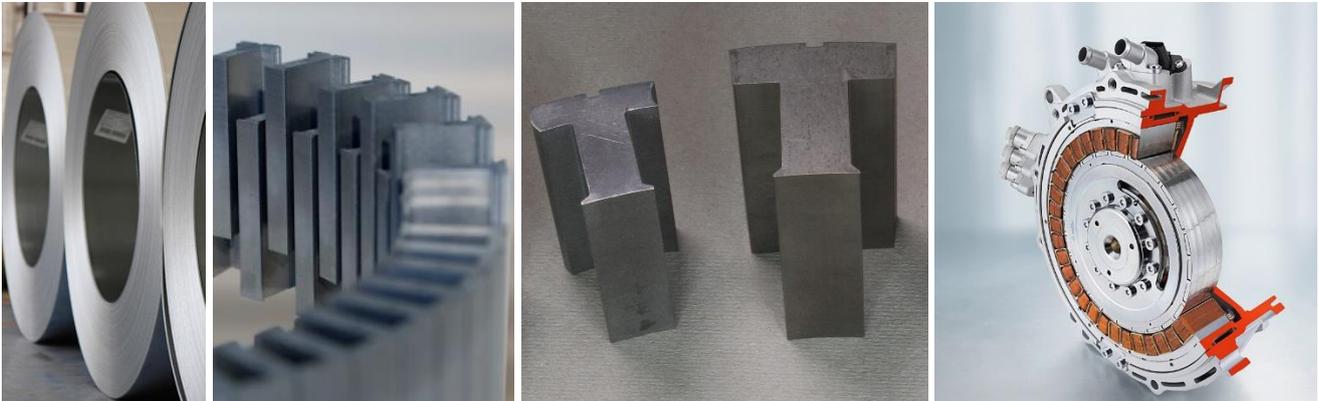


Segmentation of stators?

Contact us!



Segmentation

Today, stator and rotor lamination stacks are often produced from different raw materials. Reason for that are different requirements regarding mechanical strength, magnetizability, permeability, a.s.o. Therefore, rotor and stator laminations are no longer punched from the same material and the inner diameter of the stator can't be used to stamp the rotor in a progressive tool. A solution to overcome this shortfall is segmentation. Segmentation allows to increase material usage heavily. The stator is no longer stamped as one piece, but divided into single stator teeth. The segments can then be placed on the raw material strip to maximise the material utilization, reducing scrap and thus raw material logistics.

Benefits of bonding varnish

There are a lot of different ways, how electric sheet can be interconnected in an effective way. One conventional technology is interlocking. This well-accepted and cost effective way has its known advantages and disadvantages. For segmented stators, bonding varnish should be considered as a reasonable alternative to interlocking, especially in regards to the presented production setup described in here. Bonding varnish will improve the motor in several ways:

- Better magnetic properties due to the segmentation and evenly insulated lamination sheet due to bonding varnish interconnection
- Mechanically highly precise stacks resulting in a narrow tolerance range of the stator diameter and narrow fit into the housing, thus enabling safe torque transmission over a wide temperature range
- High strength interconnection of the laminations resulting in a mechanically highly stable and robust stack which can be processed highly automated
- No cushioning, no liquid absorption, less vibrations and therefore less noise
- Higher iron filling factor due to the bonding varnish technology and higher copper filling factor achievable due to very robust stack which can be wound with copper tighter

From samples...

We are offering a complete service and the know-how required to transform the full stator into a segmented version for large series production. Together with you, we find the optimal geometry, build prototypes, do press fitting tests, temperature tests, manufacture samples and continue with the series production on our fully automatic production lines. Based on simple punching and bonding tools, we produce near-series samples. Additionally, we have developed procedures and equipment to do continuous tests during serial production.

...to serial production

SWD AG has developed a revolutionary approach to produce stator teeth with bonding varnish. All production steps from the raw material to the bonded stator segment are combined in one machine. All parameters are monitored and stored for later traceability. The whole system is built from modules, so it can easily be adapted to the production capacity required. Often, it is cost effective to start directly after the prototyping phase with this system and then increase the production capacity step by step.

We would be happy to support you in developing and producing high quality stator teeth – contact us!

SWD AG – your partner

SWD AG - Stator- und Rotortechnik is an innovative medium-sized company. We are dedicated to the development and production of lamination stacks and support our customers with new technologies from prototypes up to series production.

SWD AG – Stator- und Rotortechnik
Kaisermatt 3
5026 Densbüren
Tel.: +41 (0) 62 867 92 18
www.swd-technology.com
info@swd-technology.com

