General Magnaplate
Smart Coating Solutions™ Worldwide

## BENEFITS

- Can be applied to many Magnaplate coating families
- Holds up to high temperatures
- Low surface energy
- Non-stick surface
- Easy clean-up
- USDA/FDA compliant (21 CFR175.300)
- No PFOA or fluoropolymers
- Excellent hydrophobic properties
- Protects Nedox® from high temperature oxidation
- Salt spray test (ASTM B117) up to 2000 hours minimum coating thickness 0.0015”

## TYPICAL APPLICATIONS

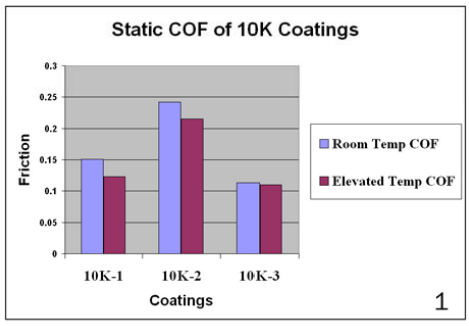
- Packaging- seal jaws, platens, dies
- Food Processing- griddles, oven components
- Aerospace- composite tooling, autoclaves
- Power Generating- turbines, fans
- Plastics- heat staking tools, blades, extruding
- Rubber Molding- mandrels, molds, runners
- Oil & Gas-impellers, housings and end plates
- Paper-heat rings, forming dies
- Many, many more

# Magnaplate® 10K Series

## The Next Generation of High Temperature Coatings

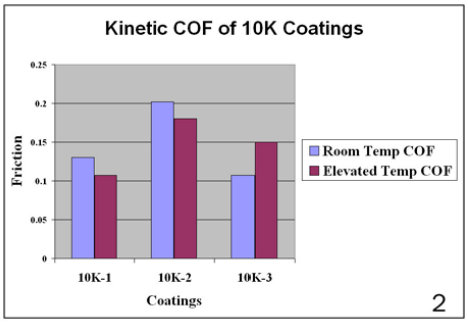
### BEAT THE HEAT...GET RELEASE

Today’s manufacturers are struggling to increase production and maintain equipment without downtime for maintenance. Faster throughput speeds, higher processing temperatures and longer running times are placing demands on machine parts like never before. Engineers are searching for release coatings to endure temperatures above 500°F (260°C) and finding that conventional coatings cannot survive the extreme heat.



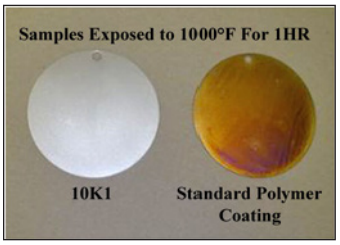

| 10K COATING TYPES | | |
|---|---|---|
| **10K1** | Temperatures to 1000°F (538°C) | |
| **10K2** | 10K2 Temperatures to 1000°F (538°C) | Water Based |
| **10K3** | 10K3 Temperatures to 850°F (454°C) | Best Release |

*10K Series coatings perform from-250°F (-157°C) to temperatures noted above.*

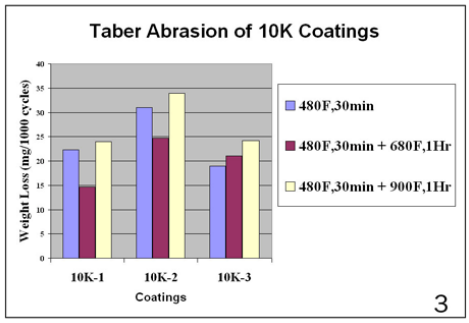



## COEFFICIENT OF FRICTION

The 10K series of coatings have excellent coefficient of friction values. Samples were tested for both static and kinetic friction values per ASTM D1894. In addition, samples were prepared and tested after standard processing and then baked at their maximum recommended operating temperatures and friction tested again. The 10K1 and 10K2 samples were taken to 1000°F (538°C) and the 10K3 was baked at 850°F (454°C). The results indicated in diagram 1 & 2 show that 10K coatings function after being exposed to temperatures well beyond the capabilities of standard polymer coatings.

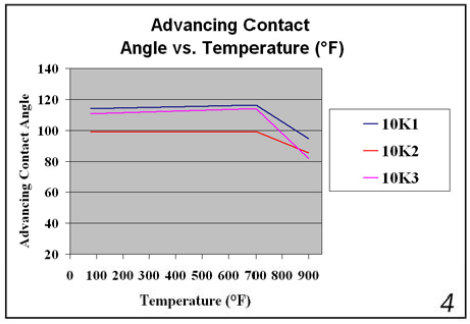



*The diagram to the left demonstrates the ability of Magnaplate 10K to withstand oxidation at elevated temperatures.*




## ABRASION RESISTANCE

The 10K coatings were tested using Taber Abrasion with a CS10 wheel for 1,000 cycles. The samples run after being subjected to 680°F (360°C) for 1 hour demonstrated excellent weight loss totals. Slight increases in weight loss totals were seen on the 900°F (482°C) samples. Overall, Magnaplate 10K offers excellent abrasion resistance through a wide range of operating temperatures.




## CONTACT ANGLE

Contact angle measurements indicate the amount of surface energy present. The greater the angle, the lower the surface energy. In general, the greater the surface angle, the greater the release and ability to clean the surface. Magnaplate 10K offers excellent contact angle measurements over a wide range of temperatures.