

2005 Cost optimisation in fastening technology

Arnold Umformtechnik: Remform – keeping costs down

Direct plastic fasteners reduce costs – use less material, require shorter assembly times and provide enhanced fastening lock.

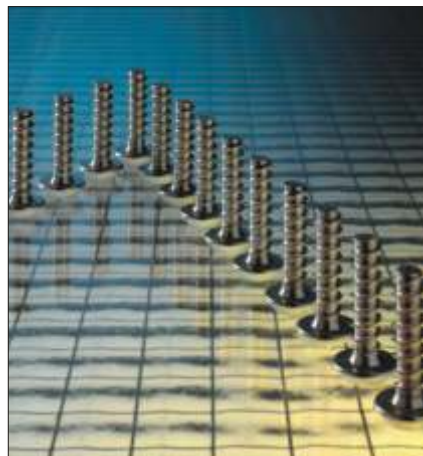
(Forchtenberg) In the automotive industry plastic is increasingly becoming the material of the future. The moulding capacity, the weight and recyclability of the material are all positive points in its favour. Remform screws from Arnold Umformtechnik in Germany ensure that these advantages also have an impact on overall costs.

As opposed to other plastic fastening technologies, Remform direct screw fasteners require neither nuts nor inserts to fasten components together. Remform screws form their own threads inside the core, which is pre-drilled into the plastic component concerned. This automatically eliminates the costly processes involved in preparing the screw location. At the same time the fast screw-in speed cuts production time – thus increasing the potential of direct screw fasteners even further.

Yet Remform screws do not compromise the lock. Designed with asymmetric thread geometry, the forces produced during the screw-in process are steered into the correct direction. To improve material flow, the flank that is averted away from the screw head has been provided with a radius. The steep side that has moved towards the screw head catches the displaced plastic and raises the flank overlap. It guarantees high cross-thread forces while maintaining tensile force and torque. The wide leeway between forming torque and

overturn torque provides additional safety potential that manifests itself in screws that are fully tightened - always. No stripped out threads can occur.

Remform users benefit from sustained cost-savings potentials throughout the system cost chain from material usage to engineering design costs. At the same time they demonstrably improve the mechanical properties of the fastening. Compared with 30 degree angle screws some of the results for the thread forming and strip torques are well over 30 percent, adding to reasons to opt for the Arnold Remform range.



In a comparison between Remform and 30 degree flank angle screws with a nominal diameter of 4.0 mm, a core diameter of 3.30 mm and a screw-in depth of 8 mm, the sample screw-in curves give a very clear indication of the ratios. The material used is PA 6 GF30.

The Arnold Group is a wholly owned subsidiary of the Würth Group, which, with over 46.000 employees and with 314 companies worldwide operates on a global basis with earnings of over 6 billion euros.

Your contact:

Arnold Umformtechnik GmbH & Co. KG
Dipl.-Betriebswirt (FH) Michael Pult
Marketing and Communications
Manager

Tel.: 0049-(0)7947-821-170

Fax: 0049-(0)7947-821-111

Mail: michael.pult@arnold-
umformtechnik.de