

Warm Compaction and Densmix[®]

Your route to excellent part performance and productivity

Warm Compaction

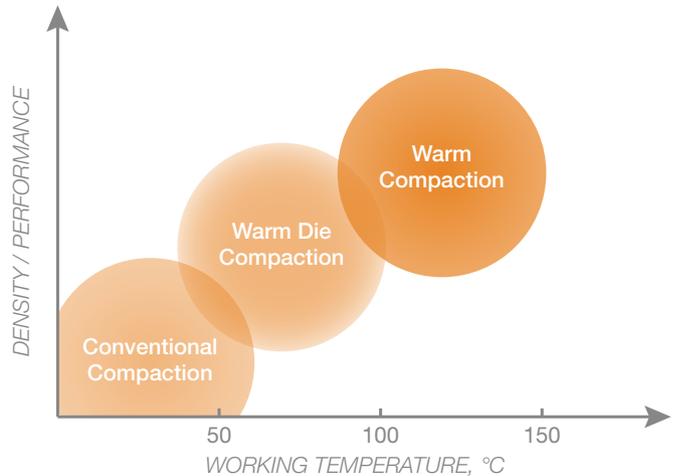
What is warm compaction?

Warm compaction means pressing at elevated temperatures (>100°C) and is the logical choice to reach top performance levels on processes and parts.

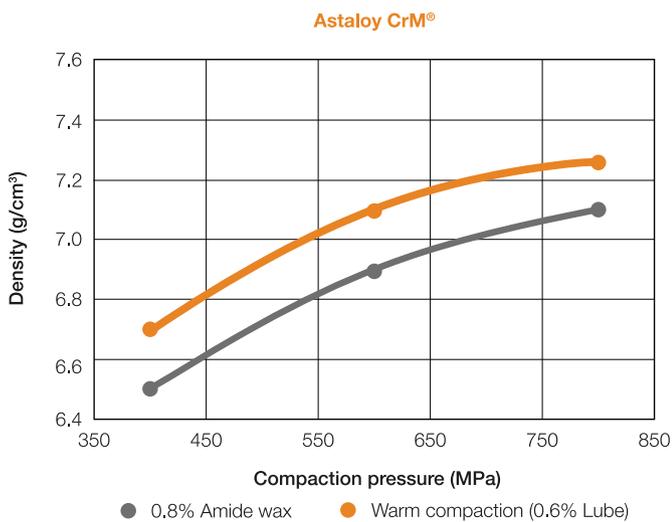
The warm compaction process

Pressing powder is all about converting mechanical energy into deformation. As deformation is a thermally activated process, warm compaction becomes a way to increase the compressibility of the powder.

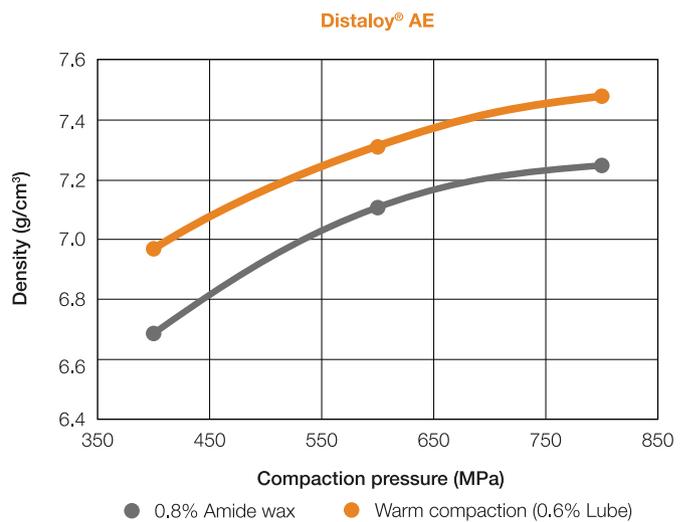
Another benefit with warm compaction is that the lubricant system is made to work optimally at elevated temperatures. By combining the thermally activated deformation of the metal powder with the stable - higher temperature of the lubricant system, higher density parts with increased mechanical performance and more uniform properties can be obtained.



The compressibility improvement is typically in the range of 0.1-0.3 g/cm³. All material types will benefit from warm compaction.



Astaloy CrM (3% Cr, 0.5% Mo) is a fully pre-alloyed powder.



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Densmix®

A Densmix offers you a press-ready mix for your warm compaction process giving excellent conditions for high product performance.

Densmix

- has a tailor-made lubricant system designed to work at optimum temperatures in warm compaction
- gives high and uniform densities and properties
- is a bonded mix which improves part precision, tolerances, and reduces dusting
- increases AD, flow and minimises segregation

A Densmix works optimally at 120°C powder and tool temperature.

Warm compaction process needs

In order to adapt your pressing line to warm compaction, heated tooling and a powder pre-heater is required. Different solutions are possible depending on your process and product design. We will support you in all stages of your adaptation process. For more information, please contact us.



Power of Powder®

Metal powder technology has the power to open up a world of possibilities. The inherent properties of metal powders provide unique possibilities to tailor solutions to match your requirements. This is what we call Power of Powder, a concept to constantly widen and grow the range of metal powder applications.

With its leading position in metal powder technology, Höganäs is perfectly placed to help you explore those possibilities as your application project partner.

Power of Powder is being applied far beyond its traditional role in the production of components for vehicles. Iron powder is used in food fortification to combat anaemia. Nickel powders are vital ingredients in valve coatings to enhance wear resistance. Specially formulated iron-based powders offer new solutions for high-temperature brazing. Soft Magnetic Composites with 3D magnetic properties are opening the way for innovative electric motors. In fact, metal powder technology generates virtually endless possibilities.

To find out how you can apply the Power of Powder, please contact your nearest Höganäs office.



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