

04

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# CIÊNCIA E ENGENHARIA DOS MATERIAIS

Engenharia de Produção / Engenharia Mecânica  
Prof. Luis Fernando Maffei Martins

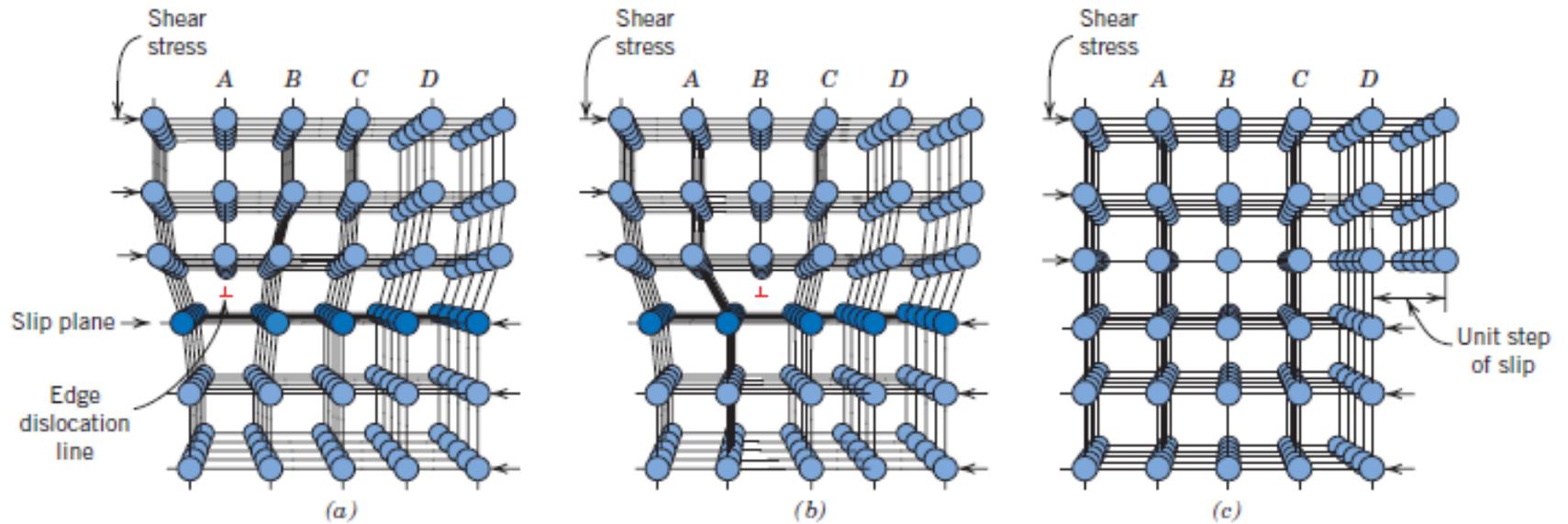
# Deformação elástica x plástica



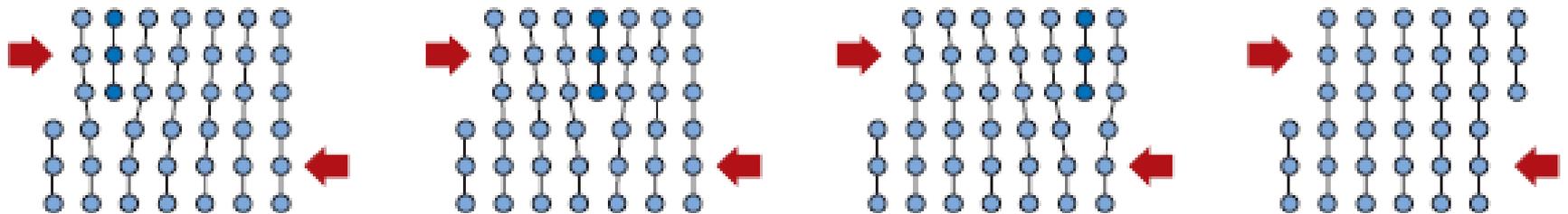
# Deformação elástica x plástica

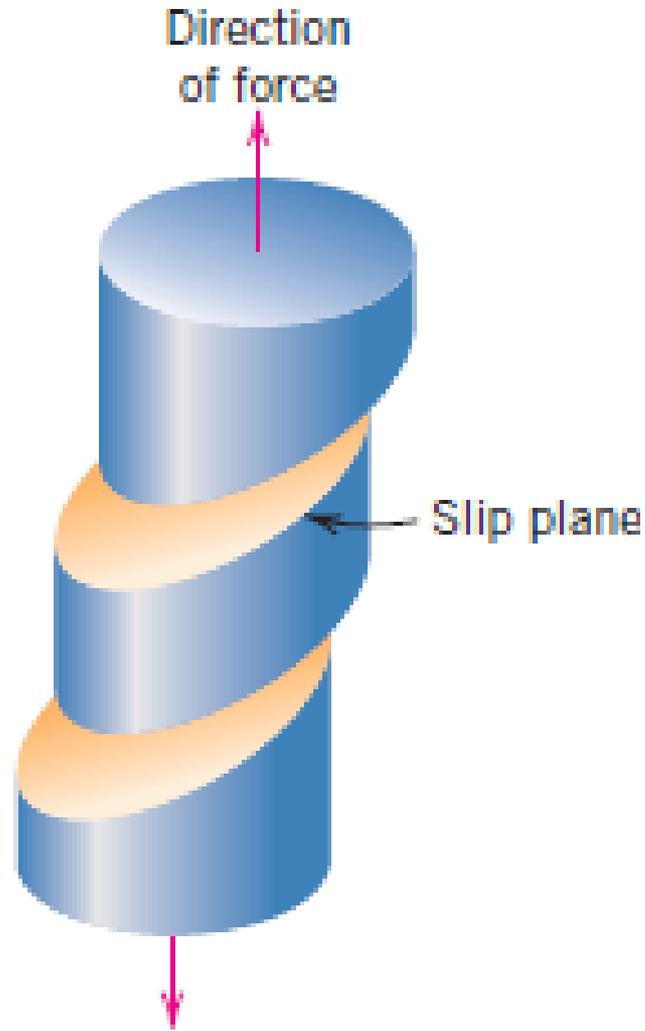


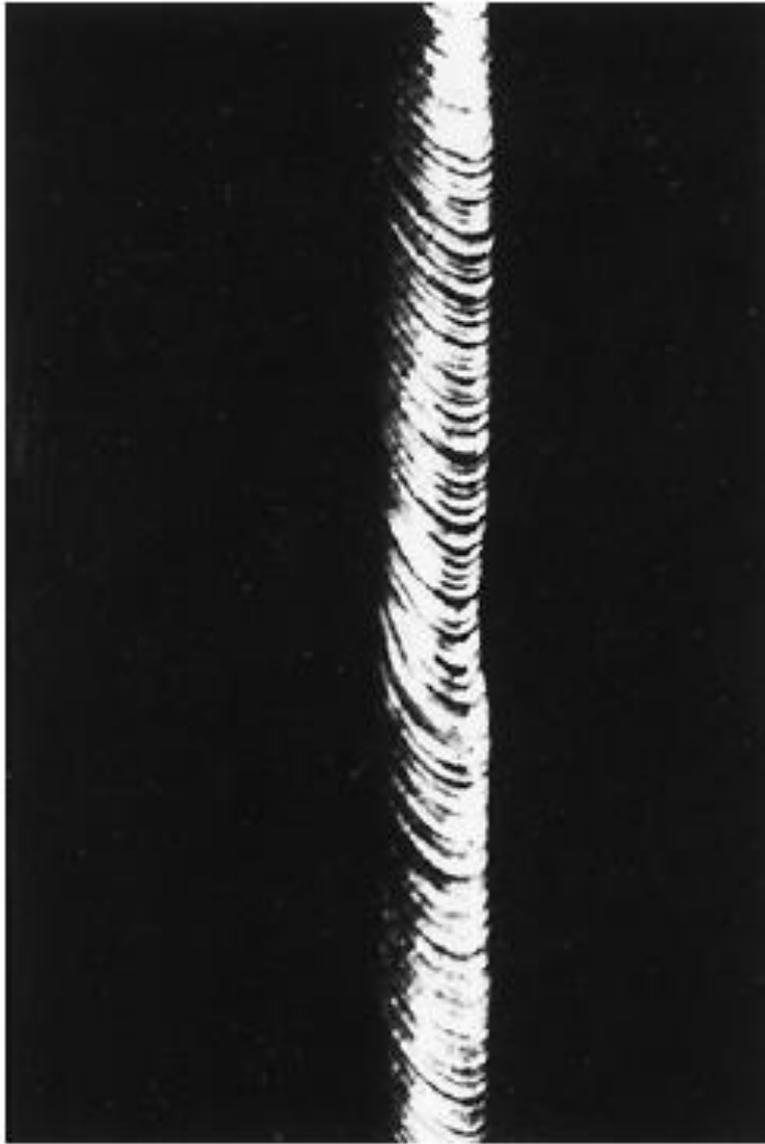
# Discordâncias e deformação plástica



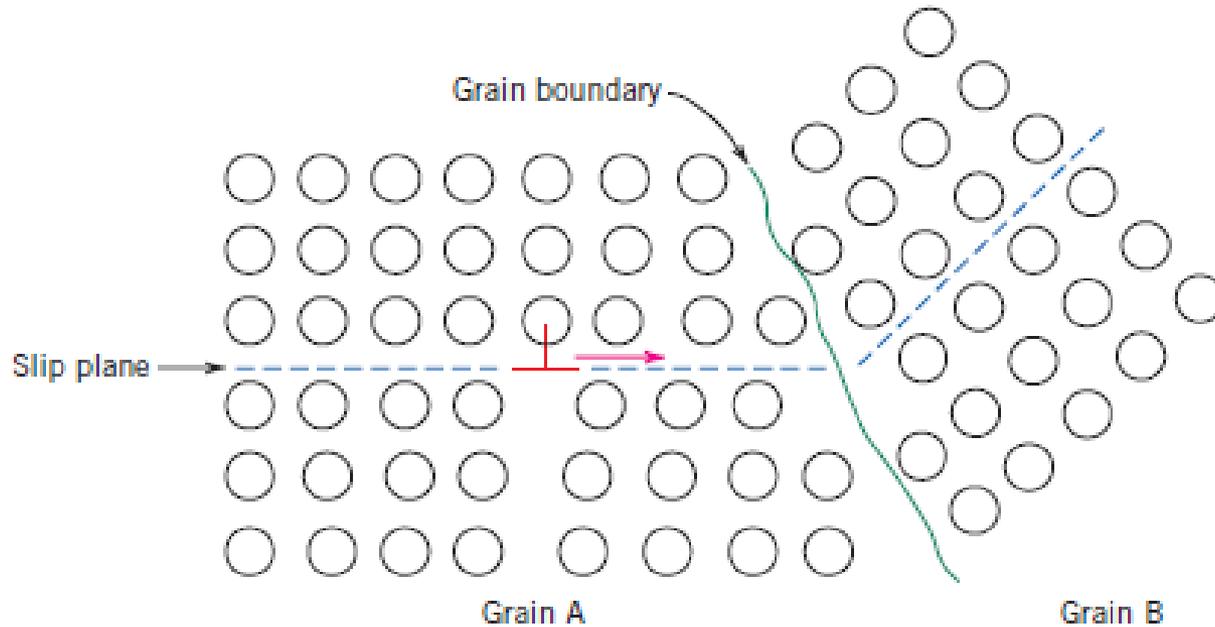
# Discordâncias e deformação plástica



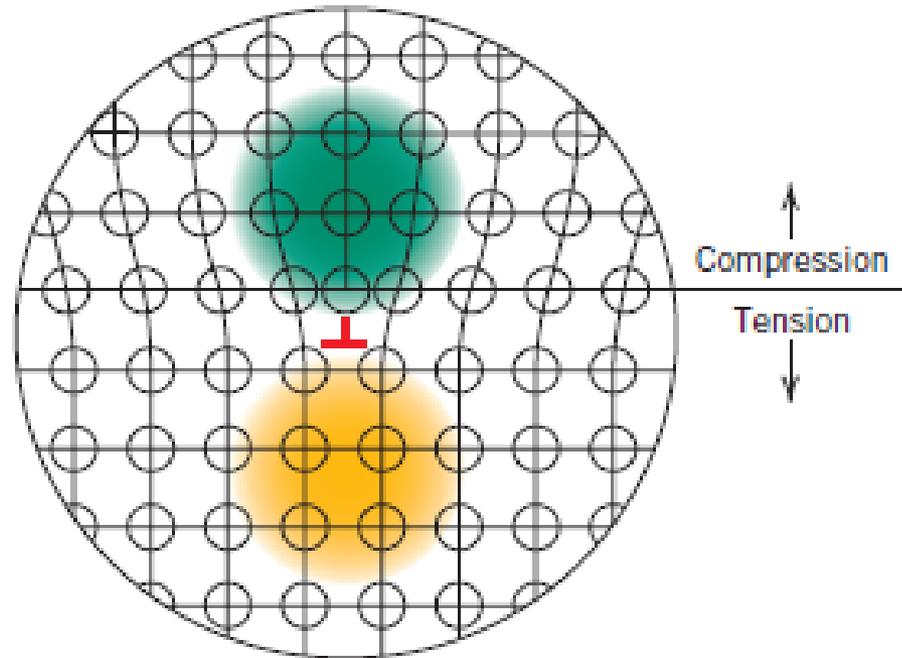




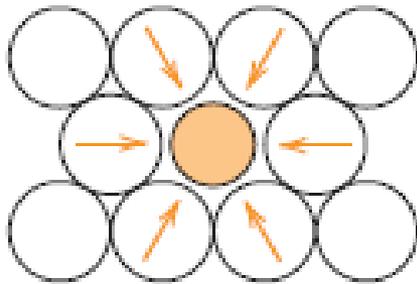
# Discordâncias e deformação plástica



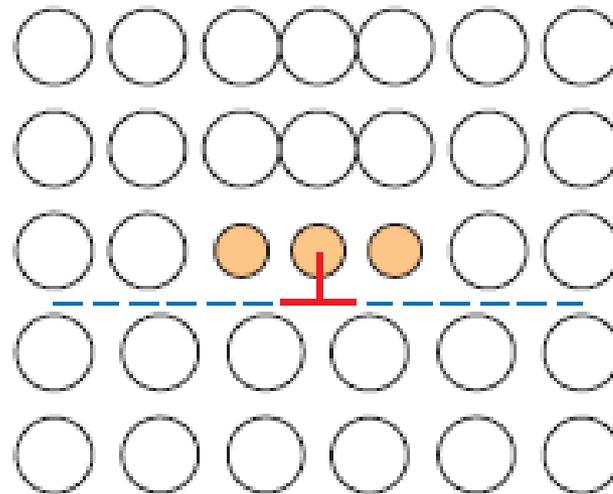
# Discordâncias e deformação plástica



# Discordâncias e deformação plástica

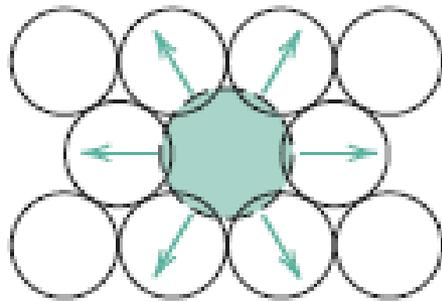


(a)

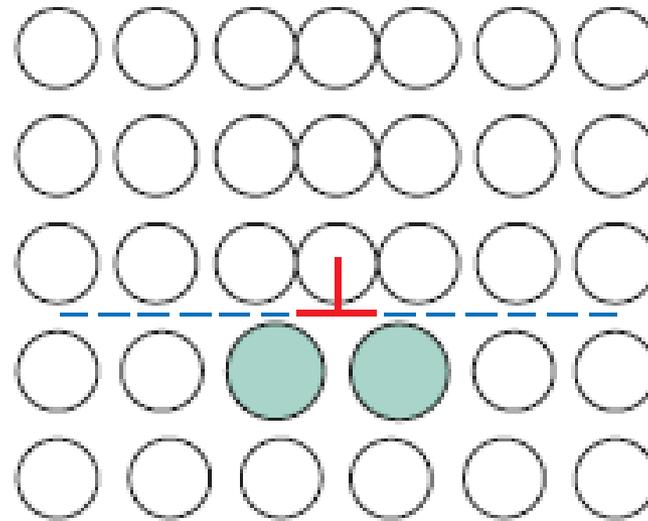


(b)

# Discordâncias e deformação plástica



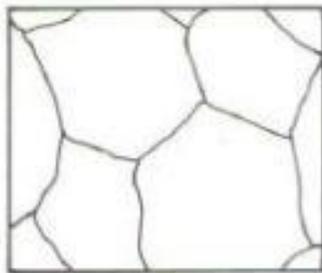
(a)



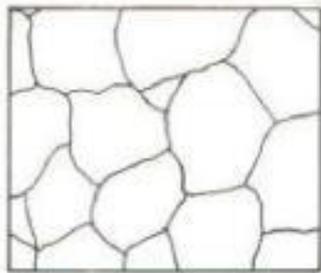
(b)

# Mecanismos de endurecimento

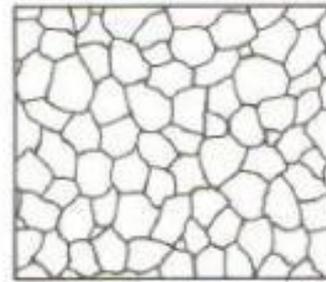
- Redução do tamanho de grão



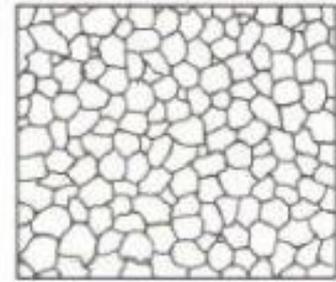
N° 1



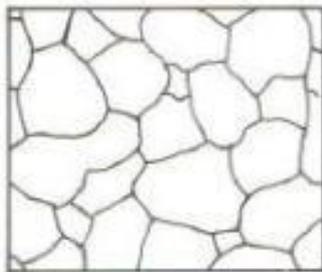
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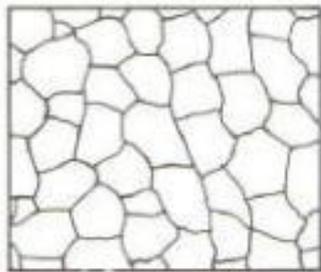
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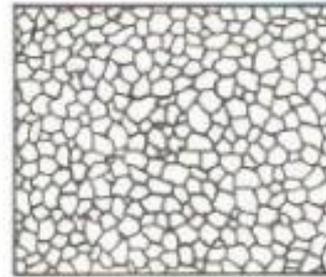
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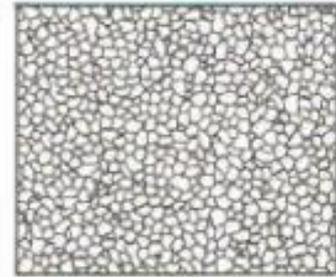
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N° 4



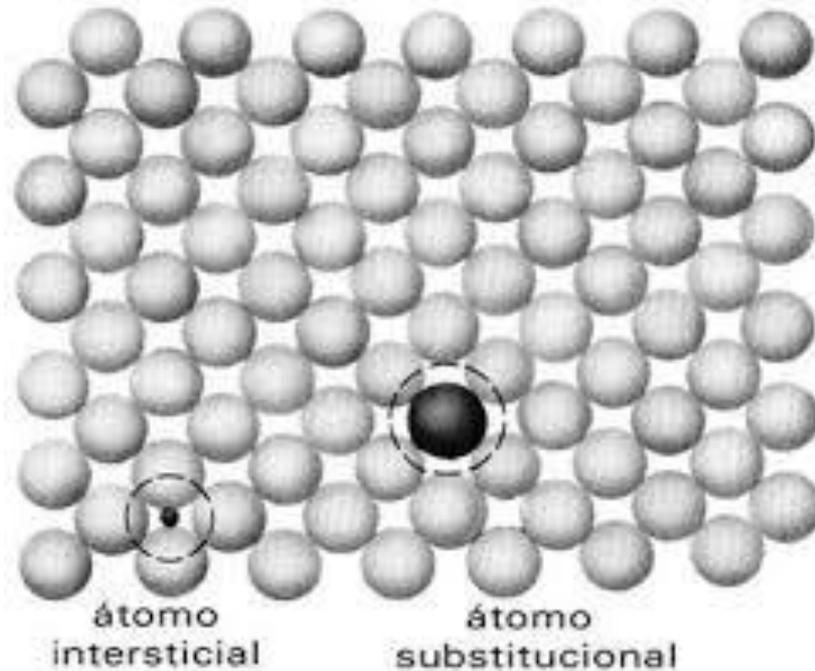
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N° 8

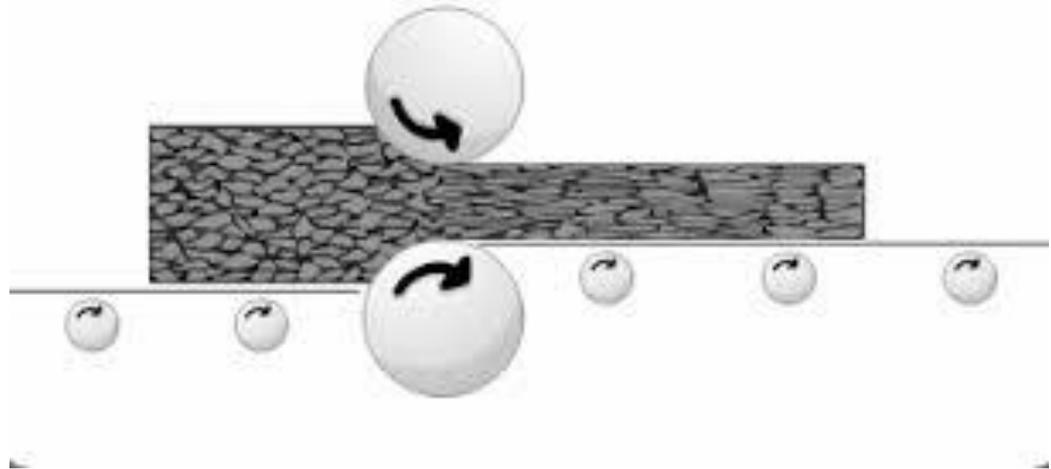
# Mecanismos de endurecimento

- Redução do tamanho de grão
- Solução sólida



# Mecanismos de endurecimento

- Redução do tamanho de grão
- Solução sólida
- Encruamento (deformação plástica a frio)



# Conceitos de força x tensão

