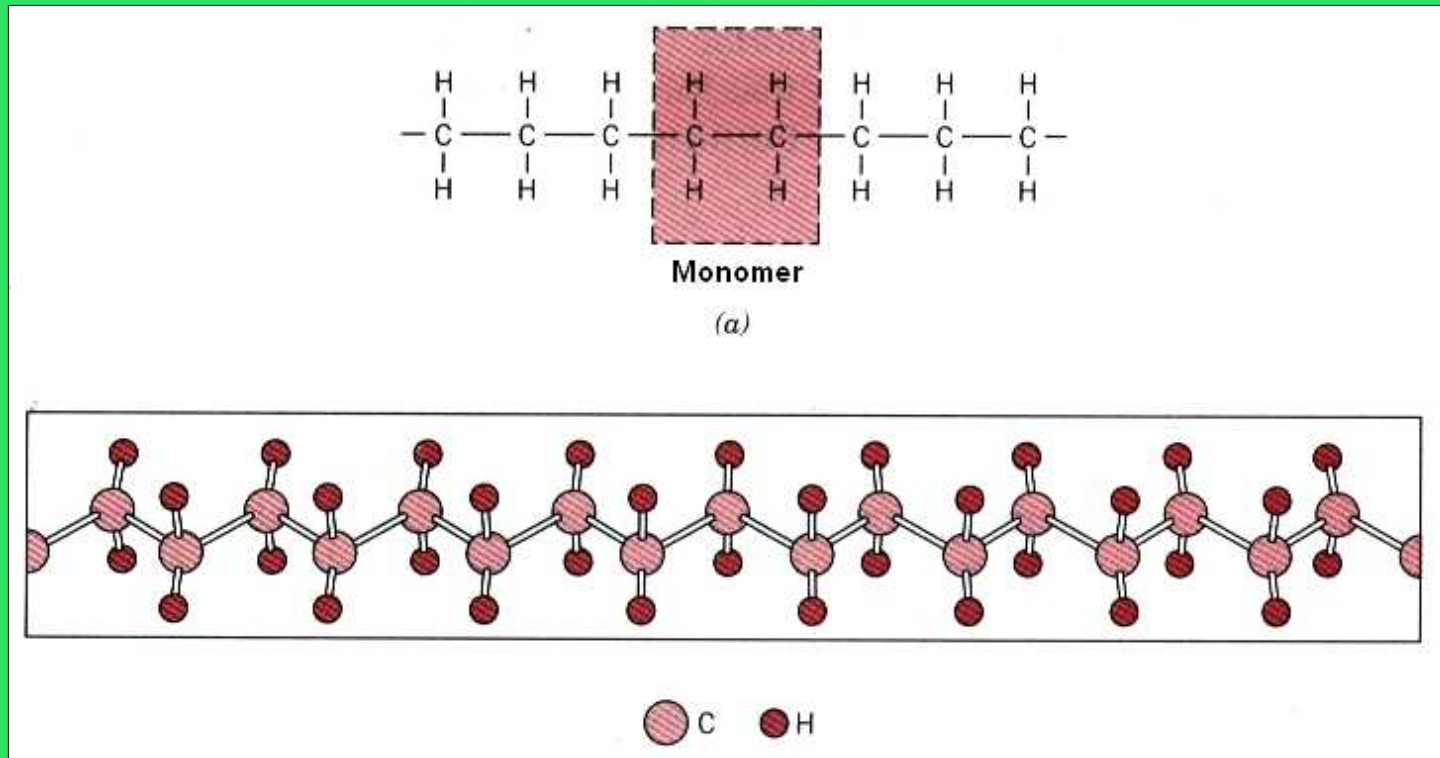
11.3. Polymery

Dělení:

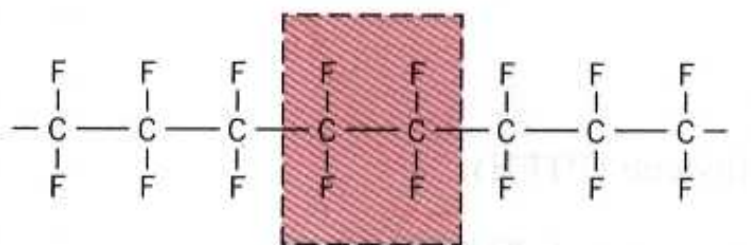
a) termoplasty – duroplasty

b) vlákna – fólie – desky – trubice – laky – elastomery (kaučuky) –
- lepidla – maziva

c) polymeráty – polykondenzáty - polyadukty

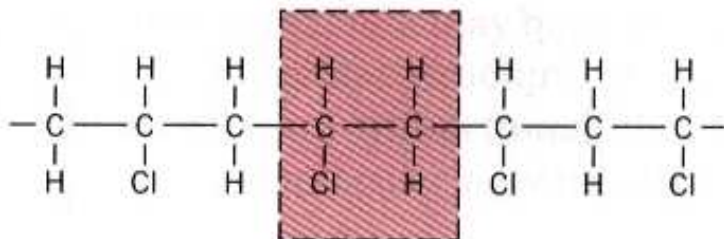


Polyetylen



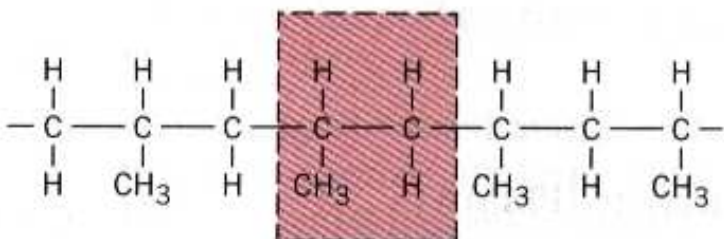
Monomer

(a)



Monomer

(b)



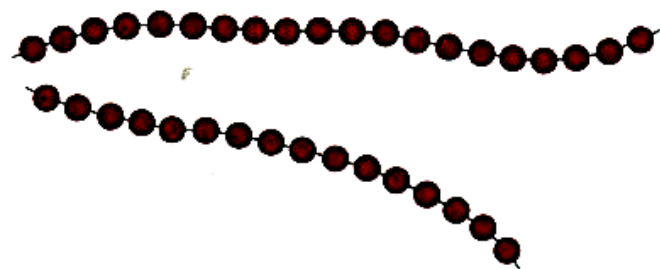
Monomer

(c)

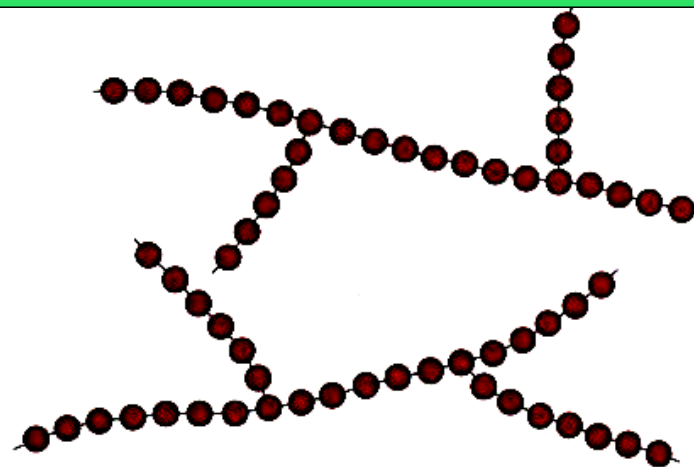
Struktura

- a) polytetrafluoroetyleno,
- b) polyvinylchloridu a
- c) polypropylenu.

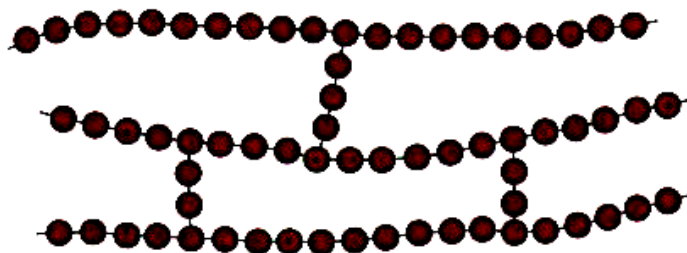
Struktura polymerů



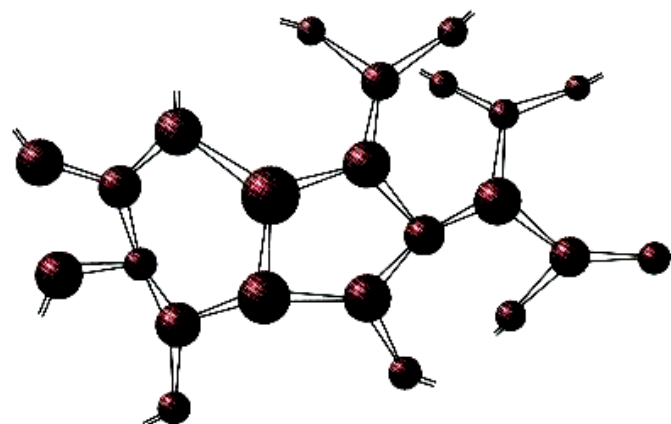
(a)



(b)

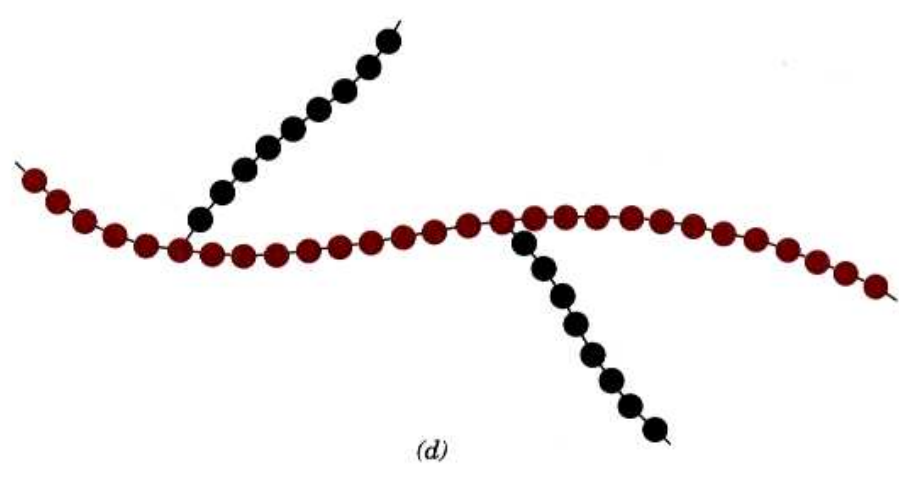
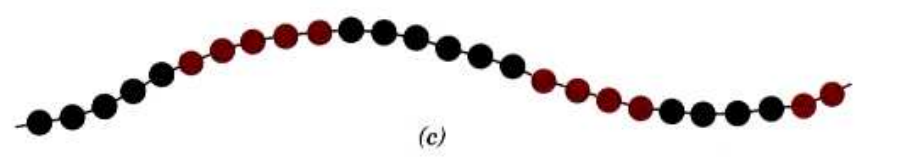
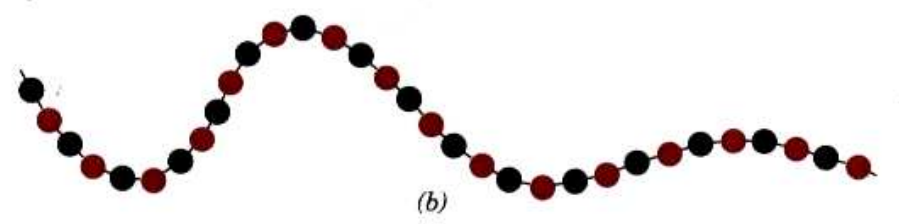
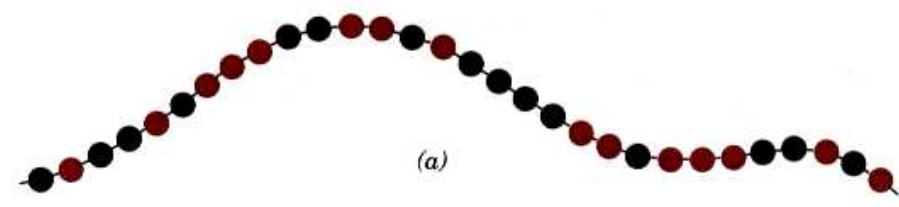


(c)

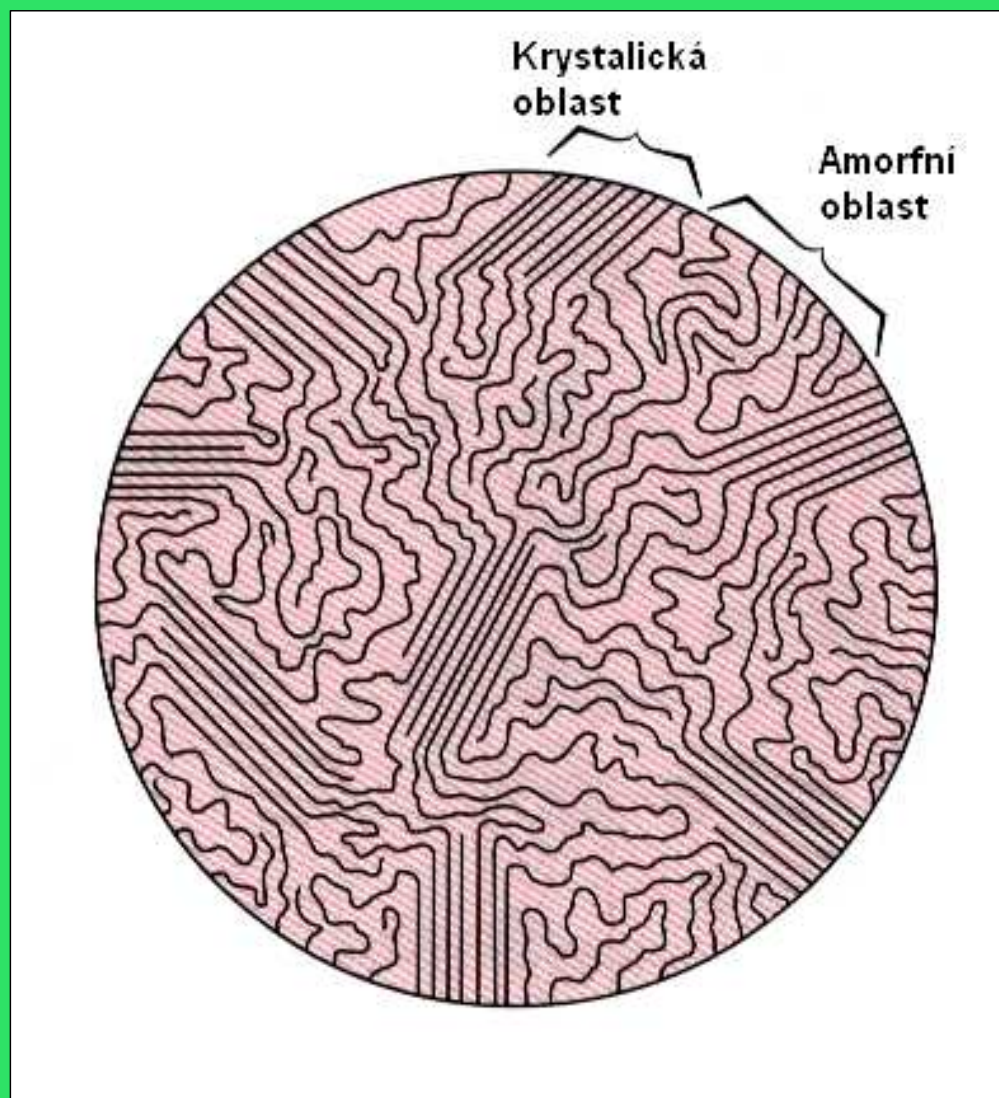


(d)

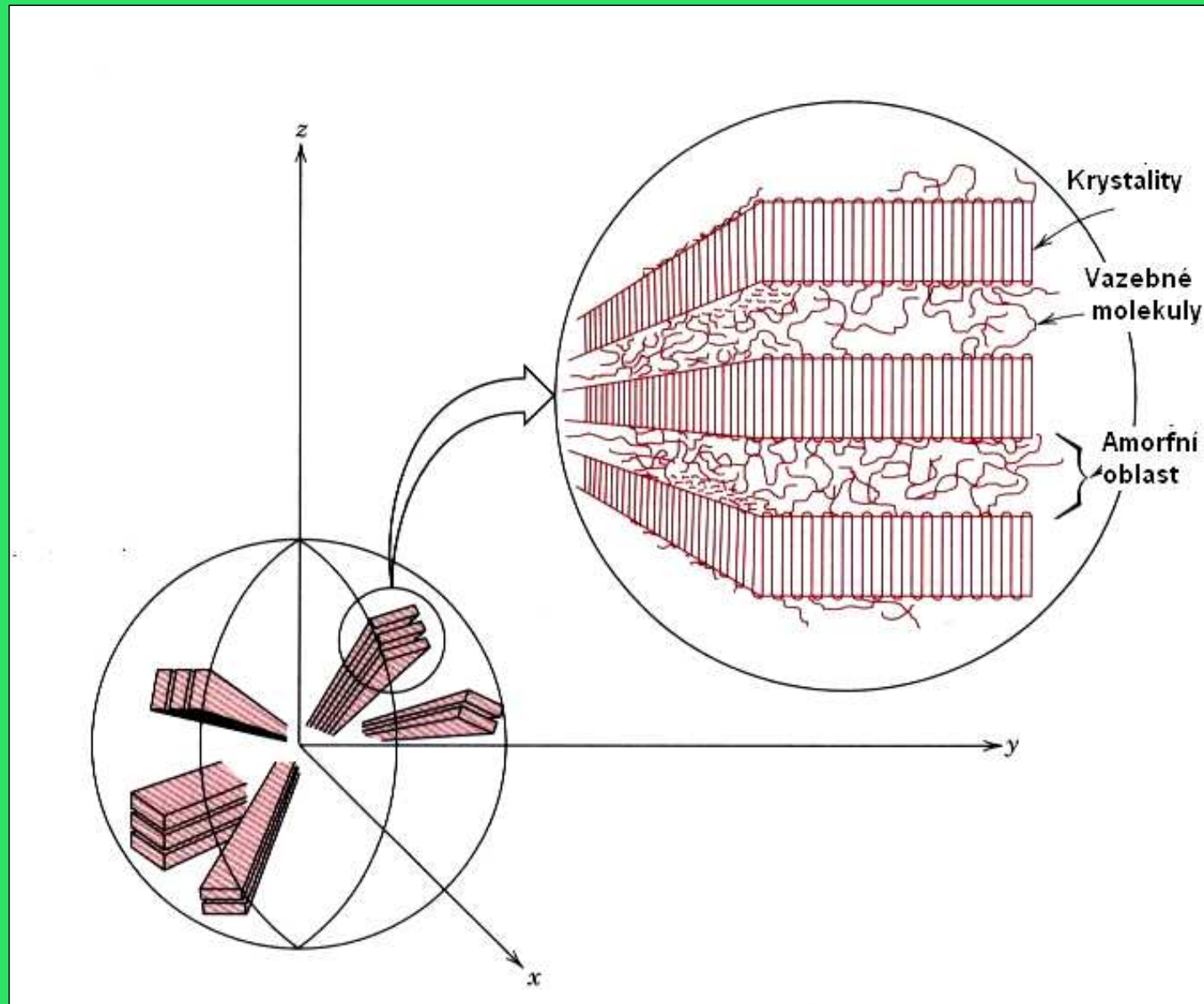
Struktura kopolymerů.



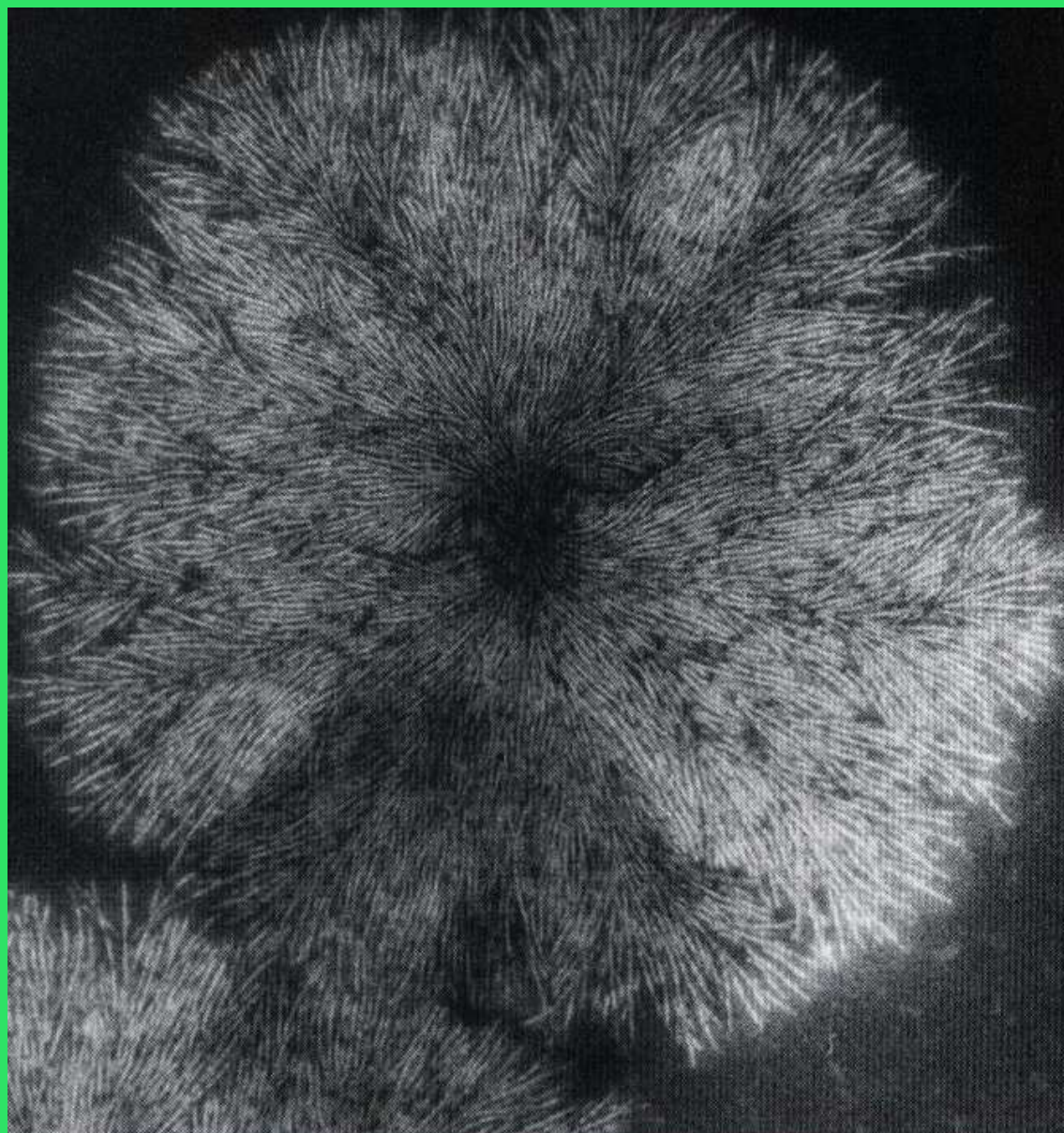
Semikrystalické polymery



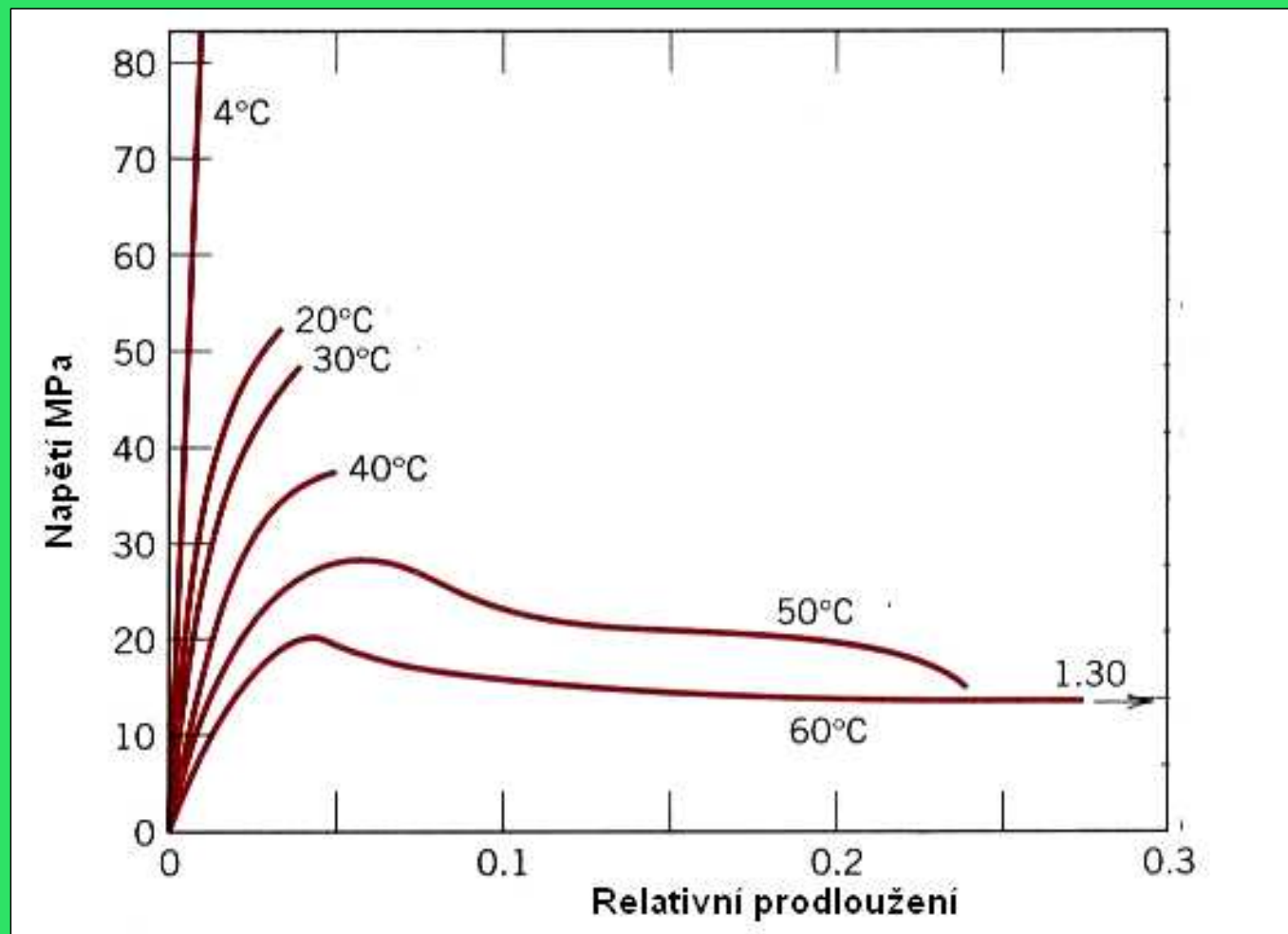
Sférolit

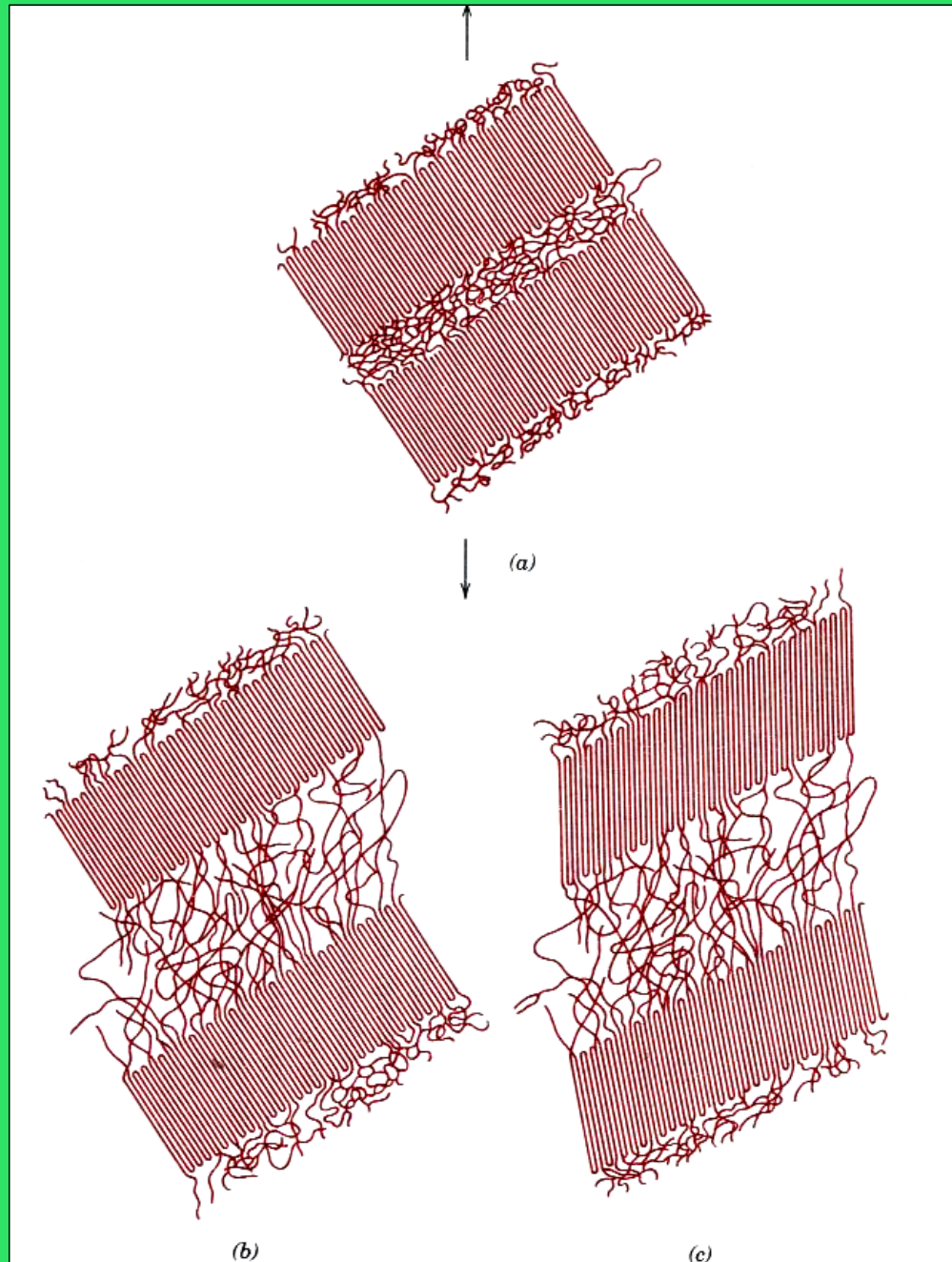


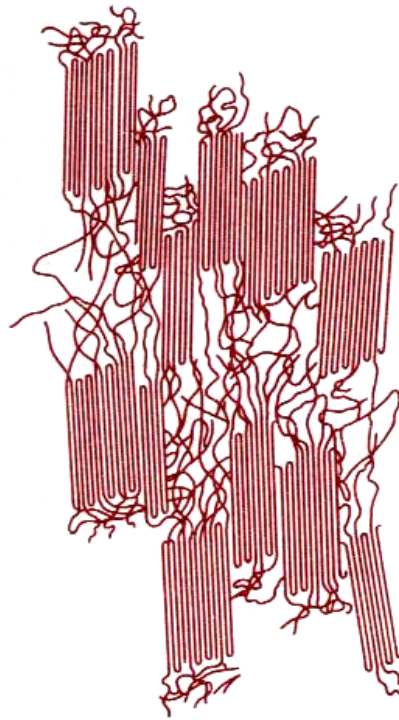
Sférolit kaučuku



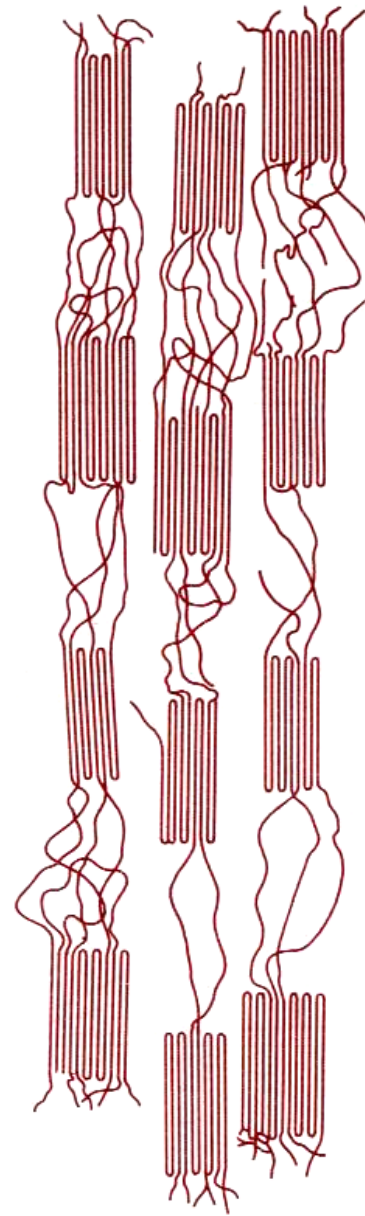
Mechanické vlastnosti polymerů





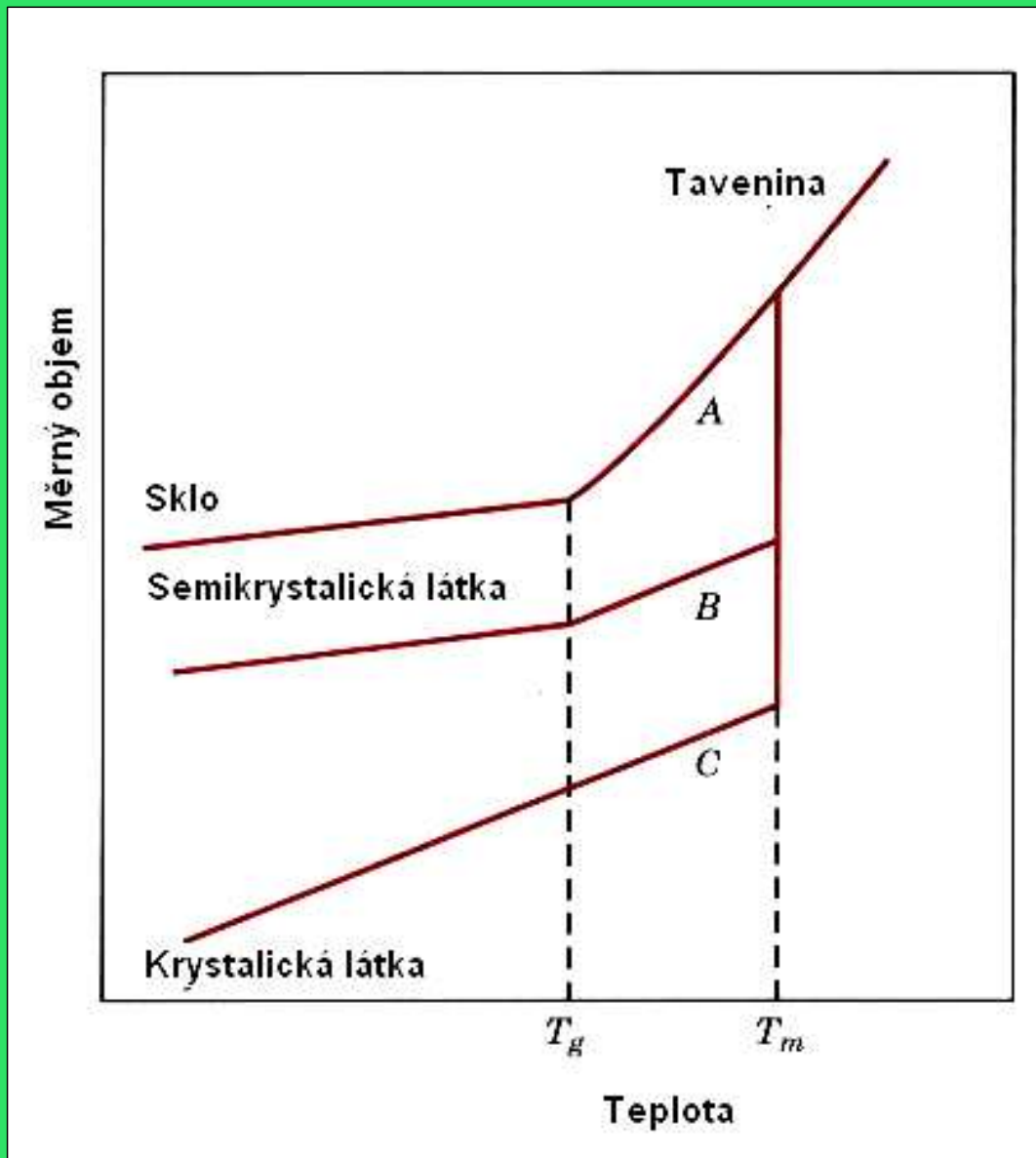


(d)

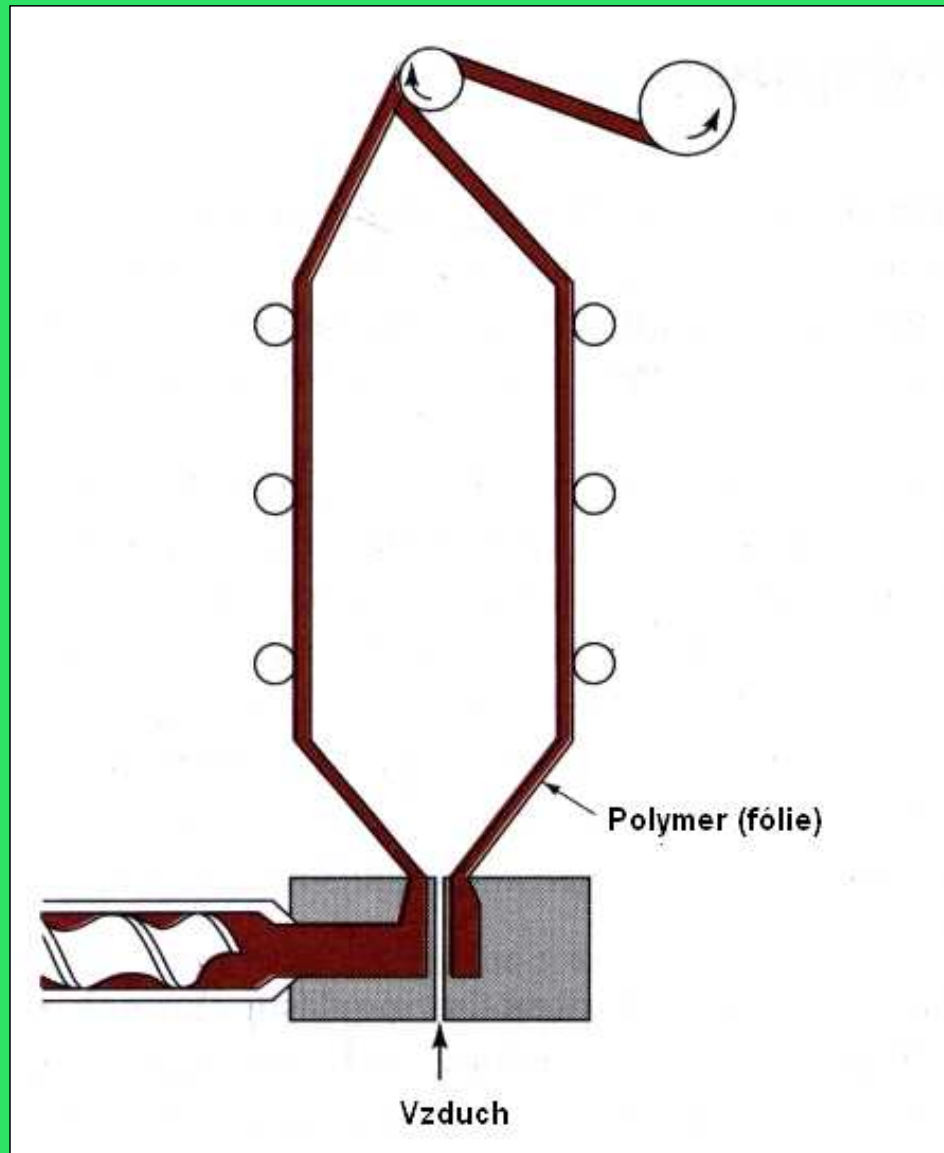


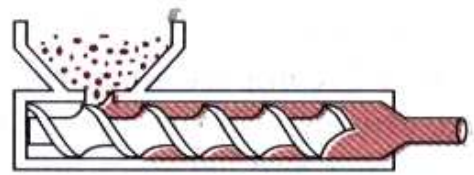
(e)

Skelný přechod polymerů

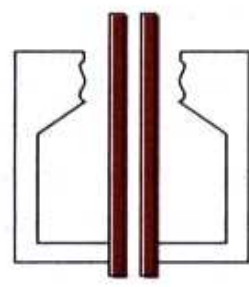


Výroba polymerů

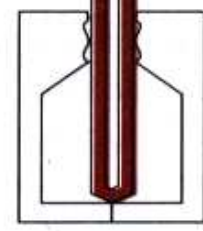




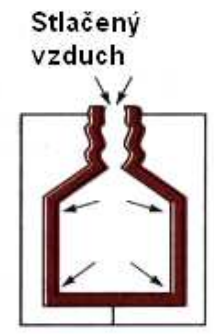
(a)



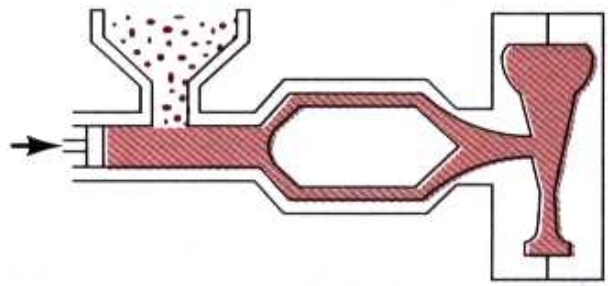
Předlisek



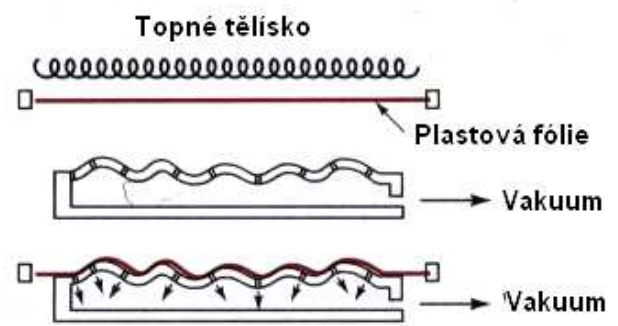
(b)



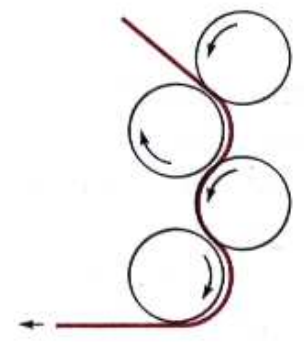
Stlačený vzduch



(c)



(d)



(e)



(f)

Zvláknovací trysky

Vlákna