FIELD BULLETIN 216

GATES® HYDRAULIC TUBE FITTINGS

Enhanced Corrosion Resistance of Gates Tube Fittings

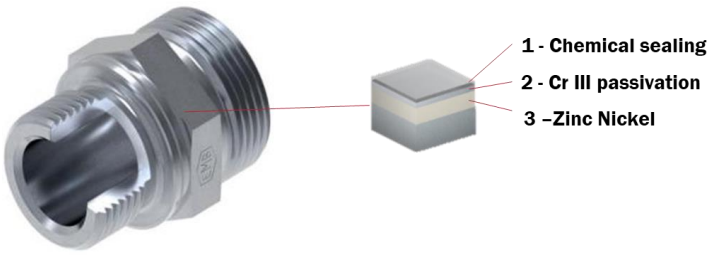
The Gates Hydraulic Tube Fittings range is an integral part of the Port-to-Port product portfolio, ensuring leak-free connections between hydraulic tubes, hoses and adaptors. They play an important role in the pressurized transmission of fluid across a variety of industrial applications, stationary plants and mobile machines and comply with ISO 8434-1 and DIN 2353 standards. Recently, Gates has significantly improved the corrosion resistance of its tube fittings range from 1200 hours to an impressive 3000 hours, providing superior performance and longevity in demanding applications. This enhancement continues Gates' commitment to excellence, building on previous performance standards.

GATES VS. INDUSTRY STANDARDS & COMPETITION

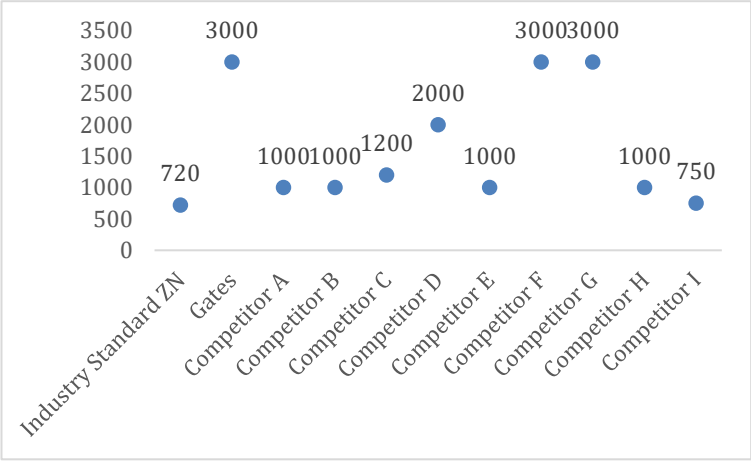
The standard requirements according to ISO 19598 for the corrosion resistance of the zinc-nickel plated products require 360 hours protection against white rust and 720 hours against red rust. Gates Hydraulic Tube Fittings already exceeded ISO 19598 corrosion resistance standards, offering a minimum of 1200 hours red rust protection through a zinc-nickel (ZnNi) coating, introduced as a standard finish in 2016. Verified by recent internal salt spray testing according to ISO 9227, Gates is confident to extend its red rust corrosion protection claim to 3000 hours, more than doubling its previous standard.

Key Improvements:

- Previous Corrosion Resistance: 1200 hours (red rust)
- New Corrosion Resistance: 3000 hours (red rust)



Our tube fittings showed no trace of red rust after 3000 hours of salt spray testing in accordance with ISO 9227. Gates tube fittings provide corrosion protection that not only fulfils but far exceeds the requirements of corrosion protection class K5 as stipulated in VDMA standard sheet 24576 for tube fittings (720 hrs). This ensures premium corrosion protection and a superior appearance. When comparing Gates to the competition's catalogue claims, it is clear that the Gates tube fitting range is offering best-in-class corrosion protection.



Below are some examples of our products after 3000 hours of salt spray testing, showcasing their premium appearance.







Gates ongoing quality commitment includes frequent product testing to guarantee maximum consistency and reliability in production, processing and handling. Our quality team regularly conducts layer thickness test, corrosion tests (salt spray) and raw depth measurements upholding product performance requirements. Our established quality monitoring procedures allow immediate corrective actions when required.

BENEFITS OF PREMIUM CORROSION PROTECTION

Hydraulic processes take their toll on connections due to exposure to water, salt, acid, heat, impacts, vibrations, contaminants, and increasingly corrosive air components. Gates' corrosion-resistant tube fittings are manufactured to withstand these harsh environmental conditions, making them suitable for a wide range of end markets such as shipbuilding, oil platforms, wind and hydroelectric power stations, railway technology, trucks, construction and agricultural machinery, industrial conveyor systems and tooling machines or mobile hydraulics. End users benefit from a lower overall cost of ownership and peace of mind, while distribution partners can standardize their product offering, reducing the need for multiple sourcing strategies. Ensuring the longevity of key components within these applications is key.

Key benefits:

- **Reduced Downtime**: Improved resistance to red rust results in fewer maintenance intervals and reduced equipment downtime.
- **Cost Savings**: Enhanced protection leads to lower overall maintenance costs and fewer replacements over the lifetime of the product.
- **Environmental Protection**: The enhanced coatings meet or exceed industry standards for environmental sustainability and resistance to harsh industrial environments.
- **Higher Reliability:** Corrosion-resistant components ensure stable, leak-free operations, crucial for safety and performance in industries like oil, gas, and heavy machinery.
- **Reduced System Contamination:** Rust can flake off and contaminate hydraulic fluids, leading to clogged filters, pumps, and valves, ultimately damaging the entire system. Once corrosion compromises a fitting, it may cause system-wide malfunctions, requiring extensive repairs.

These advantages contribute to an increased service life, reducing the overall cost of ownership of capital equipment and offsetting the initial investment in Gates hydraulic tube fittings for specific applications.