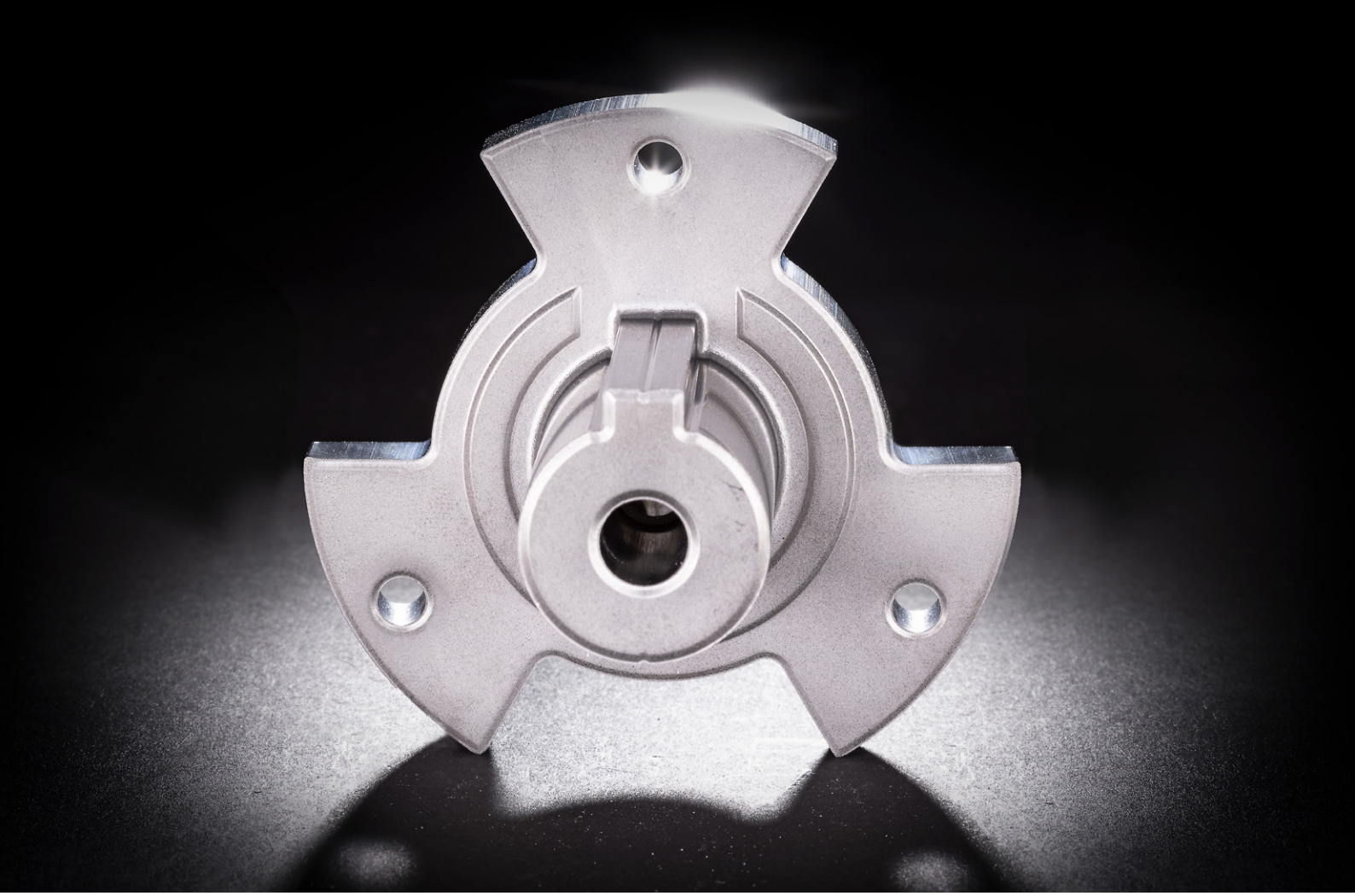


Starmix® Nova

For optimised compaction

Cost-efficient manufacturing of high-performance components requires bonded mix solutions with high apparent density and good fillability. This is especially critical for taller and more complex-shaped components, where powder solutions with higher apparent density and consistent die filling is crucial.

With its high apparent density, excellent fillability, and superior lubrication, Starmix Nova provides excellent compaction perfomance as well as faster compaction, resulting in more consistent, higher-quality products.

Main product benefits

- Excellent fillability
- Excellent lubrication
- Efficient compaction

For more efficient compaction

Starmix Nova enables more efficient compaction in terms of productivity, quality and sustainability. Its high apparent density reduces filling height and allow for compact tool design. At the same time, its excellent filling performance increases speed, boosts productivity (more parts per minute), and maintains low weight scatter.

Starmix Nova enables compaction of larger, more geometrically complex components as well as compaction of components with narrow sections, and improves density distribution.

The good fillability performance reduces the green scrap rate by minimising weight scatter and dimension deviations, cracks, and edge defects. Additionally, improved lubricity extends tool life and the zinc-free lubricant ensures clean burn-off with no residues in the sintering furnace.

In all, Starmix Nova not only enbables reduced production costs, but also allows for a more sustainable way of working.

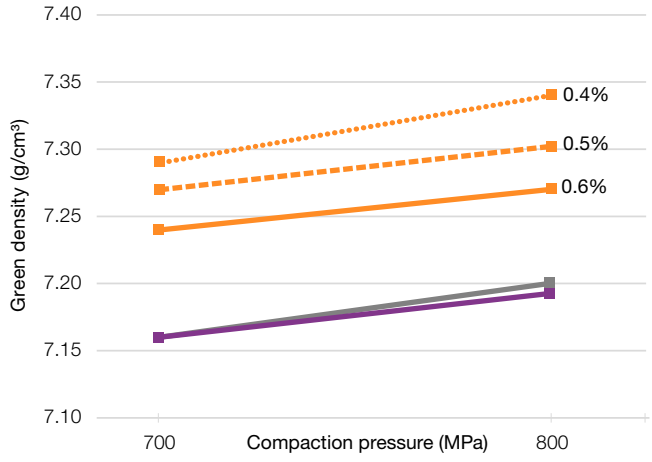
Basic product characteristics

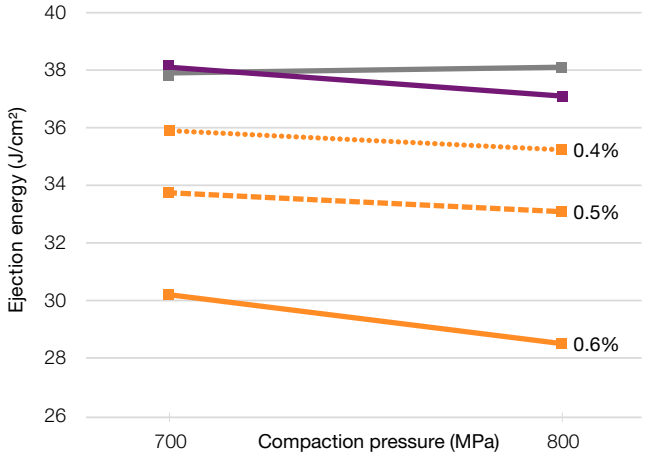
FC-0205*	Starmix Nova	Premix	Premix
Lubricant	Lube Nova	Amide wax	Zinc stearate
Typical amount (%)	0.6	0.8	0.9
Apparent density (g/cm³)	3.35	3.04	3.26
Flow (Gustavsson) (s/50g)	30	40	51
Green density** (g/cm³)	7.13	7.10	7.11
Ejection energy** (J/cm²)	33	36	37
Green strength (N/mm²)	14	11	9

**Material: ASC100.29 + 2% Cu (as Distaloy ACu) + 0.6% C + X% lubricant*
*Compaction: 600 MPa. **Cylinder ø 25mm, heigth 15 mm*

Excellent lubrication and good compressibility

Both ejection properties and density can be further improved by applying warm die compaction (60-80°C). The excellent lubrication properties of Starmix Nova can be utilised to either increase the green density by decreasing the lubricant content or to improve the ejection properties. A gain of 0.15 g/cm³ in density is achieved when adding 0.4% lubricant to the Starmix Nova, while the ejection energy still remains better than the Premixes.





**Starmix Nova: WDC at 80°C, Premix: compaction at 45°C*

Starmix Nova (0.4% Lub.) | Starmix Nova (0.5% Lub.) | Starmix Nova (0.6% Lub.) | Premix with 0.8% Amide wax | Premix with 0.9% Zinc stearate