



GROWERMETAL'S SOLUTIONS FOR AUTOMOTIVE NEEDS

The automotive industry is central to **Growermetal** and the IATF 16949 certified manufacturer has a broad array of product aligned with the demanding requirements of the industry, as well as extensive R&D activities aimed at developing innovative solutions for its customers...



The dynamic trends of the automotive market and the requirement for a stable and reliable supply service incentivised Growermetal to face new technical challenges. This goal was achieved through complete in-house services, R&D activities and a wide range of washer solutions for the automotive sector.

Growermetal has been a manufacturer in the fastener sector since 1950, working to enhance its production of washers and parts, to guarantee superior safety and high performance. During its history, the automotive industry has become central to its production, with the company facing demanding requirements and aligning with the new market needs.

While the automotive industry is living the evolution of electric mobility and the concerns linked to new technical trends and environmental factors, Growermetal's been proactive, bringing its efficiency and technical know-how to every application.

Thanks to the solidity of its washer production and its innovation-driven approach, in recent years the company has expanded its range of services, both in terms of the variety of solutions offered and the quality of the supply chain.

This has been achieved through a focus on the centralisation of production, which today includes a tool shop and facilities for blanking, steel wire rolling, coining and surface finishing, as well as departments dedicated to heat treatment, mechanical zinc plating and zinc flake coating. Inside the HQ in Calco, with a total surface of 45,000m² with 23,500m² of covered area, each department is in direct communication, ensuring a constantly defined workflow with minimum stops in production.

The fully automatic warehouse completes the range of possibilities, supporting customers with a packaging and goods handling service facilitated by a structure of 17 levels of storage and 11,000 storage locations, served by stacker cranes and laser-guided vehicles. In addition, Growermetal has further enhanced this process through a new automatic packaging machine, that offers an implemented system for the handling of different formats together with customised packaging.

With a management system certified according to the IATF 16949 standard for the automotive industry, one of Growermetal's strengths lies in the variety of options for the mobility sector; which can rely on a high level of specialisation and dedicated services. Among the treatments available, the company's mechanical zinc plating (certified according to the automotive standard FCA PS.50042 - Edition 11/2015) stands out for the quality of the coating provided on the washers' range and on behalf of customers on their products.

Its range of fastening solutions for automotive includes:

■ **Flat captive washers for screws and nuts:** these washers are a versatile option for broader uses, making them the most common type of washer. Located under the head of the bolt or

under a nut, flat captive washers provide a greater load-bearing surface preventing the damage and embedment from nuts and bolts, providing a consistent surface for more predictable joints.

■ **Ribbed flat washers:** available with radial ribs and serration on one or both surfaces, ribbed flat washers are used in the automotive industry with soft-bearing surfaces such as aluminium and plastic. They are used for bolted joint connections in applications such as car body, engine, gear-box and others, with teeth locking the washer on the bearing surface during tightening and preventing the screw from damaging it.

■ **Conical elastic washers for screws and nuts:** these washers prevent the loosening of assemblies through the combination of the elastic compensation of expansion and contraction with the elimination of play. Designed to accommodate static loads, these products are ideal for applications requiring low vibration resistance and parts supporting temperature variation.

■ **Eccentric washers:** widely used in the car and van suspension systems. The hexagonal-hole washer is mounted and blocked on the underhead of the screw, while the counter washer is mounted in the two grooves of the bolt's threaded part by the OEM during the assembling process of the car.

■ **Crown lock-washers for shaft:** with their great ease of use and affordability, crown lock-washers for shafts are ideal for the many applications where it is necessary to position and securely retain a bolt or screw until a nut is applied at a later stage to complete the assembly. When a nut is applied and tightened, the teeth on the retainer set up a strut action that resists any loosening or back-off rotation.

■ **Corrugated elastic washers:** availability of two different versions, according to the material and type of application: corrugated elastic washers are ideal for soft materials like copper, aluminum and plastic, while corrugated elastic damping washers compensate for axial play of a component. The objective of these parts is to reduce the risk of disassembly and compensate misalignment, providing slight to moderate spring forces.

■ **Cup washers and washers with special geometries:** cup washers are normally preassembled to nuts prior the use by the automotive OEM. Growermetal's cup washers and washers with special geometries products engineered and manufactured according to the customer's technical specifications.

In order to anticipate automotive industry trends, Growermetal combines this product line with its R&D activities, aimed at developing innovative solutions for its customers and creating branded and patented products. This tendency and the possibility to create parts according to customers' measures and drawings contribute to the development of automotive products characterised by high resistance to vibrations and mechanical stress, which is essential for superior safety and reliability.

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