

## Hot Isostatic Pressing: capsules

customized HIP capsules manufactured by Zoz GmbH  
leak tight ☼ stainless steel ☼ customized



### Innovation

Hot isostatic pressing (HIP) is a manufacturing process to eliminate and prevent internal microporosity in metallic semi-finished products. It also enables the densification of metal and composite powders in the solid state. These effects improve the mechanical properties of the material.

### Manufacturing Process

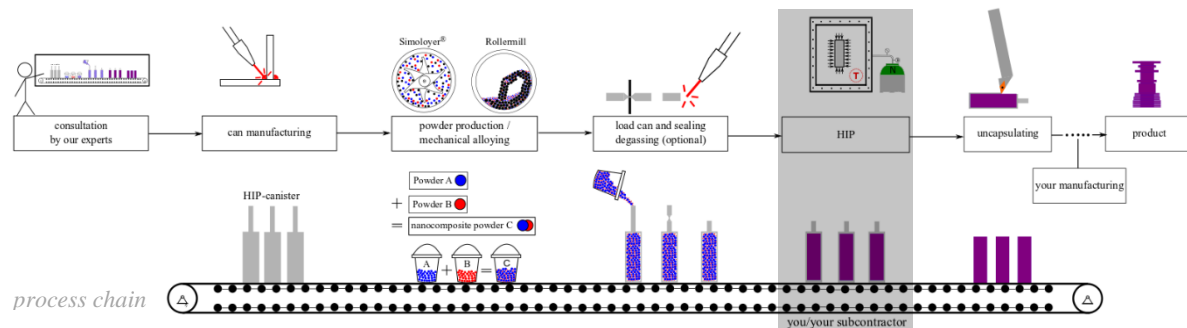
The Hot Isostatic Pressing (HIP) has certain requirements to the cans to be applicable. Zoz GmbH has gained experience in the manufacturing of such cans made of stainless steel and other materials. At the same time, different sizes and dimensions are possible according to the customers' special requirements. The cans are formed, welded and proofed to be leak tight (certificate can be ordered additionally).

### Loading and Degassing Process

As handling special powder alloys, loading the canister is a crucial and critical step. Zoz GmbH has developed a process to load the cans under protective atmosphere on an industrial scale. Hot and cold degassing can also be carried out if required.

### Uncapsulating

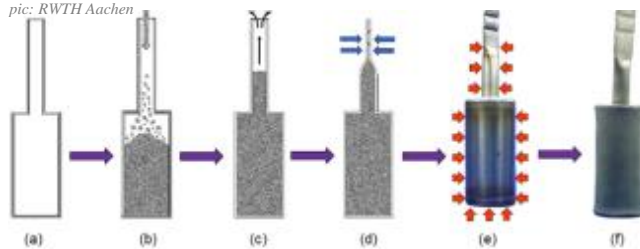
After the HIP process, it is necessary to separate the canister material from the sintered powder material. Even crooked canisters can be processed with suitable machines at our production site.



### Our service

Above a possible process chain is shown. An alternative process order as the addition or elimination of process steps is possible. Just contact us for a personal consultation.

pic: RWTH Aachen



PM HIP process: (a) Capsule production; (b) Pre-consolidation; (c) Evacuation; (d) Sealing capsule; (e) Apply high temperature and high pressure; (f) Hipped component



Top of capsule - gas tight welded



HIP capsules - customized  
Formed and welded at high quality