

Colloquium  
Aalen  
04.05.2023

**High solid fractions are key  
to best-quality castings**



**Figure 1- Hinge Pillar casting for large EV, produced in Comptech Rheocasting Process by Dynatool Industries Inc.**

**20% Solid fraction**



**40% Solid fraction**

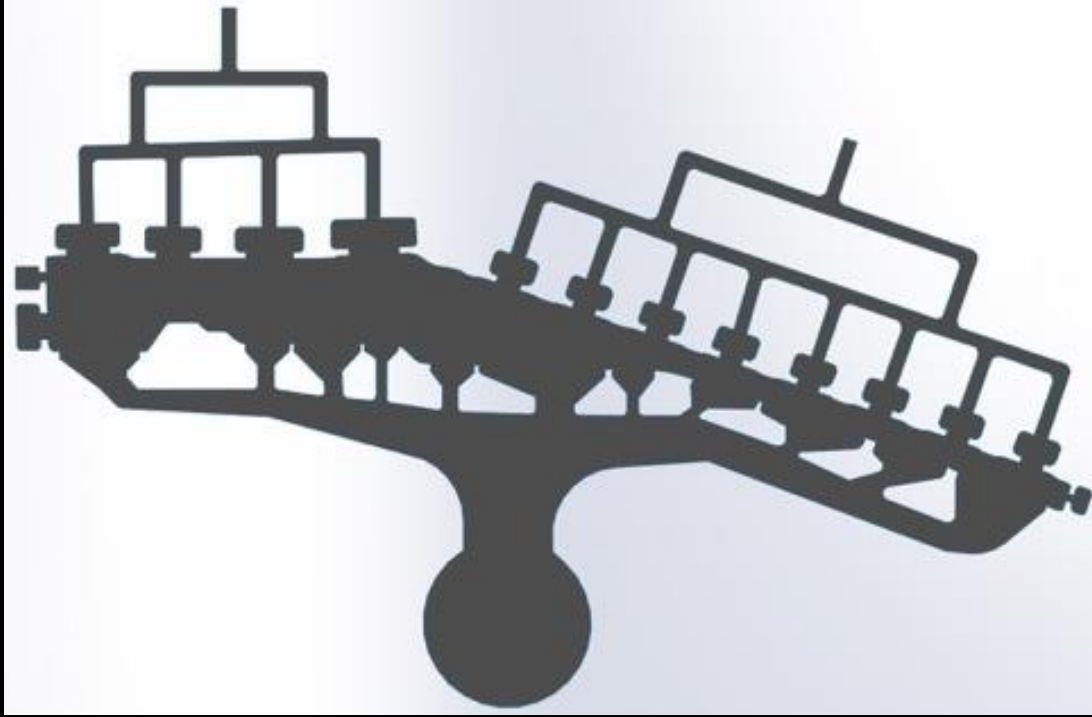


**40% Solid fraction**

**High solid fraction  
=  
Higher possible speed of  
laminar filling  
=  
Better castings**



**High solid fraction**  
**+**  
**Smaller die-casting machine**  
**=**  
**Double cost reduction**

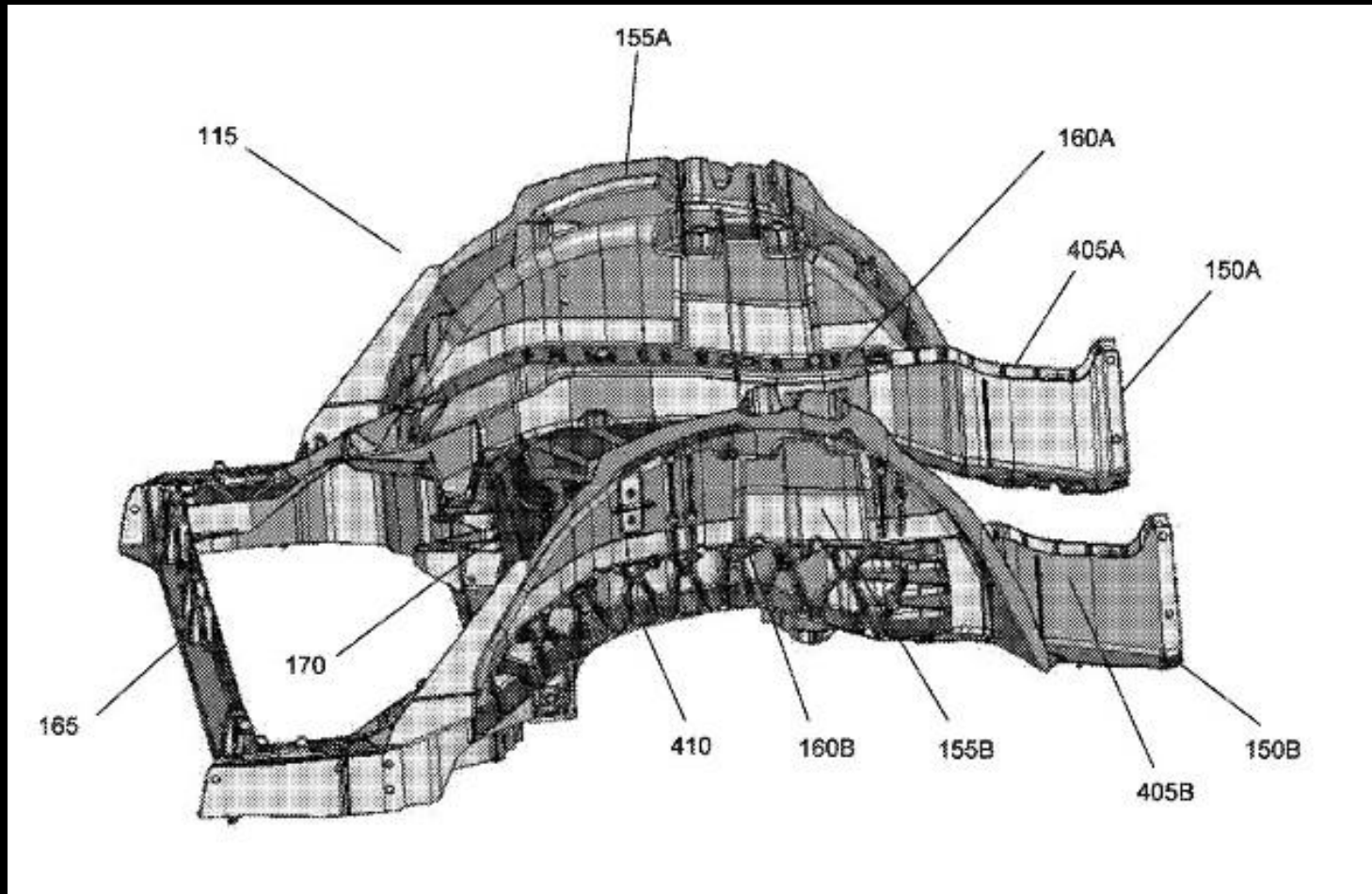


**Liquid HPDC**  
**2800 Tons clamping force**



**Comptech RheoMetal**  
**1650 Tons clamping force**

# Gigacastings



<b>Category</b>	<b>Verified results</b>	<b>Impact on part price</b>
<b>Machine size</b>	-30% bis -50%	- 6,82 Euro/Gigacasting
<b>Tool life time</b>	+60% to +100%	-42,86 Euro/Gigacasting
<b>Longer flow length</b>	+76% longer flow length	-21,79 Euro/Gigacasting
<b>Lower porosity</b>	-50% wall thickness reduction	
<b>CO<sub>2</sub> taxes</b>	0,17 bis 0,47 kg CO <sub>2</sub> /kg Al	-18,68 Euro/Gigacasting
<b>Cost savings</b>		<b>-90,14 Euro/Gigacasting</b>



# Silicon is the biggest CO<sub>2</sub> driver in sustainable castings

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