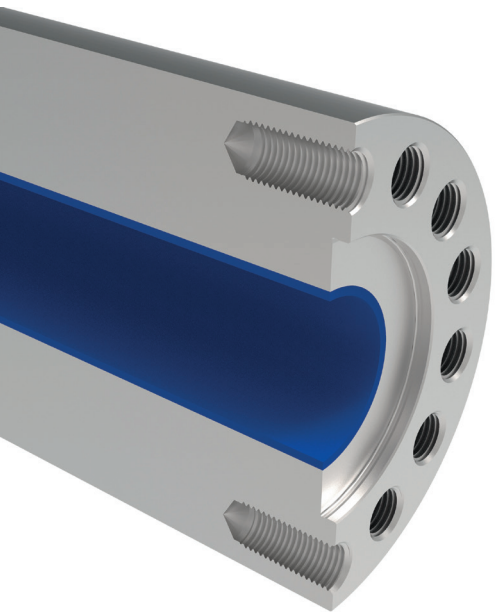
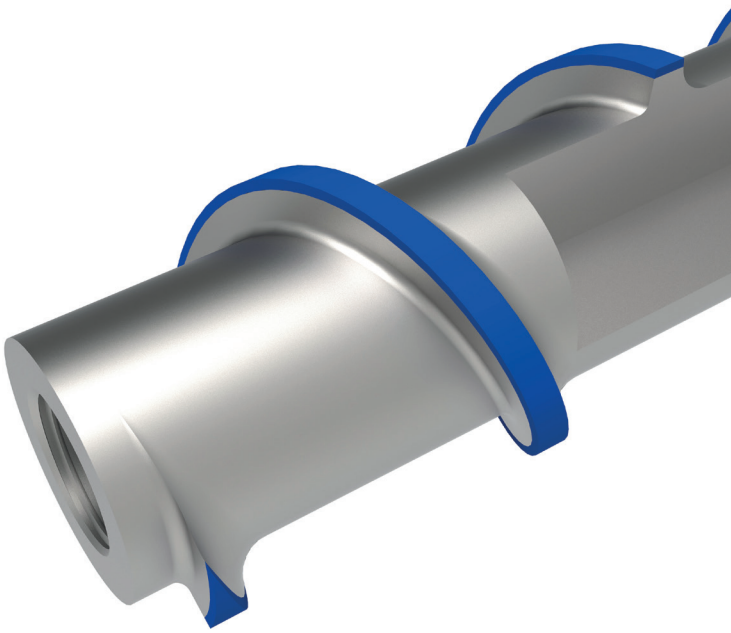
Reifenhäuser
REILOY

The Extrusioneers





Wear protection
Securing product quality and process stability sustainably

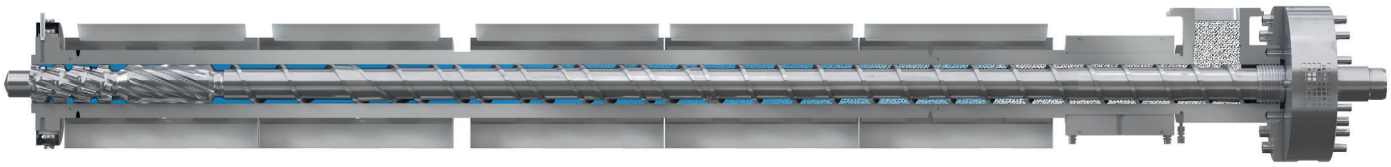
Screw and barrel wear can create process fluctuations and have a negative impact on product properties and profits. Even worse, wear can cause production downtime. **Let Reiloy assist you in counteracting wear.**

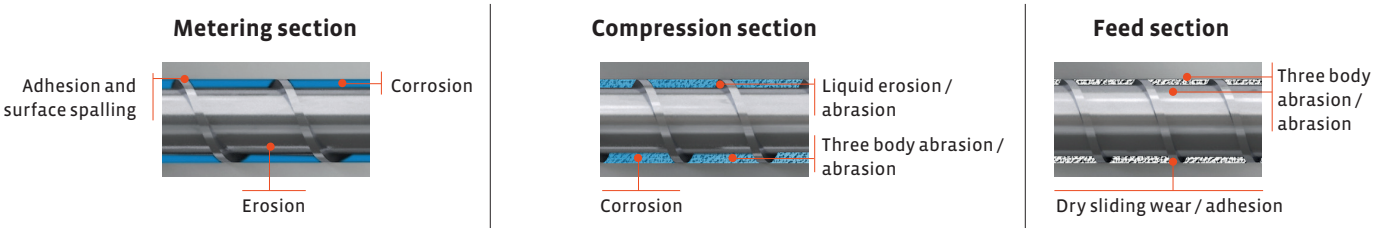
Reiloy understands the mechanisms of wear in every detail.

Wear: The mechanisms
Wear mechanisms in a plasticizing unit overlap: abrasion, adhesion, corrosion, and erosion (fig. below). The impact of these wear mechanisms is mainly dependent on the corrosivity, viscosity and hardness of the resin, plus the hardness, form and amount of added fillers. Furthermore, damage mechanisms depend on the deflection, intrinsic weight, and circumferential speed of the screw, plus the material compatibility of the screw and barrel.

Wear: The countermeasures
Based on our detailed knowledge of these wear mechanisms and how they interact, Reiloy can apply suitable counter-measures against wear on screws and barrels by employing material combinations and specific surface protection – so that your machines achieve an extremely long service life.

Wear mechanisms in a plasticizing unit act at various points and overlap.





Reiloy test benches
To gain greater knowledge about the wear protection of our alloys and to adapt to specific production situations, Reiloy simulates and evaluates the various wear types which can appear inside the plasticizing unit. This gives us a detailed understanding of the individual mechanisms and their impacts in relation to all influencing factors.

Pin-on-disk laboratory test bench
Pin-on-disk wear tests are conducted at constant pressure to examine the mechanism of abrasion in isolation. This is followed by a metallurgical analysis of the damaged microstructure.

Ring-plate dry tribometer
This instrument tests adhesive wear in detail. Metallurgical and EDX analyses of material transfer are at least as revealing as the weight loss of the test object and the mating surface.

Long-term immersion test
Corrosive attack is simulated in long-term immersion tests in media of different pH values. A distinction is made between attack corrosion and pitting.

Model test bench
Each mechanism is tested and understood in isolation. However, the interaction of screw, barrel, and resin is also analyzed in a model system. Reiloy examines wear attack in detail and in context.