

***New vibration technology CPC, patent no. 10347345,  
of KLN Ultraschall AG in Heppenheim/Germany***

With this world first development KLN obviously made a great leap forward in the vibration welding area. The new system is the result of more than 40 years experience in welding of plastic parts, particularly in friction welding: vibration, ultrasound and spin welding.

The main point in this new technology is the complete process control of the vibration and welding process. Efficiency is increased by approx. 40 % in comparison to standard processes and the welding quality is improved.

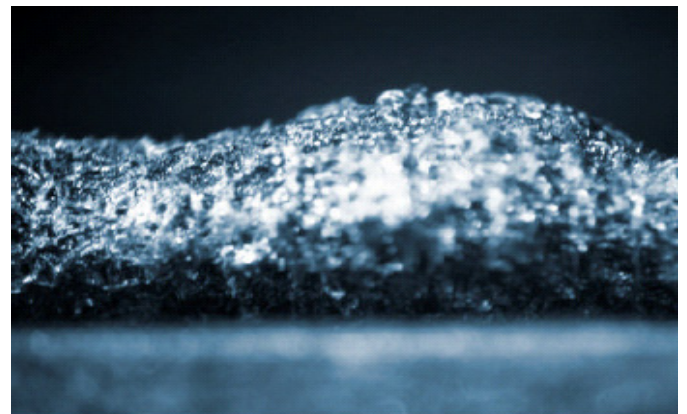
Here the short vibration start (active starting) achieves a low lint formation during welding and the actively regulated welding process as well as the extremely short braking process (active braking), which prevents hairline cracks.

This welding result is achieved by the precise digital regulation of the coil current feed during the complete process (CPC – Complete Process Control) and is significantly better than the optimised amplitude regulation currently on the market.

The effect of the low lint formation, as compared to standard procedures, is documented in the below picture. It shows a welding seam, material polyamide 6.6 with glass fibres. This material is frequently used in the automotive industry. The picture shows impressively, how the glass fibres spring out, when welding without CPC, whereas they are bonded in the quick vibration start with CPC.



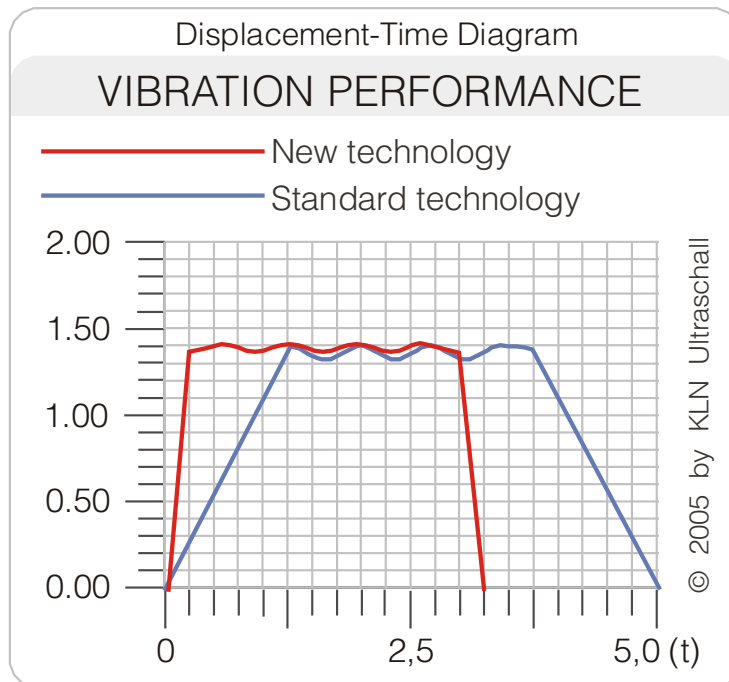
without CPC



with CPC

A further advantage of the CPC technology is the substantial reduction of the welding time and a significant decrease of the sound emissions.

When standard sound protection systems are used, KLN guarantees a maximum level of 75 dbA (usually approx. 80 dbA).



As an additional advantage KLN has integrated a variety of highlights in the CPC machine technology, like fully automatic frequency adaptation in case of tooling exchange lower than 1 sec., energy mode, amplitude, travel and time control during the welding process in up to 8 steps, welding power in N and tooling weight adjustment, comprehensive quality control and many more features

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