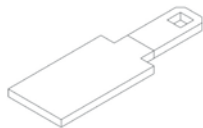
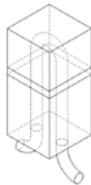
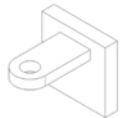
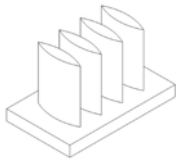
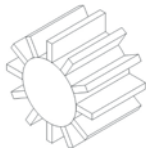


Advantages & Benefits.

Combination of „non-weldable“ materials and asymmetrical geometries.



It is also possible to combine „non-weldable“ material, since there is no molten phase.

Asymmetrical geometries are therefore weldable, since the component itself does not turn.

Through operation by trainees, a higher degree of automation is possible.

Other advantages are the low energy consumption and possible saving on material through more flexible design.

Since smaller grain sizes are produced in recrystallization (like in forging steel) a greater connection stability is obtained, equal to or greater than that of the base material.

Good process monitoring and the generation of a welding protocol for every part.

Possible Applications.

Potential for innovation and optimization through multi-orbital friction welding - by dyconn.

- Automotive
- Mechanical engineering
- Aero-space engineering
- Tool making
- Energy technology
- Electrical industry
- Medical technology
- Construction industry

In adapted machine configurations, the globally patented joining techniques known as multi-orbital friction welding is suited for a wide variety of material combinations in many industries.

The procedure works independent of work piece geometry and work piece mass. Welds using various plastics or metals are possible (z.B.: PP-ABS, PVC-PA, aluminum-steel, titanium-steel, and much more).

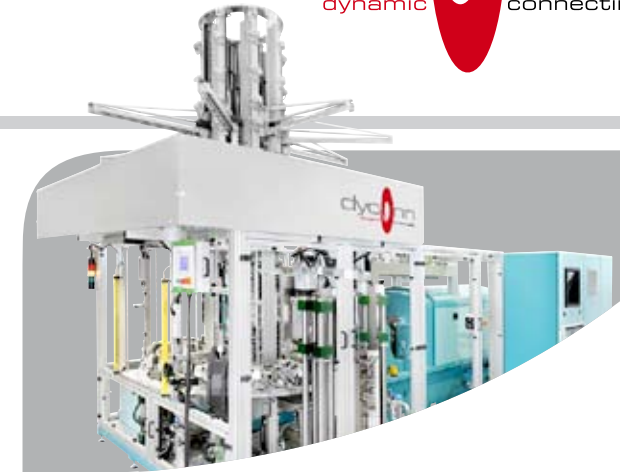
dyconn-technology works with high process quality and reproducibility, and energy consumption is approximately 80% less than with fusion welding procedures.

Your contact person is
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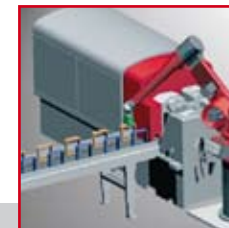
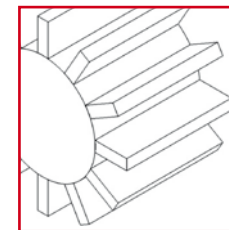


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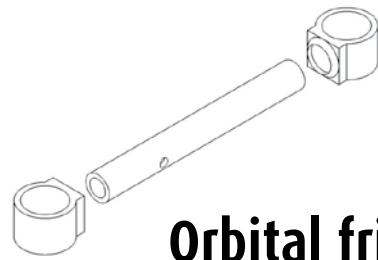


New Key Technology in Joining Techniques

Multi Orbital Friction Welding.

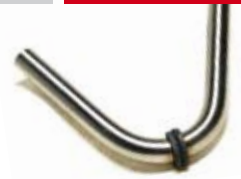


We combine science & technology.



Orbital friction welding.

We can do what others cannot.



Overcome System Limitations.

- Independence from form and symmetry of the work piece
- Exact positioning of the join partners at the end of the process
- Hardly any vibrations or free moments of inertia
- Homogenous energy input for highly stable joining results



Material-Combinations.

- e.g.
- Steel - aluminum
 - Copper - aluminum
 - Aluminum - ceramic
 - Plastics
 - Wood
 - etc.

Orbital friction welding is a solid phase joining-process.

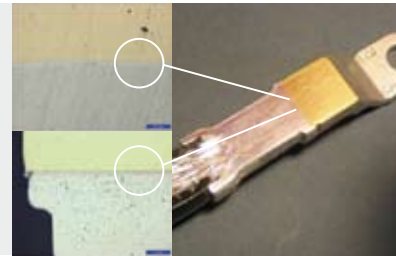
In a two-part procedure, generation of friction between the parts produces an even and rapid heat input in the joining cross section that resembles forging. One joining partner moves in very small circular motions whose amplitude can be set to 1.5 mm.

Then the parts are compressed against each other with great force. A joint is produced in the plasticisation state. This happens in a few seconds and at the highest quality.

Integrated process monitoring assures the quality of the welding in all components.

Metallurgical tests show a homogenous energy input in the joint zone.

The diffusion zone is thinner than 2 µm and thereby causes no brittleness in the composite.



Distinguishing Characteristics.

- Welding components that are not rotationally symmetrical
- No displacement of rotation angle
- Even energy input
- Any component length



dyconn-250.



dyconn-100.



dyconn-120H.

