

A photograph showing three people in a modern office setting. Two individuals are seated at a white table, facing each other in what appears to be a collaborative discussion. A laptop is open on the table between them. A third person is partially visible on the left side of the frame. The background features large windows with a view of a city skyline under a clear sky.

Agenda

- 1 Novedades (Parte 1)
- 2 MyESI
- 3 FLEX TOKENS (licencias desde 2023)
- 4 FV Grifería – Presentación de Cliente-
- 5 Pausa para el Café
- 6 Buenas Prácticas (Parte 1)
- 7 Novedades (Parte 2)
- 8 Buenas Prácticas (Parte 2)

Buenas prácticas ProCAST

- Modelado del horno en LPDC -



Reunión de Usuarios 2024

Iker Usategui Martinez | 19 septiembre 2024

A photograph showing three people in a modern office environment. A man in a blue shirt is seated at a white table, looking towards a woman in a white blouse who is also looking at him. A third person's back is partially visible on the left. A laptop and a coffee cup are on the table. The background shows a large window with a view of a city skyline.

Agenda

1

Introducción

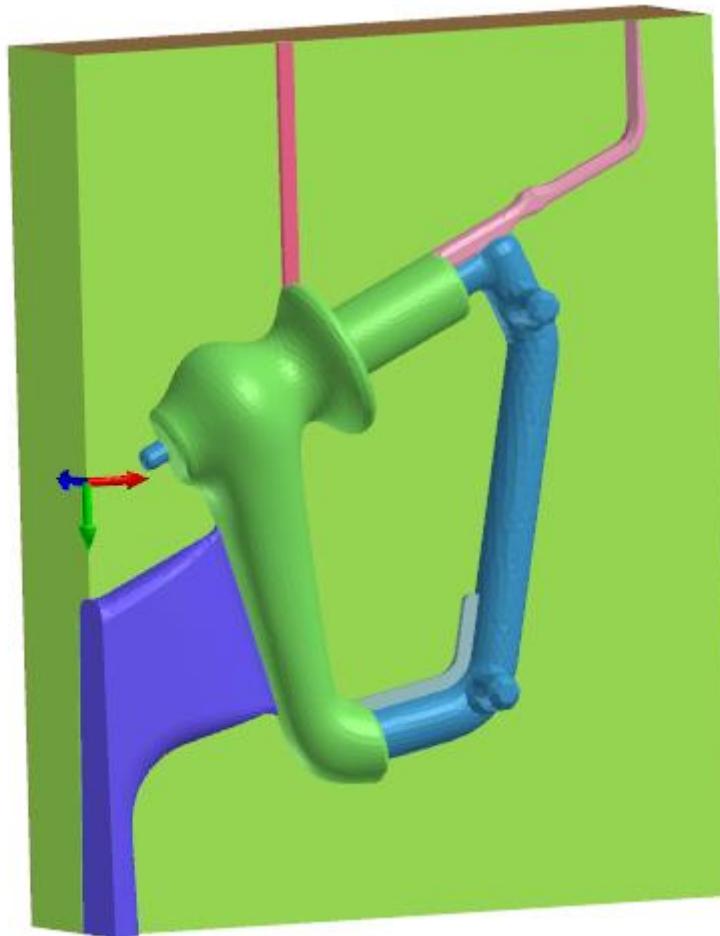
2

Ventajas

3

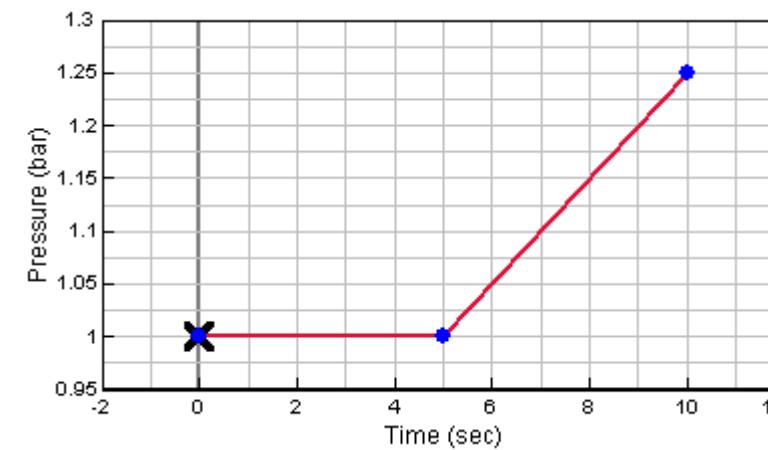
Modelado

Modelado sin horno



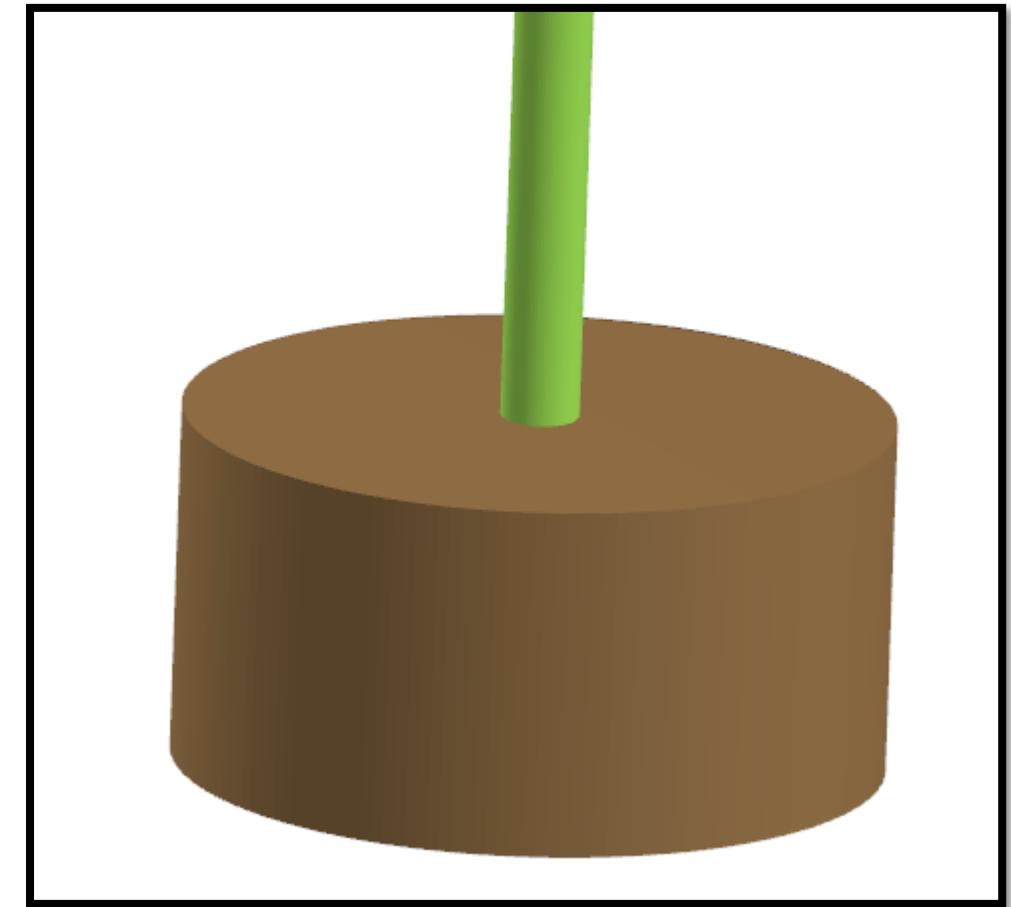
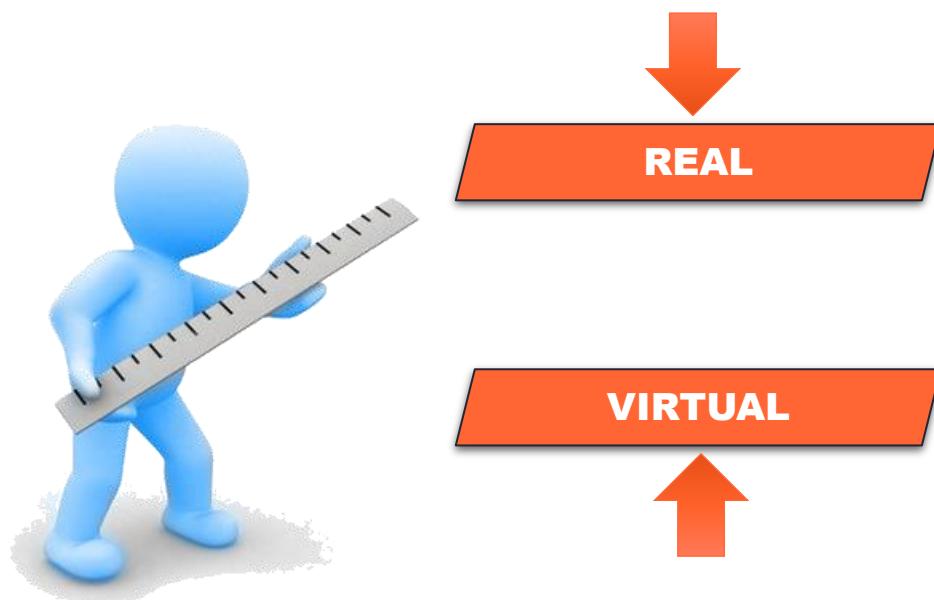
Ventajas:

- Geométricamente más sencillo
- No es necesario conocer la curva de máquina
- Solo se evalúa la fase de llenado





Modelado con horno



A photograph showing three people in a modern office environment. A man in a blue shirt is seated at a white table, looking towards a woman in a white blouse who is also looking at him. A third person's back is partially visible on the left. A laptop and a coffee cup are on the table. The background shows a large window with a view of a city skyline.

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Introducción

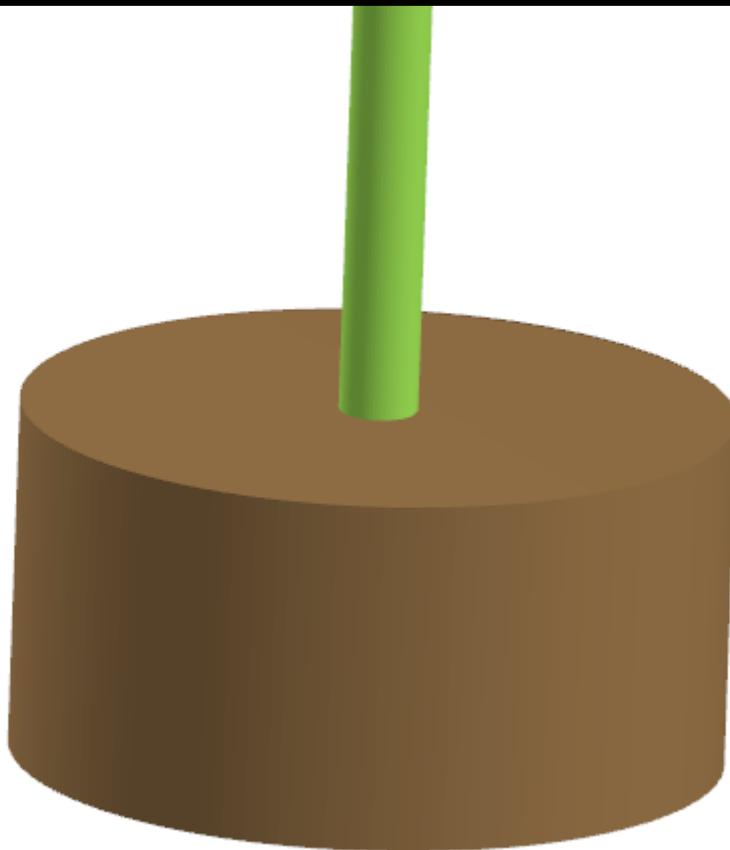
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Ventajas

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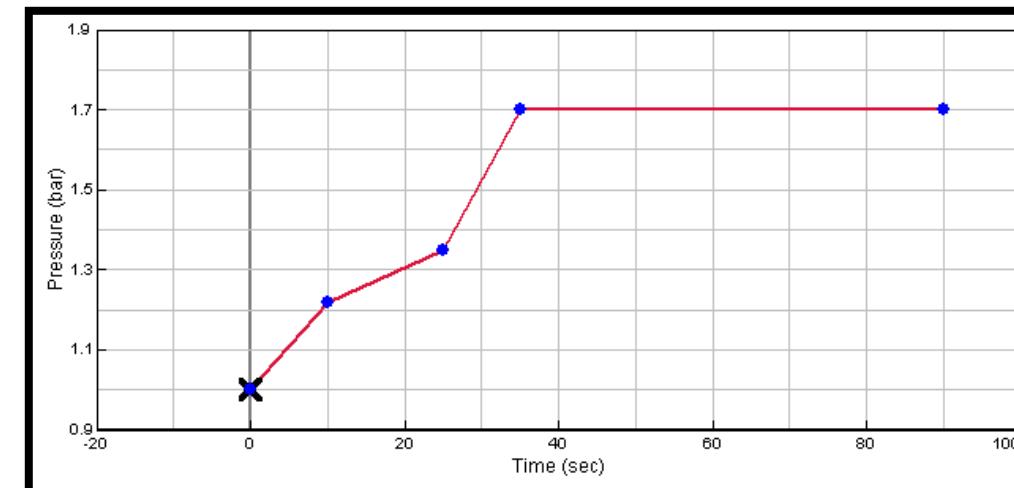
Modelado

Modelado con horno



Ventajas:

- Curva de presión de máquina
- Mayor precisión del cálculo de inercia de la aleación
- Análisis del instante de drenado.



A photograph showing three people in a modern office environment. Two individuals are seated at a white table, looking towards each other in conversation. A laptop and a coffee cup are on the table. In the background, another person is visible, also engaged in work. The scene is set against a large window with a view of a city skyline.

Agenda

1

Introducción

2

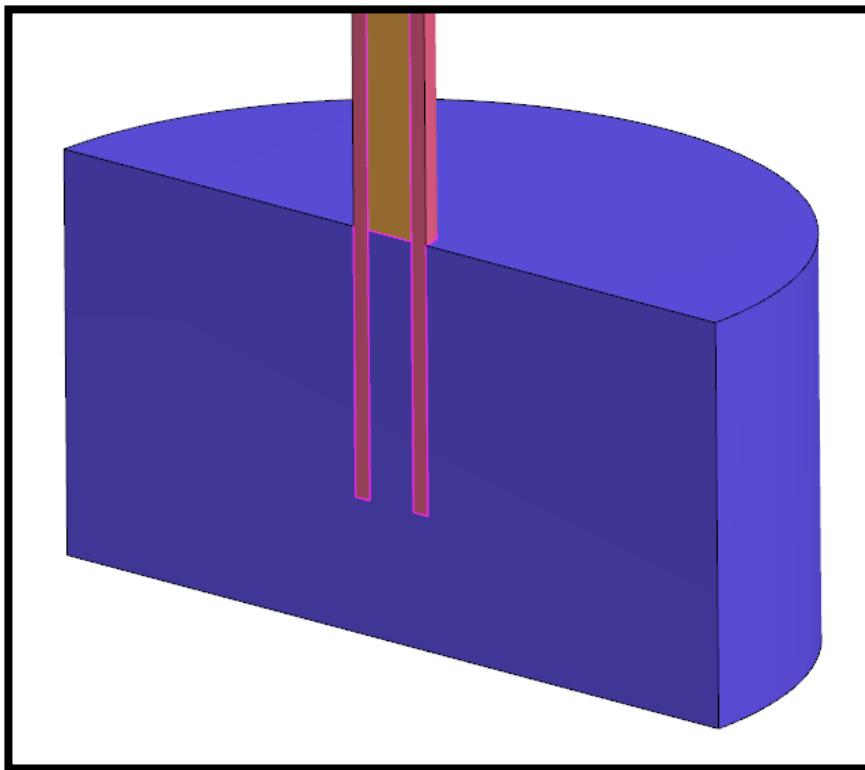
Ventajas

3

Modelado



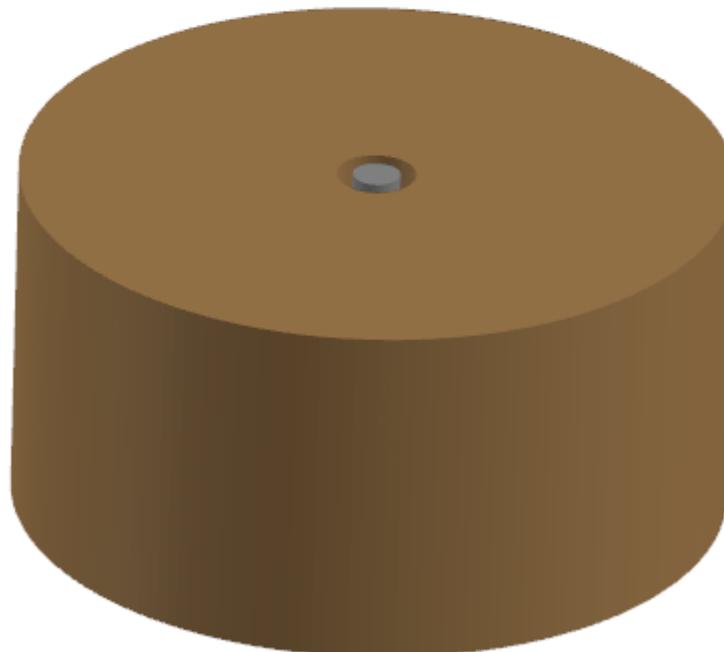
Modelado con horno



Importar geometría:

- Cavidad interior del horno.
- Tubo cerámico, deberá contener una parte dentro del horno.
- Volumen interior del tubo cerámico

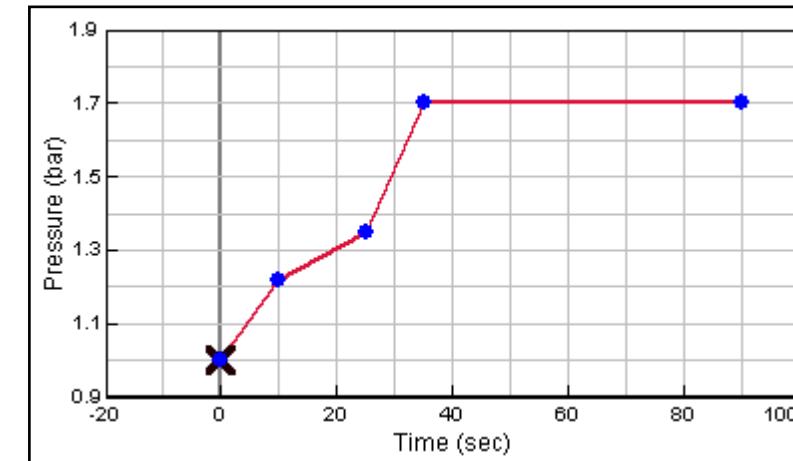
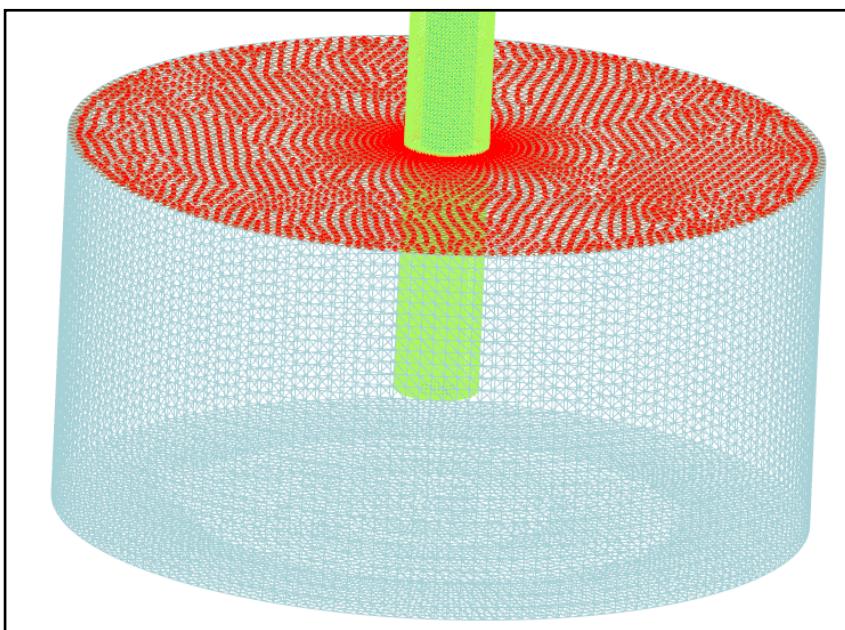
Modelado con horno



Volume Manager:

- Se asume que el horno esta siempre lleno.
- Se considera constante la temperatura de la aleación dentro del horno.
- Temperatura inicial del tubo cerámico igual que la del horno
=> se supone despreciable la pérdida de calor de la aleación a través del tubo cerámico.

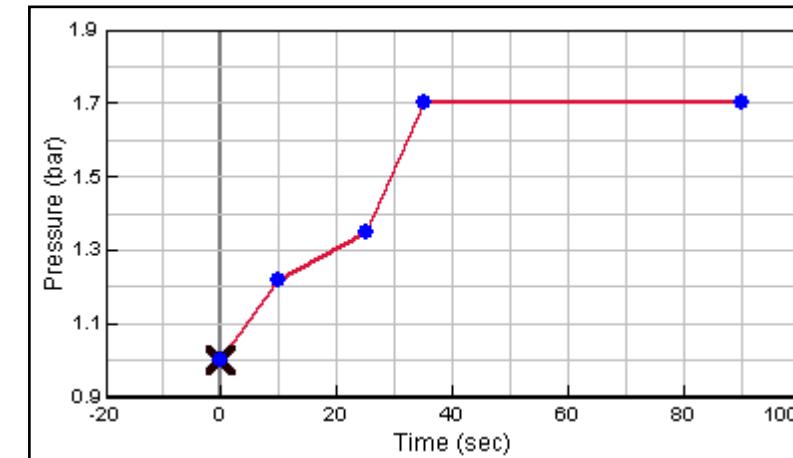
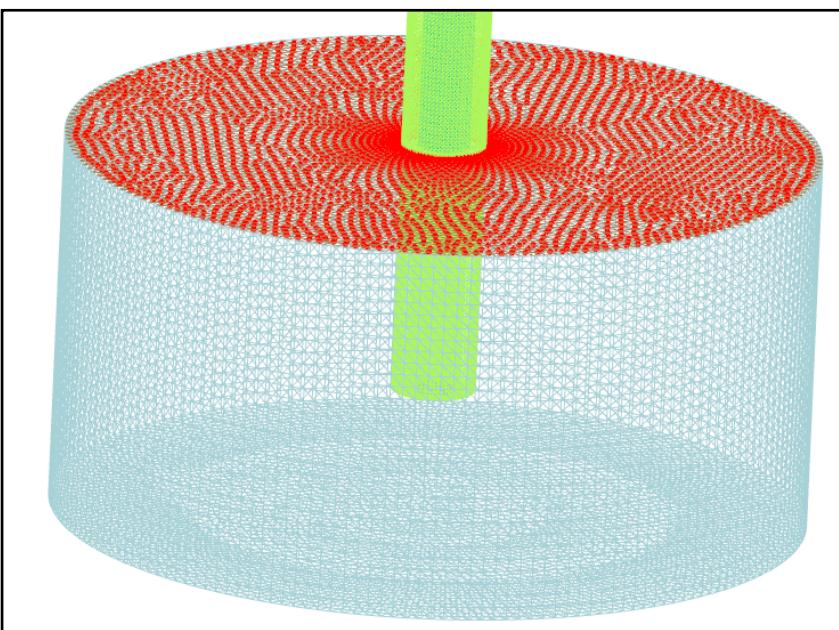
Modelado con horno



Inlet Pressure:

- Region: Toda la superficie superior del horno.
- Introducir la curva de presión real del horno. PREF = 1 bar.
- Temperatura inicial = temperatura del horno

Modelado con horno



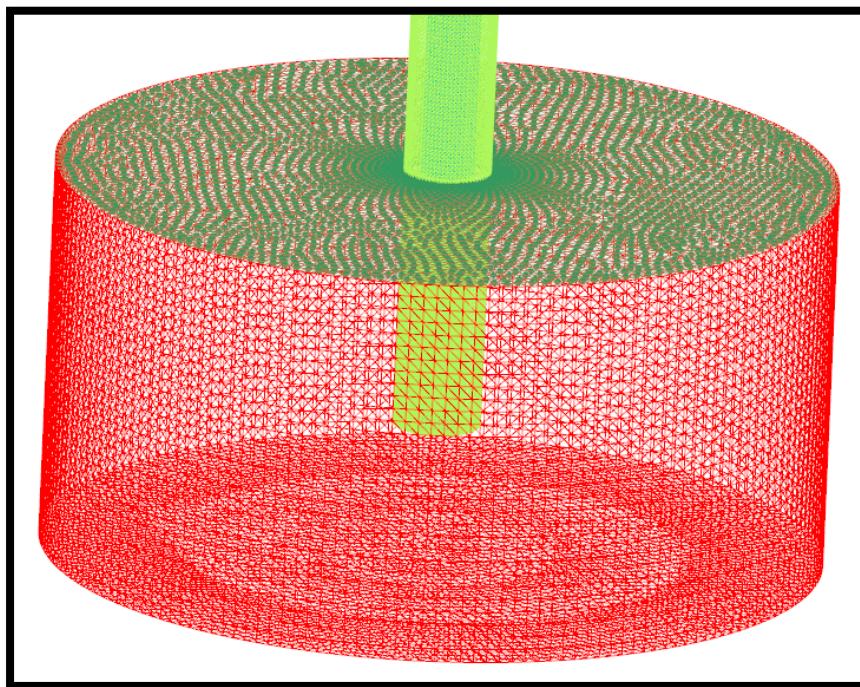
COMPROBACIÓN ANALÍTICA APROXIMADA:

Presión necesaria para llenar la pieza:

$$P = \rho \times g \times h$$

- ρ = densidad de la aleación
- g = gravedad
- h = altura total que debe subir la aleación (desde el horno hasta la zona más alta de la pieza)

Modelado con horno



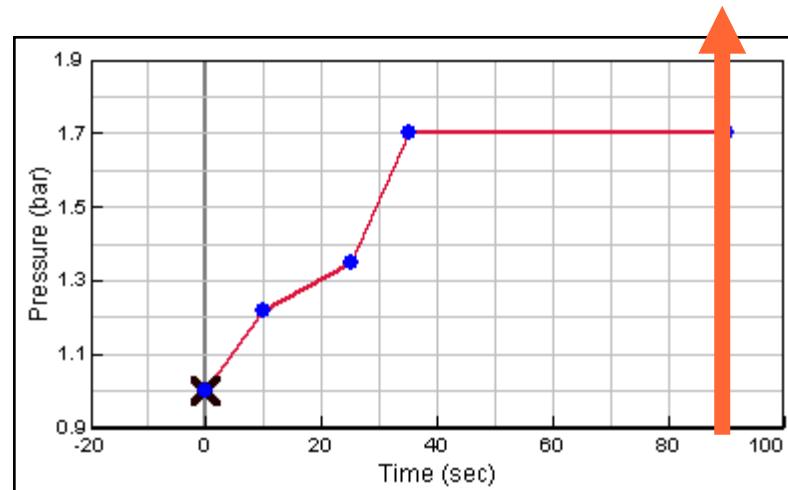
Condición de “Wall”:

- Region: Exterior del caldo del horno en contacto con las paredes interiores del horno

Modelado con horno

¿Cuál es el instante óptimo de drenado?

DRAINFS	LPDC draining limit	Const.	0.700000
DRAINTIME	LPDC draining time	Const.	90.000000 sec



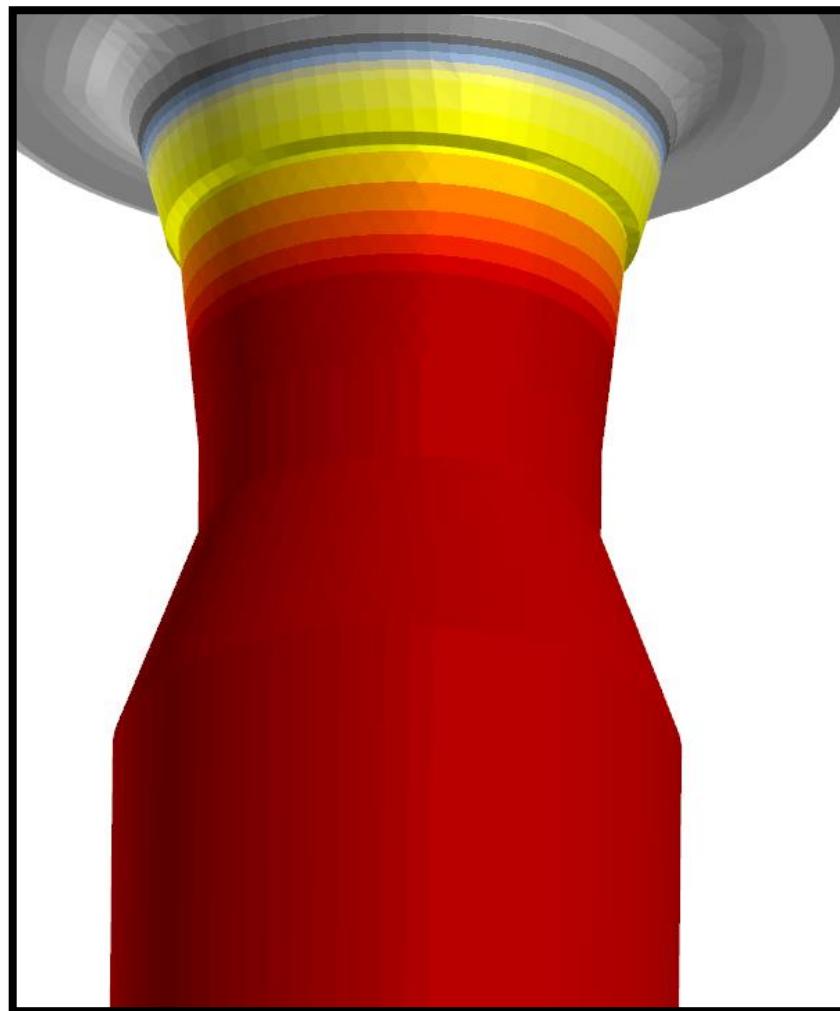
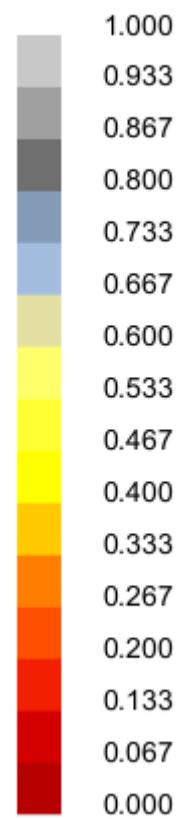
Se define como DRAINTIME, el instante de caída de presión en el horno.

Toda la aleación con una fracción sólida inferior al valor DRAINFS, será devuelta al horno.

Modelado con horno

¿Cuál es el instante óptimo de drenado?

Fraction Solid



¡Gracias!

Obrigado!



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