



Corrosion Resistant Telescopic Linear Guides

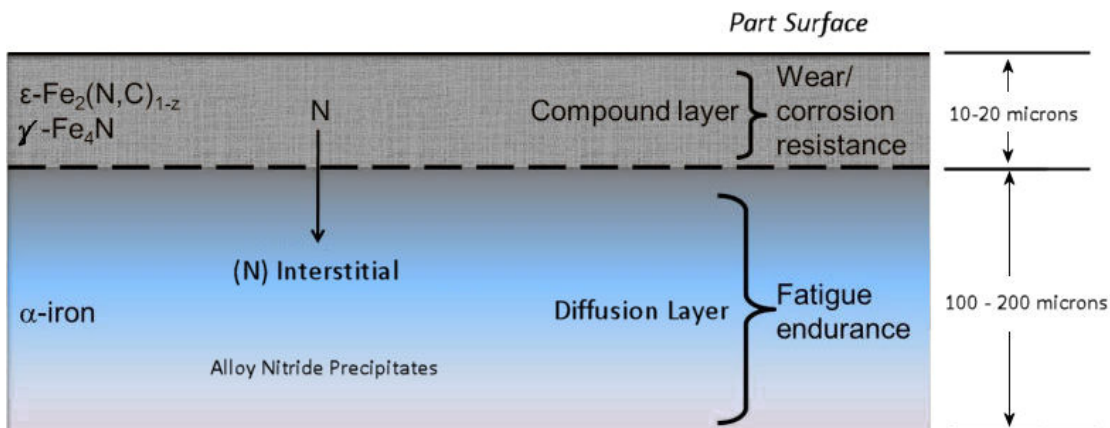
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Our new treatment allows carbon steel products to attain a high level of corrosion resistance. Most people immediately think of stainless steel as the best corrosion resistant steel to use in environments where there is high humidity or high moisture conditions. But many times it is not. Lower grade stainless materials in fact can be a poor choice when compared to plated or coated steels.

In an effort to improve our products while maintaining or lowering cost to our customers we have developed a surface treatment process that when applied to our existing carbon steel telescopic linear guide products **exceeds 700 hours in a salt spray test (DIN EN ISO 9227) and 2000 hours in a humidity chamber test (DIN 50017)**. This treatment is a special process where we nitride (T Race-nox) and e-coat finish the product.

Nitriding is a thermochemical heat treatment process that is used to diffuse nitrogen into ferrous materials. This treatment plays an important role in modern manufacturing technologies. It is known by a host of trade names such as Melonite® and Tufftride®. Nitrogen ion processes are well known to improve mechanical, wear and corrosion resistance of steels. Below is a schematic diagram showing the typical compound and diffusion layers or zones within nitrided steel. The compound layer is responsible for greatly improving the wear and corrosion resistance.



The e-coating provides an organic surface coating on metal via an electrochemical reaction. This type of process provides a full and even coverage. The result these two treatments provides excellent corrosion resistant.

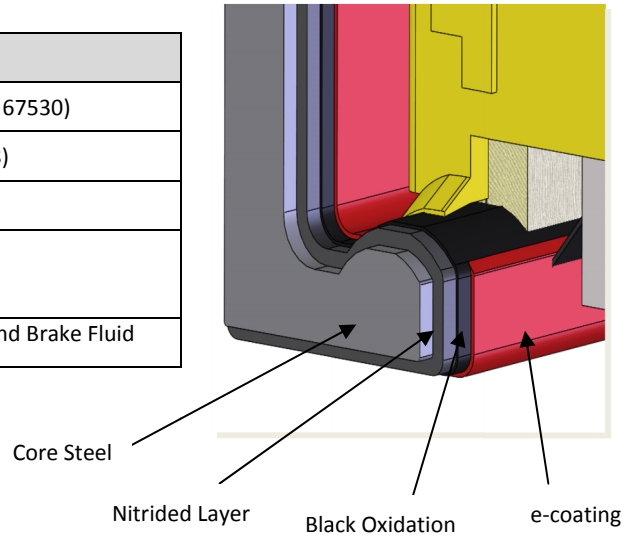


The following tables provide a summary of the test results and indicate what the materials and treatments are for each component of the telescopic guide products.

Nitride Heat Treatment with E-Coating Technical Data

Table 1

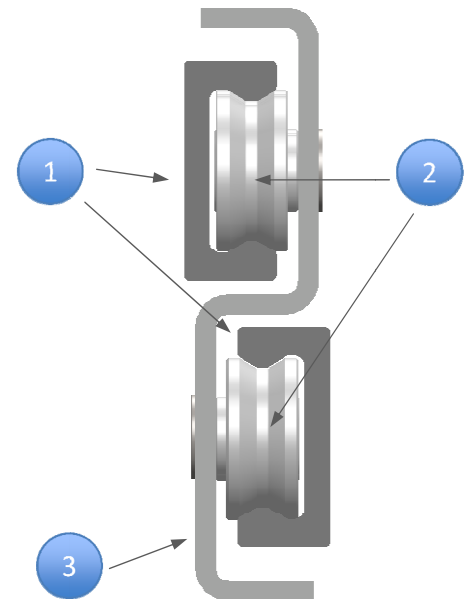
Product Technical Features and Performance Data	
Appearance	Black color, 60° Brilliance (DIN 67530)
Thickness	15-20 microns (DIN 2360-2808)
Salt Spray Test (DIN EN ISO 9227)	Exceeded 700 hours
Humidity Chamber Test w/condensation (DIN 50017)	Exceeded 2000 hours
Chemical Resistance	Engine oil, Gasoline (Petrol), and Brake Fluid



Component Material and Treatment Summary Technical Data

Table 2

	Component	Material / Treatment
1	Rails	Carbon Steel / Nitrided / e-coated
2	Rollers or Balls	Stainless Steel (AISI 440C)
3	Intermediate Element	Carbon Steel / e-coated
4	Fasteners (not shown)	Stainless Steel (300 Series)
5	Stoppers (not shown)	Carbon Steel / e-coated



The treatment can be applied to the following:

- Rails of MR, ML, and LAN series products
- Main profile components of ball cage products SF, SR, TLS, TSQ

The order code of the telescopic linear guide with this treatment is indicated by adding the suffix "KB" at the end of the part number. **Example:** TLR43-450-KB