BALIFOR M –
The smart solution for high performance applications

The new Molybdenum-Nitride coating for the automotive industry

Winner of the A3TS Award 2017!

Prix d'innovation
The advantages of BALIFOR M
Properties of MoN-based coatings can be adjusted over a wide range:
- 15 – 35 GPa film hardness
- COF in (minimum) lubricated systems similar to a-C:H (DLC about 0.06)
- High compatibility to lubricants and additives, not affected by MoDTC
- Stable up to 450°C, HT versions up to 800°C
- Very low wear and counter-body wear
- Gradient layers and running-in layers

BALIFOR M shows high performance in comparison to carbon-based coatings
Carbon-based coatings are suitable for many applications in and around vehicles. But the stability of these coatings ends at approx. 350°C – under high load even at 250°C! BALIFOR™ M clearly proves its performance in direct comparison when considering
- best wear protection under high stress
- remarkable low counter body wear, and
- operating under high temperatures

MoN based compared to DLC (a-C:H)
Subjective assessment in 6 steps from 0 (not suitable) to 5 (excellent)

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Applications of BALIFOR M
The state of the art MoN solution for the automotive industry

BALIFOR M for piston pins compared to DLC

MoN coated piston pin after 500h engine test:
- noncritical wear at the edge of the con-rod bore
- schematic of a typical DLC wear profile

BALIFOR M shows the maximum friction reduction in exhaust tract applications at temperatures up to 800°C

Friction reduction in a bearing:
- at temperatures up to 800°C
- at low to moderate loads
- multilayer MoN / AlTiN (formation of solid lubricant MoO₃ at higher temperatures)
- suitable for applications in the exhaust tract

BALIFOR M the state of the art solution for Cam-followers

Cam-follower after life test:
- coating architecture adapted to cyclic impact stress
- maximum wear approx. 0.4 µm
- wear correlated to smoothing
Learn more about our MoN-coating BALIFOR M!
Get in contact with us now!