



STRECON Container for High-Pressure Experiments (HP/HT)

Container design

The STRECON container for high-pressure experiments is also known as the STRECON vessel. The container is made by the stripwinding technique and is up to 100% stronger compared to normal vessels. The superior strength originates from the stripwinding process and the special materials used in the stripwound vessel.

Strength capability

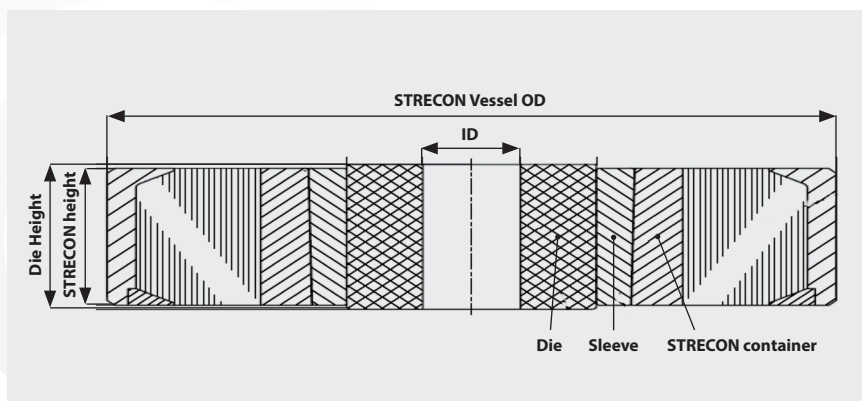
The higher strength of the vessel itself allows for optimal compressive support of the inner core used for the high-pressure experiments. The inner core is normally made of high-alloyed tool steel or tungsten carbide. A typical level of interference fit is 1%, which is not feasible in a conventional vessel system. It would plastically expand, whereas the STRECON vessel would remain fully elastic and ensure a reliable, consistent, and safe performance for many years.

Product program

The table below contains standard system sizes for various HP/HT experiments. However, the layout of the STRECON container can also be adapted to individual customer needs, molding vessel design, press equipment, and other frame conditions. The STRECON vessel can be designed up to 100 kbar in pressure, but most of the vessel systems are used in the pressure range of 25-40 kbar. High-pressure systems higher than 20 kbar are usually designed with end-load.

STRECON can offer a full vessel package including the inner core (for example ID 1/2") assembled in the high-pressure vessel, the pistons, and a cooling system for both the inner core and the pistons. STRECON can also deliver complete press system solutions including the hydraulic press, heating and cooling systems in addition to the vessel tooling.

Standard Vessel	Die / Core		STRECON vessel		Standard Vessel	Die / Core		STRECON vessel		Standard Vessel	Die / Core		STRECON vessel	
	ID (mm)	H (mm)	OD (mm)	H (mm)		ID (mm)	H (mm)	OD (mm)	H (mm)		ID (mm)	H (mm)	OD (mm)	H (mm)
1/2" 15-20 kbar	Ø12.70	50	Ø200	50	3/4" 15-20 kbar	Ø19.05	50	Ø240	50	1 1/16" 15-20 kbar	Ø25.40	55	Ø300	55
1/2" 20-30 kbar	Ø12.70	52	Ø220	50	3/4" 20-30 kbar	Ø19.05	52	Ø280	50	1 1/16" 20-30 kbar	Ø25.40	57	Ø340	55



Principal layout of STRECON high-pressure vessel



STRECON high-pressure vessel with carbide cooling