ESTUDIO DE HEAs (HIGH-ENTROPY ALLOYS) COMO ALTERNATIVA EN APLICACIONES AEROESPACIALES

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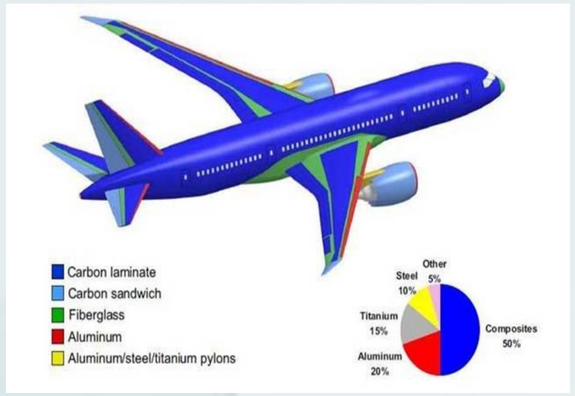
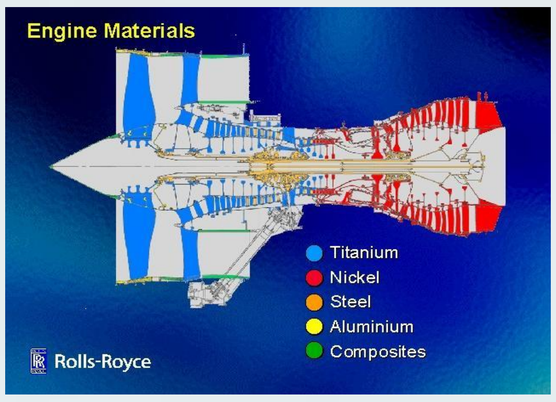
INTRODUCCIÓN

- Requisitos principales
- Materiales aeroespaciales



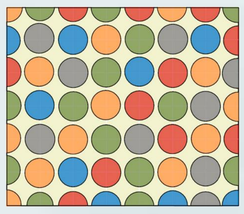


HEAs

- **¿Qué son?**
- **Características principales**
  - ❖ Concepto teórico de la alta entropía
  - ❖ Cualidades intrínsecas
  - ❖ Aleantes de mayor interés

Cualidades intrínsecas

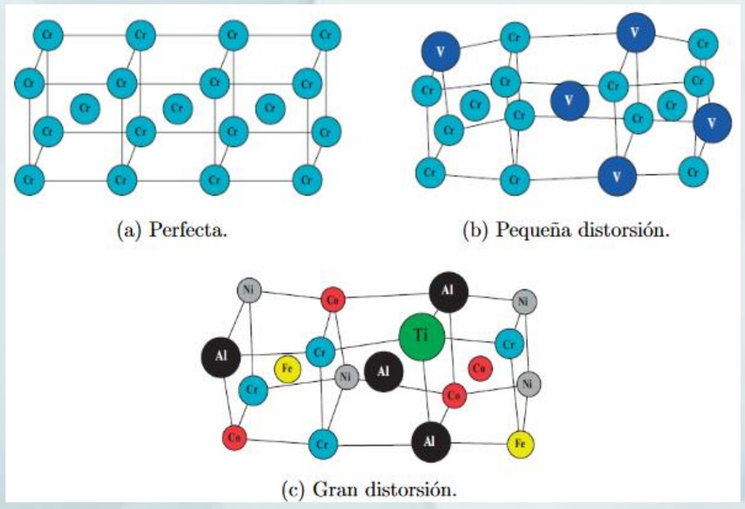
Alta entropía



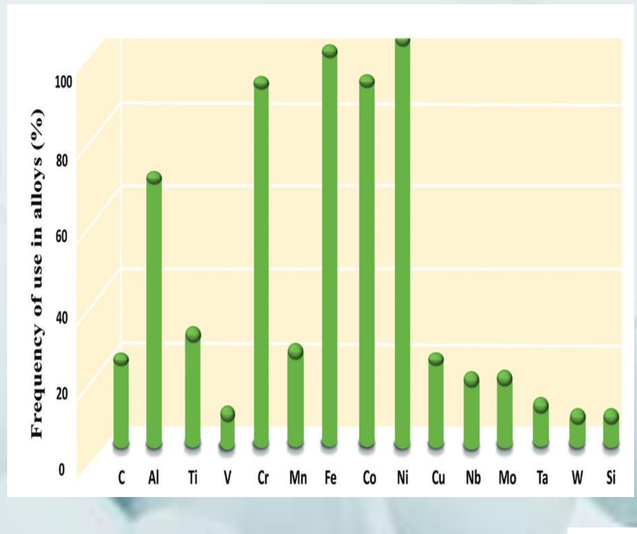
Difusión lenta

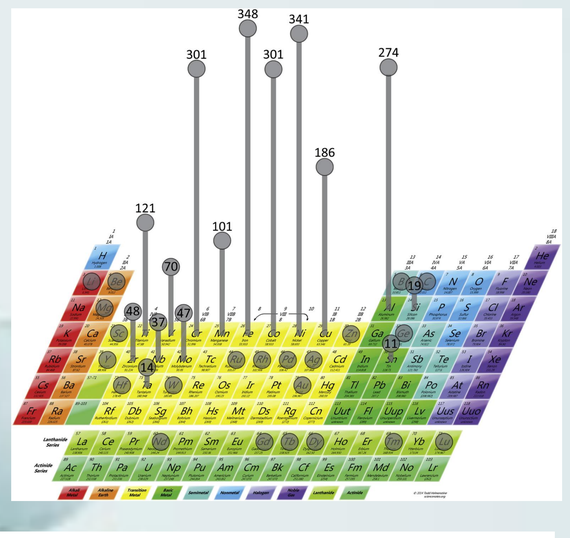
Efecto cóctel

Distorsión de la red

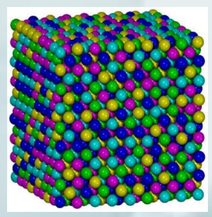


Aleantes de mayor interés





HEAs más estudiadas

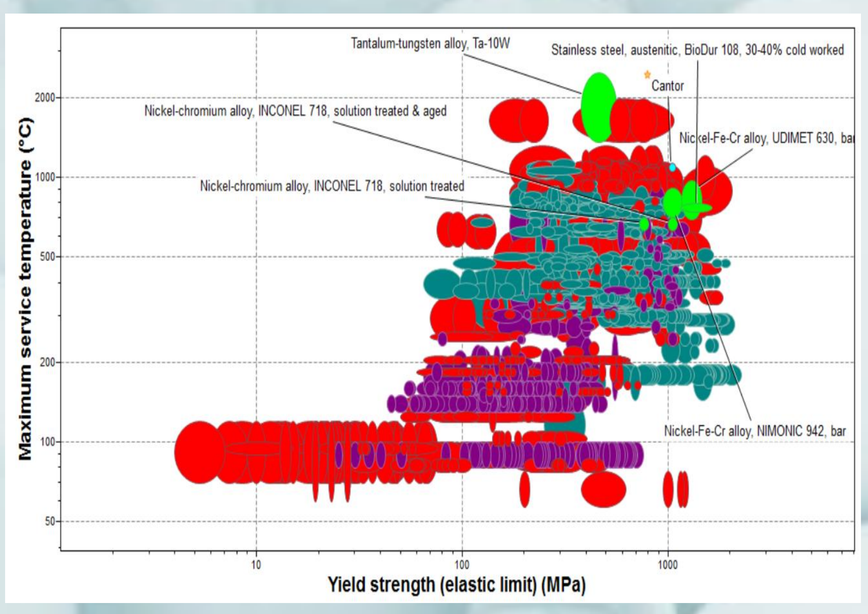


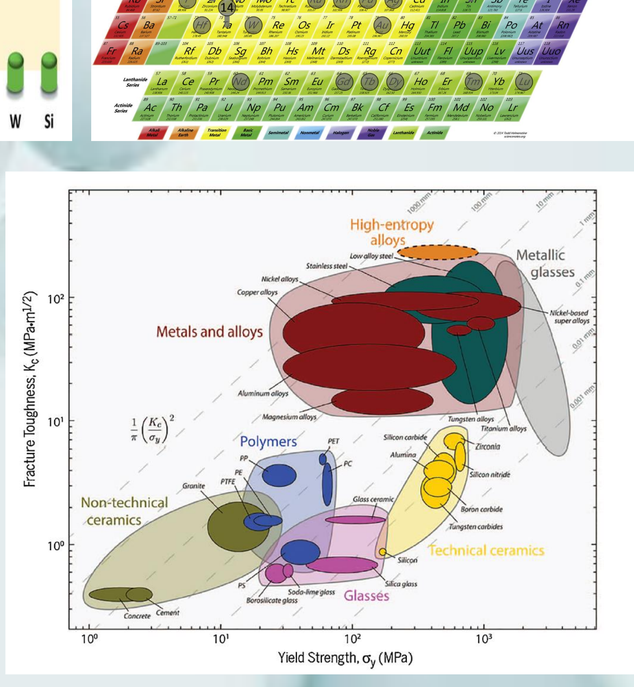
Aleación de Cantor: $Fe_{20}Co_{20}Cr_{20}Mn_{20}Ni_{20}$

Aleaciones constituidas por Al, Cr, Fe, Mn y Ti:

- C1 : $Al_5Cr_{30}Fe_{30}Mn_{30}Ti_5$
- C2 : $Al_{10}Cr_{30}Fe_{25}Mn_{30}Ti_5$

Comparación con materiales de uso actual





Propiedades más relevantes

Adaptabilidad

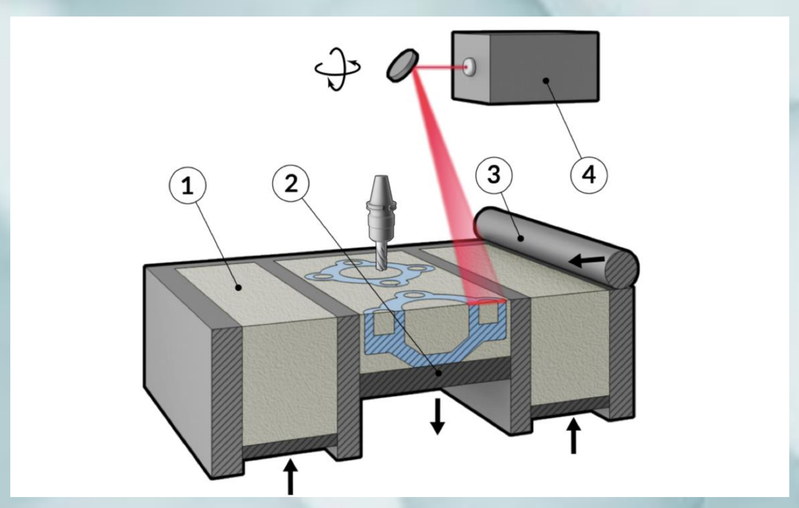
Resistencia

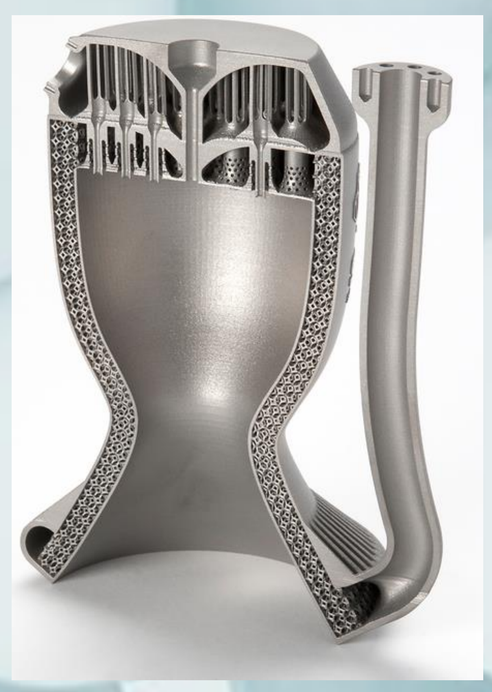
Alta temperatura

Métodos de fabricación y procesado

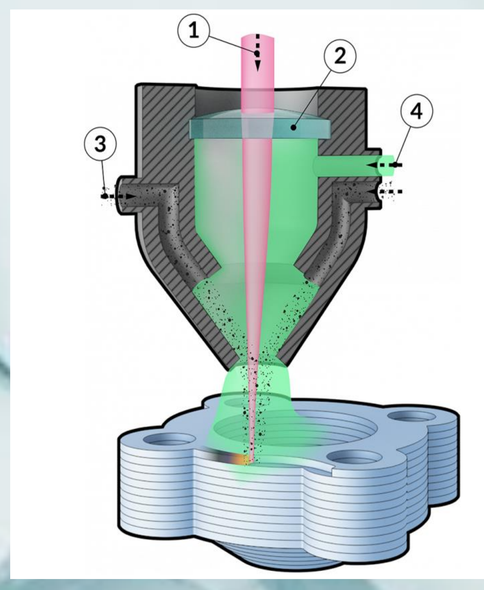
Fabricación aditiva (AM)

SLM (Selective Laser Manufacturing)

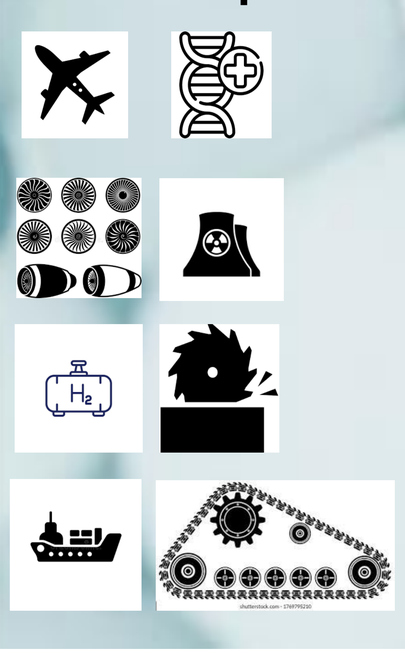




LENS (Laser Engineered Net Shaping)



Posibles aplicaciones



Mejoras futuras y desarrollos actuales más prometedores