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ARNOLD Umformtechnik: Aluminium replaces steel

Alufast® screws suitable for series production – major weight advantage over steel screws – problem points of fastening magnesium components resolved

(Forchtenberg). The increasing importance of magnesium as a construction material requires an inspired pairing of materials when it comes to screw fastenings. Alufast® aluminium screws from Arnold Umformtechnik have proved to be particularly excellent for making screw fastenings on housing sections, brackets and stiffeners made of magnesium.

The approximately 350 gram weight advantage over steel versions means that Alufast® screws are of interest to design engineers working in many fields, in-

cluding gearbox design. An investigation carried out by fastener specialists Arnold Umformtechnik GmbH found that this was the weight saving that could be made in a gearbox containing 20 screws. In terms of annual production of, say 100,000 gear boxes, that would translate to a saving of some 35 tons of steel.

At the same time the Alufast® range scores even more points when used in corrosive atmospheres where fastener locations are subjected to particularly high temperature loads. Alufast® screws have proven to be of particular value under thermal loads. The mechanical properties of the screws remain stable over a long-term period of load, up to peak temperature of 150 degrees Celsius. Designers can use standard head

The Arnold Group is a wholly owned subsidiary of the Würth Group, which, with over 60,000 employees and with 384 companies world-wide operates on a global basis with earnings of over 7 billion euros.

settings when fastening magnesium components, unlike steel screws, which would require larger head settings. The screws achieve process reliability, high strength and expansion characteristics, and also possess excellent anti-corrosion properties. Alufast® is distinctive for producing greater residual clamp forces on magnesium fastenings under operational thermal loads than is possible with steel screws.

And the 20 – 30 percent cost saving over steel screws with supplementary corrosion protection systems complete the benefits package.



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