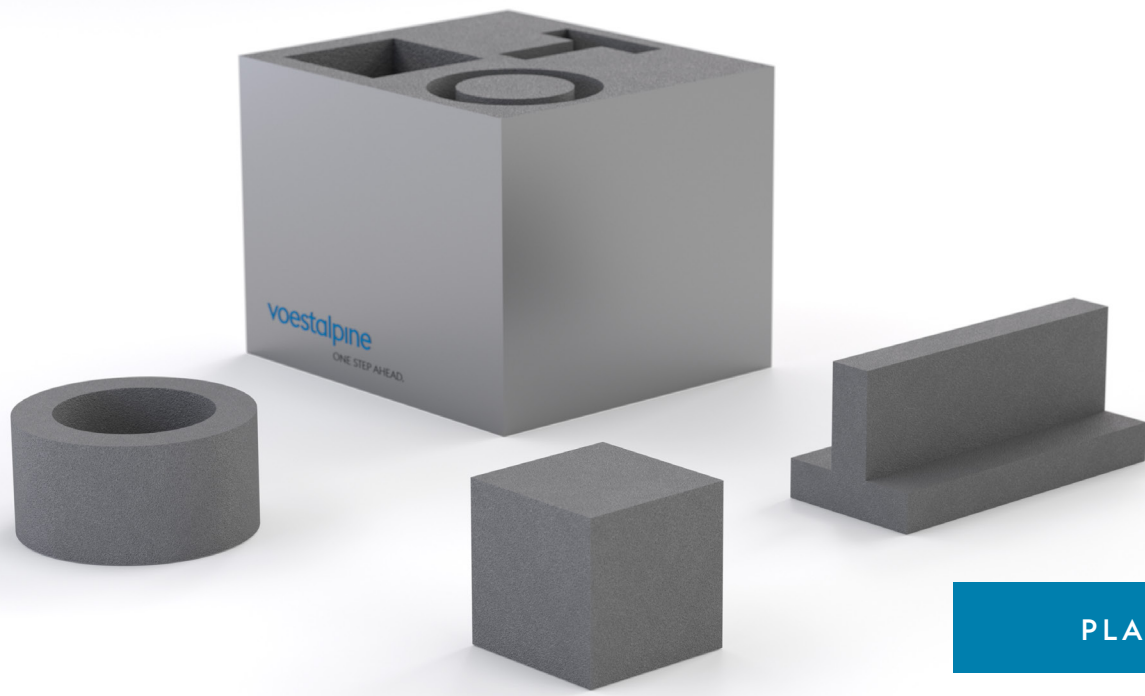


Engineered Products



PLASTICS

voestalpine VENTING STRUCTURES designed for pure performance

Venting structures are used in plastic injection molding to release entrapped air and increase productivity by preventing defects such as insufficient filling and burn marks, thereby reducing scrap rates.

YOUR ADDED VALUE

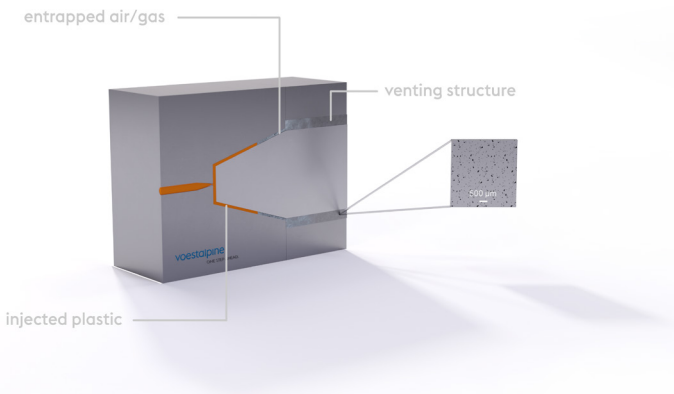
Using additive manufacturing, venting structures with a microscopic porosity can be produced that allow a targeted release of compressed air and ensure that the mold remains air free during injection. These structures help to avoid defects caused by the diesel effect, which is a well-known industrial problem. Our geometry independent venting structures provide application-specific venting performance and allow an easy and customized integration into the mold. Using our corrosion-resistant **premium materials by BÖHLER / Uddeholm**, the structures ensure high part quality throughout the mold lifetime.

The high material and functional quality of our Engineered Products leads to improved overall equipment effectiveness (OEE). This is achieved through a reduction in scrap rates caused by defects such as burn marks and short shots, and a lowering of required injection pressure, which can contribute to energy savings.

INDUSTRIAL PERFORMANCE COMPARISON

- » Defect prevention by targeted air/gas release
- » Reduced scrap rates
- » Improved part quality
- » High venting performance
- » Porosity depending on required venting performance

Principal representation of the function



Exemplary representation of defects



PRODUCT PROPERTIES AND RECOMMENDATIONS

The following materials were also successfully processed using voestalpine Venting Structures: PP, PE, PET, ABS, PA66, PPA and PU (also filled with additives and glass fibers).

Property	Value
Surface quality*	R _q from 2.4 to 3.4 µm (vary depending on venting performance)
Venting performance**	Different grades from 55 to 240 cm ³ /s·cm ²
Recommendation for machining	EDM (recommended) or High-Speed Cutting
Maintenance	Two possible methods for cleaning: » Back flushing via channel using compressed air » Ultrasonic cleaning with plastic solvent

* The expected surface quality of the plastic part depends on the post-processing, the used polymer, and corresponding injection molding process parameters; R_q values measured on the venting structure surface after Wire-EDM

** The flow rates can vary depending on the randomized internal porous structure about ±5%

Material/Grade	Corrosion resistance	Wear resistance	Hardness
Conventional porous sinter material	★★	★	★★
voestalpine Venting Structure	★★★★★	★★★	★★★★

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