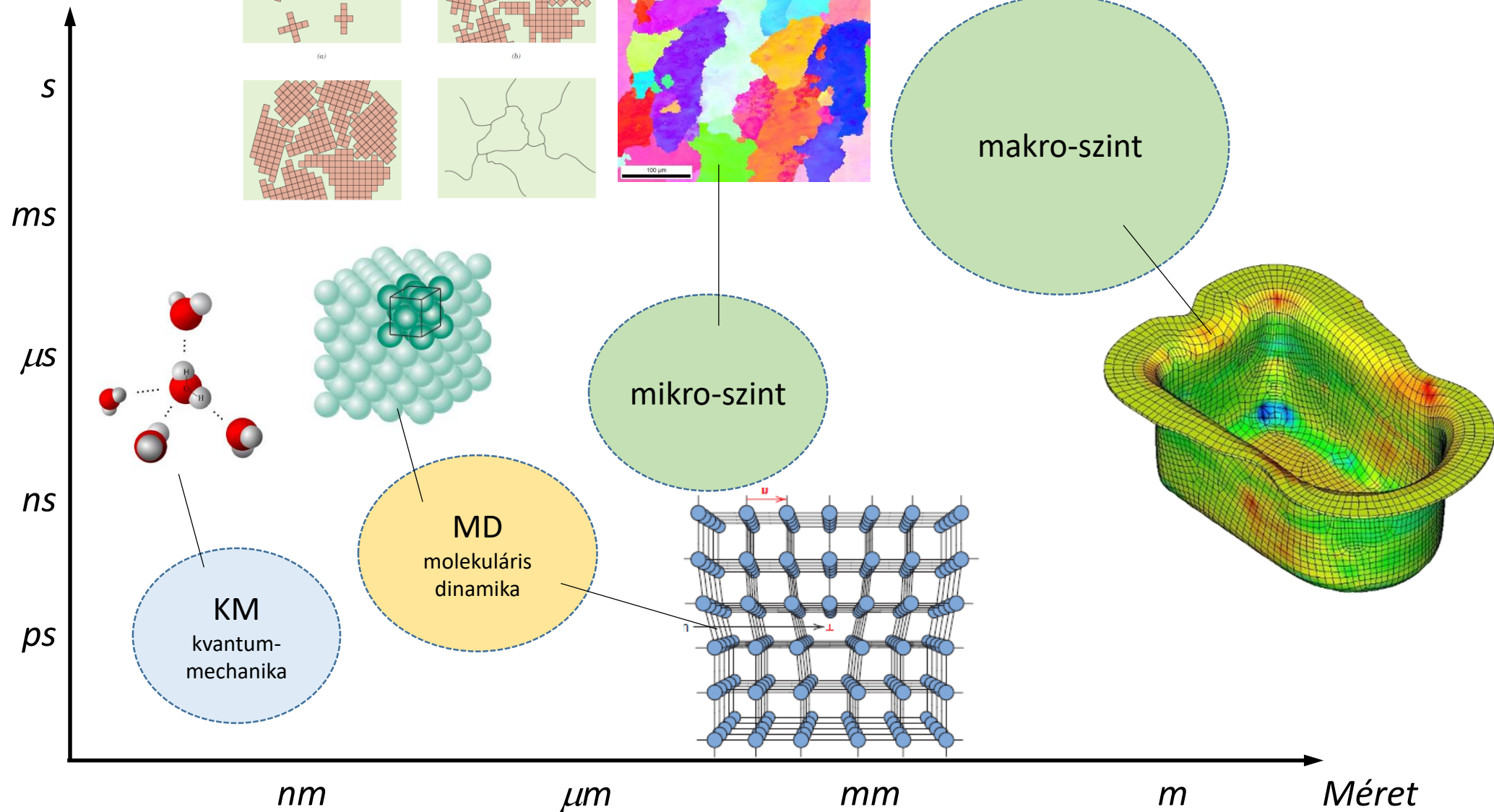


Bevezetés

Alakítótechnológiák elmélete
(BMEGEMTNG00)

Szlancsik Attila
szlancsik.attila@gpk.bme.hu

Számítható
időintervallum



Az anyag viselkedésének ismerete mikroszkopikus szinten

Diszlokációszerkezet változása

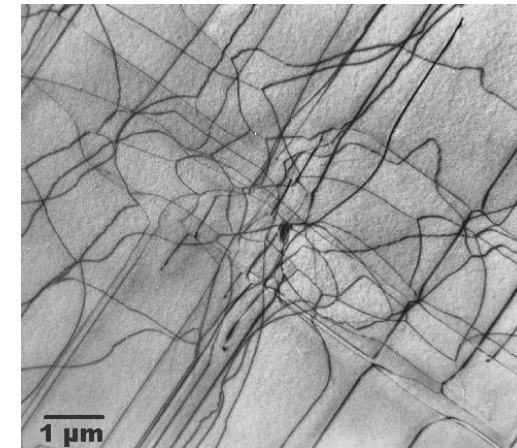
Keményedés

Szemcsefinomodás

Szemcse szerkezet

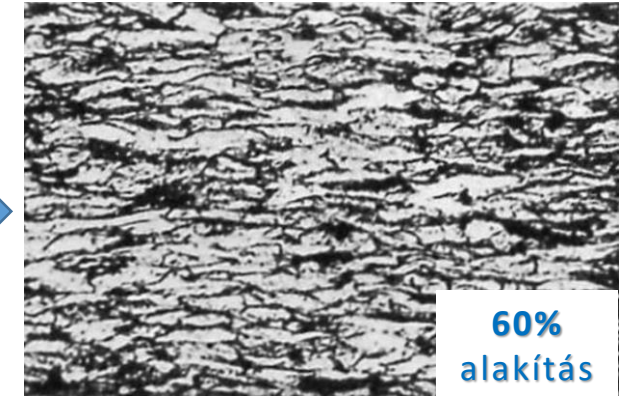
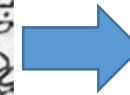
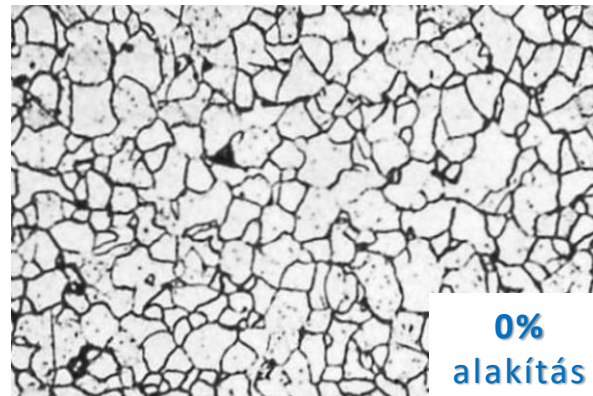
Textúra kialakulása

Kiválások



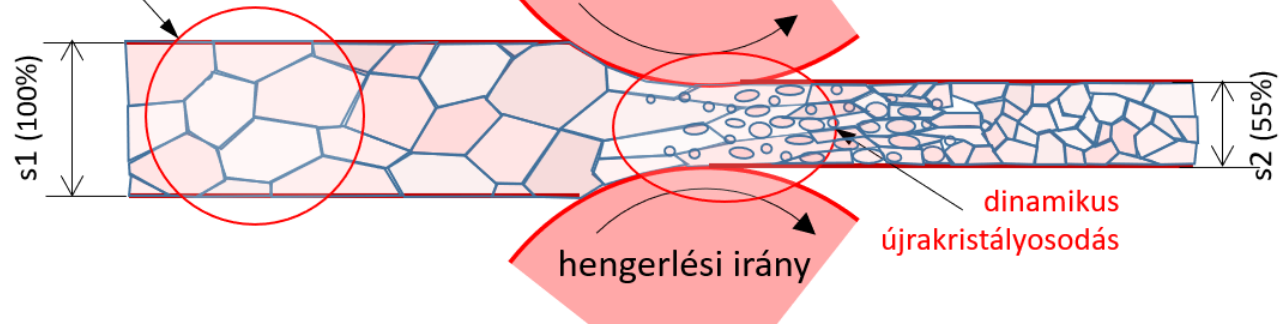
Példa: síkhengerlés

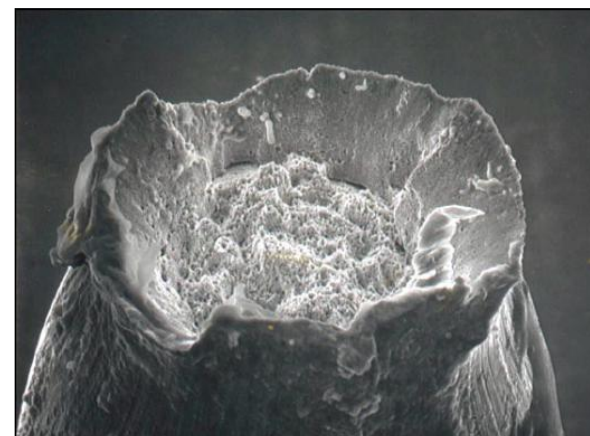
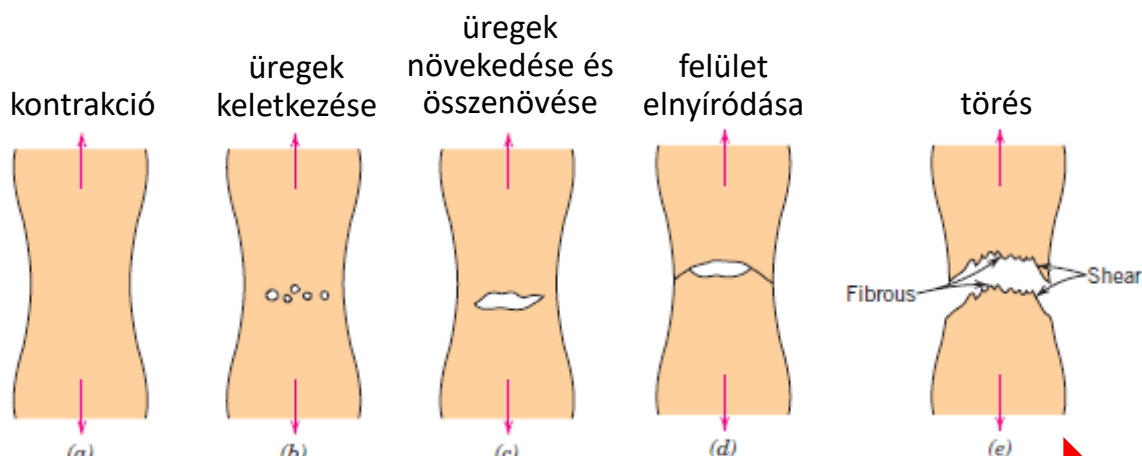
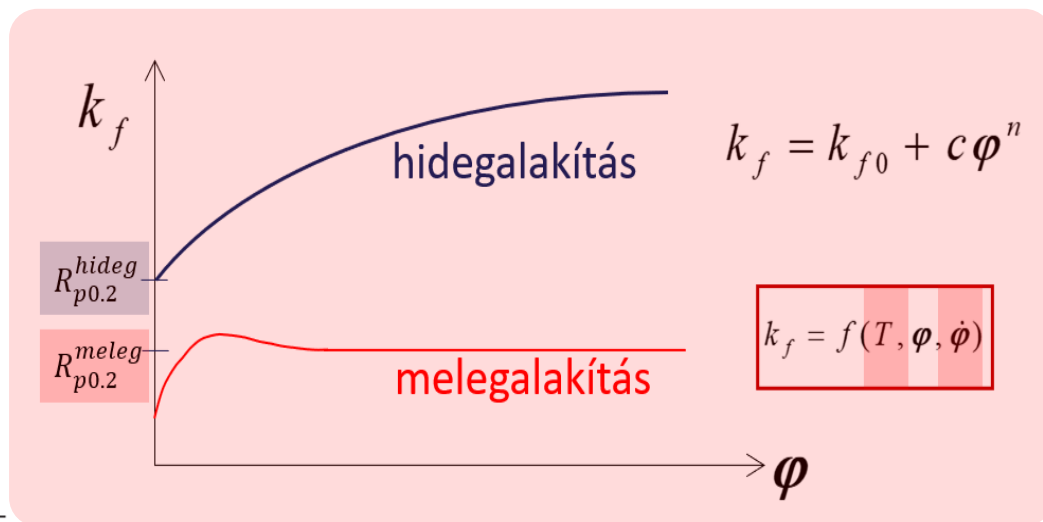
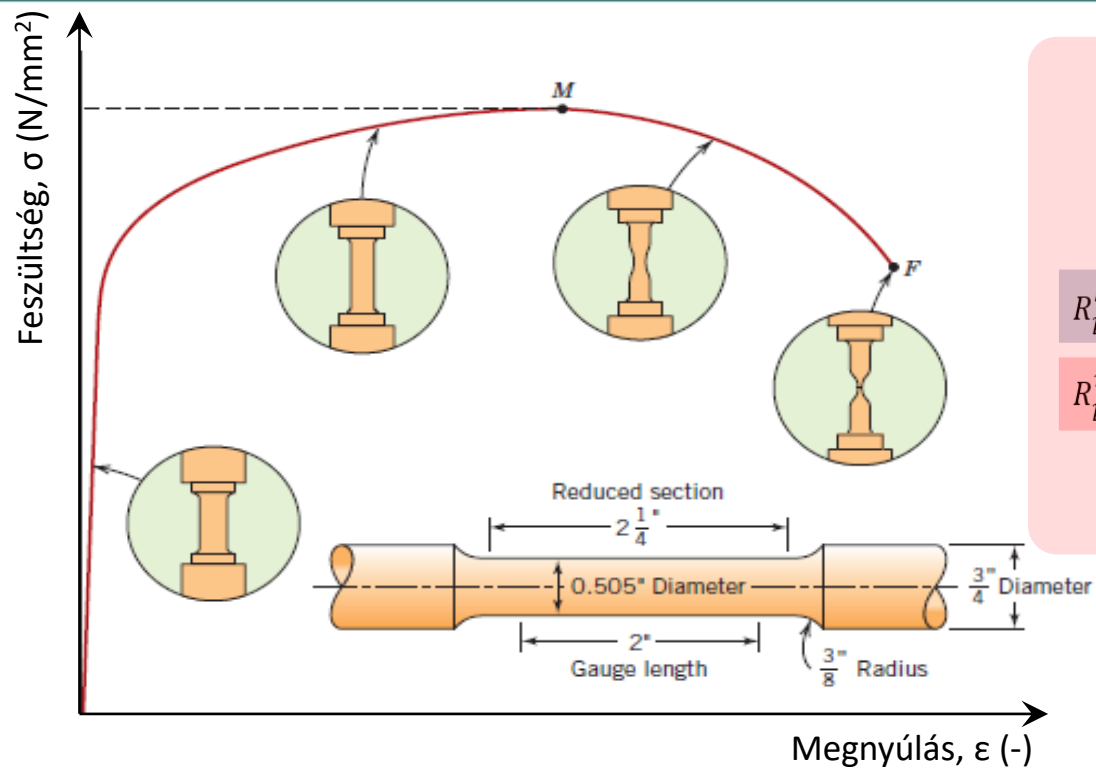
hidegalakítás



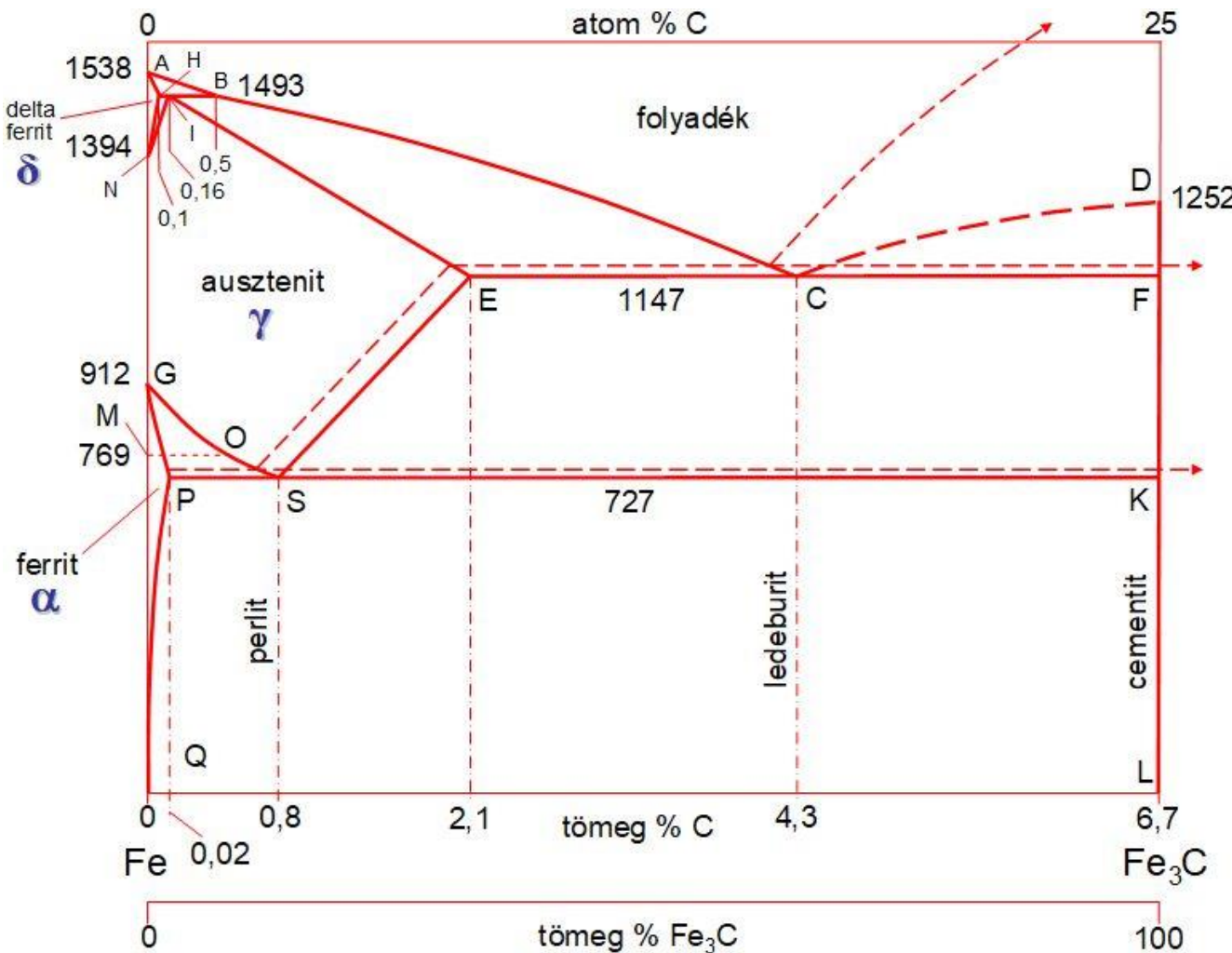
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equiaxiális szövet

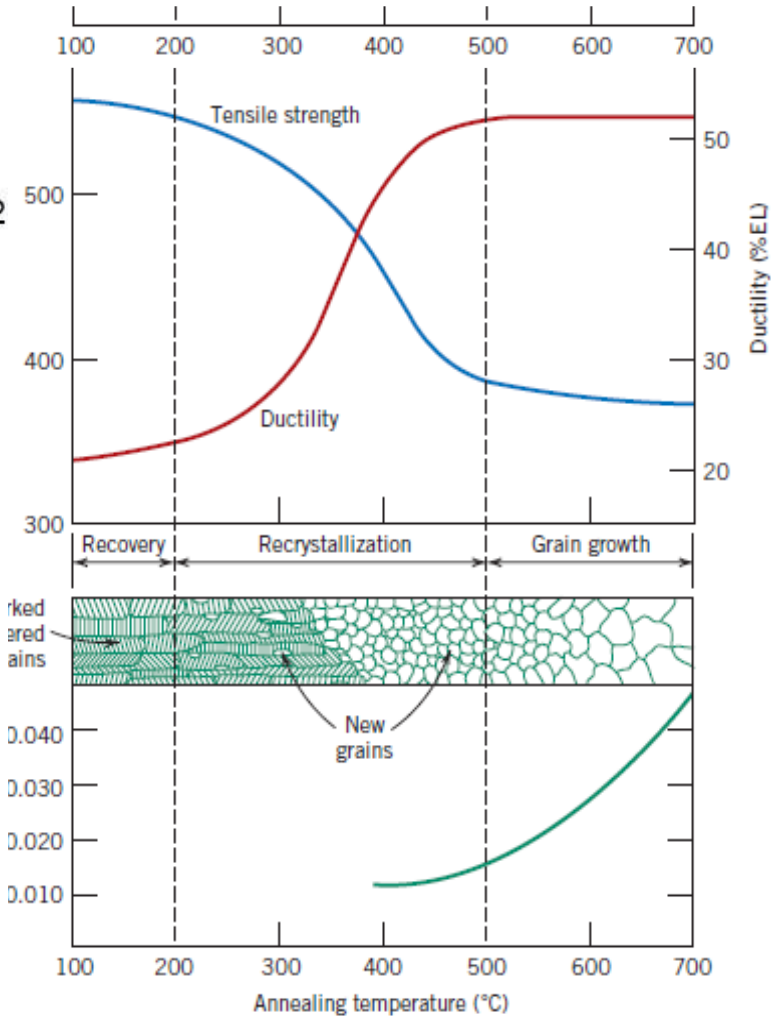




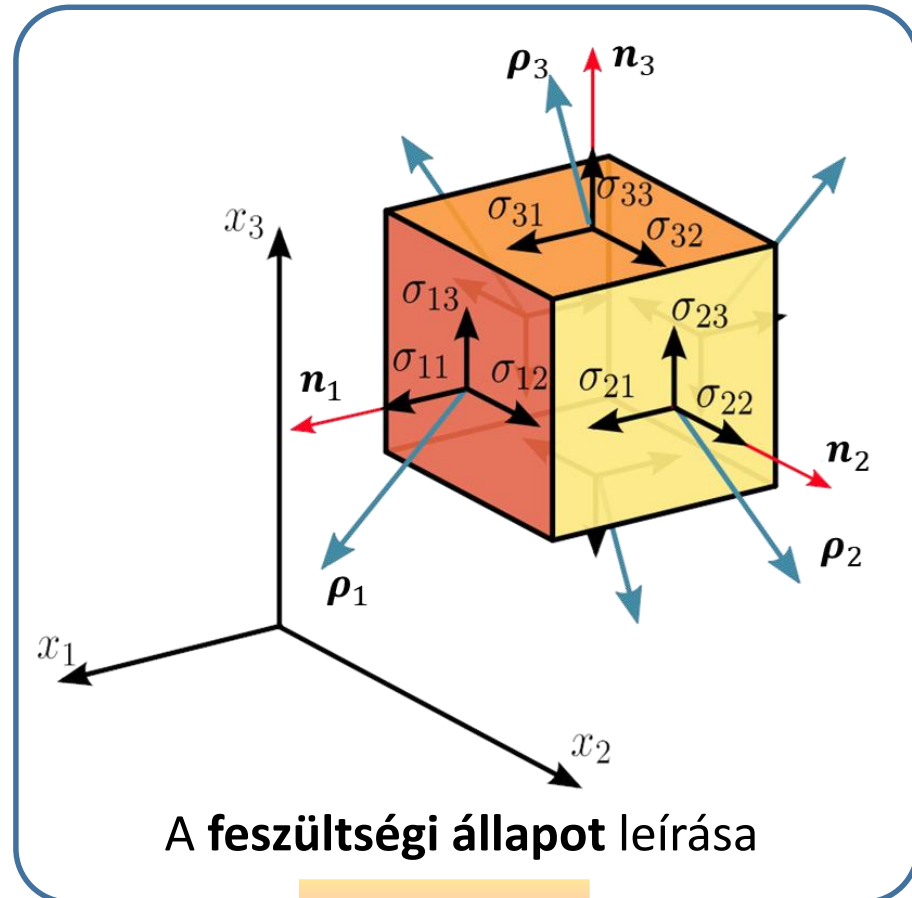
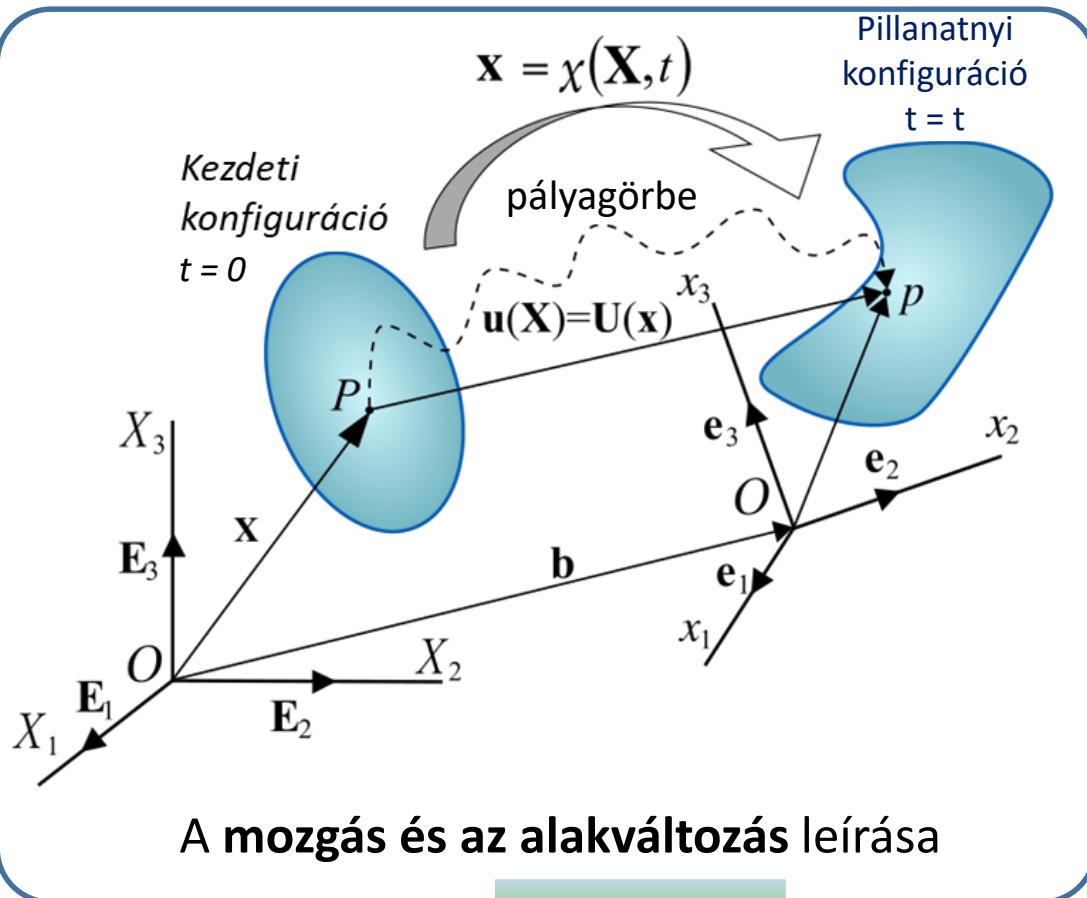
törés kialakulása



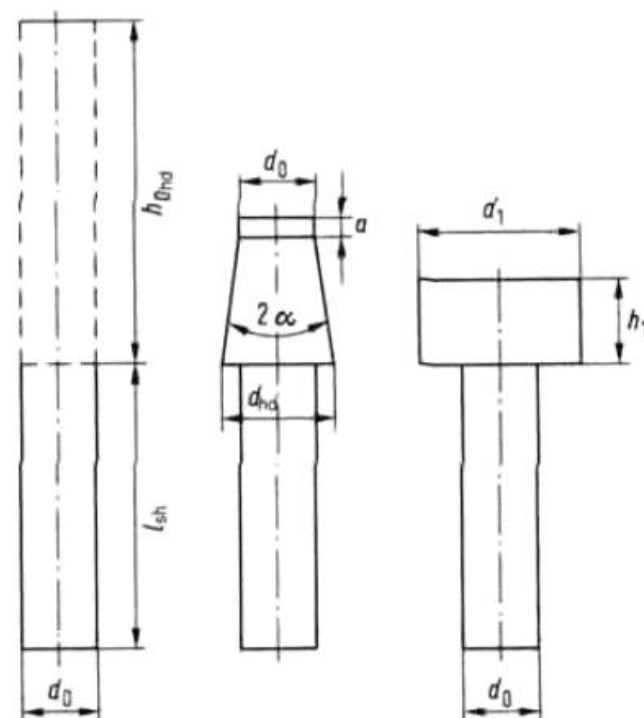
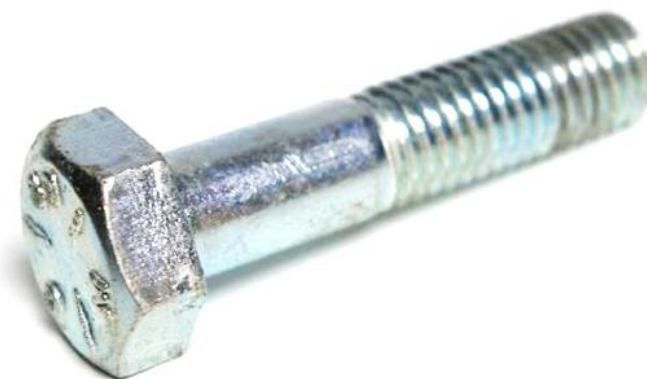
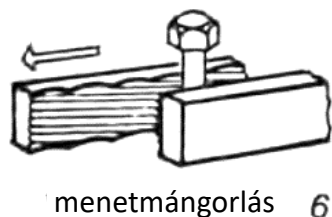
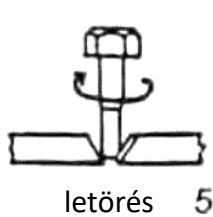
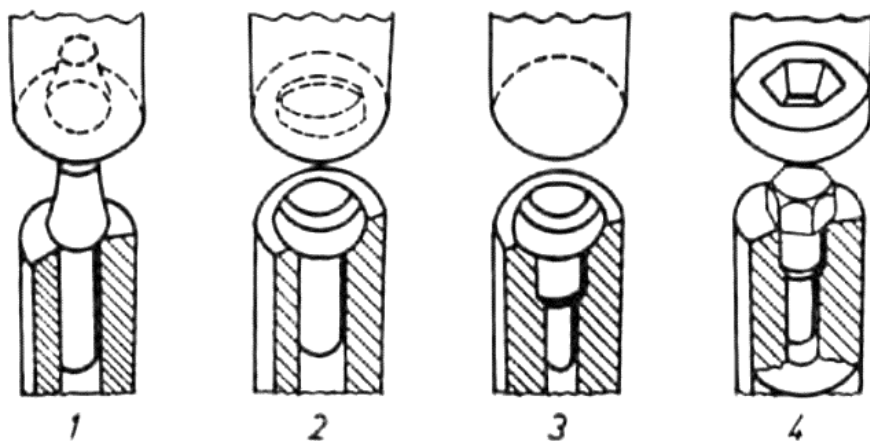
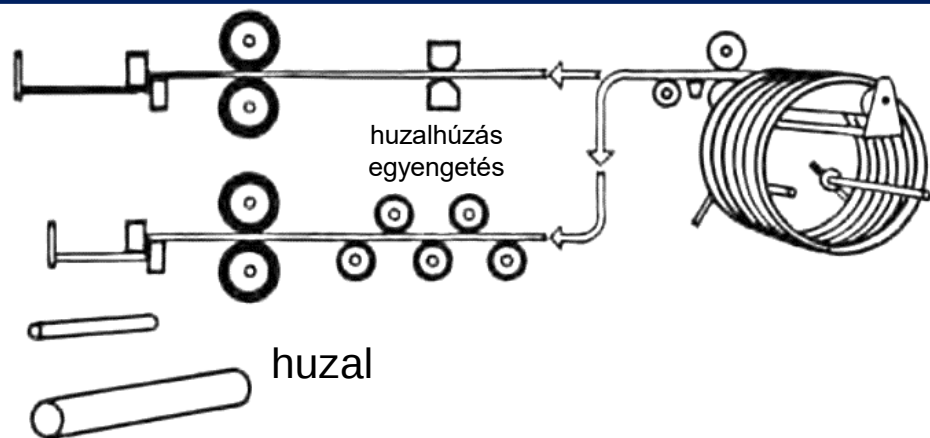
A kémiai összetétel és mikroszerkezet
hatása a szilárdságra, alakíthatóságra

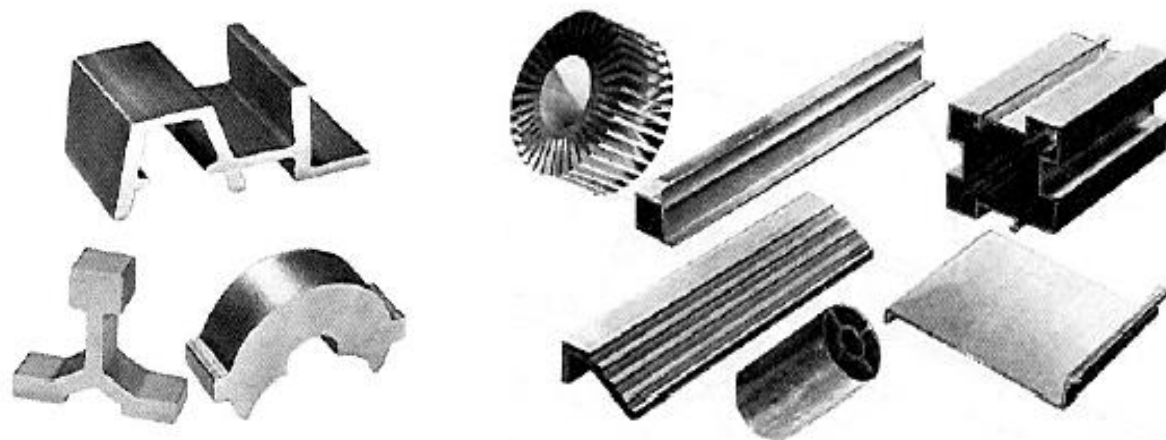
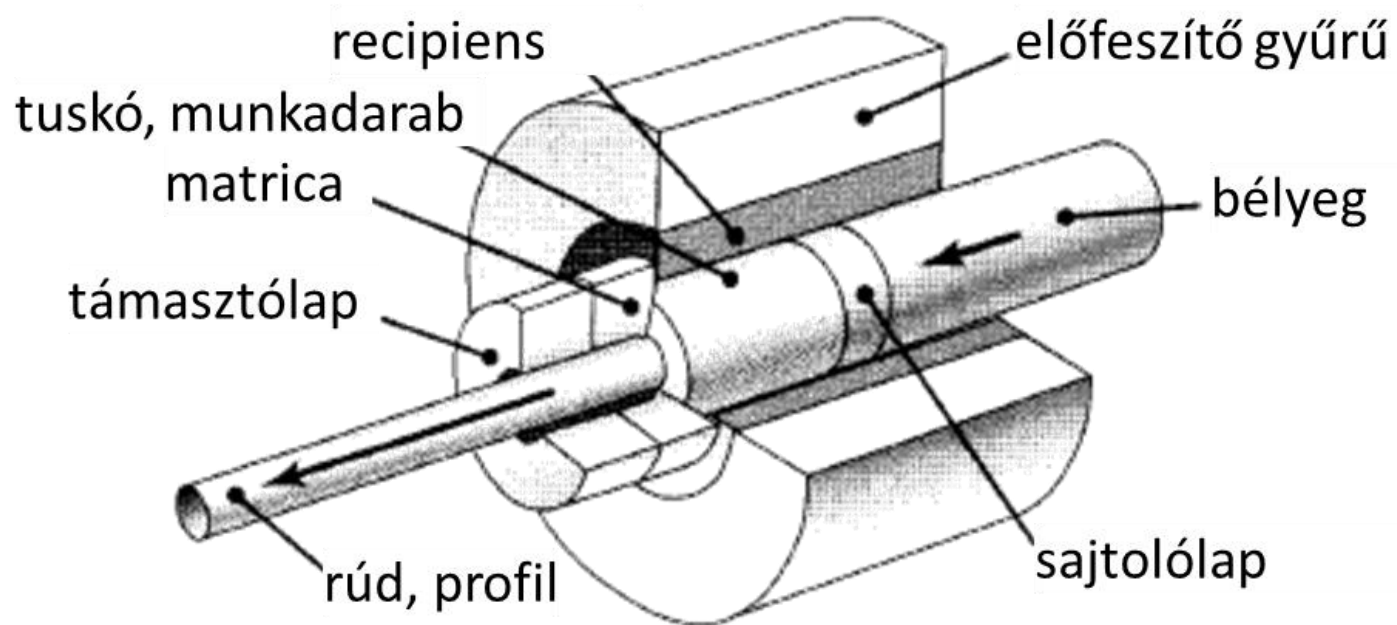
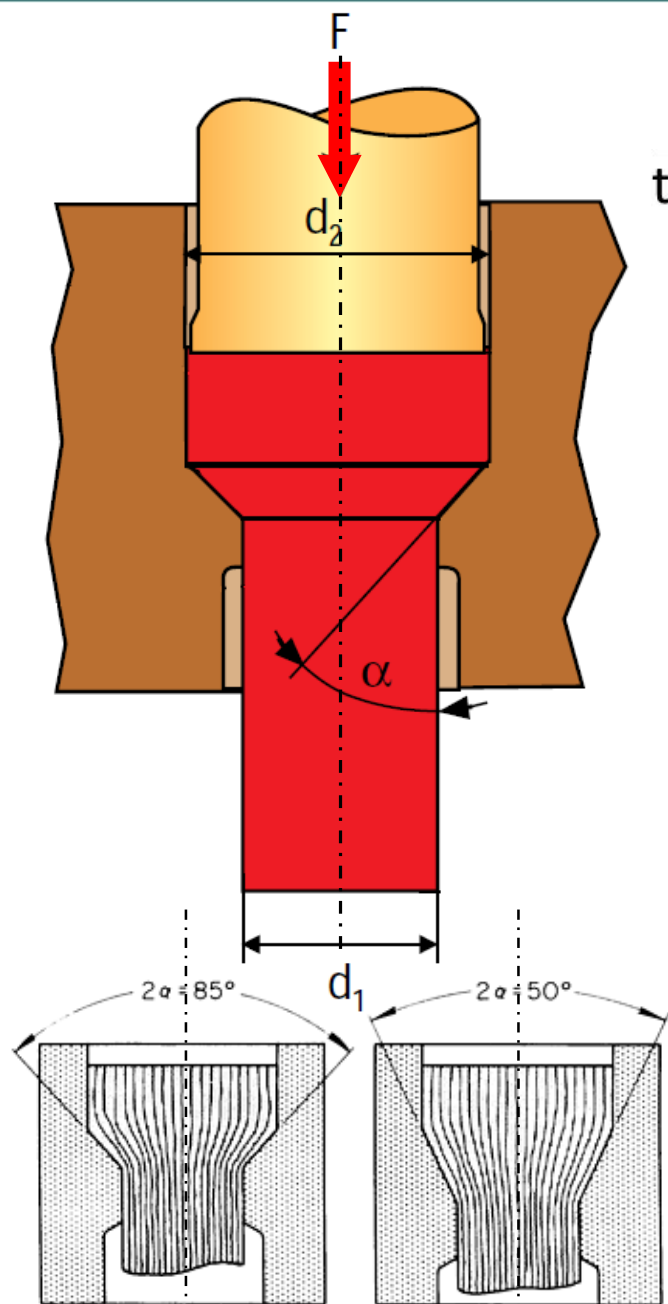


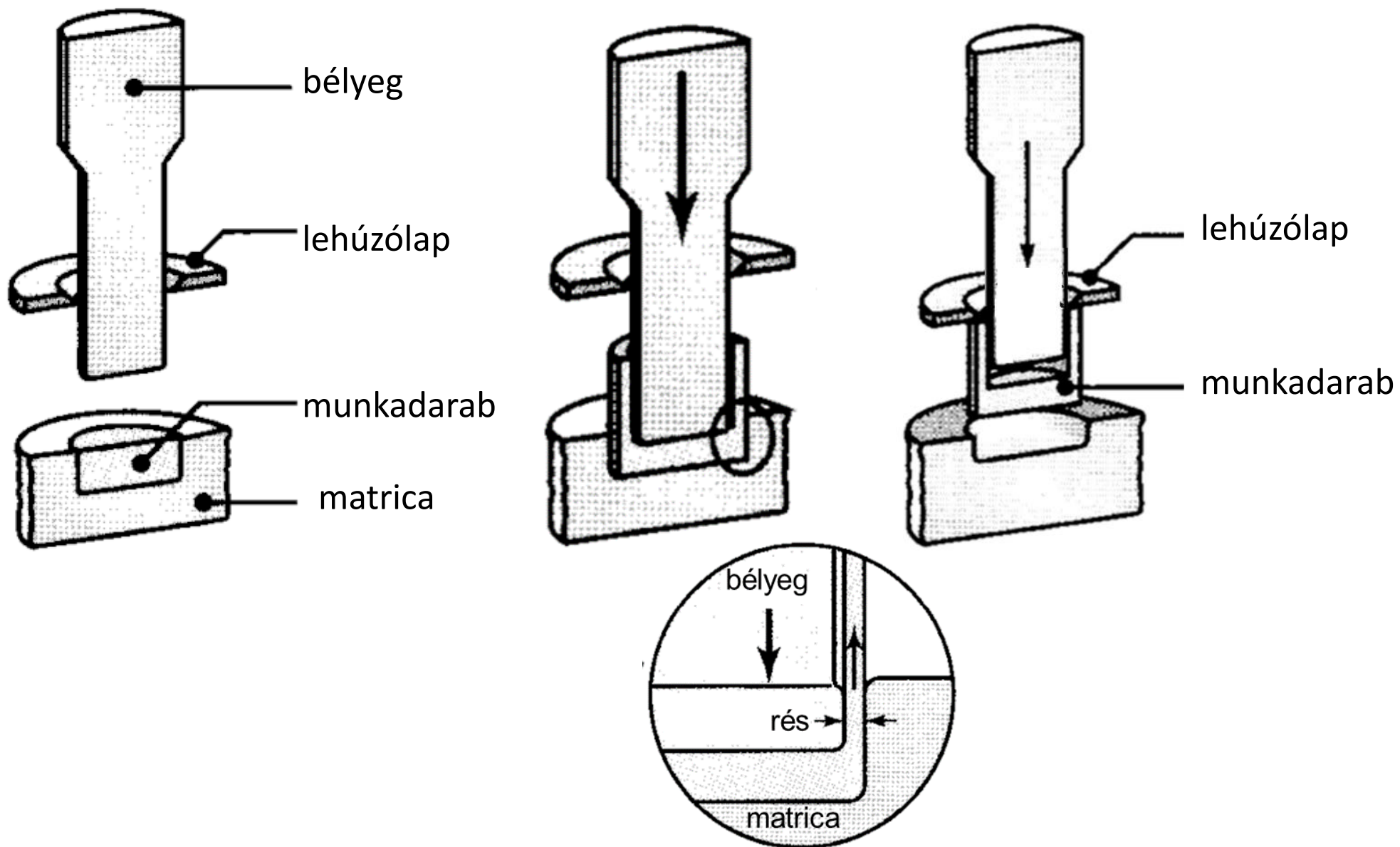
Lágyulási folyamatok
(hőkezeltiségi állapot)

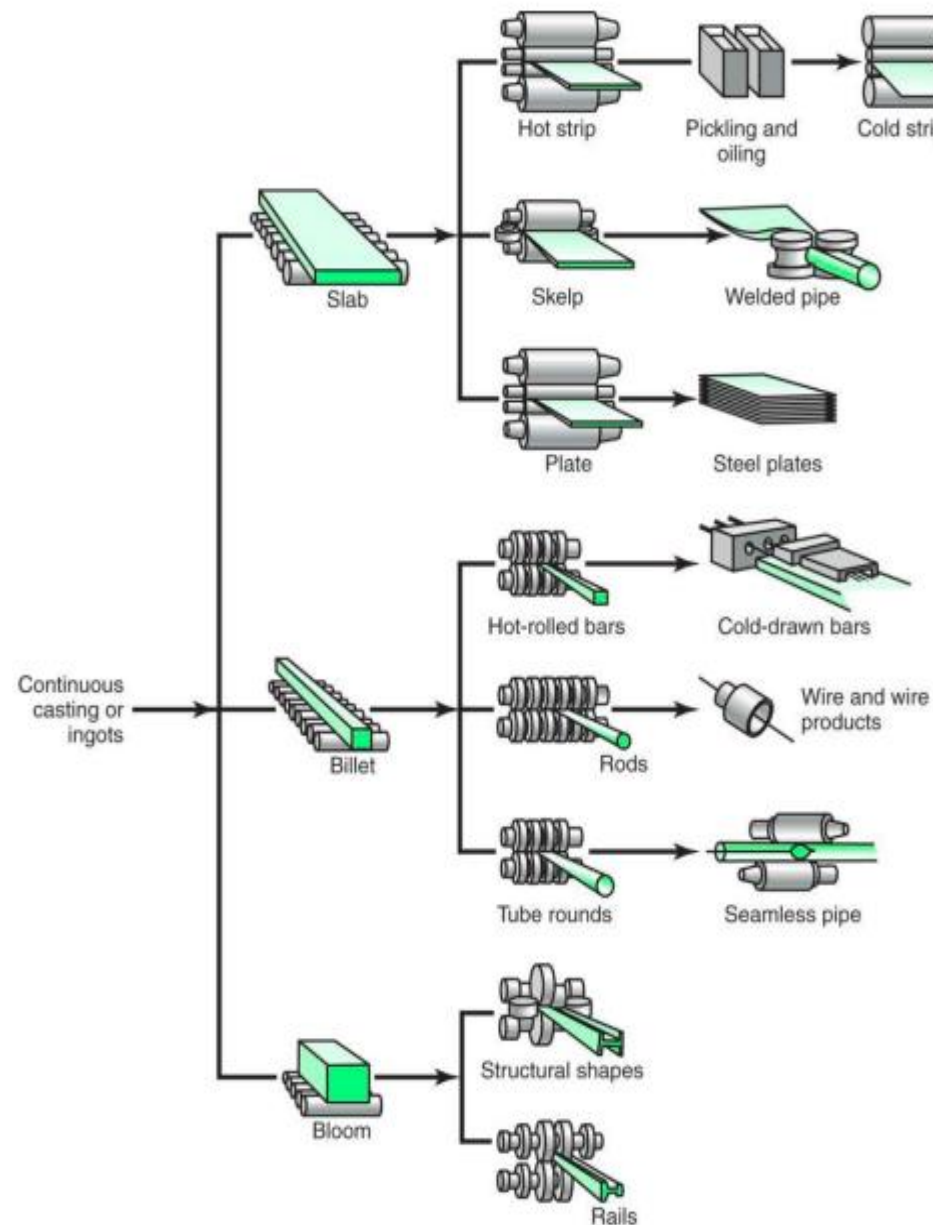
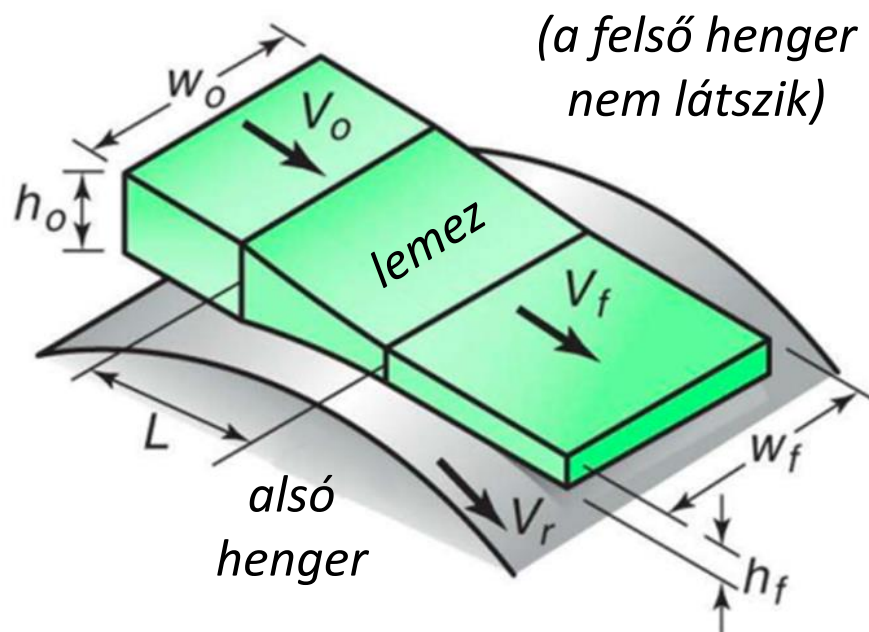


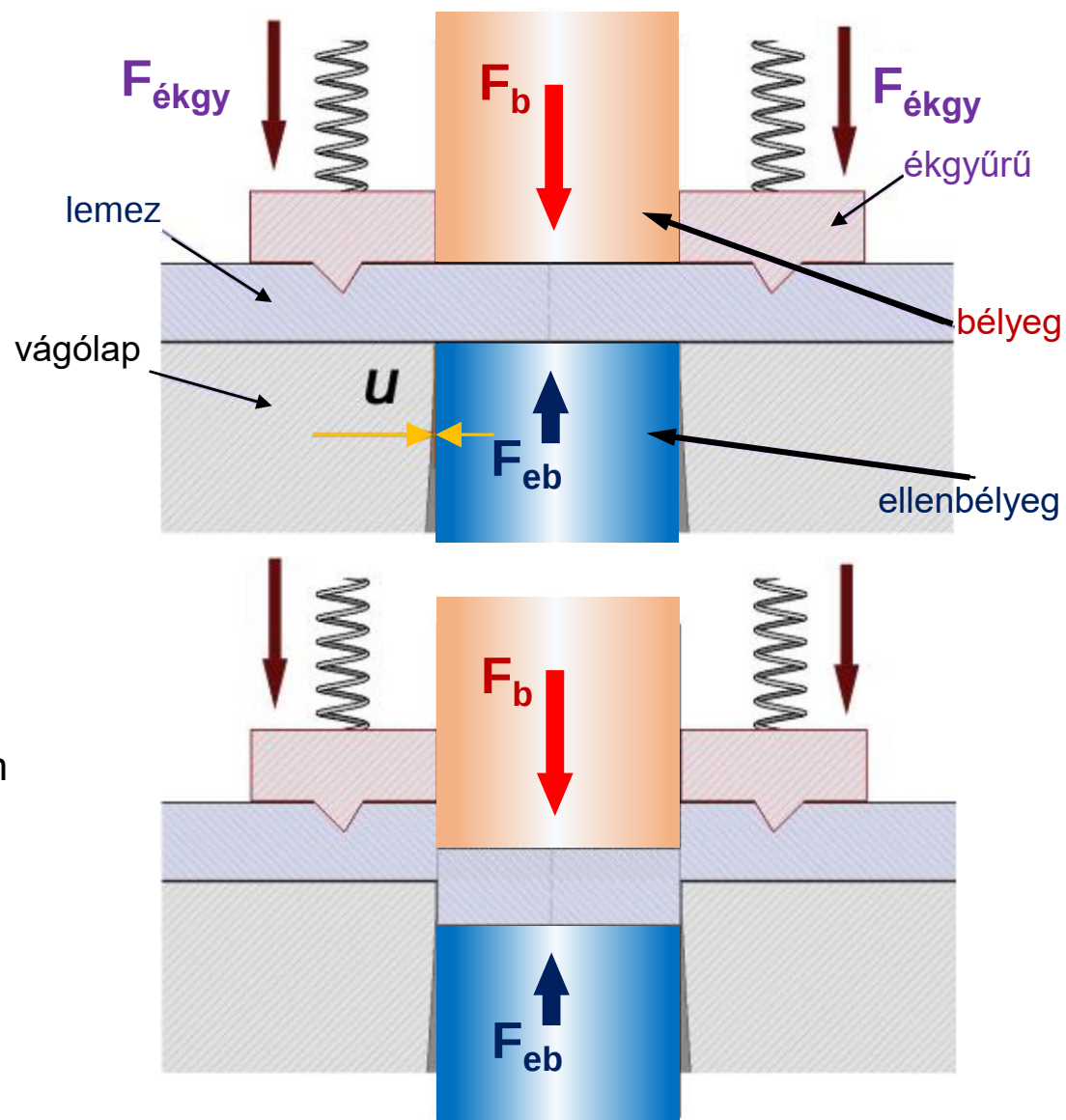
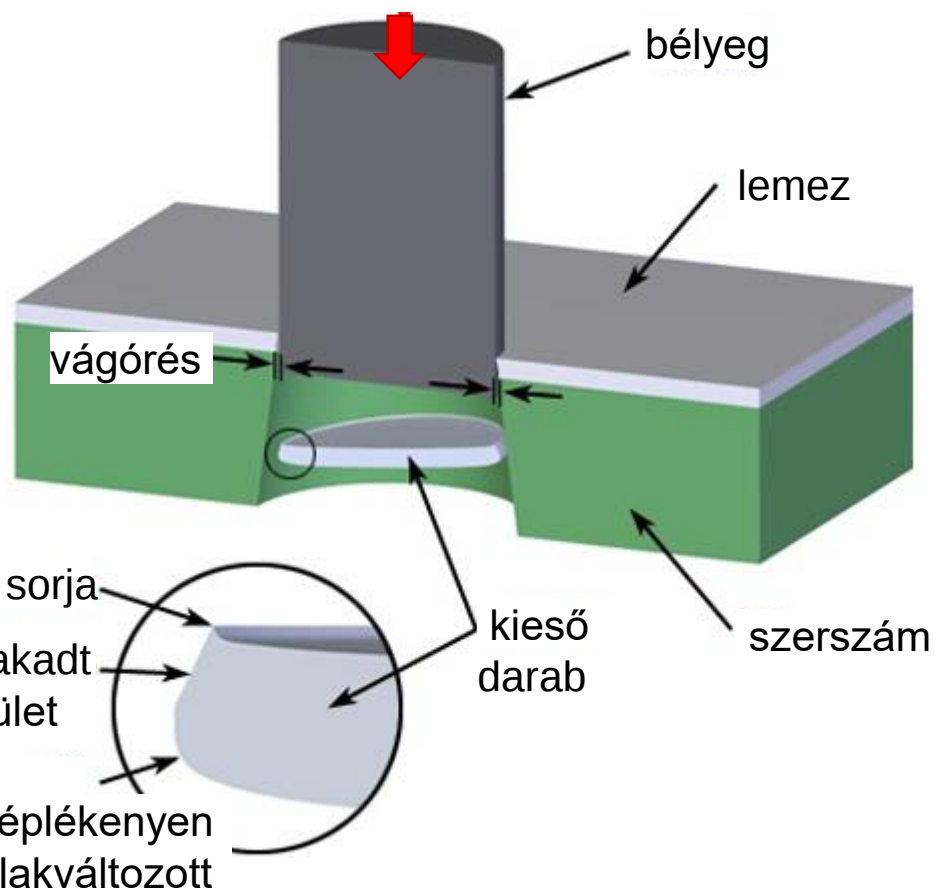
Alakítási folyamatok

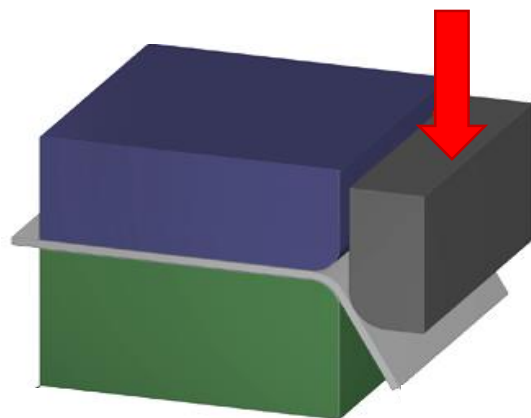




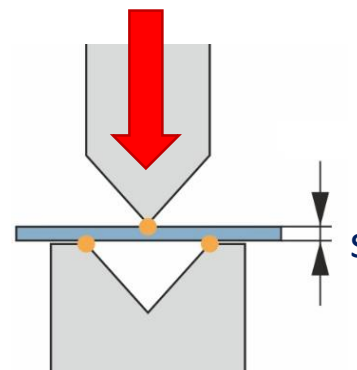






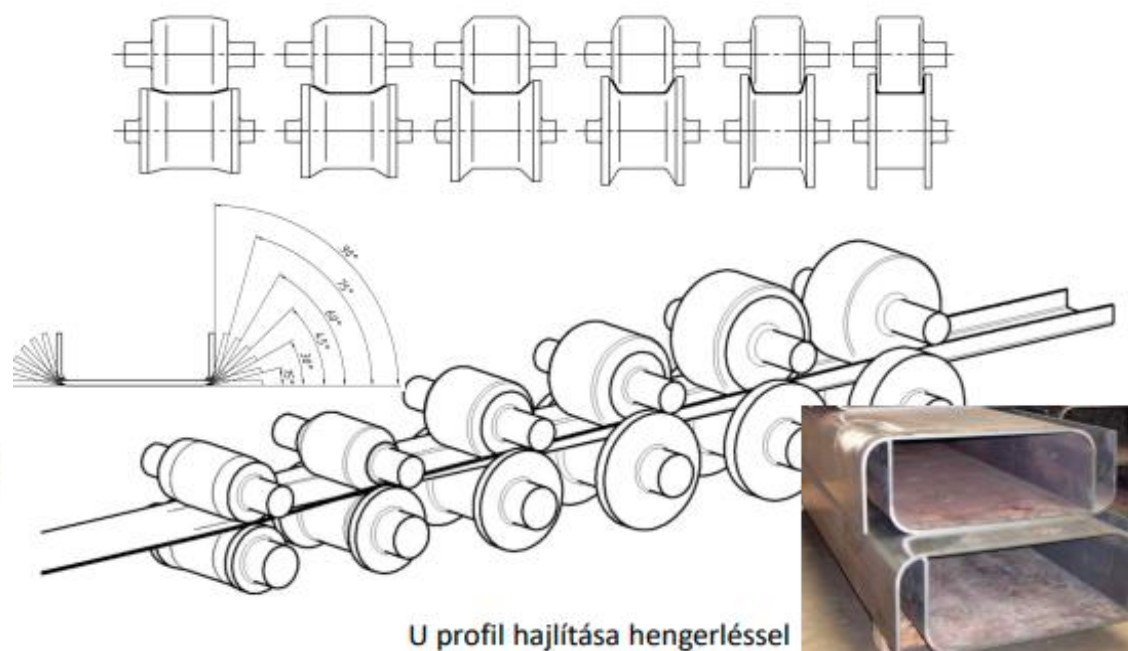
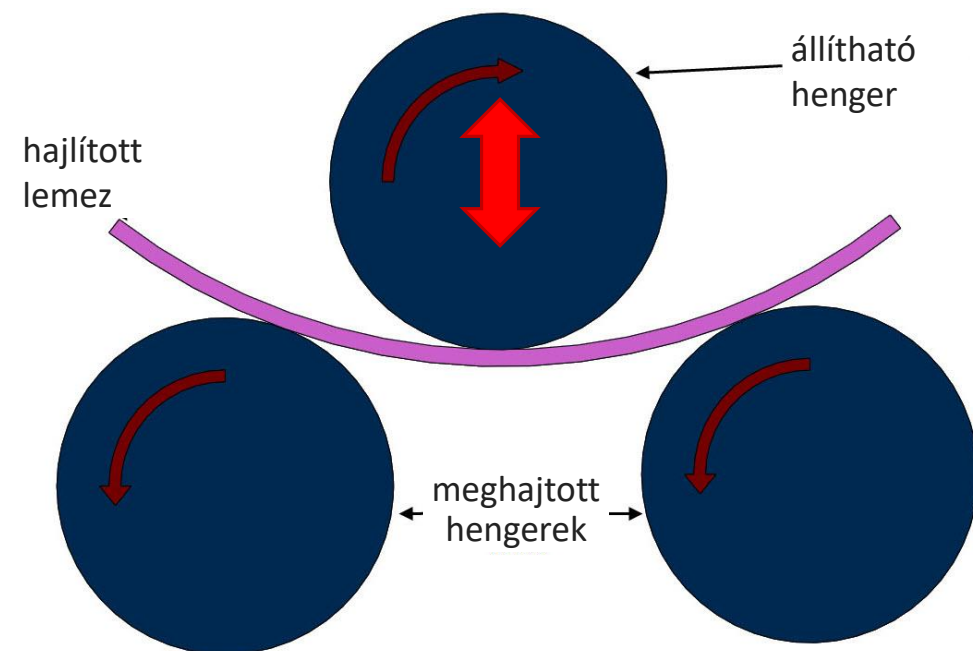


Szabad hajlítás

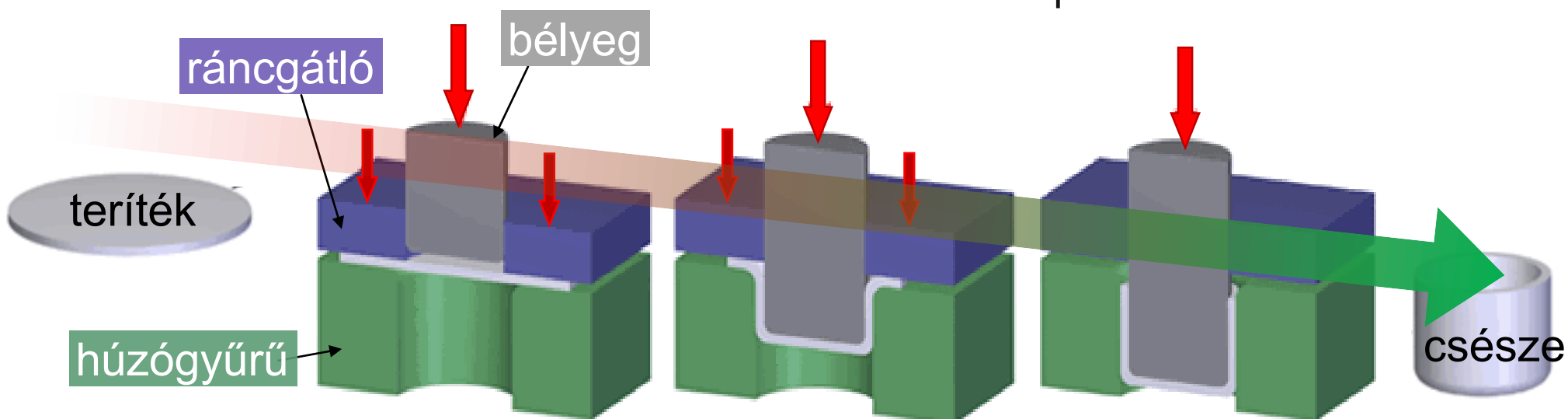
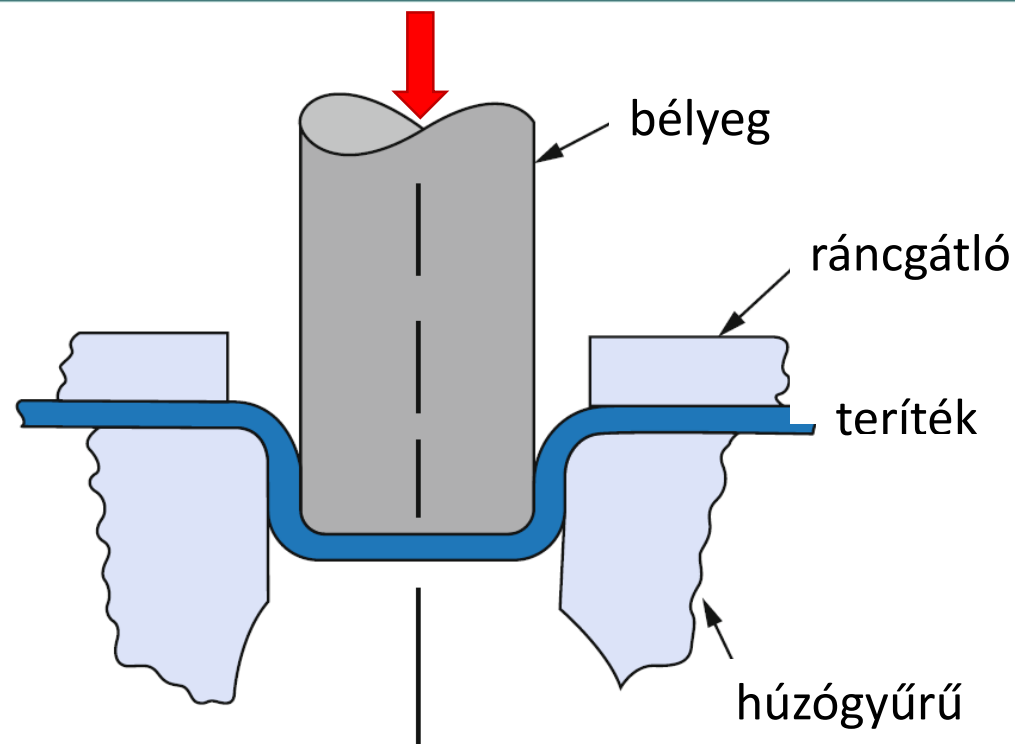


Hajlítás szerszámban

Hajlítás hengerléssel



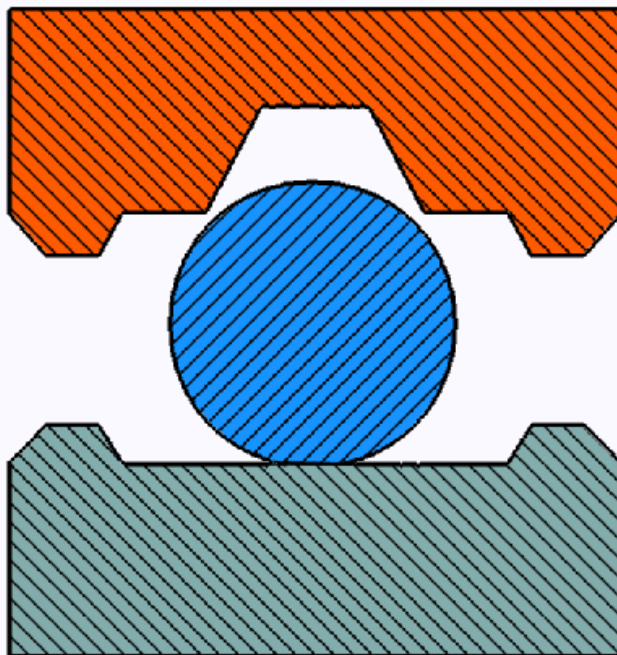
A legegyszerűbb formában a mélyhúzási műveletet úgy végezzük, hogy egy megfelelő méretű kör alakú lemezdarabot, terítéket helyezünk a bélyeg és a húzógyűrű közé, majd a lemezt a szerszámba nyomjuk.



Szabadalakító kovácsolás



Süllyesztékes kovácsolás



Köszönöm a figyelmet!